Automating Immigration and Asylum:

The Uses of New Technologies in Migration and Asylum Governance in Europe

Derya Ozkul

Algorithmic Fairness for Asylum Seekers and Refugees (AFAR) Project

Acknowledgements

Funding statement

Please cite as: Ozkul, D. 2023. Automating Immigration and Asylum: The Uses of New Technologies in Migration and Asylum Governance in Europe. Oxford: Refugee Studies Centre, University of Oxford.

Cover image: AI-generated image of mobility and migration. Credit: DALL·E 2 / OpenAI.

Contents

Executive summary

The use of new technologies is gradually rising in the migration and asylum fields across Europe. Several states have started using (or testing) them to control who enters their borders or to choose who gets access to their territories or their protection mechanisms. The use of new technologies, and in particular automated decision-making systems, can expedite the decision-making processes to the benefit of government agencies and some applicants. However, they can also lead to new vulnerabilities. While the use of new technologies has the potential to facilitate some decision-making processes, their inherent risks for bias, discrimination, and potential 'machine mistakes' pose a significant threat to (potential) migrants and asylum seekers who are already disenfranchised and face challenges in seeking remedies. The use of new technologies can also lead to new relationships between the public and private sectors to develop, sustain and implement these technologies. These require new governance structures and legislative frameworks to regulate who becomes responsible for data protection risks and possible 'machine mistakes' and related inaccurate or discriminatory outcomes.

As the AI Act proposal categorises AI uses for immigration, asylum and border control as 'high-risk', there is a need for systemic investigation of current practices and the scope of their use across Europe. The aim of this report is to map out the existing uses of new technologies across European immigration and asylum systems both at the national and the EU level. By taking a temporal approach to these practices, this report explores the new technologies that are used prior to arrival; at the border; and within the European territories. The term border in this report refers to the physical borders of states and the location where migrants, asylum seekers and refugees are when they are subject to a particular technology used by an authority. This is not to deny that borders increasingly operate both externally and internally, and 'digital borders' function on and beyond territorial borders. Instead, the temporal approach shows that migrants, asylum seekers and refugees are subject to various new technologies in each different stage of their mobility around and inside Europe. In this framework, this report identifies and explores in detail the following current uses and functions of new technologies:

Forecasting tools

- for forecasting future immigration and displacement towards Europe;

Processing of short- and long-term residency and citizenship applications

- for automated processing of residency and citizenship applications in Norway and, to some extent, Sweden;

Document verification

- for detecting possible fraud in identity and supporting documents in the Netherlands;

Risk assessment and triaging systems

- for assessment and categorisation of applications for travel to the Schengen zone,

- for assessment of marriages and civil partnerships in the UK;

- for assessment of applications for the EU Settlement Scheme in the UK;

- for identification and prioritisation of irregular migrants in the UK;

Speech recognition

- speech recognition to help applicants with citizenship applications in Latvia;

- name transliteration and dialect recognition for the identification of asylum seekers' country of origin in Germany;

- speech-to-text technology for transcription of interviews with asylum seekers in Italy;

Distribution of welfare benefits

- automated distribution of welfare benefits to asylum seekers in Norway;

Matching tools

- matching tools for the allocations of reception centres in Norway;

- matching tool for screening similar asylum applications in the Netherlands;

Mobile phone data extraction

- for verification of identities and narratives of asylum seekers in Germany, the Netherlands, Norway, Denmark, and the UK;

Electronic monitoring

- GPS ankle tags in the UK.

Some other uses are still under development. These include risk assessments and profiling through interoperability between large EU information systems; document verification in Belgium and France; categorisation of appeal cases according to their type and complexity in the Netherlands; and matching tools for settlement and integration of migrants, asylum seekers and refugees in Germany, Switzerland, and the Netherlands. Previously, lie detection technologies were tested in Hungary, Latvia and Greece in the context of the iBorderCtrl research project. Following iBorderCtrl, the TRESSPASS research project also explored the feasibility of behaviour analysis, including emotion recognition. Although these were only research projects, their findings are available for development to build related products.

Some uses were tested or implemented but were then terminated. For example, speech and dialect recognition for the identification of asylum seekers' country of origin was tested in Turkey, but it has not been implemented due to inadequate accuracy results. In the UK, it has been found that, between 2015 and 2020, the Home Office used an algorithm to process visitor visa applications, which led to potentially discriminatory outcomes. This practice was later halted thanks to ongoing efforts of civil society organisations – the Joint Council for the Welfare of Immigrants and FoxGlove. In the Netherlands, between 2014 and 2021, the Immigration and Naturalisation Service (IND) used risk assessment to evaluate the reliability of potential sponsors of highly skilled migrants. In this process, the IND looked for and stored companies' several characteristics, including the ethnic composition of the company board. This practice was halted thanks to internal and external pressures. The IND is currently developing a new risk model to assess these sponsors without storing information about their ethnic composition.

Overall, the wide range of applications for new technologies implies that each one should be investigated independently, taking into consideration its development context and the unique requirements of the stakeholders who develop and use them. This report, therefore, debunks a totalising, black-and-white perception of the uses of new technologies. New technologies can be used for various purposes ranging from including migrants' and refugees' preferences in their settlement processes (as in the case of some preference matching tools) to profiling them through risk assessments or monitoring them through invasive tools such as electronic monitoring. While the former can benefit migrants by having a say in their migration and settlement trajectory, the latter can have extremely harmful impacts on them. It is, therefore, crucial to examine each use of new technology in its own right, considering its design and implementation processes and their legal and social impacts.

Understanding the impact of using new technologies on decision-making processes is directly related to transparency in public administration. The question of whether any automation has been added to a

decision-making process, and if so the technical details, are not always made public. Even when certain details are publicly available, it is often impossible to comprehend how these technologies' algorithms function from the outside. Without transparency, migrants cannot have access to how choices affecting their lives were justified and have a right to an effective remedy.

Transparency is also important for decision-makers. While 'human caseworkers' are involved in each practice explored in this report, the extent of their involvement and their knowledge of the entire decision-making process varies. For example, some new technologies, such as mobile phone data and speech/dialect recognition tools, are used to produce evidence for decision-makers in the asylum process. These automated reports cannot be a reason to reject an applicant's claim; however, they can impact the decision-making process if the decision-maker over-rely on reports prepared by sophisticated tools. Therefore, decision-makers must be thoroughly trained about their mechanisms and limitations and consider those insights when making their final decisions.

This mapping has also made it clear that despite a vast variety of practices, not all states have used them to the same extent. Because of the lack of full transparency in this field, it is impossible to measure to what extent each technology is being used across states. However, it is clear to see that while some authorities have automated (parts of) their decision-making systems, others have remained more cautious about introducing these practices. Whether or not states choose to implement a particular new technology may depend on what is possible in their jurisdiction, resistance from the civil society, internal bureaucratic culture, and among others, influences by other states or the EU.

Finally, it is important to note that many of the technologies explored in this report are designed to benefit state authorities. Migrants' (asylum seekers' and refugees') interests and voices have generally not been included in the design, decision, and implementation stages. Those that aim to benefit applicants include speech recognition in Latvia to help applicants prepare for their citizenship application and matching tools to help refugees and asylum seekers have a say in the settlement process. However, the majority of the technologies included in this report are designed to support migration controls or benefit state administrations' needs rather than address migrants' and refugees' needs. Who benefits from these technologies, who has access to their details, and who is included and excluded remains a key question in this field.

AI-generated image for: document cards and mobility. Credit: DALL·E 2 / OpenAI.

Abbreviations and acronyms

ACLED	Armed Conflict Location & Event Data Project
AI	Artificial Intelligence
ASR	Automatic Speech Recognition
ARS	Accent Recognition System
AVIM	Department of Aliens, Identification and Human Trafficking (of the Dutch National Police)
BAMF	Federal Office for Migration and Refugees
BMS	Biometrics Matching Service
BPMN	Business Process Model and Notation
CDDO	Cabinet Office's Central Digital and Data Office
CGRA	Commissariat Général aux Réfugiés et aux Apatrides [General Commissioner for Refugees and Stateless Persons, in French]
CID	Case Information Database
CIR	Common Identity Repository
CIRé	Coordination et Initiatives pour Réfugiés et Étrangers [Coordination and Initiatives for Refugees and Foreigners, in French]
COA	Central Agency for the Reception of Asylum Seekers
DGMM	Directorate General for Migration Management
DIAS	Dialect Identification Assistance System
DPIA	Data Protection Impact Assessment
DRC	Danish Refugee Council
DWP	Department of Work and Pensions
EASO	European Asylum Support Office
ECHR	European Convention on Human Rights
ECRIS-TCN	European Criminal Records Information System – Third Country Nationals
EEA	European Economic Area
EES	Entry/Exit System
EIA	Equality Impact Assessment
ELENA	The European Legal Network on Asylum
EMN	European Migration Network
EQUINET	European Network of Equality Bodies
ESP	European Search Portal
ETIAS	European Travel Information Authorisation System
EU	European Union
EUAA	European Union Agency for Asylum
Eurodac	European Dactyloscopy System
EUSS	EU Settlement Scheme
EWPS	Early Warning and Preparedness System
FNORC	Foreign National Offenders Returns Command
FOI	Freedom of Information
GCRI	Global Conflict Risk Index
GDELT	Global Database of Events, Language and Tone
GFF	Gesellschaft für Freiheitsrechte [Society for Civil Rights, in German]
HMRC	HM Revenue & Customs
IE	Immigration Enforcement
IEBR	Immigration Enforcement Business Rules
IND	Immigratie en Naturalisatiedienst [The Immigration and Naturalisation Service, in Dutch]
IPIC	Identify and Prioritise Immigration Cases
IPL	Immigration Policy Lab

JCWI   Joint Council for the Welfare of Immigrants
JRC   Joint Research Centre (of the European Commission)
LAS   Language Analysis System
MEP   Member of the European Parliament
MID   Multiple-Identity Detector
OCMA   Office of Citizenship and Migration Affairs
PI   Privacy International
PLP   Public Law Project
PNC   Police National Computer
PU   National Police Immigration Service
REA   European Research Executive Agency
ROM   Reporting and Offender Management
RPA   Robotic Process Automation
S.I.N.D.A.C.A. Sistema Informativo di Documentazione delle Audizioni delle Commissioni Asilo [Informative Documentation System for the Asylum Commissions' Hearings, in Italian]
SIS   Schengen Information System
SLTD   Interpol's Stolen and Lost Travel Document database
TDAWN   Interpol's Travel Documents Associated With Notices database
TRAM   Triage and Manage
VIS   Visa Information System

List of Figures and Tables

Map 1. Identified uses of new technologies across Europe

1   **UK:** risk assessment for the processing of visitor visa applications (halted); risk assessment of applications for marriages; categorisation of applications for the EU Settlement Scheme; identification and prioritisation of irregular migrants; electronic monitoring; mobile phone data extraction

2   **Norway:** processing of residency applications for family migration of skilled/posted workers; processing of citizenship applications; mobile phone data extraction; distribution of welfare benefits to asylum seekers; matching tool for allocation of reception centres

3   **Sweden:** partly automated processing of residency applications; processing of citizenship applications

4   **Denmark:** mobile phone data extraction

5   **Netherlands:** screening of employment sponsorship (currently under revision); document verification; assessment of appeal cases' type and complexity (under development); mobile phone data extraction; matching tool for screening similar asylum applications; matching tool for settlement (under development for testing)

6   **Belgium:** document verification (under development)

7   **France:** document verification (under development)

8   **Hungary:** lie detection (tested)

9   **Latvia:** lie detection (tested); speech recognition to help applicants with citizenship applications

10   **Greece:** lie detection (tested)

11   **Germany:** name transliteration; dialect recognition; mobile phone data extraction; matching tool for settlement (under development)

12   **Italy:** speech-to-tech technology for the transcription of interviews with asylum seekers

13   **Turkey:** speech and dialect recognition (tested)

14   **Switzerland:** matching tool for settlement (tested)

Across borders of Europe:
- forecasting of migration and displacement

Across borders of the Schengen territory:
- risk assessments and profiling through interoperability between large EU information systems (under ongoing development)

1. Introduction

The use of new technologies is on the rise in many sectors, including public administration. Some states (largely medium to high-income states) started using them, for instance, for the distribution of welfare benefits or matching of school places. Several states have incorporated them (or started testing them) also in their immigration and asylum systems with a view to controlling entry at their borders, identifying persons, or deciding whom to give access to their territories or their protection mechanisms.[1] For example, Canada has implemented automated decision-making processes in some of its immigration systems.[2] In Europe, in 2013, the European Commission proposed the 'Smart Borders' Package, following its suggestions to establish an Entry/Exit System and a Registered Traveller Programme.[3] More recently, the European Commission commissioned a report which examines opportunities and challenges for the use of AI technologies in border control, migration and security management in Europe, and promotes using new technologies, such as automated risk assessments of third-country nationals (TCNs).[4] Some states already implement these technologies or explore their uses in their migration and asylum systems. As the Artificial Intelligence Act (AI Act) proposal classifies AI uses for immigration, asylum and border control as 'high-risk', there is a need for systemic exploration of current practices and the extent of their use across Europe.

This report aims to map out the uses of new technologies that are available (or that are in the testing stage) in immigration and asylum systems across Europe. These include practices by immigration and asylum authorities at the state and the EU levels. The term 'new technologies' in this report is defined in its broad sense as 'the tools that are used for automation of processes that were previously done by humans, using simple closed-rule algorithms, as well as more complex artificial intelligence (AI) systems'. It focuses on practices around automated processing of applications, evidence gathering and decision-making systems, as well as new uses of technologies, such as speech recognition and electronic monitoring of migrants. The term automated decision-making/evidence gathering intentionally includes both fully and partially automated processes. Europe in this report is defined geographically, including the European Union and its Member States, as well as its neighbouring countries, such as the UK, Norway, Switzerland, and Turkey.

The report takes a temporal approach and explores the technologies that are used prior to arrival; at the border and within the European territories.[5] The term border in this report refers to the physical borders of states and the location where migrants, asylum seekers and refugees are when they are subject to a particular technology used by an authority. This is not to deny that borders increasingly operate both externally and internally,[6] and 'digital borders' function on and beyond territorial borders.[7] On the contrary, the temporal approach shows that migrants, asylum seekers and refugees are subject to various new technologies in different stages of their mobility around and inside Europe.

---

[1] Beduschi, A. 2021. International migration management in the age of artificial intelligence, Migration Studies, 9 (3), 576–596; Trauttmansdorff, P. 2017. The Politics of Digital Borders, in Border Politics: Defining Spaces of Governance and Forms of Transgressions, edited by Günay, C. and Witjes, N. Cham: Springer, 107-126; Achiume, E.T. 2020. Report of the Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia and Related Intolerance, UN Doc. A/75/590 (Nov. 10, 2020). www.ohchr.org/EN/newyork/Documents/A-75-590-AUV.docx.

[2] Molnar, P. and Gill, L. 2018. Bots at the Gate: A Human Rights Analysis of Automated Decision Making in Canada's Immigration and Refugee system. Toronto: Faculty of Law, University of Toronto and Citizen Lab, Munk School of Global Affairs and Public Policy, University of Toronto. https://citizenlab.ca/wp-content/uploads/2018/09/IHRP-Automated-Systems-Report-Web-V2.pdf

[3] See European Commission. Smart borders – background. https://home-affairs.ec.europa.eu/pages/page/smart-borders-background_en

[4] See European Commission. 2020. Opportunities and Challenges for the Use of Artificial Intelligence in Border Control, Migration and Security. vol. 1: Main Report, written by Deloitte. Brussels: European Commission. https://op.europa.eu/en/publication-detail/-/publication/c8823cd1-a152-11ea-9d2d-01aa75ed71a1/language-en

[5] Note that a number of scholars have taken a temporal approach to the taxonomy of technologies. See Molnar, P. and Gill, L. 2018, 23-28; Molnar P., EDRi, and the Refugee Law Lab. 2020. Technological Testing Grounds: Migration Management Experiments and Reflections from the Ground Up. https://edri.org/wp-content/uploads/2020/11/Technological-Testing-Grounds.pdf, 16-20; McAuliffe, M., Blower, J., Beduschi, A. 2021. Digitalization and Artificial Intelligence in Migration and Mobility: Transnational Implications of the COVID-19 Pandemic. Societies, 11(4), 135.

[6] Menjívar, C. 2014. Immigration Law Beyond Borders: Externalizing and Internalizing Border Controls in an Era of Securitization. Annual Review of Law and Social Science, 10, 353-369.

[7] See Chouliaraki, L. and Georgiou, M. 2022. The Digital Border: Migration, Technology, Power. New York: NYU Press.

Technologies that are included in this report are used for the following functions:

- forecasting of future mobility,

- risk assessments and profiling,

- processing of visas, travel authorisations and citizenship applications,

- identity verification and fraud detection, including technologies used for document verification and behaviour/emotion recognition, speech recognition, mobile phone data extraction,

- categorisation of applications according to their perceived risks or type/complexity,

- electronic monitoring,

- distribution of welfare benefits,

- matching tools used for the distribution of, broadly, place of residence.

Although the list is extensive, the report does not claim to be exhaustive.[8] It deliberately excludes some new technologies that are initiated by migrants and emerging uses of tools for matching between employers and workers, and instead focuses on practices by authorities at the state and EU levels.[9]

Among these, automated decision-making systems can speed up the process to the advantage of public administrations and some applicants, but can also result in new vulnerabilities. While they have the potential to facilitate some decision-making processes, their inherent risks for bias, discrimination[10] and potential 'machine mistakes' pose a significant threat for (potential) migrants and asylum seekers who are already disenfranchised and face challenges in seeking remedies.[11] The introduction of new technologies can also lead to new relationships between the public and private sectors in order to develop, sustain and implement these technologies.[12] These require new governance structures and legislative frameworks to regulate who becomes responsible for data protection risks and possible 'machine mistakes' and related inaccurate or discriminatory outcomes. Questions around accountability, and therefore transparency, are vital,[13] especially for those whose mobility is constrained and whose protection needs are unmet.

---

[8] The report excludes already well-documented technologies used for border control, such as drones. For this strand of research, see Csernatoni, R. 2018. Constructing the EU's High-Tech Borders: FRONTEX and Dual-Use Drones for Border Management. European Security, 27, 175-200; Loukinas, P. 2022. Drones for Border Surveillance: Multipurpose Use, Uncertainty and Challenges at EU Borders. Geopolitics, 27(1), 89-112.

[9] For existing research on matching tools for employment, see Uribe, S., et al. 2022. Skill Matching for Migrant Guidance Based on AI Tools, in Information and Communications Technology in Support of Migration, edited by Akhgar, B., et al. Cham: Springer.

[10] Regarding the overarching problem of discrimination, see in particular, Eubanks, V. 2018. Automating Inequality: How High-Tech Tools Profile, Police and Punish the Poor. New York: St Martin's Press.

[11] Leese, M. 2014. The new profiling: Algorithms, black boxes, and the failure of anti-discriminatory safeguards in the European Union. Security Dialogue, 45(5), 494–511.

[12] See Molnar, P. 2022. Surveillance sovereignty: migration management technologies and the politics of privatization, in Migration, Security, and Resistance, edited by Hudson, G. and Atak, I. New York: Routledge.

[13] Regarding the overarching opacity problem related to new technologies, see Pasquale, F. 2016. Black Box Society: The Secret Algorithms That Control Money and Information. Cambridge, MA: Harvard University Press.

2. Methods

Following a description of the methods used in this research, this report explores the use of new technologies in each domain by providing details on each practice, with details on where and how they have been used, if any, which private actors have been involved, and, if any, which legal challenges have been raised against their use.

The study on the use of new technologies by governments and international organisations is often hampered by rules on security, privacy, and proprietary information. Uses of algorithms in bureaucratic decision-making are sometimes only made public through scandals or in the aftermath of significant backlashes to decisions in public administration.[14] While some uses of new technologies in immigration and asylum systems are publicly available, others may only be found by detailed and often long investigations. Because of the nature of this topic, in the preparation of this report, multiple methods have been used to find out about current practices.

The research started with a review of publicly available documents and existing literature on new technologies in immigration and asylum systems. The desk review was followed by empirical research, for which the lead researcher (Dr Derya Ozkul) obtained research ethics approval from the University of Oxford.[15] The empirical research started with the design of a short online questionnaire shared with relevant stakeholders (see the questions in Appendix I). These stakeholders included researchers in the Public Law Project's Tracking Automated Government Network, legal scholars in the Odysseus Network, legal practitioners in the ELENA (The European Legal Network on Asylum) Network, and finally, equality body members in EQUINET (European Network of Equality Bodies) Cluster on Artificial Intelligence. The initial results of this online questionnaire did not lead to new findings, with only 3 stakeholders responding and others commenting that they did not know about new uses of algorithms in decision-making. The research, therefore, followed with alternative methods.

Regarding research on the use of algorithms in the processing of visas, identity verification and mobile phone data extraction across Europe by Member States and EU Agencies, collaboration was sought with a member of the European Parliament (Mr Patrick Breyer), whose work focuses on digital rights and the right to privacy. Mr Breyer submitted the suggested list of questions to the European Commission for a written answer (see Appendix II).[16] Regarding research on the use of dialect recognition in Germany, a list of questions was prepared together with researchers and journalists working in this area in Germany and was then submitted to the German Federal Parliament via interested MPs.[17]

Regarding research on possible uses of algorithms in various areas of migration management, requests for formal interviews were sent to immigration and asylum authorities in Germany, Sweden, Norway, Denmark, Belgium, the Netherlands, France, Lithuania, Latvia, Estonia, Hungary, Greece and Finland. These countries were chosen following reports of uses of some new technologies in publicly available reports, specifically the EMN-OECD Inform on The Use of Digitalisation and Artificial Intelligence in Migration Management,

---

[14] For example, in the UK, the use of algorithms in the assessment of secondary school students' grading in 2020 was made publicly available in the aftermath of a huge backlash to the results immediately after they were announced. A student and his parents' persistence played an important role in this process. Concerned with the official discourse around a newly designed 'standardisation model', this parent who had advanced knowledge of statistics repeatedly inquired about the specifics of the model. His efforts played a significant role in the public authorities' eventual acknowledgement of the use of an algorithm. See Pidd, H. 2020. 'Punishment by statistics': the father who foresaw A-level algorithm flaws. The Guardian, 14 August 2020. https://www.theguardian.com/education/2020/aug/14/punishment-by-statistics-the-father-who-foresaw-a-level-algorithm-flaws

[15] Research Ethics Approval, Ref No: SSH/ODID DREC: C1A_22_002, issued by Oxford Department of International Development, University of Oxford.

[16] See the question that was submitted to the EP and answers at https://www.europarl.europa.eu/doceo/document/E-9-2022-000845_EN.html

[17] See the questions and answers to this inquiry, German Bundestag. 31 August 2022. Response to the query submitted by MPs Clara Bunger and others and the parliamentary group DIE LINKE. Use of dialect recognition software at the Federal Office for Migration and Refugees BT printed matter 20/3133 [in German].

which was published in early 2022 at the beginning of the AFAR project.[18] This inform included some information on the uses of AI technologies in various countries in Europe. Interview requests were sent to seek more details about these practices and pilot uses. Officials from three authorities (Sweden, Norway and Netherlands) agreed to have online interviews. One official from the Office of Citizenship and Migration Affairs in Latvia chose to respond to the submitted questions in writing. Another official from the UDI answered the questions concerning the processing of Dublin cases in writing.

Regarding research to understand the technical specifics of some practices, interview requests were sent to private companies that were involved in these practices. These included T3K–FORENSICS GMBH, MSAB, Cellebrite, Tilde, ATOS, Nuance and CEDAT 85. None of these requests was answered, but informal meetings were held with two companies.

Regarding research on the use of algorithms in immigration in the UK and asylum procedure in Germany (specifically regarding the use of dialect recognition and mobile phone data extraction), Freedom of Information (FOI) requests were used. Before submitting new requests, existing and publicly available FOI requests were reviewed, and new requests were submitted to understand selected practices by the Home Office in the UK and the Federal Office for Migration and Refugees (BAMF) in Germany (see Appendix III).

Finally, several informal meetings with researchers and journalists who were working on these topics informed the availability of practices. Preliminary findings from the draft form of this report were shared in the first AFAR stakeholder meetings with civil society members on 1 April 2022. Presentations and following talks with them informed this final report. The sections below describe the use of current practices before arrival, at the border, and after arrival on European territories.
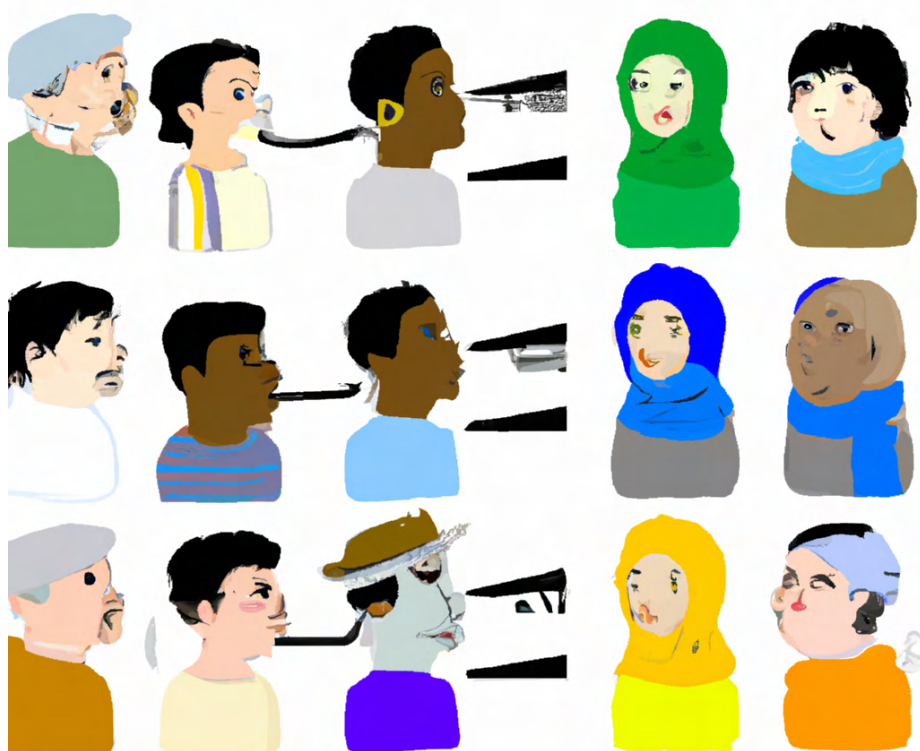
AI-generated image for: speech recognition migrants. Credit: DALL·E 2 / OpenAI.

---

[18] See European Commission. 2022. EMN-OECD Inform. The Use of Digitalisation and Artificial Intelligence in Migration Management. https://www.oecd.org/migration/mig/EMN-OECD-INFORM-FEB-2022-The-use-of-Digitalisation-and-AI-in-Migration-Management.pdf

3. New technologies before arrival in Europe: forecasting, risk analyses and automated processing of applications

New technologies can be used long before migrants and asylum seekers reach European territories. These technologies include using forecasting tools, which can ideally prepare states and humanitarian organisations for the arrival of large numbers of displaced people,[19] or potentially lead to more border controls and pushbacks at the EU borders.[20] Other technologies include automated risk profiling at the EU level and automated processing of visa applications at the national level.[21] Finally, it is not only potential migrants that are scrutinised but also those who support their applications. For example, risk assessments may extend to the screening of sponsors. This section explores in detail each of these practices before migrants can reach European territories.

3.1. Forecasting of migrants/asylum seekers

States and international organisations,[22] have developed various forecasting tools to predict patterns of displacement and migration.[23] These tools aim to predict the number of people seeking to cross international borders by using various sources of big data.[24] For example, the European Asylum Support Office (EASO) developed the Early Warning and Preparedness System (EWPS), which is used to predict movements to the EU territories. For this system, EASO, and since January 2022, the European Union Agency for Asylum (EUAA),[25] uses four main sources of data: 1) GDELT data[26] (which provides information about daily events by country of origin), 2) Google Trends (which provides weekly online search trends by country of origin), 3) Frontex (which provides EASO with monthly detections of irregular border crossings), and 4) the institution's own collected information on the number of asylum applications and recognition rates in the EU Member States, as well as Norway, Switzerland and the UK. A machine learning-based algorithm then seeks to anticipate which events will cause large-scale displacement (such as wars, conflicts and pandemics) in selected regions,[27] and estimate the ensuing number of asylum applications in the EU for up to four weeks ahead.[28] The European Commission's Joint Research Centre (JRC) has developed the Global Conflict Risk Index (GCRI), which calculates the statistical risk of an armed conflict in any selected country, reportedly for up to four years.[29]

---

[19] See Bither, J. and Ziebarth, A. 2020. AI, digital identities, biometrics, blockchain: A primer on the use of technology in migration management. Berlin: Bertelsmann Stiftung, The German Marshall Fund of the United States, Robert Bosch Stiftung., 10.

[20] EDRi. 2022. Regulating Migration Tech: How the EU's AI Act can better protect people on the move. https://edri.org/our-work/regulating-migration-tech-how-the-eus-ai-act-can-better-protect-people-on-the-move/

[21] See Bither, J. and Ziebarth, A. 2020.

[22] For example, UNHCR has worked on Project Jetson. See UNHCR. 2019. Project Jetson. Geneva: UNHCR Innovation Service. https://jetson.unhcr.org/ For a critical reading of this practice, see Baykurt, B. and Lyamuya, A. 2022. 'Making up the Predictable Border: How Bureaucracies Legitimate Data Science Techniques'. Working Paper presented at the workshop 'Digital Technologies and Migration Regimes', 25 May 2022.

[23] See Blasi Casagran, C., et al. 2021. The Role of Emerging Predictive IT Tools in Effective Migration Governance. Politics and Governance, 9(4), 133–145. For an overview of existing studies using scenario-building and traditional forecasting methods, see de Valk, H. A. G., et al. 2022. How to Predict Future Migration: Different Methods Explained and Compared, in Introduction to Migration Studies, edited by Scholten, P. IMISCOE Research Series. Cham: Springer, 463–482.

[24] UNHCR. 2021. Big (Crisis) Data for Predictive Models 2021. Published by Geneva: Statistics and Demographics Section, UNHCR Global Data Service. https://www.unhcr.org/uk/statistics/unhcrstats/61bc6ae84/big-crisis-data-predictive-models-literature-review.html

[25] Regulation (EU) 2021/2303 on the establishment of a European Union Agency for Asylum (EUAA) entered into force on 19 January 2022 and replaced the European Asylum Support Office (EASO), by acquiring a broadened mandate.

[26] GDELT monitors the news media in more than 100 languages around the world in real time. The abbreviation GDELT stands for 'Global Database of Events, Language and Tone'.

[27] European Commission. 2020. Feasibility study on a forecasting and early warning tool for migration based on Artificial Intelligence technology, written by Ecorys., 34.

[28] Carammia, M., Iacus, S. M. and Wilkin, T. 2022. Forecasting asylum-related migration flows with machine learning and data at scale. Scientific Reports, 12, 1457.

[29] Halkia, S., et al. 2019. The Global Conflict Risk Index: Artificial intelligence for conflict prevention. Luxembourg: European Union Publications Office. https://publications.jrc.ec.europa.eu/repository/handle/JRC118746

An EU-funded project under Horizon 2020's Secure Societies program, ITFLOWS (2020-2023), aims to develop the EUMigraTool (EMT), which will provide predictions of the number of migrants coming to a specific European country, 'analysis on drivers, patterns and choices of migration, as well as public sentiment towards migration', and 'the identification of risks of tensions between migrants and EU citizens'.[30] The EMT is planned to use agent-based modelling for simulation and deep learning architectures for forecasting using sequential data. The data sources used for predictions include video content from TV news, web news and text content from social media,[31] such as Twitter. The sources are from various agencies, social media platforms, and datasets, such as GDELT, ACLED, 'Rulers, Elections, and Irregular Governance' (REIGN) dataset that indicates the risk of coup d'état, 'Uppsala Conflict Data Program' (UCDP), that indicate the number of people killed and affected by conflicts.[32] This project has attracted criticism from civil society members and academics calling for a ban on its use.[33]

Some EU member states have also explored developing forecasting tools. For example, in Germany, the Federal Foreign Office is working on the PREVIEW project. Currently, the tool provides monitoring of an ongoing conflict, and its long-term aim is to develop a forecasting tool for future events.[34] The data sources in this project include open data sources from UN agencies, World Bank, academia, think tanks, GDELT, ACLED,[35] but also unstructured data such as additional news sources. One of the main limitations of this project is the high cost of processing unstructured data. Currently, the tool's predictive capabilities are still under development.[36]

Some immigration authorities have also explored forecasting tools for their own internal planning. For example, in its PREDICT project, the Swedish Migration Agency has tested developing an algorithm by using supervised machine learning techniques in order to predict migration flows to Sweden, the processing times for different types of cases (such as asylum, residency permit, work permit), and settlement of migrants across Sweden in different months of the year. The aim of this project is directly to respond to the Swedish Migration Agency's needs.[37] In the Netherlands, previously the Immigration and Naturalisation Service (IND)'s budget was allocated based on the forecasting of inflows to the country. These predictions were made by the Ministry of Justice.[38] This model of allocating budgets reportedly created difficulties for the IND when unexpected events emerged and forecasted numbers failed to predict high numbers of arrivals.[39] Use of this system stopped with the arrival of the new Cabinet,[40] in January 2022.

Finally, the Danish Refugee Council (DRC) developed a forecasting tool together with IBM to predict forced displacement around the world. Their Foresight Project is funded by the Danish Ministry of Foreign Affairs. By using data retrieved from more than 120 open data sources, the tool analyses key displacement drivers in a selected country. The drivers that are included in the analysis comprise those related to economy, insecurity/violence, governance/society, environment, and population. Using 25 years of historical data for 28 countries with a history of displacement, the tool finds patterns and makes predictions for the future with the help of machine learning and Bayesian network analysis. Moreover, it allows for building scenarios. The accuracy rate of these predications is mixed. For example, the test cases in Afghanistan and Myanmar have shown positive results with the ability to predict displacement 1-3 years in advance with an average margin error of 8-10%. But test cases in the Sahel region could have an average margin error

[30] ITFLOWS. 2022. About. https://www.itflows.eu/about/#1603718428850-34bc303d-2f99
[31] ITFLOWS. 2022. Introducing the EUMigraTool (EMT) https://www.itflows.eu/eumigratool/
[32] See the list of all data sources: ITFLOWS. 2022. Data Sources https://www.itflows.eu/data/repository/
[33] Access Now. 2022. Open letter to the ITFlows Consortium: stop tech tools for predicting migration that can be repurposed to violate fundamental rights. https://www.accessnow.org/open-letter-itflows-consortium/
[34] European Commission. 2020. Feasibility study on a forecasting and early warning tool for migration based on Artificial Intelligence technology, written by Ecorys., 36.
[35] The abbreviation ACLED stands for Armed Conflict Location & Event Data project.
[36] European Commission. 2020. Feasibility study on a forecasting and early warning tool for migration based on Artificial Intelligence technology, written by Ecorys., 32.
[37] European Commission. 2022. PREDICT: Migration Algorithms PREDICT Project. https://knowledge4policy.ec.europa.eu/projects-activities/predict-migration-algorithms-predict_en; Swedish Migration Agency and. 2018. Prediction of Migration Flows, Migration Algorithms. Taberg: Swedish Migration Agency.
[38] Additional information received by email after fact checking with IND, 1 September 2022.
[39] Interview with an official from IND, 14 June 2022.
[40] Additional information received by email after fact checking with IND, 1 September 2022.

of as high as 66%. Nonetheless, even with these figures, the Foresight Project tool's modelling appears to be 'more accurate than the planning figures/forecasts in UN Humanitarian Response Plans.'[41]

The implications of these forecasting tools are double-sided. On the one hand, these tools can help humanitarian organisations and immigration authorities to better plan and allocate their resources in advance. For example, if the authority predicts a higher number of migrant arrivals in a specific period, it can increase the number of staff who would deal with the processing of their residency applications. On the other hand, these tools can also be used to increase border surveillance and to prevent displaced people from reaching European territories.[42] In other words, they can be used to immobilise people by making it more difficult for them to cross borders. In the current environment of securitisation of migration and increased pushbacks on European borders, these tools risk supporting practices to deflect and deter migration rather than facilitate it.

3.2. Automated processing of visas and travel authorisations before entering the Schengen territory

Nationals from more than 100 countries around the world must obtain a short-term visa before they can enter the Schengen area, which includes 26 EU Member States, as well as Iceland, Liechtenstein, Norway and Switzerland. Nationals of approximately 60 countries do not need a visa to enter the Schengen area,[43] but they will soon be required to apply for travel authorisation.[44] New technologies that enable interoperability between different EU data systems and automated algorithms will soon process a massive amount of personal information about these travellers and asylum seekers.[45] After a brief description of centralised information systems and interoperability frameworks, this section focuses on the making of automated processing of visas and travel authorisations to enter the Schengen area.

At the EU level, there are a number of centralised information systems that give border guards, immigration, and law enforcement officials biographic and biometric data about people wishing to enter and stay in Europe.[46] Currently, there are three existing systems:

- Schengen Information System (SIS): This system processes biographic and biometric information and alerts on missing persons, third-country nationals who are considered a threat for public order or security or who have been issued an entry ban and are subject to return procedures, EU arrest warrants, or persons entered for discreet and specific checks, as well as lost, stolen and invalidated identity and travel documents in order to facilitate border control and police investigations.[47]

- European dactyloscopy database (Eurodac): This system processes fingerprints of asylum applicants and irregular migrants who were previously found to cross to or stay in the Schengen area with no

---

[41] DRC. 2021. Foresight Project. https://red-social-innovation.com/wp-content/uploads/2021/11/Foresight-DRC.pdf

[42] For a critical reading on the use new technologies for border control, see Molnar, P. 2021. Robots and refugees: the human rights impacts of artificial intelligence and automated decision-making in migration, in Research Handbook on International Migration and Digital Technology, edited by McAuliffe, M. and Wilson, R. Cheltenham: Edward Elgar, 134–151.

[43] Regulation (EU) 2018/1806 of the European Parliament and of the Council of 14 November 2018 listing the third countries whose nationals must be in possession of visas when crossing the external borders and those whose nationals are exempt from that requirement (codification). OJ L 303, 28.11.2018, p. 39-58.

[44] Regulation (EU) 2018/1240 of the European Parliament and of the Council of 12 September 2018 establishing a European Travel Information and Authorisation System (ETIAS). OJ L 236, 19.9.2018, p. 1-71.

[45] Interoperability Regulations 2019/817 and 2019/818. Also see, Statewatch. 2019. Data Protection, Immigration Enforcement and Fundamental Rights: What the EU's Regulations on Interoperability Mean for People with Irregular Status. https://www.statewatch.org/news/2019/nov/interoperability-report.htm

[46] For a summary of EU Schengen Information Systems, see Costica Dumbrava. 2021. Artificial Intelligence at EU borders: Overview of applications and key issues. Brussels: European Parliamentary Research Service. For a critical reading of their human rights implications, see Vavoula, N. 2020. The "Puzzle" of EU Large-Scale Information Systems for Third-Country Nationals: Surveillance of Movement and Its Challenges for Privacy and Personal Data Protection. European Law Review, 3, 48-372; Vavoula, N. 2021. Artificial Intelligence (AI) at Schengen Borders: Automated Processing, Algorithmic Profiling and Facial Recognition in the Era of Techno-Solutionism, European Journal of Migration and Law, 23(4), 457-484; Aas, K. F. 2011. 'Crimmigrant' bodies and bona fide travelers: Surveillance, citizenship and global governance. Theoretical Criminology, 15(3), 331–346.

[47] For a critical overview of SIS II database, and in particular inherent fragility of the databse, see Bellanova, R., Glouftsios, G. 2022. Controlling the Schengen Information System (SIS II): The Infrastructural Politics of Fragility and Maintenance, Geopolitics, 27(1), 160-184; Vavoula, N. 2022. Immigration and Privacy in the Law of the European Union. Leiden: Brill., 115–207.

authorisation in order to facilitate the Dublin process. Since 20 July 2015, Eurodac data can be accessed by law enforcement authorities and Europol.[48]

- Visa Information System (VIS): This system processes biographic and biometric information about TCNs applying for short-stay Schengen visas in order to facilitate border control purposes, fight against fraud and prevent threats to internal security.[49] The VIS data can also be consulted by law enforcement authorities and Europol.[50]

The following three additional systems are under development. These systems extend the information that is collected from individuals and the purposes of their use.[51]

- Entry/Exit System (EES): This system will process biometric and biographical information (name, type of travel document, date and place of entry and exit) of TCNs travelling for a short stay (maximum 90 days in any 180-days period) in the Schengen area.[52] It will include data on TCNs who require a short-term visa and TCNs who are visa-exempted.

- European Travel Information Authorisation System (ETIAS): This system will process biographical information on visa exempt TCNs and process their online application for travel authorisation before their travel to the Schengen area.[53] ETIAS will also build a watchlist of persons suspected of committing terrorist offences or other serious crimes.

- European Criminal Records Information System – Third Country Nationals (ECRIS-TCN): This system will process and exchange information on previous convictions of TCNs, stateless persons or EU citizens who are nationals of a third country by criminal courts in the EU.[54]

The three existing systems were initially designed to process data independently, but as time went on, particularly after 'Europe's migration crisis', ideas about the need for information sharing between systems of information proliferated. In 2019, the Regulations 2019/817 and 2019/818 entered into force and materialised the interoperability framework by establishing four main components, which the Commission aims to achieve by the end of 2023.[55]

- The first key component of interoperability is the European Search Portal (ESP), which will enable simultaneous searches of biographical and biometric data on multiple information systems (Central SIS, Eurodac, VIS, EES, ETIAS and ECRIS-TCN), as well as data stored in Europol and Interpol's Stolen and

---

[48] For a critical overview of Eurodac, see Brouwer, E., et al. 2021. The European Commission's legislative proposals in the New Pact on Migration and Asylum. Brussels: European Union., Chapter 5: Amended Proposal for a Eurodac Regulation; Tsianos, V. S. and Kuster, B. 2016. Eurodac in Times of Bigness: The Power of Big Data within the Emerging European IT Agency, Journal of Borderlands Studies, 31(2), 235-249; Vavoula, N. 2022., 307–396. Vavoula, N. 2021. Information Sharing in the Dublin System: Remedies for Asylum Seekers In-Between Gaps in Judicial Protection and Interstate Trust. German Law Journal, 22(3), 391-415. For an earlier history of Eurodac, see Brouwer, E. 2002. Eurodac: Its Limitations and Temptations, European Journal of Migration and Law, 4, 231-247.

[49] These goals have been further extended in the amended VIS Regulation by Regulation 2021/1134. OJ L 248, 13.7.2021, P. 11-87. Changes include for instance lowering the age of children to six years old.

[50] For a critical reading of VIS, see Scheel, S. 2013. Autonomy of Migration Despite Its Securitisation? Facing the Terms and Conditions of Biometric Rebordering. Millennium, 41(3), 575–600; Vavoula, N. 2022., 208–306.

[51] See Quintel, T. 2018. Connecting Personal Data of Third Country Nationals: Interoperability of EU Databases in the Light of the CJEU's Case Law on Data Retention. University of Luxembourg Law Working Paper No. 002-2018, Available at SSRN: https://ssrn.com/abstract=3132506.

[52] For an overview and critical reading of EES, see, Vavoula, N. 2022., 397–466.

[53] For a critical reading of ETIAS, see Derave, C., Genicot, N. and Hetmanska, N. 2022. The Risks of Trustworthy Artificial Intelligence: The Case of the European Travel Information and Authorisation System. European Journal of Risk Regulation, 13(3), 389-420; Vavoula, N. 2022., 467–475; Pesch, P. J., Dimitrova, D. and Boehm., F. 2022. Data Protection and Machine-Learning-Supported Decision-Making at the EU Border: ETIAS Profiling Under Scrutiny, in Privacy Technologies and Policy, edited by Gryszczyńska, A. et al. Privacy Technologies and Policy. Cham: Springer., 50–74; Zandstra, T. and Brouwer. E. 2022. Fundamental Rights at the Digital Border: ETIAS, the Right to Data Protection, and the CJEU's PNR judgment. Verfassungsblog, 24 June 2022. https://verfassungsblog.de/digital-border/; Musco Eklund, A. 2022. Frontex and 'Algorithmic Discretion' (Part I): The ETIAS Screening Rules and the Principle of Legality. Verfassungsblog, 10 September 2022. https://verfassungsblog.de/frontex-and-algorithmic-discretion-part-i/

[54] For an overview and critical reading of ECRIS-TCN, see Vavoula, N. 2022., 540–598; Meijers Committee. 2021. Creating second-class Union citizenship? Unequal treatment of Union citizens with dual nationality in ECRIS-TCN and the prohibition of discrimination. 10 April 2021. https://www.commissie-meijers.nl/comment/cm2104-creating-second-class-union-citizenship-unequal-treatment-of-union-citizens-with-dual-nationality-in-ecris-tcn-and-the-prohibition-of-discrimination/

[55] For a critical reading of the development of the interoperability framework, see Vavoula, N. 2020. Interoperability of EU Information Systems: The Deathblow to the Rights to Privacy and Personal Data Protection of Third-Country Nationals? European Public Law, 26(1), 131-156; Brouwer, E. 2020. Large-scale databases and interoperability in migration and border policies: The Non-Discriminatory Approach of Data Protection. European Public Law, 26(1), 71-92.

Figure 1: Large EU databases in the area of Justice and Home Affairs and the envisioned interoperability[56]
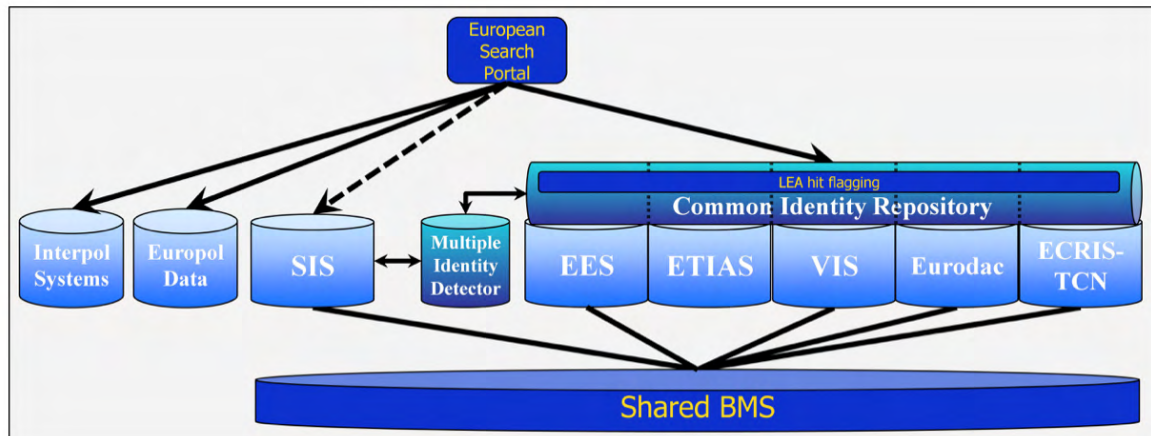
Lost Travel Documents (SLTD) and Travel Documents Associated with Notices (TDAWN) databases.[57] A search on ESP is planned to return information within seconds.[58]

- The second key component of interoperability is the shared biometrics matching service (shared BMS), which will enable simultaneous searches and comparisons of biometric data from SIS, Eurodac, VIS, EES, and ECRIS-TCN systems.[59] The shared BMS will enable the detection of different or false identities.

- The third is the Common Identity Repository (CIR), which will combine some identity data (names, place and date of birth, sex, travel documents [type and number, issuing country, validity], fingerprints and photographs) stored in Eurodac, VIS, EES, ETIAS and ECRIS-TCN systems.[60] This data will be used by police officers and other officials to conduct identity checks and help with investigations. It will also help identify false identities by TCNs by checking the biographic and biometric data in different information systems.[61]

- The fourth key component of interoperability is the Multiple-Identity Detector (MID), which will aim to detect multiple identities and possible fraud cases. Each file created in the VIS (for visa applications) or ETIAS (for travel authorisation applications) will be checked to see if the data matches against data stored in other EU systems.[62] The MID will issue the users links of different colours, confirming their identity or indicating differences with information stored on large databases.[63]

---

[56] Source: COM/2017/0793 final – 2017/0351 (COD). Proposal for a Regulation of The European Parliament and of the Council on establishing a framework for interoperability between EU information systems (borders and visa) and amending Council Decision 2004/512/EC, Regulation (EC) No 767/2008, Council Decision 2008/633/JHA, Regulation (EU) 2016/399 and Regulation (EU) 2017/2226. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2017:793:FIN

[57] COM/2017/0793 final – 2017/0351 (COD). Proposal for a Regulation of The European Parliament and of the Council on establishing a framework for interoperability between EU information systems (borders and visa) and amending Council Decision 2004/512/EC, Regulation (EC) No 767/2008, Council Decision 2008/633/JHA, Regulation (EU) 2016/399 and Regulation (EU) 2017/2226. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2017:793:FIN

[58] COM/2017/0793 final – 2017/0351 (COD). Proposal for a Regulation of The European Parliament and of the Council on establishing a framework for interoperability between EU information systems (borders and visa) and amending Council Decision 2004/512/EC, Regulation (EC) No 767/2008, Council Decision 2008/633/JHA, Regulation (EU) 2016/399 and Regulation (EU) 2017/2226. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2017:793:FIN

[59] Since ETIAS will not store any biometric data, the shared BMS will not gather biometric information from ETIAS.

[60] The reason for not including SIS data in the CIR is the practical and thereby financial difficulties. See COM/2017/0793 final – 2017/0351 (COD). Proposal for a Regulation of The European Parliament and of the Council on establishing a framework for interoperability between EU information systems (borders and visa) and amending Council Decision 2004/512/EC, Regulation (EC) No 767/2008, Council Decision 2008/633/JHA, Regulation (EU) 2016/399 and Regulation (EU) 2017/2226. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2017:793:FIN

[61] Statewatch. 2020. Automated Suspicion. The EU's New travel Surveillance Initiatives., 11. https://www.statewatch.org/media/1235/sw-automated-suspicion-full.pdf

[62] Ibid., 16.

[63] See COM/2017/0793 final – 2017/0351 (COD). Proposal for a Regulation of The European Parliament and of the Council on establishing a framework for interoperability between EU information systems (borders and visa) and amending Council Decision 2004/512/EC, Regulation (EC) No 767/2008, Council Decision 2008/633/JHA, Regulation (EU) 2016/399 and Regulation (EU) 2017/2226., 8.

Currently, applications for Schengen visas are processed manually, with officers checking applicants' data against VIS (to see if there were applications previously made by the same individual) and SIS (to see if the individual is subject to an entry ban or wanted by the police).[64] The new information systems and interoperability frameworks will automate most of this processing, with applications being checked automatically against other EU and international (Interpol) databases. As such, it can be checked, for example, whether the individual is subject to an entry ban, is wanted by the police, has previously applied for asylum in the EU, has been apprehended for an irregular crossing or stay in the EU, or has been convicted of terrorism or serious criminal offences in the EU or other states. Applications will be checked against the MID to see if the applicant's identity data matches with data held in other EU databases.[65] If one of these automated checks results in a 'hit', visa authorities will have to assess the application manually.[66]

Similarly, the processing of travel authorisations (ETIAS) will be largely automated unless the checks lead to a 'hit', in which case authorities will have to assess the application manually. Automated checks for travel authorisations will verify if the applicant has previously visited the Schengen area (and if so, for how long), has ever made a visa application (and if so, the result of that application), has previously applied for asylum, been apprehended for an irregular crossing or stay in the EU, has been convicted of terrorism or serious criminal offences in the EU, is wanted/listed in any of Europol's databases or using a travel document that was previously reported as lost or stolen. Moreover, like applications for visas, applications for travel authorisations will also be checked against the newly developing Multiple-Identity Detector (MID) to see if the applicant's identity data matches with data held in other EU databases.[67]

Moreover, eu-LISA (the European Agency for the operational management of large-scale IT systems in the area of freedom, security and justice) indicates that machine learning can potentially be used 'when dealing with "suspicious" applications' in order to support caseworkers with risk assessments.[68]

Reported critiques of interoperability and automated profiling before arrival in the Schengen area are concerned with 1) 'dataveillance'[69] by increased automation and aggregated risk assessments over individuals' personal data and potentially transforming Europe into a 'Security Union';[70] 2) poor data quality stemming from, for example, spelling mistakes, lack of documentation, attachment of biometrics to incorrect files, which can lead to inaccurate results and undue stress for migrants;[71] 3) potentially discriminatory outcomes for migrants as individuals and as groups by invisibly creating data-driven suspicious profiles;[72] and 4) the lack of effective oversight mechanisms and the right to effective judicial review.[73]

---

[64] Statewatch. 2020., 15.

[65] Ibid., 15.

[66] Ibid., 15.

[67] Ibid., 15.

[68] See eu-LISA. 2020. Artificial Intelligence in the Operational Management of Large-scale IT systems: Research and Technology Monitoring Report; Deloitte. 2020. Opportunities and Challenges for the Use of Artificial Intelligence in Border Control, Migration and Security. vol. 1: Main Report., 30.

[69] 'Dataveillance' refers to 'the systematic monitoring of people or groups, by means of personal data systems in order to regulate or govern their behavior'. See Degli Esposti, S. 2014. When Big Data Meets Dataveillance: The Hidden Side of Analytics. Surveillance & Society, 12(2), 209–225, 210.

[70] Vavoula, N. 2020. Interoperability of EU Information Systems: The Deathblow to the Rights to Privacy and Personal Data Protection of Third-Country Nationals? European Public Law, 26(1), 131–156, 154.

[71] See Statewatch. 2020., 17; Vavoula, N. 2020. Interoperability of EU Information Systems: The Deathblow to the Rights to Privacy and Personal Data Protection of Third-Country Nationals? European Public Law, 26(1), 131–156, 152.

[72] See Achiume, E. T. 2020; Brouwer, E. 2020; Leese, M. 2014.

[73] FRA. 2018. Interoperability and fundamental rights implications. https://fra.europa.eu/sites/default/files/fra_uploads/fra-2018-opinion-01-2018-interoperability_en.pdf; Brouwer, E. 2021. Private Life and Data Protection within the Area of Freedom, Security, and Justice, in Fundamental Rights in the Area of Freedom, Security, and Justice, edited by Iglesias, S. and González, M. Cambridge: Cambridge University Press, 373-393; Brouwer, E. 2021. Schengen and the Administration of Exclusion: Legal Remedies Caught in between Entry Bans, Risk Assessment and Artificial Intelligence, European Journal of Migration and Law, 23(4), 485–507.

3.3. Automated processing of visas: national practices

3.3.1. Implementation in the UK

The UK Home Office introduced the use of algorithms in the process of triaging visitor visa applications, leading to potentially discriminatory outcomes between 2015 and 2020.[74] This practice has been revealed thanks to the ongoing efforts of the Joint Council for the Welfare of Immigrants (JCWI), an independent charity that works for immigrants' rights, with support from FoxGlove, an independent non-profit organisation that works on challenging unfair and opaque algorithmic decision-making, among other issues. Together they first started exploring the specifics of the algorithm. The Home Office informed them that the 'visa streaming tool' was classifying applicants into three colour-coded categories (green, amber, red) and that one factor was their nationality. However, the Home Office claimed that the tool was 'only used to allocate applications, not to decide them. It use[d] data to indicate whether an application might require more or less scrutiny' and that it fully complied with the Equality Act 2010.[75]

JCWI and FoxGlove argued that the practice was discriminatory by design: applicants from nationalities that were identified as 'suspect nationalities' received a higher risk score and thereby a higher level of scrutiny by officers.[76] They also argued that the algorithm suffered from a 'feedback loop' problem.[77] A feedback loop is any process where previous outputs are reused as inputs. Here, previous incidents of bias and discrimination may have reinforced similar patterns of bias and discrimination in the processing of future applications. In immigration decision-making, such feedback loops may cause applications from a certain nationality to be rejected at a higher rate, if previous applications from the same nationality were previously rejected at a higher rate than others, creating discrimination and unfairness for future applicants on the grounds of nationality. JCWI and FoxGlove argued that categorising applications according to their nationality violated the Equality Act 2010, and intended to take the case to court. Before the case could be heard in court, in August 2020, the Home Office pledged a review of the visa streaming tool and the termination of its use on 7 August 2020.[78]

Despite no longer being used, the full details of the Home Office's algorithm remain opaque. JCWI and FoxGlove at the time were not able to obtain a full list of risk factors.[79] FOI requests on this matter asking the Home Office to reveal the details of the algorithm have been unsuccessful or partially successful. For example, in response to an FOI request, the Home Office shared the guidelines for its streaming application,[80] which revealed that the Streaming App allowed caseworkers to filter applicants according to nationality, but this document did not explain all the risk factors that the streaming tool considered. The 'question tree' that seems to be a relevant section to understand possible risk factors is largely redacted.[81] Moreover, the guidelines for caseworkers raise the question of whether applicants are assessed equally in all visa processing centres around the world. On page 26, it states that caseworkers in different posts see the tool differently:

> '...depending on how profiles and bulk tables are setup at your post, you will either see the manual questions screen or you will go straight to the streaming outcome screen'.[82]

---

[74] See Tomlinson, J. and Maxwell, J. 2022. Experiments in Automating Immigration Systems. Bristol: Bristol University Press.

[75] McDonald, H. 2019. AI system for granting UK visas is biased, rights groups claim. The Guardian, 29 October 2019. https://www.theguardian.com/uk-news/2019/oct/29/ai-system-for-granting-uk-visas-is-biased-rights-groups-claim

[76] JCWI. 2020. We won! Home Office to stop using racist visa algorithm. https://www.jcwi.org.uk/news/we-won-home-office-to-stop-using-racist-visa-algorithm

[77] FoxGlove. 4 August 2018. Home Office says it will abandon its racist visa algorithm – after we sued them. https://www.foxglove.org.uk/2020/08/04/home-office-says-it-will-abandon-its-racist-visa-algorithm-after-we-sued-them/

[78] Ibid.

[79] JCWI. 2020.

[80] UK Visas & Immigration. 2017. Streaming App v3.0 Admin Guide, dated 20 November 2017. Obtained by Homes Office's response to an FOI request (FOI Reference: 61206) by Jack Maxwell. https://www.whatdotheyknow.com/request/705642/response/1740984/attach/5/Annex%20G%20Streaming%20App%20admin%20guide%20REDACTED.pdf?cookie_passthrough=1

[81] See UK Visas & Immigration. 2017. Streaming App v3.0 Admin Guide, dated 20 November 2017, 19.

[82] See UK Visas & Immigration. 2017. Streaming App v3.0 Admin Guide, dated 20 November 2017, 26.

During the preparation of this report, another FOI request was submitted asking for the full details of the current revised practice. In their response on 24 March 2022, the Home Office confirmed that the streaming tool for visitor visa applications was indeed suspended on 6 August 2020, and was replaced with 'an interim workflow routing solution for visit visa applications on 7 August 2020'.[83] This document is currently published with some sections having been removed 'for internal Home Office use'.[84] Given that the previous system was only partially relieved following ongoing pressure from non-governmental organisations and national press, transparency around these systems remains vital.

Accountability mechanisms regulating this area of the Home Office's activity are weak; but one important development is that in November 2021, the Cabinet Office's Central Digital and Data Office (CDDO) has developed an algorithmic transparency standard for public institutions (following commitments that were made in the National Data Strategy[85] and National AI Strategy of 2021).[86] According to this new approach, public institutions that make use of algorithms in the UK will be required to disclose information about where an algorithm is used, why it was used, whether it achieved its objectives, and finally the full details of the architecture behind the algorithm.[87] At the time of writing in 2022, a transparency report template is being piloted with some public sector organisations across the country.[88] This is a positive development for future uses of algorithms, and its impact on the Home Office's future activity needs to be investigated.

3.3.2. Implementation in Sweden

In Sweden, the Migration Agency has automated some parts of their assessment of residency applications by using algorithms developed in-house. This practice is operationalised based on a rule-based system to solve questions such as verifying the age of the applicant or in the case of applications for a work permit, verifying the presence of sponsorship and checking the eligibility of the applicant. In the words of an official from the Migration Agency:

> 'Since we're working with the law, the law is… it tends to be rather black and white. And that is, if this happens then one; if that happens, then zero. But then you have the grey areas in between. So, when you are not able to interpret if it is a one or a zero, then we have implemented: "if you can't do that, ask a person."'[89]

In this rule-based system, caseworkers follow and verify each step. In the case when either the question or the answer cannot be categorised by using binaries (in other words, the digits 0 and 1), the system requires caseworkers to be involved and solve that step.

3.3.3. Implementation in Norway

In Norway, the UDI (Norwegian Directorate of Immigration) has introduced many new technologies in the area of immigration, particularly the robots 'Ada' and 'Kalle' to perform tasks for up to fifty different work processes.[90] These robots register documents uploaded on the UDI's online system, 'filter and mark

---

[83] UK Visas & Immigration's response to FOI request (FOI Reference: 68491) by Derya Ozkul on 24 March 2022, by email correspondence.

[84] See Home Office. 2021. Revised interim workflow routing solution for visitor applications, Version 3.0, published on 2 December 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1042072/Interim_workflow_routing_solution_for_visitor_applications.pdf

[85] UK Government. 2020. 'National Data Strategy', updated on 9 December 2020. https://www.gov.uk/government/publications/uk-national-data-strategy/national-data-strategy s

[86] UK Government. 2021. 'National AI Strategy', published on 22 September 2021. https://www.gov.uk/government/publications/national-ai-strategy/national-ai-strategy-html-version

[87] Milmo, D. 2021. Working of algorithms used in government decision-making to be revealed. The Guardian, 29 November 2021. https://www.theguardian.com/technology/2021/nov/29/working-of-algorithms-used-in-government-decision-making-to-be-revealed

[88] See Central Digital and Data Office. 29 November 2021. Algorithmic Transparency Standard. https://www.gov.uk/government/collections/algorithmic-transparency-standard#:~:text=The%20Algorithmic%20Transparency%20Standard%20is,making%20in%20the%20public%20sector.

[89] Interview with an official from Swedish Migration Agency, 21 March 2022

[90] UDI. 2021. Årsrapport 2020 [Annual report 2020], 47. https://www.udi.no/globalassets/global/aarsrapporter_i/arsrapport-2020.pdf

applications and send out confirmations of legal residence'.[91] Among residency applications, UDI has automated the 'processing of applications for family immigration with skilled workers and posted workers who will carry out an assignment in Norway'.[92] This means that family immigration applications are processed by software without the involvement of a caseworker reading the application. Only applications that receive a positive response are fully automated, and the others are assessed by caseworkers.

However, UDI's automated processing requires consent from the applicant, and not all applicants give consent for automation. Due to this and due to low data quality, not all applications have been processed automatically. For example, in 2019, UDI processed around 3,750 applications for family immigration. Of these, only 25 per cent had been processed automatically. UDI sees the lack of consent from applicants and low data quality as the main challenges to processing applications automatically. Despite the challenges, UDI considers automation in this area beneficial because it provides shorter case processing times, and therefore, plans to continue working with digital solutions to process residency applications.[93] Since 2020, UDI has also automated citizenship applications and plans to work on other types of immigration applications in the future (see Section 5.1).[94] One of these future plans is the automation of the processing of student visas.[95]

3.4. Screening of employment sponsorship

In the Netherlands, the Immigration and Naturalisation Service (IND) used an algorithm to assess whether companies/organisations that wanted to sponsor highly skilled migrants were reliable enough to be granted 'recognised sponsorship' title. If a company or organisation has been granted recognised sponsorship, applications of highly skilled migrants sponsored by these companies would be processed within two weeks. The list of recognised sponsors includes thousands of private companies, organisations and schools.[96] In order to assess the reliability of potential recognised sponsors, the IND used a risk model between 2014 and May 2021 until an internal investigation and tightening data protection regulations prompted the IND to stop. The practice was later questioned in the Parliamentary Standing Committee on Justice and Security.

According to a letter from the State Secretary of Justice and Security provided to the Speaker of the Lower House of Parliament in June 2022, the algorithm calculated a risk score indicating 'which companies represented an increased risk of non-compliance with the rules.'[97] The risk was calculated according to four indicators: 1) the size of the company; 2) the type of industry; 3) whether or not the company had a website; 4) whether or not the company owned business premises.[98] The score was then being assessed by an IND employee. The companies that had a high-risk score were scrutinised further by IND staff, requiring them to provide additional information as necessary.

What was problematic in this practice was that other characteristics of the company were stored 'for possible future analyses': the IND at the time considered this additional information as potentially contributing to a potential revision of the algorithm in the future. One of those characteristics that were recorded – though it was never used to calculate the risk – was the ethnic composition of the company's board. Companies' composition of board members was indicated as Dutch, Western, non-Western, or a

---

[91] Ibid., 47. [Translated from Norwegian to English via Google Translate]

[92] UDI. 2020. Årsrapport 2019 [Annual report 2019], 12. https://www.udi.no/globalassets/global/aarsrapporter_i/arsrapport-udi-2019.pdf [Translated from Norwegian to English via Google Translate]

[93] Ibid., 12–13.

[94] Interview with an official from UDI, 1 July 2022.

[95] UDI. 2020., 44.

[96] See IND. 2022. Public Register Recognised Sponsors. https://ind.nl/en/public-register-recognised-sponsors

[97] 19637-2904 Letter from the government dated 24 June 2022 – E. van der Burg, State Secretary for Justice and Security Reaction to the request of member Azarkan, made during the work schedule of 10 May 2022, about the message 'IND guilty of ethnic profiling'. Available at https://www.tweedekamer.nl/debat_en_vergadering/plenaire_vergaderingen/details/activiteit?id=2022A03981 Translated from Dutch to English. [From here on referred to as 'The letter by E. van der Burg on 24 June 2022']

[98] The letter by E. van der Burg on 24 June 2022.

combination of these three.[99] The IND at the time stored this information following the data from the Chamber of Commerce trade register.

The IND stored this information related to the ethnic composition of the company's board until May 2021 despite earlier warnings. For example, in 2017, the IND's Legal Affairs Department advised terminating use of the risk model by explicitly referring to the information related to companies' composition of board members. However, at the time, the IND did not follow this advice. It was only after an internal investigation exploring the technical aspects of the model that the IND decided to stop. At that time, the EU's data protection regulation had been tightened. Also, the Dutch Tax and Customs Administration had been found to be using a discriminatory algorithm to distribute childcare benefits.[100] The scandal attracted considerable adverse media attention and led the then-in-power Cabinet to resign following the results of the Parliamentary Interrogation Committee on Childcare Benefits. All these factors played a role in the IND's decision to halt the use of this algorithm, which could potentially be harmful.[101]

According to the State Secretary of Justice and Security, the IND currently does not register any additional information about the composition of the company board, and the previously registered data will not be accessible to IND employees. But this information will have to be kept stored for fifty more years due to the requirements of the Archives Act.[102]

The halting of this practice appears to have had some impact. In the words of the State Secretary of Justice and Security:

'The IND has learned from this case and is currently examining its processes extra critically'.[103]

The IND is currently developing a new risk model to assess sponsors, through a predictive model, by using a regression formula.[104] Throughout the preparation of this report, it has not been possible to receive information regarding the new model's indicators. However, it is understood that the new model is currently being tested for possible biases by an independent organisation,[105] TNO (Netherlands Organisation for Applied Scientific Research).[106] Depending on the results of this inspection, the test phase is planned to start in late 2022, and the production is expected to start in 2023.[107] After the start of the new model, TNO will continue to monitor it for possible biases throughout its use.[108]

AI-generated image for: document cards + migration.
Credit: DALL·E 2 / OpenAI.

---

[99] Other options included 'management by a legal person' and 'cannot be determined'.
[100] See Amnesty International. 2021. Dutch childcare benefit scandal an urgent wake-up call to ban racist algorithms. 25 October 2021. https://www.amnesty.org/en/latest/news/2021/10/xenophobic-machines-dutch-child-benefit-scandal/
[101] The letter by E. van der Burg on 24 June 2022.
[102] The letter by E. van der Burg on 24 June 2022.
[103] The letter by E. van der Burg on 24 June 2022.
[104] Interview with an official from IND, 14 June 2022.
[105] Interview with an official from IND, 14 June 2022.
[106] The letter by E. van der Burg on 24 June 2022.
[107] Additional information received via email, following the interview with an official from IND, 14 June 2022.
[108] The letter by E. van der Burg on 24 June 2022.

4. New technologies at the border: risk analyses, document verification, behaviour and emotion recognition

In addition to risk analyses conducted by Frontex to monitor and prevent irregular entry at the EU borders, new technologies are also increasingly used or tested at the border to check the veracity of travellers' documents and narratives. Among these are document verification technologies, for tasks traditionally done by humans, and emotion detection technologies, which have been recently tested and are much more controversial. These often called 'fraud detection' technologies have been developed based on, or promote, the assumption that some of the travellers are lying, or may be lying, to gain access to the territory or obtain residency rights in the country.[109]

4.1. European Border Surveillance System (EUROSUR)

The European Border Surveillance System (Eurosur) provides for information exchange between EU Member States and Frontex in order to detect and prevent irregular migration into European borders.[110] The surveillance system uses drones, offshore sensors and satellite remote sensing technologies to detect and map out persons and vehicles traveling to EU borders. Established in 2013, it is managed by Frontex and follows Frontex's regular risk analyses and vulnerability assessments for Member States.[111] The mapping data that Eurosur collects in real-time also serves as archival data for Frontex to be used in future-oriented risk analyses to detect and prevent irregular migration to Europe.[112] Its humanitarian discourse around facilitating prompt interventions and rescues at border crossings (especially sea crossings) has been widely criticised.[113]

4.2. Document verification technologies

Some European states use, or are piloting using, AI-based software to check whether travellers' or applicants' identities and other breeder documents are genuine. For example, in the Netherlands, the Immigration and Naturalisation Service (IND) currently uses algorithms to detect possible fraud in identity and supporting documents, such as residence permits, birth, marriage and death certificates.[114] In this research, it is found that the IND uses a specific software for this, developed by the institution in-house.[115] This software uses pattern recognition and augmented intelligence. This software classifies documents according to their risks, not based on personal attributes, 'but rather on features of the presented documents'.[116] The software's classification helps caseworkers in their decision-making.[117] In Belgium, the Immigration Office is currently working to develop a similar fraud detection tool to check identity and supporting documents.[118] In France, the Ministry of Interior plans to use a similar tool in their digital ANEF portal in order to check possible fraud cases in uploaded documents.[119] This fraud detection tool is currently under development and not operational.

---

[109] Molnar, P. 2019. Technology on the margins: AI and global migration management from a human rights perspective. Cambridge International Law Journal, 8(2), 305–330.

[110] For a critical overview of Eurosur, see Rijpma, J. and Vermeulen, M. 2015. EUROSUR: saving lives or building borders? European Security, 24(3), 454-472;

[111] European Commission. 2022. Eurosur. https://home-affairs.ec.europa.eu/policies/schengen-borders-and-visa/border-crossing/eurosur_en

[112] Tazzioli, M. 2018. Spy, track and archive: The temporality of visibility in Eurosur and Jora. Security Dialogue, 49(4), 272–288.

[113] Dijstelbloem, H. 2021. Borders as Infrastructure: The Technopolitics of Border Control. MIT Press, Chapter 5; Heller, C. and Jones, C. 2014. Eurosur: Saving lives or reinforcing deadly borders? Statewatch. https://www.statewatch.org/statewatch-database/eurosur-saving-lives-or-reinforcing-deadly-borders-by-charles-heller-and-chris-jones/

[114] European Commission. 2022. EMN-OECD Inform. The Use of Digitalisation and Artificial Intelligence in Migration Management., 10.

[115] Interview with an official from IND, 14 June 2022.

[116] Interview with an official from IND, 14 June 2022.

[117] Interview with an official from IND, 14 June 2022.

[118] European Commission. 2022. EMN-OECD Inform. The Use of Digitalisation and Artificial Intelligence in Migration Management., 11.

[119] Ibid. The acronym ANEF refers to the Digital Administration for Foreigners in France. This portal allows immigrants to complete their residency applications online.

Among research projects, an EU-funded Horizon 2020 project, Detecting Document Fraud and Identity on the Fly (D4FLY), is currently working on developing new technologies for identity and document verification. This project is based on the premise that there are various interaction points between travellers and officials where document fraud may occur. The project team is currently working to develop hardware that can detect biometrics and forged documents with an increased accuracy rate. They are also investigating the potential of blockchain technology in identity verification.[120] Field test areas in this project are in the Netherlands (for verification for breeder documents in document issuance centres), Greece (for verification of travel documents for passengers travelling by cruise ships), Lithuania (for verification of travel documents at land border checks), and the UK (for verification of travel documents for passengers travelling by coach and train).[121] This is an exploratory research project, but the tools that are developed at the end can be made available to border authorities.

4.3. Behaviour/emotion recognition (lie detection) technologies

While there are no current uses of emotion recognition technologies at the EU borders, some EU-funded projects have tested developing these technologies. For example, the iBorderCtrl project, recently funded under EU's Horizon 2020 and its Secure Societies Programme, explored emotion recognition technology with a view to testing whether or not travellers are lying. The assumed benefits of this controversial iBorderCtrl project were speeding up border crossing processes and increasing security in border control checks.[122]

Tested between 2016 and 2019, the iBorderCtrl research project combined several technologies, including biometric verification, deception detection, document authentication and risk assessment, in one system.[123] The project team tested these technologies with guidance from the Hungarian, Latvian and Greek border control officers who were the three end-users of the project.[124] The project envisaged a two-tiered assessment. First, before travelling to EU borders, people would be asked to answer questions by a 'personalised Avatar agent', that is a computer-animated border guard personalised to the gender and language of the traveller.[125] Their responses would be collected via a webcam, and their micro-gestures would be analysed to assess whether they were telling the truth. In the second stage, on arrival at the EU borders, their recorded facial expressions from the pre-screening stage would be compared with pictures of their previous border crossings.[126] Those who receive a higher probability of lying would be subject to more investigations by border officers.[127]

The project has received severe criticism from civil society organisations, some members of the European Parliament and academics.[128] The main point of criticism has been around the technology's ability to accurately assess human behaviour. It has been suggested that these types of assessments can lead to biases against people of different colour, gender, age, and culture.[129] This is particularly important.

---

[120] D4FLY. 2022. The Project. https://d4fly.eu/about-d4fly/the-project-2/
[121] D4FLY. 2022. Field Tests. https://d4fly.eu/about-d4fly/field-tests/
[122] European Commission. 2021. Intelligent Portable Border Control System: Periodic Reporting for period 2 – iBorderCtrl (Intelligent Portable Border Control System). https://cordis.europa.eu/project/id/700626/reporting
[123] Ibid.
[124] Ibid.
[125] Ibid.
[126] Varghesescience, S. 2018. The science behind the EU's creepy new border tech is totally flawed. Wired, 16 November 2018. https://www.wired.co.uk/article/border-control-technology-biometrics
[127] See Boffey, D. 2018. EU border 'lie detector' system criticised as pseudoscience. The Guardian, 2 November 2018. https://www.theguardian.com/world/2018/nov/02/eu-border-lie-detection-system-criticised-as-pseudoscience
[128] Molnar, P. EDRi, and the Refugee Law Lab. 2020., 20; EDRi. 2022. Regulating Migration Tech: How the EU's AI Act can better protect people on the move. https://edri.org/our-work/regulating-migration-tech-how-the-eus-ai-act-can-better-protect-people-on-the-move/; Van Den Meerssche, D. 2022. Virtual Borders: International Law and the Elusive Inequalities of Algorithmic Association. European Journal of International Law, 33(1), 171–204. Also see Patrick Breyer's Question for written answer E-000152/2020 to the Commission Rule 138, iBorderCtrl: False incrimination by and discriminatory effects of video lie detector technology https://www.europarl.europa.eu/doceo/document/E-9-2020-000152_EN.html#def1
[129] For more details, see Sánchez-Monedero, J. and Dencik, L. 2022. The politics of deceptive borders: 'biomarkers of deceit' and the case of iBorderCtrl, Information. Communication & Society, 25(3), 413-430.

The iBorderCtrl project utilises a technology based on an artificial neural network, which was previously developed by a team of scientists from the Manchester Metropolitan University, one of the partners of the iBorderCtrl consortium, and commercialised under a UK-based firm, Silent Talker Ltd.[130] An earlier academic article written by scientists of Silent Talker shows a large discrepancy across gender and ethnicity. According to the findings of this article, European men had higher rates of accuracy compared with women and non-European men and women.[131] Moreover, there is currently no adequate scientific evidence that this type of technology can provide an accurate assessment of individual behaviour and facial movement.[132]

Transparency of the research process has been another point of contention. Homo Digitalis, a non-governmental organisation in Greece, submitted an FOI request to the European Research Executive Agency (REA) of the European Commission with no success. Written questions to the European Commission by several members of the European Parliament (MEPs) regarding the specifics and legality of this technology also had limited success.[133] Most significantly, Patrick Breyer requested the project's ethical review reports, assessment of the legality of this type of technology and project findings from the REA, but the latter refused to disclose information on the grounds that 'the documents [were] "commercial information" of the companies involved and of "commercial value"'.[134] In response, on 15 March 2019, Breyer filed a lawsuit for the release of these documents in relation to the ethical justification and legality of the technology. On 15 December 2021, the European Court of Justice delivered its judgment, ruling that commercial interests prevent public access to the specifics of this technology.[135] On 25 February 2022, Breyer filed an appeal. At the time of writing, the result of this appeal is yet to be declared.

Another controversial research project is TRESSPASS, which aims to build on the iBorderCtrl project. Also funded by EU's Horizon 2020, TRESSPASS builds on the results of the H2020 iBorderCtrl project (for land border control) and H2020 FLYSEC and FP7 XP-DITE projects (for airport border control) to establish 'a multimodel border crossing risk-based security solution'.[136] In its pilot projects, TRESSPASS explored the feasibility and usefulness of behaviour analysis (including emotions) while being interviewed by border guards and customs officers. The team suggested that 'this kind of technology potentially improve[d] [...] correctness of the outcomes of such interviews'.[137] Besides the technical accuracy-related issues, ethical implications of these technologies need to be scrutinised.

Moreover, the AI Act proposal explicitly allows the developing of polygraphs for the purpose of migration control and law enforcement. This provision has attracted extensive criticism from some MEPs[138] and civil society,[139] with some demanding a ban on its use in the context of migration management.[140]

---

[130] Note that as of June 2022, the company has been dissolved. See https://find-and-update.company-information.service.gov.uk/company/09533454/filing-history

[131] See Rothwell, J. et al. 2006. Silent talker: A new computer-based system for the analysis of facial cues to deception. Applied Cognitive Psychology, 20(6), 757-777.

[132] Barrett, L. F., et al. 2019. Emotional Expressions Reconsidered: Challenges to Inferring Emotion from Human Facial Movements. Psychological Science in the Public Interest, 20(1), 1-68.

[133] See Patrick Breyer's Question for written answer E-000152/2020 to the Commission Rule 138, iBorderCtrl: False incrimination by and discriminatory effects of video lie detector technology https://www.europarl.europa.eu/doceo/document/E-9-2020-000152_EN.html#def1

[134] Breyer, P. 2021. EU-funded technology violates fundamental rights. About Intel: European Voices on Surveillance. 22 April 2021. https://aboutintel.eu/transparency-lawsuit-iborderctrl/ See REA's response at https://www.asktheeu.org/de/request/6091/response/20002/attach/3/REA%20reply%20Confirmatory%20request%20signed.pdf?cookie_passthrough=1

[135] See Case T-158/19. https://curia.europa.eu/juris/liste.jsf?oqp=&for=&mat=or&lgrec=de&jge=&td=%3BALL&jur=C%2CT%2CF&num=T-158%252F19&page=1&dates=&pcs=Oor&lg=&pro=&nat=or&cit=none%252CC%252CCJ%252CR%252C2008E%252C%252C%252C%252C%252C%252C%252C%252C%252Ctrue%252Cfalse%252Cfalse&language=en&avg=&cid=51770

[136] European Commission. 2021. Periodic Reporting for period 3 – TRESSPASS. https://cordis.europa.eu/project/id/787120/reporting

[137] TRESSPASS. Work Package 8: Pilots; D8.5 Lessons Learnt from Pilots, 96. https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5e7240651&appId=PPGMS

[138] Breyer, P. 2021.

[139] Monroy, M. 2021. Behavioural analysis and Twitter check: EU security research tests new "lie detector" for border control. https://digit.site36.net/2021/02/08/behavioural-analysis-and-twitter-check-eu-security-research-tests-new-lie-detector-for-border-control/

[140] Access Now, European Digital Rights (EDRi), Migration and Technology Monitor, the Platform for International Cooperation on Undocumented Migrants (PICUM) and Statewatch. 2022. Uses of AI in migration and border control: A fundamental rights approach to the Artificial Intelligence Act. https://www.accessnow.org/cms/assets/uploads/2022/05/Uses-of-AI-in-migration-and-border-control.pdf

5. New technologies after arrival: access to immigration in-country

Several states use new technologies in their immigration systems for migrants who are already inside their territories. The extent of these uses and the degree of automation vary significantly depending on the country and the institution that uses it. For example, Norway has largely automated the processing of citizenship applications.[141] In other countries, the uses of new technologies include mainly the categorisation of immigration applications. Some of these uses are merely to expedite the process. Others are directly linked with risk assessments and perceive some applicants as potentially a threat to the immigration system. Finally, some voice recognition technologies are being used to help applicants to practice for their citizenship tests. Among all practices explored in this section, this is the only practice that is designed to help migrants with their applications. All the others are designed for state authorities either to gather information for their evidential assessments, to categorise simple from complicated cases or to assess the risk of applicants. Each of these practices that are implemented for migrants in-country is explained below.

5.1. Automated processing of citizenship applications

In Norway, since August 2020, the UDI (Norwegian Directorate of Immigration) has automated the processing of citizenship applications.[142] The algorithm that UDI uses checks each stage of the eligibility requirement for obtaining citizenship in Norway. Currently, the entire process is automated unless a problem arises. Problems refer to cases where, for example, an applicant may not have submitted a document that they should have submitted. In such cases, caseworkers are notified, and are required to check the problem in the interface on a case-by-case basis. In case of low data quality or lack of data, caseworkers can enter the relevant data in the case management tool manually. For example, in the case of an absence of a document, the caseworker would intervene and ask for the document from the applicant. Once the caseworker resolves the problem, the system proceeds from the point it had paused.[143]

This new system is facilitated with a BPMN-based process engine,[144] using a technology platform called CAMUNDA.[145] Camunda is a private tech company that specialises in the automation of business processes.[146] The software system behind this practice is a rules engine, called Blaze Advisor.[147] This system is designed according to UDI's business rules for the processing of citizenship applications. It is not machine learning, and therefore, it does not recognise the patterns in applications and does not make suggestions for caseworkers. Previously, UDI tested the use of machine learning but found it 'too immature'.[148] The current system is only the execution of rules.[149] The system works in a way that each step follows another. In the words of a UDI official, [for example]:

> 'in order to get through this step, you need to have a positive outcome of these three conditions. [...] If one of them fails, then the caseworker will know [in which step the applicant has failed]. Everything is predefined.'[150]

---

[141] UDI. 2021., 45.
[142] UDI. 2022. Guide to waiting time for applications for Norwegian citizenship. https://www.udi.no/en/word-definitions/guide-to-case-processing-times-for-applications-for-norwegian-citizenship/?h=8&c=som
[143] Previously, when UDI had attempted to automate this process, once the automation process stopped due to a problem in the application, the caseworker had to be involved and resolve the problem, and then the process would have to be started all over from the beginning. With UDI's most recently introduced system, once the caseworker resolves the problem, the automation process proceeds from the point it paused.
[144] The abbreviation BPMN stands for Business Process Model and Notation. For more information, see https://camunda.com/bpmn/
[145] Interview with an official from UDI, 1 July 2022.
[146] For more information on the company's product, see https://camunda.com/platform-7/workflow-engine/
[147] Interview with an official from UDI, 1 July 2022.
[148] Interview with an official from UDI, 1 July 2022.
[149] Interview with an official from UDI, 1 July 2022.
[150] Interview with an official from UDI, 1 July 2022.

UDI started automation with citizenship applications precisely because this was the area where it had the most information about applicants. That is because when a person applies for citizenship in Norway, he/she usually has already spent quite some time in the country, and many branches of state authorities have already gathered information about this person. As an official from UDI stated, therefore, the processing of citizenship applications is already relatively a simple process: 'for most people, it is just a formal process'.[151] That is the reason that UDI found this process easiest to automate.

According to UDI, this processing does not cause a risk for applicants, because the automated processing only proceeds until the final decision if the case is successful (that means, if the applicant receives a positive decision). If there is any problem (such as the lack of a document or lack of adequate fulfilment of residency in the country), the caseworkers have access to the history related to the problem.[152] If the applicant does not fulfil the eligibility criteria (because, for example, he/she has not lived in Norway for a certain number of days or has not attained a certain number of Norwegian classes, and the decision is negative), the caseworker must intervene in the process before rejecting an applicant. In other words, the automated system can only automate the process fully if the final decision is positive. If it is negative, it must be intervened and assessed by the caseworker. The caseworker would make his/her decision based on the problem that the system shows.

However, whether any possible mistakes in other databases (such as those calculating the number of days of the applicant's residency in Norway or the number of hours of the applicant's attendance in Norwegian classes) would automatically reflect in a possible mistake in this process is not clear.

The reason for not automating the rejections is that if the applicant decides to appeal the decision, the court would not be able to consider the machine as the respondent.[153] Therefore, for negative decisions, caseworkers must intervene and decide on the negative decision themselves. UDI reassures applicants whose applications are not automated in the following way:

> 'If your application is to be processed by a caseworker, it does not mean anything is wrong with your application. It just means that the system is not able to evaluate the application automatically. [...] You do not need to contact us to check if or why your application was not automated. If we lack information from you to process the application, we will contact you.'[154]

Automation of citizenship applications seems to have increased at a gradual rate. In October 2020, 70 per cent of applications from Nordic citizens, and 10 per cent of all applications were fully automated.[155] In numerical figures, in total, in 2020, around 2,200 applicants received an answer to their application in this way.[156] As of 2022, around 70% of citizenship applications have been processed automatically.[157]

UDI has been working on developing more digital solutions for the processing of other immigration applications (see Section 3.3).[158] Among them, this particular practice has been considered so successful that it was recently nominated for the most innovative practice award in public administration in Norway.[159]

In Sweden, some parts of the processing of citizenship applications are automated. The Migration Agency's recently developed algorithm helps automatically confirm whether the applicant fulfils the eligibility requirements. These requirements include, for example, having a certain residency period before the citizenship application. If the applicant is found to fulfil these criteria, the algorithm automatically proceeds with the following steps until the final approval of the applicant. However, the system is not fully automated, in the sense that the caseworker needs to solve and verify each step where there is not a clear answer (as

---

[151] Interview with an official from UDI, 1 July 2022.
[152] Interview with an official from UDI, 1 July 2022.
[153] Interview with an official from UDI, 1 July 2022.
[154] UDI. 2022.
[155] UDI. 2021., 45.
[156] UDI. 2021., 45.
[157] UDI. 2022.
[158] Interview with an official from UDI, 1 July 2022.
[159] Interview with an official from UDI, 1 July 2022.

described above in Section 3.3). Currently, this algorithm is used for the processing of some citizenship applications, and the Migration Agency is planning to use it soon for all citizenship applications. Like the practice for residency applications (see Section 3.3), the Agency uses a rule-based system developed in-house for this practice too.[160] The monitoring of this practice takes place on a regular basis, but that is only done in-house and not by an independent auditor.

5.2. Assessment of appeal cases' type and complexity

In the Netherlands, the Ministry of Justice and Security is currently evaluating whether text mining can support them to triage appeal cases. This practice is based on a statistical model and is currently under development. The rationale for this technology is that the Ministry of Justice and Security is currently spending considerable time figuring out how complex a case is. The tool that is being currently developed is expected to determine the level of complexity and type of an appeal case, such as for cases related to naturalisation, work, highly skilled immigration, or asylum, and which lawyer will work on the relevant appeal case.[161]

5.3. Risk assessment of applications for marriages

Similar to the categorisation of travel visa applicants before arrival (see Section 3.3), the Home Office in the UK has used an algorithm to categorise marriage registrations in the country, at least since April 2019.[162] Since changes in the Immigration Act 2014 commenced on 2 March 2015, registrars[163] have been required to report applications for marriage registrations where a partner could benefit from acquiring a migration status to the Home Office. These referrals by registrars must then be investigated by the Home Office.[164] This practice is based on the assumption that some couples are (or may be) more likely to marry in order to gain a migration status. The Home Office's algorithm triages applicants into green and red categories according to pre-determined risk factors. Those who are allocated a red rating receive further scrutiny from Home Office officials, and they can be investigated further through interviews, or potentially highly intrusive house visits.[165]

The Home Office explains the rationale of the practice in the following way:

> 'Immigration Enforcement takes a preventative approach to sham marriage. […] Although we are unable to prevent the marriage of any couple who comply with the scheme, we are able to assess those marriages we consider to be of the highest risk and record that assessment on HO databases if we believe it to be sham. IE also undertakes interviews of the highest risk cases before the marriages take place. This information is available to the caseworker if an application for permanent residence is submitted and is considered as part of that decision.'[166]

What is most troubling in this process, however, is that how the Home Office exactly identifies and assesses the risk of applications is unknown. Analysis by the Public Law Project (PLP) suggests that couples are referred to the system if 'one or both of a couple who have given notice to the registrar come from outside

---

[160] Interview with an official from Swedish Migration Agency, 21 March 2022.

[161] Interview with an official from IND, 14 June 2022.

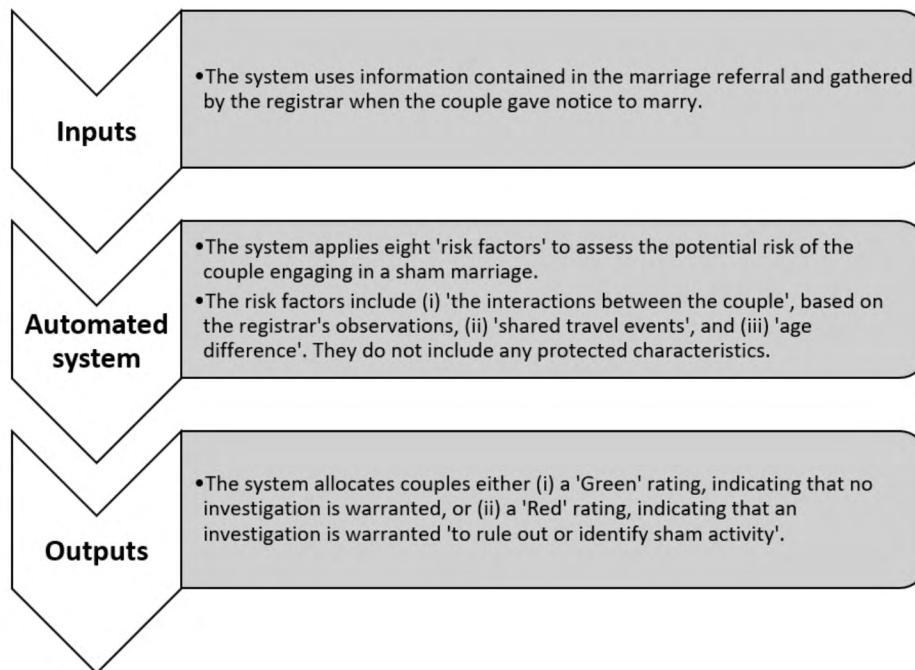[162] PLP. 2021. 'Sham marriages' and algorithmic decision-making in the Home Office. 3 February 2021. https://publiclawproject.org.uk/latest/sham-marriages-and-algorithmic-decision-making-in-the-home-office/

[163] In the UK, registrars collect and record details of births, deaths, marriages and civil partnerships.

[164] Home Office. 2021. Criminal investigations: sham marriage. Version 3.0. Published on 15 January 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/953001/criminal-investigations-sham-marriage-v3.0-gov-uk.pdf

[165] For example, some couples reported that they were raided by officials in their homes when they were asleep; others claimed that their wedding ceremonies were interrupted by officials. Some also reported being asked about their intimate sex lives, including details about sexual positions. See Taylor, D. and Perraudin, F. Couples face 'insulting' checks in sham marriage crackdown. The Guardian, 14 April 2019. https://www.theguardian.com/uk-news/2019/apr/14/couples-sham-marriage-crackdown-hostile-environment

[166] Immigration Enforcement. 2020. Response to FOI request (FOI Reference: 57518) by Sam Leader on 13 February 2020. https://www.whatdotheyknow.com/request/639813/response/1525239/attach/2/FOI%2057518%20Leader%20Draft.pdf?cookie_passthrough=1.

Figure 2: 'Sham marriages' and algorithmic decision-making in the Home Office[168]

Inputs
- The system uses information contained in the marriage referral and gathered by the registrar when the couple gave notice to marry.

Automated system
- The system applies eight 'risk factors' to assess the potential risk of the couple engaging in a sham marriage.
- The risk factors include (i) 'the interactions between the couple', based on the registrar's observations, (ii) 'shared travel events', and (iii) 'age difference'. They do not include any protected characteristics.

Outputs
- The system allocates couples either (i) a 'Green' rating, indicating that no investigation is warranted, or (ii) a 'Red' rating, indicating that an investigation is warranted 'to rule out or identify sham activity'.

the European Economic Area (EEA), are not settled in the UK, or lack a valid visa'.[167] The Home Office has also shared that they look at eight 'risk factors', including the age difference between partners, shared travel events, and registrar's observations, but it has not disclosed the full list (see Figure 2).

One immediate question is whether this algorithm may be discriminating against some nationalities, like the algorithm that triaged visitor visa applications (see Section 3.3). In response to a recent Freedom of Information request on this very question, the Home Office stated that nationality was not one of the factors they used to triage marriage notifications:

> "Nationality is a protected characteristic under the Equality Act 2010 and is not used in this process. The marriage notification triage process does not use any protected characteristics, either directly or indirectly, to triage notifications."[169]

Nonetheless, even if nationality is not one of the listed factors, in practice, an algorithmic feedback loop may lead to some nationals receiving a red rating more than others, as it was found to be the case in the previously used algorithm to process visitor visa applications.

Moreover, the three factors that the Home Office has shared (the age difference between partners, shared travel events, and registrar's observations) can potentially be discriminatory. For example, couples from diverse cultural backgrounds may have different physical interactions with each other, possibly leading the registrar to disbelieve the genuineness of their relationship. Those who have less financial capital may have fewer opportunities to travel, making registrars doubtful of their relationship. And those who have an age difference between them may be negatively impacted by this process, although their age difference may not indicate a fraud in their application for marriage. More importantly, the practice is concerning due to its lack of full transparency.

---

[167] Kazim, T. 2021. Home Office refuses to explain secret sham marriage algorithm. 21 July 2021. https://freemovement.org.uk/home-office-refuses-to-disclose-inner-workings-of-sham-marriage-algorithm/
[168] PLP. 2021.
[169] Immigration Enforcement. 2022. Response to FOI request (FOI Reference: 69126) by Derya Ozkul on 14 April 2022, by email correspondence.

5.4. Automated categorisation of applications for the EU Settlement Scheme

The Home Office in the UK has also automated parts of the assessment of applications for the EU Settlement Scheme (EUSS).[170] The EUSS was introduced in line with the UK's Withdrawal Agreement with the EU and the citizens' rights agreements reached with the other EEA countries and Switzerland for citizens of these countries and their family members who were resident in the UK by 31 December 2020 (the end of the transition period).[171] According to this scheme, those from EEA countries and Switzerland, and their family members, can acquire either a settled status (an indefinite permission to enter or to remain in the UK) or a pre-settled status (5 years' limited permission to enter or to remain in the UK), provided that they fulfil the validity, suitability and eligibility requirements of the scheme.

Applications for the EUSS usually are submitted digitally, though the Home Office also accepts paper applications under some circumstances. Those that are submitted digitally are automatically fed into PEGA (the EUSS casework management system) and go through a three-stage process. The first stage is identity verification by administrative officers, followed by a suitability assessment.

This second stage includes automated suitability checks. The Home Office assesses if an applicant declares having conducted a criminal activity or if his/her details match against an entry on the Police National Computer (PNC) or 'Watchlist'. In these cases, the application is sent to administrative officers in the Suitability Assessment Team.[172] Each application is then categorised into three categories, determining which officer will review the application. Those categorised under the Green category are forwarded to eligibility caseworkers. Those under the Amber category are referred to managers in the Suitability Assessment Team, and those under the Red category are sent to the Foreign National Offenders Returns Command (FNORC) of Immigration Enforcement (see Figure 3 on how criminality is assessed). FNORC assesses each application separately to determine whether it should be subject to any enforcement action.[173]

An eligibility assessment then follows the suitability assessment (see Figure 4). In this third stage, all applications are triaged into three categories: Green, Amber and Red. At this stage, applications are processed by eligibility caseworkers. The more complex the case is, the more highly graded the officer examining it.

Although the decision-making process is not fully automated, the process of 'categorisation of applications is automated'.[174] According to this system, those who have a certain set of characteristics are categorised into Green, Amber or Red categories as described in Table 1.[175]

Applications in each category are matched with caseworkers 'according to their skills, profile and experience'.[176] Matching occurs according to the level of the caseworker, with the ones having the highest skills processing the most categories. For example, a Red caseworker can process applications in all three categories, while an Amber caseworker can process applications in the Amber and Green categories, and finally, a Green caseworker can process applications only in the Green category.[177]

---

[170] For a broader discussion on digitalisation of the EUSS and related questions about administrative justice, see Tomlinson, J. 2020. Justice in Automated Administration. Oxford Journal of Legal Studies, 40(4), 708–736.

[171] Home Office. 2022. EU Settlement Scheme: EU, other EEA and Swiss citizens and their family members Version 17.0. Published on 13 April 2022., 10. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1069096/EU_Settlement_Scheme_EU_other_EEA_Swiss_citizens_and_family_members.pdf

[172] Independent Chief Inspector of Borders and Immigration. 2022. A further inspection of the EU Settlement Scheme, July 2020 – March 2021, 75. https://www.gov.uk/government/publications/a-further-inspection-of-the-eu-settlement-scheme-july-2020-march-2021

[173] Ibid., 75.

[174] UK Visas & Immigration. 2020. Response to the FOI request (Ref No: 58834) by Jack Maxwell on 16 June 2020. https://www.whatdotheyknow.com/request/666273/response/1586931/attach/5/FOI%20Response%2058834%20J%20Maxwell%20V1.0.pdf?cookie_passthrough=1

[175] Ibid.

[176] UK Visas & Immigration. 2020. Response to the FOI request (Ref No. 59144) by Jack Maxwell on 15 July 2020. https://www.whatdotheyknow.com/request/671120/response/1601515/attach/5/FOI%20Response%2059144%20J%20Maxwell%20V1.0.pdf?cookie_passthrough=1

[177] Ibid.

Figure 3: Suitability assessment team's process for determining if a EUSS case falls into the red category[178]
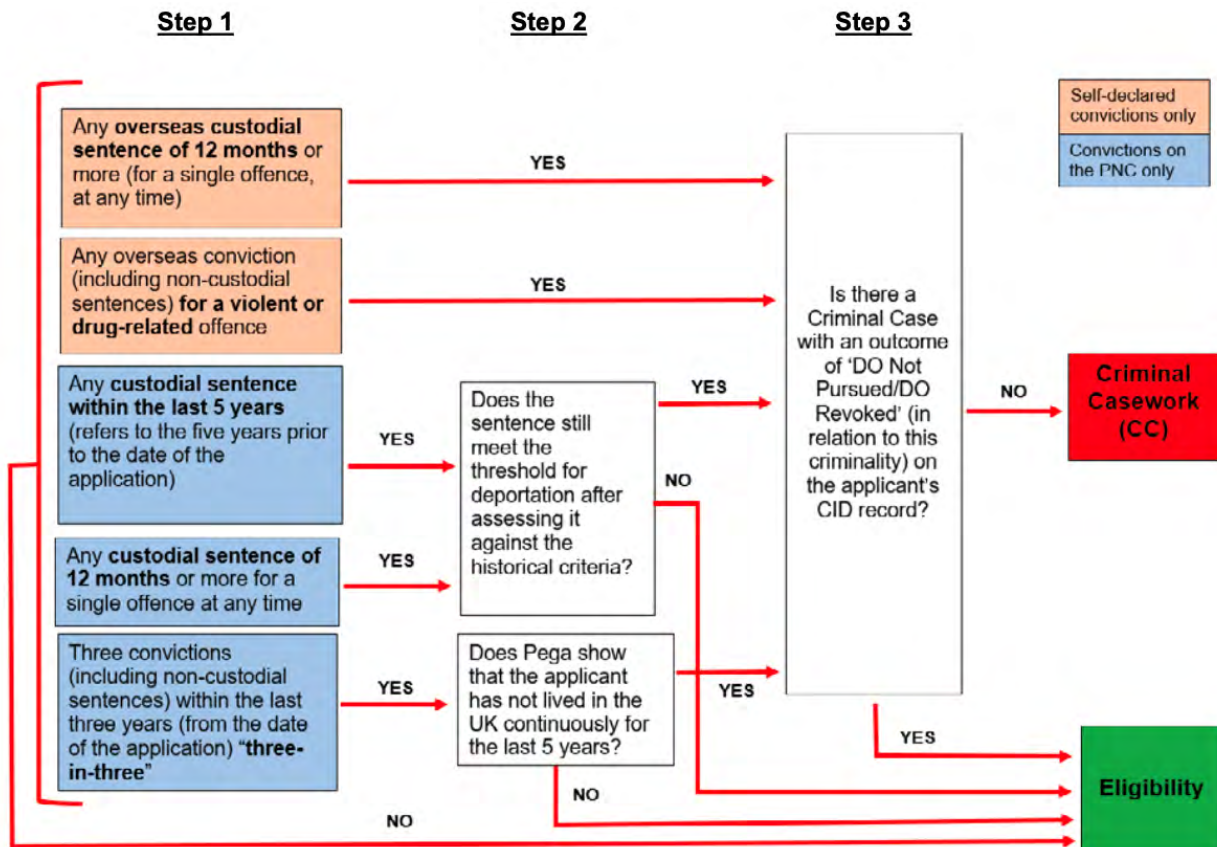
Figure 4: EUSS casework workflow process[179]
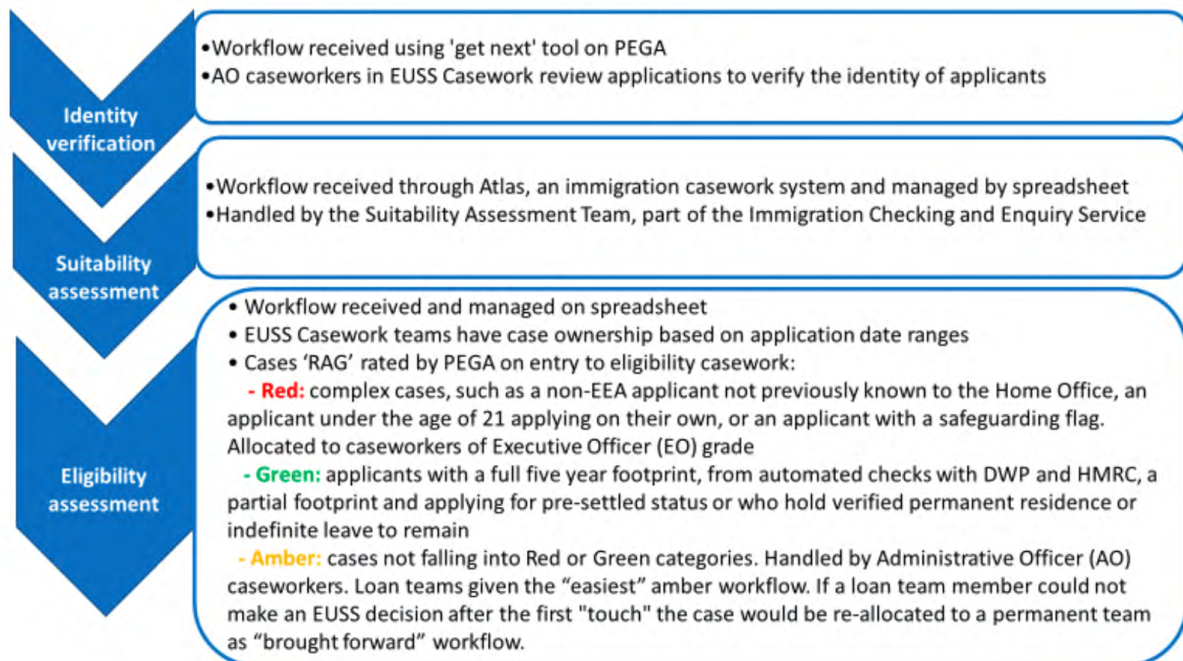
---

[178] Independent Chief Inspector of Borders and Immigration. 2022. A further inspection of the EU Settlement Scheme, July 2020 – March 2021, 76. https://www.gov.uk/government/publications/a-further-inspection-of-the-eu-settlement-scheme-july-2020-march-2021.
[179] Ibid., 68.

Table 1: Categorisation of applicants in the EU Settlement Scheme

GREEN (Applicants who either)	AMBER (All other applicants who have not been routed as green or red, including the following)	RED (Applicants who are either)
have a full five-year digital footprint in the UK;	non-EEA citizen applicants known to the Home Office;[180]	non-EEA citizens who are not known to the Home Office;
have a partial digital footprint who have stated they are applying for pre-settled status; or	applications where there is evidence of a potentially adverse immigration history	under the age of 21, and who apply on their own; or
already hold a verified permanent residence		have been identified as being at risk or vulnerable[181]

Categorisation impacts the number of daily targets for caseworkers and the extent of automated case processing. For example, as of November 2020, while Green caseworkers had a target of 90 decisions a day, Red caseworkers had a target of 12 a day. This is not surprising, as Green caseworkers' tasks are automated to a greater extent than Amber or Red caseworkers. Green caseworkers do not assess any evidence of residency for applications in the Green category as these applications go through automated residency checks.[182] These automated assessments are completed via automated checks with the Department of Work and Pensions (DWP) and HM Revenue & Customs (HMRC) (see Figure 4) through the sharing of applicants' names, date of birth, and National Insurance numbers and checking them against benefit and tax records.[183] Caseworkers looking at those in the Amber and Red categories, on the other hand, are required to assess residency footprint and additional evidence.[184] Relatedly, the waiting times for those in the Amber and Red categories are higher than those in the Green category (with the highest waiting times listed for those in the Red category).[185]

In short, the assessment of digital EUSS applications is not fully automated, but an automated categorisation system is used in order to decide the level of scrutiny each application is subject to and the level of automation each application goes through. In eligibility assessments, applicants in the Green category go through a higher level of automation as their residency requirement is automatically calculated.

These automated processes may bring significant benefits to applicants whose requirements can be assessed in automated checks, as they can reduce the time required for decision-making. However, applicants whose residency requirements are miscalculated or cannot be calculated automatically (for example, because they do not have National Insurance numbers) are reported to lack 'sufficient evidence

---

[180] The Home Office defines a person who is 'known to the Home Office' as the following: a person 'who has previously made an application to UKVI for immigration status in the UK.' See UK Visas & Immigration. 2020. Response to the FOI request (Ref No. 59245) by Jack Maxwell on 8 July 2020. https://www.whatdotheyknow.com/request/672667/response/1597223/attach/5/FOI%20Response%2059245%20J%20Maxwell%20V1.0.pdf?cookie_passthrough=1

[181] Applicants to the EUSS do not have the option of identifying themselves as being vulnerable or having special needs. The Home Office's staff can identify these issues and flag them manually. See, Independent Chief Inspector of Borders and Immigration. 2022. A further inspection of the EU Settlement Scheme, July 2020 – March 2021, 81. An empirical research into the vulnerability of EUSS applicants with complex needs identifies the Home Office's approach as not principles-based but reactive [because applicants cannot identify their special needs themselves but it is up to the staff members to flag them]. See Law Centres Network. 2021. Vulnerability in the EU Settlement Scheme: looking back, going forward: A review of evidence from Law Centres' casework. https://www.lawcentres.org.uk/policy/news/news/better-support-for-vulnerable-people-needed-in-eu-settlement-scheme-new-report

[182] UK Visas & Immigration. 2020. Response to the FOI request (Ref No. 59144) by Jack Maxwell on 15 July 2020. https://www.whatdotheyknow.com/request/671120/response/1601515/attach/5/FOI%20Response%2059144%20J%20Maxwell%20V1.0.pdf?cookie_passthrough=1.

[183] Tomlinson, J. 2020., 719.

[184] UK Visas & Immigration. 2020. Response to the FOI request (Ref No. 59144) by Jack Maxwell on 15 July 2020. https://www.whatdotheyknow.com/request/671120/response/1601515/attach/5/FOI%20Response%2059144%20J%20Maxwell%20V1.0.pdf?cookie_passthrough=1.

[185] See the waiting times listed for each category: Home Office. 2021. Internal Review of the FOI request (Ref No. 60738) by Jack Maxwell on 5 January 2021, Annex D. https://www.whatdotheyknow.com/request/693062/response/1699721/attach/3/60738%20Maxwell%20Internal%20Review.pdf?cookie_passthrough=1

of UK residence from automated checks alone'.[186] Vulnerable groups in particular are reported to have problems with accessing the system or having their residency details verified in automated checks.[187] Moreover, if there are any technical vulnerabilities, mistakes or discriminatory outcomes in the DWP or HMRC systems, they can translate into mistakes in the EUSS decision-making system too. For example, some applicants are reported to have received a 'not found' message due to 'technical disruptions' in HMRC data.[188] These applicants were later contacted by UKVI and caseworkers checked their applications against HMRC and DWP data manually.[189] It is, therefore, crucial to check the use of algorithms in each system both separately and in combination with each other to ensure that they do not create a domino impact and lead to incorrect outcomes in other areas.

5.5. Automated identification and prioritisation of irregular migrants

In the UK, the Home Office has reportedly been using a 'triage tool' since 2017 in order to identify and prioritise persons for their removal from the country.[190] This practice was found in the context of the Independent Chief Inspector of Borders and Immigration's reporting. According to the Home Office, the purpose of the triage tool is:

> 'to assess the removability and level of harm posed by offenders, automate the identification and prioritisation of cases, and to provide information on the length of time a barrier to removal has been in place. This tool will ensure the process of prioritising cases is consistent between Reporting Centres and Casework units. [..] Work is taking place to use this tool to ensure outstanding issues are escalated so that they can be resolved.'[191]

The tool was initially rolled out to reporting centres in the Returns Preparation Directorate in London. Later, on 3 July 2017, it was rolled out nationally to all reporting centres around the country.[192]

In this system, officers' activities include identifying cases and carrying out checks 'to ensure they are suitable for detention'.[193] For this, they use online IT systems, called ATLAS and Identify and Prioritise Immigration Cases (IPIC). IPIC is an internal web-based tool, which makes automated suggestions for Immigration Enforcement (IE) caseworkers 'based on a series of conditions known as "business rules"'.[194] Once caseworkers receive the IPIC's suggestion, they then decide whether the suggestion is appropriate and whether they need to take any action on the case. The IPIC, therefore, is not a fully automated system. Instead, it makes recommendations for caseworkers regarding cases that need 'interventions'. For this, it uses Triage and Manage (TRAM) data, which is derived from the Home Office's various

---

[186] Booth, P. 2019. How to show residency when the EU settled status automated checks don't work. Free Movement, 25 January 2019. https://freemovement.org.uk/how-to-show-residency-when-the-eu-settled-status-automated-checks-dont-work/

[187] See Godin, M. and Calin Bica, M. 2019. 'It took 2 hours and one third didn't get through': Piloting the settled status application with Roma migrants. Eurochildren, 21 January 2019. https://eurochildren.info/2019/01/21/it-took-2-hours-and-one-third-didnt-get-through-piloting-the-settled-status-application-with-roma-migrants/

[188] Independent Chief Inspector of Borders and Immigration. 2019. An Inspection of the EU Settlement Scheme, 20. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/799439/An_inspection_of_the_EU_Settlement_Scheme_May_WEB.PDF

[189] Ibid., 20.

[190] Independent Chief Inspector of Borders and Immigration. 2019. A re-inspection of the Home Office's Reporting and Offender Management processes and of its management of non-detained Foreign National Offenders (October 2018 – January 2019), Presented to Parliament pursuant to Section 50(2) of the UK Borders Act 2007. May 2019., 12. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/800638/A_re-inspection_of_the_Home_Office_s_Reporting_and_Offender_Management_processes_and_of_its_management_of_non-detained_Foreign_National_Offenders.PDF For more information on the difference between removal and deportation from the UK, see Right to Remain. 2022. The Right to Remain Toolkit: A guide to the UK immigration and asylum system. https://righttoremain.org.uk/toolkit/removal/

[191] Independent Chief Inspector of Borders and Immigration. 2019. A re-inspection of the Home Office's Reporting and Offender Management processes and of its management of non-detained Foreign National Offenders (October 2018 – January 2019), 12.

[192] Ibid., 12.

[193] See a recent job advertisement for a position titled 'Immigration Enforcement Offender Manager' at https://uk.indeed.com/viewjob?jk=94048251d6abac89&from=serp&vjs=3

[194] Home Office. 2022. Equality Impact Assessment. Published on 21 March 2022 as an attachment in response to the FOI request (No. 68562) by Tatiana Kazim. https://www.whatdotheyknow.com/request/triage_tools_used_in_an_immigrat#incoming-2002033

information databases and systems.[195] Once caseworkers receive the system's suggestions, they review the recommendations in other systems (such as CID and ATLAS) and make a decision as to whether the suggested intervention is suitable.[196]

The practice is concerning due to its opacity and potential discriminatory outcomes. The Equality Impact Assessment (EIA) & Data Protection Impact Assessment (DPIA) documents, which the Home Office has shared in an FOI request in relation to the use of the Immigration Enforcement Business Rules (IEBR), are largely redacted. Still, these documents show that 'business rules' include various personal characteristics (such as age and nationality).[197] A close reading of these documents shows that some IPIC users can filter the recommended cases based on certain personal characteristics.[198] The EIA document notes that all IPIC users receive training on how to use the IPIC system correctly and 'appropriately including not using these filters to unlawfully discriminate'.[199] The responsibility for how the system is used lies with the teams in Immigration Enforcement. However, it is not clear which IPIC users are able to filter and to what extent their teams check their behaviour and whether unlawful discrimination occurs in Immigration Enforcement.

5.6. Electronic monitoring (GPS tagging and facial recognition-based smartwatches)

Another controversial practice is electronic monitoring and, in particular, GPS tagging. This practice has also been referred to as being chained by 'digital shackles'.[200] GPS tagging has been used in the USA immigration system for some time, with earlier tests being implemented in Texas on migrants who crossed the border with no valid documents and with their children.[201] A detailed report by Human Rights Watch shows that the decision to use electronic monitoring of migrants on bail is discretionary and opaque.[202] Among European states, much to the criticism of human rights organisations, in 2022, the Home Office in the UK started a scheme of electronically monitoring those who arrive in the country with no permission (by small boats or in lorries) with GPS tags.[203]

The practice in the UK has been made possible since the enactment of the Asylum and Immigration Act of 2004. Section 36 of this Act provides that those who have residency or reporting requirements can be obliged to undergo electronic monitoring.[204] The Immigration Act of 2016 provided that all persons on immigration bail had to have one of the bail conditions. These conditions included those around reporting

---

[195] These include Case Information Database (CID), Case Reference System (CRS) and ATLAS (which will soon completely replace CID). IPIC was previously in the Solihull piloting centre. See Independent Chief Inspector of Borders and Immigration. 2019. A re-inspection of the Home Office's Reporting and Offender Management processes and of its management of non-detained Foreign National Offenders (October 2018 – January 2019), 20. The pilot was conducted between 15 October and 7 December 2018. See Home Office. 2022. Executive Summary. Published on 21 March 2022 as an attachment in response to the FOI request (No. 68562) by Tatiana Kazim. https://www.whatdotheyknow.com/request/triage_tools_used_in_an_immigrat#incoming-2002033

[196] Home Office. 2022. Equality Impact Assessment. Published on 21 March 2022 as an attachment in response to the FOI request (No. 68562) by Tatiana Kazim. https://www.whatdotheyknow.com/request/triage_tools_used_in_an_immigrat#incoming-2002033

[197] Note that the Home Office has not disclosed the full list of the rules. See the heavily redacted Equality Impact Assessment in the following source: Home Office. 2022. Equality Impact Assessment. Published on 21 March 2022 as an attachment in response to the FOI request (No. 68562) by Tatiana Kazim. https://www.whatdotheyknow.com/request/triage_tools_used_in_an_immigrat#incoming-2002033

[198] Ibid.

[199] Ibid.

[200] Solon, O. 2018. 'Digital shackles': the unexpected cruelty of ankle monitors. The Guardian, 28 August 2018. https://www.theguardian.com/technology/2018/aug/28/digital-shackles-the-unexpected-cruelty-of-ankle-monitors

[201] The Guardian. 2014. US testing GPS-enabled ankle bracelets to track undocumented migrants. The Guardian, 24 December 2014. https://www.theguardian.com/us-news/2014/dec/24/us-gps-ankle-bracelets-immigrants-mexico

[202] HRW. Dismantling Detention: International Alternatives to Detaining Immigrants., 30-47. https://www.hrw.org/sites/default/files/media_2021/11/global_altdetention1021_web.pdf

[203] Electronic monitoring can be done either by radio-frequency tags (which tell the authorities whether or not the person abides by his/her curfew requirements in a specified location) or GPS tags often worn on ankles (which provide the authorities with minute-by-minute information on the wearer's geolocation). In the UK, companies that are contracted for electronic monitoring services to the Ministry of Justice include Capita, G4S, Airbus Defence and Space Ltd, and Telefonica. For more information and different technical features of electronic monitoring, see, PI. 2022. Electronic monitoring using GPS tags: a tech primer. https://privacyinternational.org/explainer/4796/electronic-monitoring-using-gps-tags-tech-primer

[204] See Section 36, https://www.legislation.gov.uk/ukpga/2004/19/section/36/enacted

requirements, residency or conditions restricting work, occupation or studies, electronic monitoring or other conditions that are thought to be 'fit'.[205] Since 2022, electronic monitoring has been made a required condition of bail in England and Wales for most people facing deportation (with the exception of people who are under 18 years old or who have mental health difficulties, among some other broad exemptions).[206]

Research shows that wearing a GPS tag creates various difficulties for wearers, including challenges in accessing work, concerns of being stigmatised, increased anxiety, and other mental health difficulties.[207] GPS tags provide 24/7 minute-by-minute information on the wearer's geolocation, raising questions about privacy and overreach in the usage of data. The Home Office has reportedly argued that the scheme would help them 'maintain regular contact with migrants and help to progress their claims' as well as 'collect data on how many people abscond from immigration bail'.[208] Critiques argue, however, that there is not enough evidence for this.[209] Absconding rates for immigration detention were only 1% in 2020, and 3% in 2019.[210]

In addition to GPS tags (fitted devices), the Home Office also plans to introduce facial recognition-based smartwatches (non-fitted devices) for those who are found to 'have vulnerabilities preventing a fitted tag' or 'who are considered lower harm and demonstrate a history of compliance with their bail conditions'.[211] These smartwatches were originally planned to be introduced in November 2021, but due to some delays, the Home Office now plans to introduce them at 'the earliest' in the autumn of 2022.[212] Contracted by a British tech company, Buddi Limited, these smartwatches will require migrants convicted of crimes to take photos up to five times a day.[213]

How exactly the Home Office decides whether a person on bail should be subject to electronic monitoring, and if so, with which type of device, and for how long, is not known, but according to the Independent Chief Inspector of Borders and Immigration's latest report, the Home Office's recently developed IT system, 'Identify and Prioritise Immigration Cases' (IPIC), assists in making these decisions.[214] According to the inspector's report, the IPIC system provides a recommendation for the caseworker based on a harm score and sentence length, as well as the breach history and vulnerability features.[215] The caseworker then considers the person's vulnerability and other circumstances him/herself and makes the final decision. Accordingly, the decision is made in a three-way approach with a) those having the lowest risk of harm and a high degree of compliance not being given any device, b) those having a medium risk of harm and

[205] See Schedule 10 on Immigration bail, https://www.legislation.gov.uk/ukpga/2016/19/schedule/10/2021-08-31

[206] Home Office. 2022. Immigration bail, Version 11. Immigration bail, Version 11, 20. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1051204/immigration_bail.pdf See also Hynes, J. and Stevens, A. 2022. GPS tagging as an immigration bail condition – what's changed and why are we concerned? London: Public Law Project.

[207] Ministry of Justice. 2019. Process evaluation of the Global Positioning System (GPS) Electronic Monitoring Pilot: Qualitative findings, 46. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/779199/gps-location-monitoring-pilot-process-evaluation.pdf; Bhatia, M. 2021. Racial surveillance and the mental health impacts of electronic monitoring on migrants. Race & Class, 62(3), 18–36; Schulkind, R., et al. 2022. Every Move You Make: The Human Cost of GPS Tagging in Immigration Bail. London: BID, Medical Justice, PLP. https://publiclawproject.org.uk/content/uploads/2022/10/GPS_Tagging_Report_Final.pdf

[208] Note that the Home Office has repeatedly referred to those crossing the Channel between the UK and France as (economic) migrants, while the UNHCR has noted that those taking this route on small boats should be considered as those fleeing conflicts or persecution. See Savage, M. 2022. Outrage over scheme to electronically tag asylum seekers arriving in UK. The Guardian, 19 June 2022. https://www.theguardian.com/uk-news/2022/jun/19/outrage-over-scheme-to-electronically-tag-refugees-arriving-in-the-uk

[209] Ibid.

[210] Immigration Enforcement. 2021. Response to FOI request (No 61618) by Brian Dikoff on 18 January 2021. https://www.whatdotheyknow.com/request/712000/response/1704262/attach/3/61618%20Dikoff%20Apology.pdf?cookie_passthrough=1

[211] Independent Chief Inspector of Borders and Immigration. 2022. An inspection of the global positioning system (electronic monitoring) of foreign national offenders, March–April 2022, 6. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1088880/An_inspection_of_the_global_positioning_system__GPS__electronic_monitoring_of_foreign_national_offenders_March___April_2022.pdf

[212] Ibid.

[213] Kelly, N. 2022. Facial recognition smartwatches to be used to monitor foreign offenders in UK. The Guardian, 5 August 2022. https://www.theguardian.com/politics/2022/aug/05/facial-recognition-smartwatches-to-be-used-to-monitor-foreign-offenders-in-uk

[214] Independent Chief Inspector of Borders and Immigration. 2022. An inspection of the global positioning system (electronic monitoring) of foreign national offenders, March–April 2022, 19.

[215] Ibid., 19.

low degree of compliance being given a non-fitted device, and c) those having the highest risk of harm and lowest degree of compliance being given a fitted device.[216] As non-fitted devices (smartwatches) have still not been introduced, currently the decisions are made between no device and fitted device.

5.7. Speech recognition for citizenship applications

Finally, speech recognition technologies constitute another form of new technologies, as they use new methods to identify one's spoken words and sounds. Among European countries, in July 2021, Latvia introduced speech recognition as part of the process of citizenship applications.[217] This practice involves a self-test tool where potential applicants can test their speech and knowledge of the Latvian national anthem, a requirement for citizenship applications in Latvia.

The Office of Citizenship and Migration Affairs (OCMA) started using this 'Tilde speech recognition system', which 'transforms spoken Latvian from a pre-recorded audio/video file into text',[218] intending to help applicants to be able to test their speech in preparation for their citizenship application. According to a previous survey among non-citizens of Latvia in 2019, OCMA found that a crucial reason non-Latvians were not applying for citizenship in Latvia was their fear of failing the tests specified in the Citizenship Law.[219] As a result, this tool was designed to help potential applicants to prepare for the naturalisation test. According to the Deputy Head of the Office of Citizenship and Migration Affairs,

> '[t]he development of an electronic tool for checking your own language skills and knowledge for the Latvian citizenship test is an important and very necessary step, which allows trying out the naturalisation tests and be[ing] confident with one's knowledge, as well as provid[ing] a clearer understanding of what is to be expected during the examination'.[220]

This technology was developed in the context of the 'Speak the Anthem' project, which the OCMA previously implemented under the project 'Improvement and development of information systems and related processes supporting naturalisation' as part of the Asylum, Migration and Integration Fund 2014-2020 program. As part of this project, an electronic tool for testing Latvian language skills was developed. The idea was to facilitate applicants 'to test their Latvian language skills, the basic provisions of the Constitution of the Republic of Latvia, the text of the national anthem, as well as the basics of Latvian history and culture',[221] and currently, the tool is used to self-test the knowledge of the national anthem.

According to OCMA, the tool needed to be able to recognise the different types of pronunciations by people whose first language was not Latvian. For that reason, the OCMA initiated a campaign and collected the training data from more than 1,200 voice samples of people whose first language was not Latvian. Currently, a direct accuracy indicator is not available, and according to OCMA, the accuracy rate is not 100%.[222] However, possible mistakes may not cause extensive harm because applicants can use the tool indefinitely and continue receiving feedback in multiple trials. This tool is only used for applicants to practice for the citizenship test. In actual tests, it is still the (human) caseworkers who assess applicants' ability to tell the national anthem.[223]

---

[216] Ibid., 23-24.
[217] Response to written questions submitted to the OCMA via email, 22 April 2022.
[218] Information provided by the OCMA via email, 22 April 2022.
[219] OCMA. 2021. Office of Citizenship and Migration Affairs has developed free self-check e-tool for citizenship applicants. https://www.pmlp.gov.lv/en/print/pdf/node/2997
[220] Ibid.
[221] OCMA. 2021. Artificial intelligence to support applicants for citizenship. https://www.pmlp.gov.lv/en/article/artificial-intelligence-support-applicants-citizenship
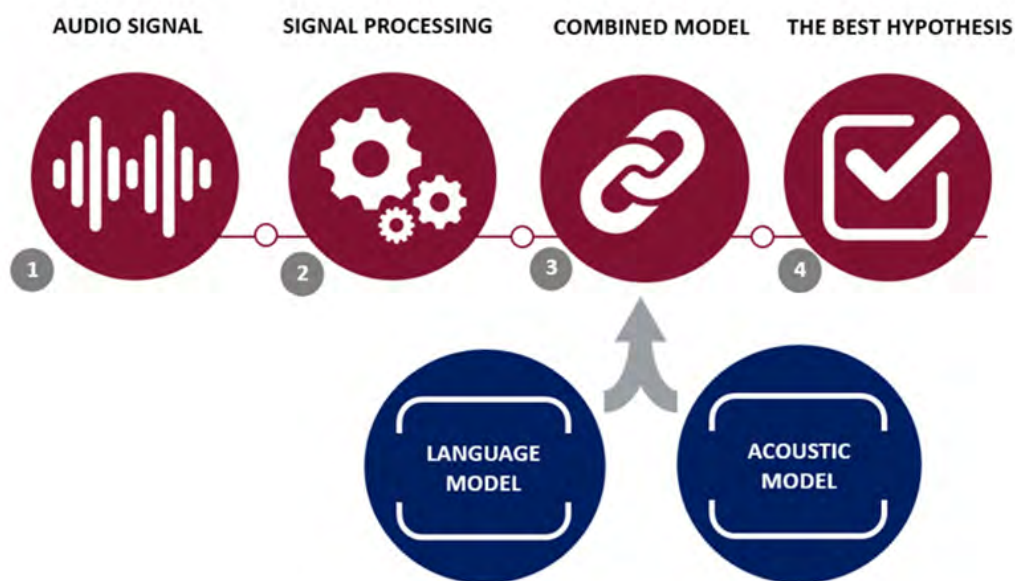[222] Response to written questions submitted to the OCMA via email, 22 April 2022.
[223] Response to written questions submitted to the OCMA via email, 22 April 2022.

This tool uses machine learning, and it has been owned and developed by a Latvian language technology company called Tilde.[224] Tilde is a Riga-based company specialising in machine translation systems and online terminology tools for a wide range of languages.[225] This speech recognition technology uses a combined model, merging language and acoustic models (see Figure 5). This practice requires potential applicants to provide their consent for data processing before the recording of their voice data, and only those consented recordings are collected and processed.[226]

Surely, this practice benefits Tilde by enabling its access to applicants' voice data, and by earning profits from the Latvian state. However, it is important to note that this is the only practice that is designed primarily to benefit applicants in the field of immigration because in this case the technology is implemented to provide migrants with the ability to test themselves in preparation for their citizenship application. Although some of the other uses of new technologies listed above may benefit applicants by making the process faster, they are designed primarily for state institutions' interests with no involvement from migrants themselves. This practice is therefore noteworthy in its purposes and design.

Figure 5: Conceptual diagram of the speech recognition technology[227]

---

[224] Response to written questions submitted to the OCMA via email, 22 April 2022.
[225] See Tilde 2022. About Tilde. www.tilde.com
[226] Response to written questions submitted to the OCMA via email, 22 April 2022.
[227] Response to written questions submitted to the OCMA via email, 22 April 2022.

6. New technologies after arrival: access to asylum in-country

Unlike the increasing uses of new technologies in 'migration management', European states seem to have been largely reluctant to automate asylum determination processes. Even the states that use various new technologies in their immigration systems, such as the UK[228] and Norway[229], have confirmed that they were not using any automation in their asylum determination processes.[230]

UDI in Norway has recently worked with Capgemini, a private consultancy company working on digital transformation. Together with Capgemini, it explored the feasibility of using process mining in the processing of asylum applications with a focus on Dublin cases.[231] Moreover, it currently uses a rule engine to calculate an applicant's resident status and plans to automate most decisions for cases that do not require discretionary assessments and for which necessary data is available.[232] At the time of writing in 2022, UDI has not started automating case management for Dublin cases (it only automatically calculates and identifies applicants' resident status),[233] and it has not automated any processes of refugee status determination (RSD).[234]

Nonetheless, a number of states have introduced (or piloted) the use of new technologies in new areas that have become part of the asylum system. These uses include new practices, such as name transliteration, dialect recognition, speech-to-text technologies, and mobile phone data analysis. Name transliteration is used to standardise applicants' identities. The other technologies are used as part of the assessment of an applicant's claim. These technologies may (in)directly impact the outcome of the asylum application, for example, if it was suspected that the applicant was not telling the truth. It is, therefore, crucial to understand their specifics, potential biases or misconceptions that can cause harm to applicants. Finally, there are some uses of algorithms to screen similar asylum applications and distribute welfare benefits.

Such new practices may be the result of the broader digitalisation process of state administrations. This research has found that immigration and asylum authorities have increasingly digitalised their processes with significant variance between states. Although some nations are willing to digitalise their processes and introduce new technologies,[235] others have been more reluctant, or digitalised only some aspects of their administrations, while resisting the digitalisation of their asylum systems.[236]

Overall, this section describes a variety of practices that have been introduced in the asylum field. As each of these practices has different rationales, it is essential to explore their potential benefits and risks separately.

---

[228] UK Visas & Immigration's response to FOI request (FOI Reference: 66768) by Tatiana Kazim on 1 December 2021. https://www.whatdotheyknow.com/request/804098/response/1927632/attach/5/FOI%2066768%20T%20Kazim%20Response%20Cleared.pdf?cookie_passthrough=1

[229] Interview with an official from UDI, 1 July 2022.

[230] Similarly, Sweden does not use any automation in their asylum determination. Interview with an official from Swedish Migration Agency, 21 March 2022. Latvia has also confirmed that the above-mentioned speech recognition technology was the only new technology that they used in the immigration and asylum fields. Response to written questions submitted to the OCMA via email, 22 April 2022.

[231] Capgemini. 2022. Process mining promises faster immigration processing at UDI. https://www.capgemini.com/gb-en/wp-content/uploads/sites/3/2020/06/UDI-case-study-1.pdf

[232] Response to written questions submitted to the UDI via email, 8 November 2022.

[233] Response to written questions submitted to the UDI via email, 8 November 2022.

[234] Interview with an official from UDI, 1 July 2022.

[235] For example, BAMF in Germany has been one of the leading institutions to promote digitalisation, considering the transformation of the institution into one that is 'digital, breathing authority'. See BAMF. 2021. Digitalisierungsagenda 2020: Bisherige Erfolge und Ausblicke auf weitere digitale Projekte im Bundesamt für Migration und Flüchtlinge, 16. https://www.bamf.de/SharedDocs/Anlagen/DE/Digitalisierung/broschuere-digitalisierungsagenda-2020.pdf?__blob=publicationFile&v=9 [Translation from German to English is by Google Translate.]

[236] For example, for more on the Swedish case, see Micinski. N. R. and Jones, W. 2022. Digitization without digital evidence: Technology and Sweden's asylum system. Journal of Refugee Studies, 35(2), 1011–1029.

6.1. Name transliteration in asylum procedure

In 2017, the immigration authority in Germany, BAMF, started using a new technological tool for name transliteration in order to convert asylum applicants' names into the Latin alphabet.[237] The aim of this tool is to prevent spelling mistakes and standardise the spelling of names. The software for this technology has been developed in cooperation with a private IT company, SVA, which integrates products and services from IBM.[238]

BAMF claims that registering applicants' names in different forms leads to different entries in databases across Europe and thereby difficulties in identifying the correct person. If no standard guidelines are applied, each national authority transcribes/transliterates non-Latin names according to their official language's pronunciation and spelling rules. And that creates the risk of creating multiple names for the same person (for example, Mahmood in English, Mahmud in German and Mahmoud in French). Germany has therefore called for a unified approach to name transcription/transliteration (by using the same transcription rules and a common software) among all European institutions.[239]

The practice works in the following way: when an asylum seeker with no identity documents wishes to register with the authorities, s/he enters her/his name into the tool in their original spelling either by herself/himself or with the help of an interpreter.[240] The tool then converts the phonetics of the name into Latin spelling by checking the word in a database including approximately one billion names around the world.[241] This way, the non-Latin spelling is standardised and can be used across all institutions using that format (see Figure 6). At present, BAMF uses the tool only for Arabic names. However, in the future, Persian, Russian and Georgian names can be transliterated as well.[242]

BAMF also claims that this technology helps identify the applicant's country of origin.[243] According to BAMF, 'because spellings sometimes allow conclusions to be drawn about the country of origin, [the tool] can be used to support the plausibility check of the origin.'[244] Indeed, according to documents obtained from BAMF, the transliteration tool makes it possible for BAMF to incur references to the country of origin. For example, the tool brings up results like the following: "The [this] name is used [rarely/very rarely] in the indicated country [Syria]. Instead, in [the countries/ the country] [Libya, Algeria and Morocco], it is used frequently".[245] These references are then indicated in the final report.

---

[237] Transcription refers to the spelling of a spoken sound. Transliteration on the other hand refers to conversion of written words from one script to another. Official documents seem to use these words at times interchangeably. For instance, Germany's Presidency of the Council of the European Union refers to Germany's practice as transcription, but BAMF's documents refer to the practice as transliteration and the tool as transliteration assistant (Transliterationsassistent). See for instance, BAMF. 2021. Digitalisierungsagenda 2020: Bisherige Erfolge und Ausblicke auf weitere digitale Projekte im Bundesamt für Migration und Flüchtlinge, 14. https://www.bamf.de/SharedDocs/Anlagen/DE/Digitalisierung/broschuere-digitalisierungsagenda-2020.pdf?__blob=publicationFile&v=9 In this report, therefore this practice is referred to as transliteration, that is converting written words in an original alphabet into Latin alphabet.

[238] Bundesministerium des Innern, für Bau und Heimat. 2018. Response to the written question (No: 6/225) by MP Alexander Ullrich, 26 June 2018. https://andrej-hunko.de/start/download/dokumente/1186-software-fuer-sprachbiometrie-forensik-handyauswertung-beim-bamf-mdb-alexander-ulrich/file

[239] Germany's Presidency of the Council of the European Union. 2020. Presentation made at Session I: Language recognition and name transcription, 7 October 2020, slide no. 3 and 6. https://migrationnetwork.un.org/sites/g/files/tmzbdl416/files/docs/cdr_slides_tks_dias_common_language_analysis.pdf

[240] Note that in some documents obtained from BAMF, it states that the practice has been applied irrespective of applicants' possession of a passport. BAMF. 2018. Response to the FOI request (No: 29239) by Ana Biselli, 10 August 2018. https://fragdenstaat.de/anfrage/dienstanweisungen-zum-umgang-mit-der-handyauswertung/110992/anhang/dienstanweisung_identitaetsfeststellung.pdf, as cited in Hohn, H. 2020. Digital identification systems and the right to privacy in the asylum context: An analysis of implementations in Germany, Master's Thesis, Leuphana Universität Lüneburg, 40. https://pub-data.leuphana.de/frontdoor/index/index/docId/1124

[241] Hohn, H. 2020. Digital identification systems and the right to privacy in the asylum context: An analysis of implementations in Germany, Master's Thesis, Leuphana Universität Lüneburg, 72. https://pub-data.leuphana.de/frontdoor/index/index/docId/1124

[242] Germany's Presidency of the Council of the European Union. 2020., slide no. 7.

[243] Hohn, H. 2020. Digital identification systems and the right to privacy in the asylum context: An analysis of implementations in Germany, Master's Thesis, Leuphana Universität Lüneburg, 40. https://pub-data.leuphana.de/frontdoor/index/index/docId/1124

[244] BAMF. 2021. Digitalisierungsagenda 2020: Bisherige Erfolge und Ausblicke auf weitere digitale Projekte im Bundesamt für Migration und Flüchtlinge, 15. https://www.bamf.de/SharedDocs/Anlagen/DE/Digitalisierung/broschuere-digitalisierungsagenda-2020.pdf?__blob=publicationFile&v=9 [Translation from German to English is by Google Translate.]

[245] Hohn, H. 2020. Digital identification systems and the right to privacy in the asylum context: An analysis of implementations in Germany, Master's Thesis, Leuphana Universität Lüneburg, 40. https://pub-data.leuphana.de/frontdoor/index/index/docId/1124 Translation from German to English by Helene Hohn.

Figure 6: Transliteration process flow[246]
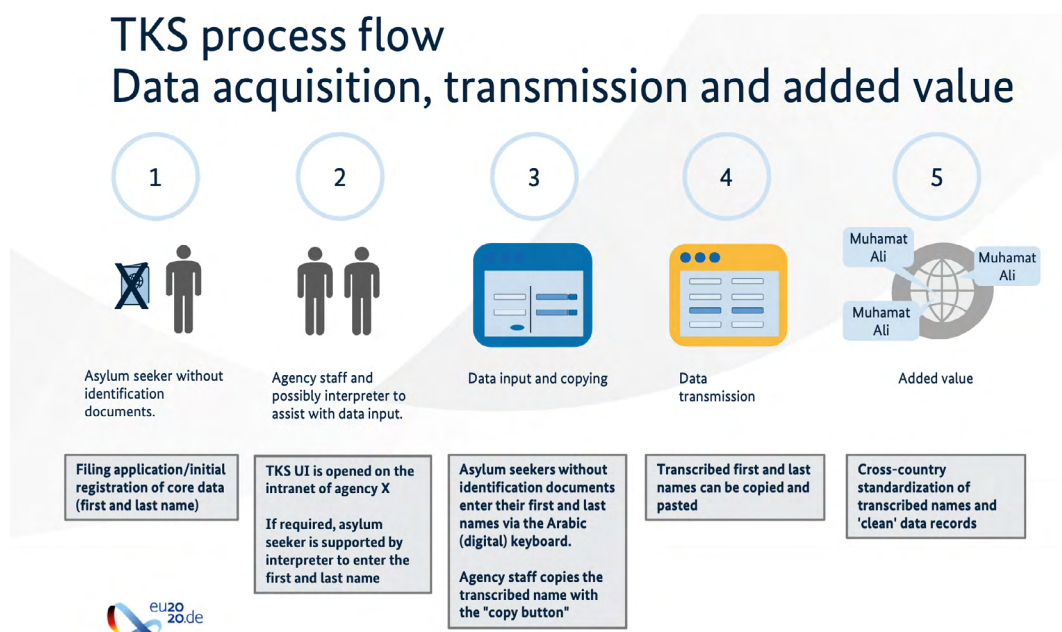
Because they constitute part of the evidence for decision-makers, the accuracy of this tool is crucial. In an earlier study, Arabic names were tested according to their country of origin. The results showed that while for those from Syria and Iraq, the tool achieved a success rate between 85-90%, for those from Maghreb countries, the tool achieved a rate of only 35%.[247] Among Arabic names that were tested, 39% of references to the country of origin were unverifiable, and 34% did not support the applicant's testimony.[248] Whether or not decision-makers know these limitations and consider them in their decision-making is unclear. Furthermore, it is questionable how the tool, which has such low levels of accuracy, can help in determining a person's country of origin. Because of its inaccurate results, applicants may appear to be lying.

Finally, this practice, like the following practice of dialect recognition explored in this report, essentialises the vocabulary and presupposes that names are bound by borders created by nation-state establishments. In reality, the same name can be written in different ways in the same country either because of regional differences or, at times, due to mistakes made by the registration officer in the country of origin. However, the probabilistic element of this tool works on the assumption that all names are written in the same way across a land border. These assumptions are problematic, and they can cause harm for applicants if officers do not consider the limitations of this technology.

---

[246] Germany's Presidency of the Council of the European Union. 2020., slide no. 7.
[247] Cited in Ibid., 72. https://pub-data.leuphana.de/frontdoor/index/index/docId/1124
[248] Ibid., 72.

6.2. Speech and dialect recognition in asylum procedure

In the last few years, some asylum authorities started using or experimenting with voice recognition technologies for determining asylum seekers' country of origin. Among European states, currently, only Germany implements an automated dialect recognition system. A number of state authorities have had knowledge exchanges with BAMF in Germany, though at the time of writing in 2022, none of them decided to implement it. An EU-funded project helped build software for accent recognition in Turkey, but at the end of the trial phase, the software was found unsatisfactory, and the tool has not been implemented. Moreover, Italy has recently tested an automated speech recognition technology to transcribe interviews with asylum seekers. The sub-sections below explore these practices in greater detail.

6.2.1. Implementation of dialect recognition in Germany

Germany has been the first (and still the only) state that introduced a dialect identification assistance system (DIAS) in processing asylum applications in Europe. In 2017, the BAMF in Germany started testing a tool for dialect recognition in Bamberg. Since September 2017, the device has been used across the country. The legal basis for using this software is Section 16, Paragraph 1 Sentence 3 of the Asylum Act, which states that '[i]n order to determine the foreigner's country or region of origin, the foreigner's oral statements may be recorded on audio and data media other than at his formal hearing.'[249] According to this Act, recordings can only be made if the applicant is informed beforehand.

The DIAS tool uses the software Nuance Speech Suite,[250] which has been developed in cooperation with a private IT company, Atos, which integrates products and services from Nuance.[251] Headquartered in Bezons in France, Atos is a multinational company and presents itself as a global leader in digital transformation, cloud and digital workplace.[252] Nuance is another large IT company specialising in speech recognition software, among other products with forensic, criminal ID and audio mining capabilities for intelligence and military agencies.[253] The DIAS tool uses specific techniques to classify languages and dialects by examining similarities between phonemes and their combinations in percentages.[254] In response to a parliamentary inquiry, BAMF revealed that the contract for this tool was awarded on 12 April 2017 under an existing framework agreement [with Atos], and that therefore, there was no call for tenders.[255]

BAMF introduced this technology following the experience of processing a large number of applicants in 2015 and 2016 at a time when Syrians arrived in Germany in large numbers. According to a former BAMF decision-maker, at the time 'there was a pressure that was passed from top to bottom', which left some decision-makers to make their decisions in as short as 30-minute-hearings.[256] Though the number of newly arriving asylum seekers has decreased since 2015/2016, pressures around efficiency seem to continue. This can be seen in the increasing number of applicants subject to dialect recognition over the years. Between September and November 2017, 3,681 speech samples were submitted for analysis.[257] In 2020, this number had increased to 9,923; in 2021, it increased to 15,052, and in the first half of 2022

---

[249] Asylum Act in the version promulgated on 2 September 2008 (Federal Law Gazette I, p. 1798), last amended by Article 2 of the Act of 11 March 2016 (Federal Law Gazette I, p. 394) https://www.gesetze-im-internet.de/englisch_asylvfg/englisch_asylvfg.html#p0195
[250] German Bundestag. 31 August 2022. Response to the query submitted by MPs Clara Bunger and others and the parliamentary group DIE LINKE. Use of dialect recognition software at the Federal Office for Migration and Refugees BT printed matter 20/3133 [in German].
[251] Bundesministerium des Innern, für Bau und Heimat. 2018. Response to the written question (No: 6/225) by MP Alexander Ullrich, 26 June 2018. https://andrej-hunko.de/start/download/dokumente/1186-software-fuer-sprachbiometrie-forensik-handyauswertung-beim-bamf-mdb-alexander-ulrich/file
[252] See Atos. 2022. Company Profile. https://atos.net/en/company-profile
[253] Nuance. 2018. Nuance Identifier: Analyzing voice to fight crime. Data Sheet. Available at: https://intranet.iafisgroup.com/_layouts/IAFIS.Servicios/Comprobar.aspx?ID=882
[254] Germany's Presidency of the Council of the European Union. 2020., slide no. 17–18.
[255] German Bundestag. 8 December 2017. Response to the query submitted by Dr. Petra Sitte, Anke Domscheit-Berg, Dr. André Hahn, another member of parliament and the parliamentary group DIE LINKE. https://dserver.bundestag.de/btd/19/001/1900190.pdf
[256] Biselli, A. 2018. Eine Software des BAMF bringt Menschen in Gefahr [BAMF software puts people at risk] https://www.vice.com/de/article/a3q8wj/fluechtlinge-bamf-sprachanalyse-software-entscheidet-asyl?utm_campaign=28-01-22,%20Automated%20Society%22%20NL,%20EN&utm_medium=email&utm_source=Mailjet [Translation from German to English is by Google Translate]
[257] German Bundestag. 8 December 2017. Response to the query submitted by Dr. Petra Sitte, Anke Domscheit-Berg, Dr. André Hahn, another member of parliament and the parliamentary group DIE LINKE. https://dserver.bundestag.de/btd/19/001/1900190.pdf

(January–June), it was 7,808.[258] Indeed, the dialect recognition system can help decision-makers make one of their tasks (collecting evidence on the person's language analysis) faster. However, as this section will demonstrate, it has limitations and is therefore problematic.

The practice works in the following way. During the interview with the applicant, the BAMF staff calls an in-house number and enters the applicant's administrative data. The staff member then invites the applicant to describe a selected picture verbally over the phone. The applicant's speech is recorded in a central file repository and analysed using the DIAS tool (see Figure 7). The results show the person's speech as a probability calculation (for example, 60% Arabic Levantine, 20% Arabic Gulf, 5% Turkish, etc.). The results also show recommendations to make the speech analysis with better accuracy, if necessary. For example, it may recommend that the speaker speak louder/quieter, with fewer pauses, or minimise background noises (see Figure 6). Compiled in a PDF form, the results are then included in the applicant's electronic case file.

Figure 7: DIAS process flow[259]
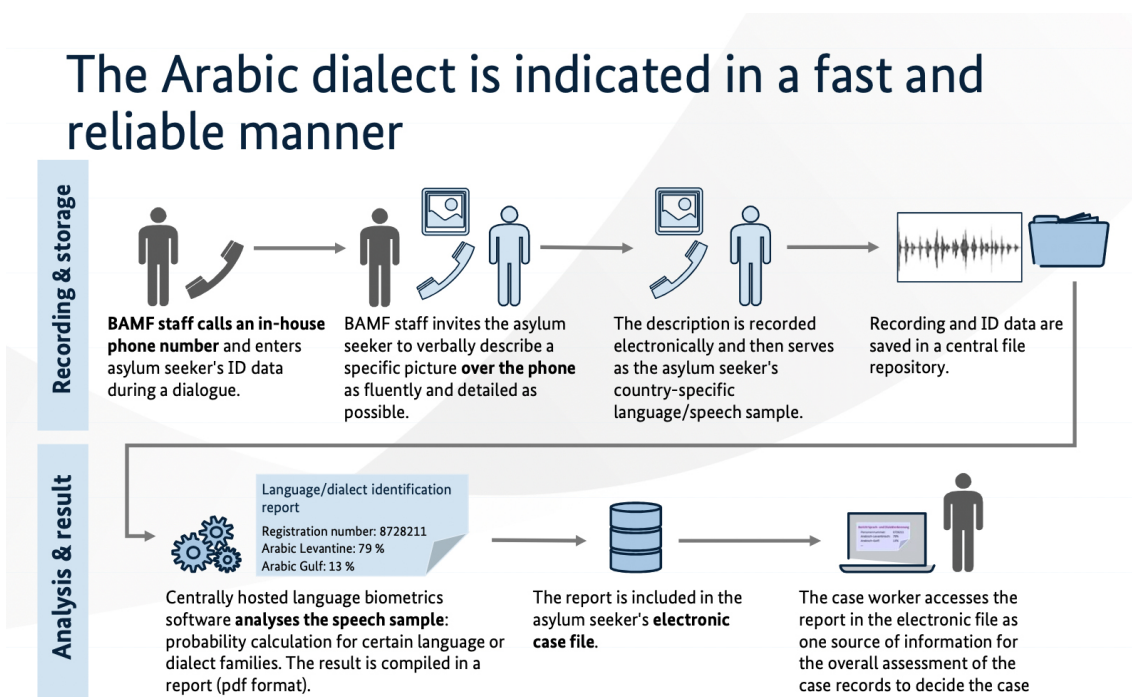
Initially, only different dialects of Arabic (Maghrebian, Levantine, Iraqi, Egyptian, Gulf) could be assessed with this tool.[260] At the end of July 2022, BAMF expanded the use of the software to include the dialects of Dari, Persian/Farsi, and Pashto,[261] and Kurdish is also in the pipeline. According to a presentation by Germany's Presidency of the Council of the European Union, 'searching for new sources for speech samples is an ongoing effort'.[262]

One of the challenges of introducing new languages is identifying relevant sources to procure language samples. The quantity and quality of training data are the critical factors in increasing recognition/accuracy rates in voice recognition. If the training data does not include dialects of a language from a specific region,

---

[258] German Bundestag. 31 August 2022. Response to the query submitted by MPs Clara Bunger and others and the parliamentary group DIE LINKE. Use of dialect recognition software at the Federal Office for Migration and Refugees BT printed matter 20/3133 [in German].
[259] Germany's Presidency of the Council of the European Union. 2020., slide no. 12.
[260] Ibid., slide no. 11.
[261] German Bundestag. 31 August 2022. Response to the query submitted by MPs Clara Bunger and others and the parliamentary group DIE LINKE. Use of dialect recognition software at the Federal Office for Migration and Refugees BT printed matter 20/3133 [in German].
[262] Germany's Presidency of the Council of the European Union. 2020., slide no. 20.
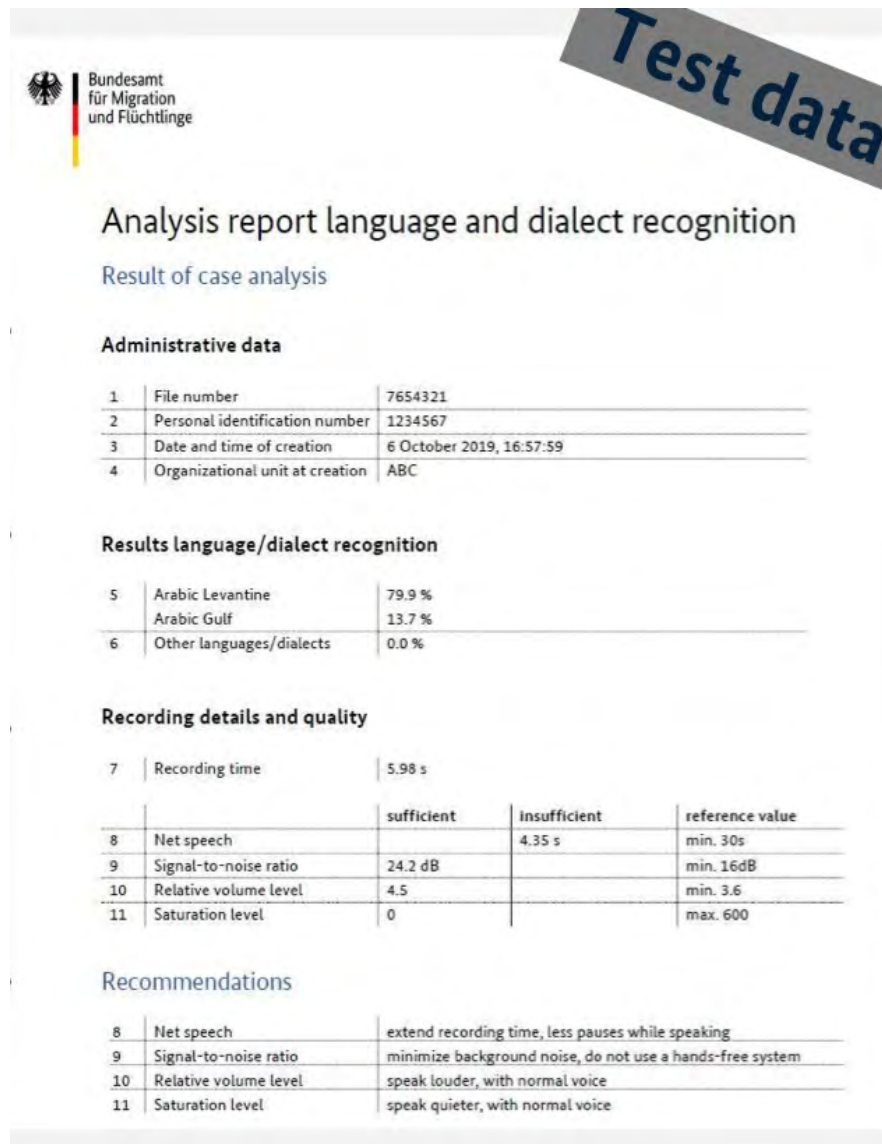
for example, the software may misrecognise the dialects from those regions. The training data used for the DIAS tool was obtained largely from the Linguistic Data Consortium (LDC), and a small proportion was obtained from Clickworker GmbH.[263] The Arabic dialect recognition was also trained with BAMF' own anonymised speech samples.[264] Training data included additional 19 languages in order to help the tool to distinguish between different dialects.[265]

Figure 8: Sample dialect analysis report[266]

Analysis report language and dialect recognition

Result of case analysis

Administrative data

1	File number	7654321
2	Personal identification number	1234567
3	Date and time of creation	6 October 2019, 16:57:59
4	Organizational unit at creation	ABC

Results language/dialect recognition

5	Arabic Levantine	79.9 %
	Arabic Gulf	13.7 %
6	Other languages/dialects	0.0 %

Recording details and quality

7	Recording time	5.98 s		
		sufficient	insufficient	reference value
8	Net speech		4.35 s	min. 30s
9	Signal-to-noise ratio	24.2 dB		min. 16dB
10	Relative volume level	4.5		min. 3.6
11	Saturation level	0		max. 600

Recommendations

8	Net speech	extend recording time, less pauses while speaking
9	Signal-to-noise ratio	minimize background noise, do not use a hands-free system
10	Relative volume level	speak louder, with normal voice
11	Saturation level	speak quieter, with normal voice

According to BAMF, the rationale for using this technology includes several reasons: 1) necessity (lack of ID documents among applicants), 2) identification of fraud (of ID documents and narratives), 3) efficiency in terms of time and financial cost, and finally 4) helping with returns as origin countries do not accept rejected asylum seekers without reliable evidence.[267] Among these, the argument for efficiency is not clear. Whether or not this tool indeed brings an efficient solution in terms of its financial value is

---

[263] German Bundestag. 31 August 2022. Response to the query submitted by MPs Clara Bunger and others and the parliamentary group DIE LINKE. Use of dialect recognition software at the Federal Office for Migration and Refugees BT printed matter 20/3133 [in German].
[264] Ibid.
[265] These additional 'background languages' included Bulgarian, Chinese, German, English, French, Hebrew, Hindi, Italian, Japanese, Korean, Croatian, Dutch, Portuguese, Russian, Spanish, Tamil, Turkish, and Vietnamese. See, ibid.
[266] Germany's Presidency of the Council of the European Union. 2020., slide no. 14.
[267] Ibid., slide no. 26-27.

questionable. The cost of purchasing and adapting the software was 170,715 euros in 2017; 953,139 euros in 2018; 1,039,960 euros in 2019; 833,810 euros in 2020; 831,060 euros in 2021; and 201,357 as of August 2022.[268]

The reliability of this tool is another major concern. For example, in 2017, only 160 out of the 292 reports were able to confirm the country of origin.[269] In 2018, BAMF claimed that the recognition rate of the software was around 80%, and further optimisation was planned.[270] The recognition rate of the software for Arabic dialects remained the same from 2017 to 2020.[271] With the help of further training of language models in 2021, the Arabic dialects' recognition rate could be increased in 2021 to 85 per cent.[272] Recognition rate for recently introduced Persian dialects (Dari and Persian/Farsi) and Pashto was respectively 73 and 77 per cent.[273] There is currently no independent monitoring of the dialect analysis and BAMF plans to integrate monitoring by a German university in the future.[274] However, at the time of writing, BAMF has confirmed that an evaluation of the tool has still not been undertaken.[275]

Moreover, linguists point out that such tools can never estimate a dialect with a 100% accuracy rate. Professor Monika Schmid, a leading scholar on language attrition among migrants, argues that identifying the place of origin is an extremely complex task and that analysts need to consider various factors, such as how people adapt their speech patterns according to whom they interact with. It is therefore very difficult for a software to analyse a person's dialect and whether or not their surroundings impact it.[276]

The way people speak may change over time due to various reasons. Particularly those who speak different languages and dialects and those who have been on the road for a long time may acquire varying sounds/phonemes over time. For example, Lutz Rzehak, a lecturer at the Humboldt University of Berlin who previously prepared language reports for BAMF, claimed that the software was unsuitable for language analysis because language changed constantly. One needed to travel to places of origin on a regular basis to analyse these changes.[277] In this sense, the training data used to develop the tool may 'age', because the dialects that were included initially may change over time.

Considering the risk of rejection of applicants, it is essential to question what happens to applicants whose reports produce ambiguous or inaccurate results. BAMF states that 'if doubts remain as to the origin of the applicant, a separate language assessment of the applicant can be arranged.'[278] Separately recorded language samples of around 30 minutes are submitted to outside linguists for this purpose, in conformity with data privacy laws and with the requisite linguistic training.[279] Although this possibility is reassuring, it is not clear whether all evaluations whose results are inconsistent with applicants' statements undergo a separate language assessment.

[268] German Bundestag. 31 August 2022. Response to the query submitted by MPs Clara Bunger and others and the parliamentary group DIE LINKE. Use of dialect recognition software at the Federal Office for Migration and Refugees BT printed matter 20/3133 [in German].

[269] German Bundestag. 8 December 2017. Response to the query submitted by Dr. Petra Sitte, Anke Domscheit-Berg, Dr. André Hahn, another member of parliament and the parliamentary group DIE LINKE. https://dserver.bundestag.de/btd/19/001/1900190.pdf

[270] Ibid.

[271] German Bundestag. 31 August 2022. Response to the query submitted by MPs Clara Bunger and others and the parliamentary group DIE LINKE. Use of dialect recognition software at the Federal Office for Migration and Refugees BT printed matter 20/3133 [in German].

[272] Ibid. Also see, BAMF. 2022. Response to request under the Freedom of Information Act, submitted by Derya Ozkul on 27 April 2022. Response received on 21 July 2022. Reference No. 138- IFG 1028., 2 https://fragdenstaat.de/anfrage/bamfs-use-of-mobile-phone-data-in-asylum-applications-use-of-mobile-phone-data-by-the-bamf-for-asylum-applications/#nachricht-716361

[273] German Bundestag. 31 August 2022. Response to the query submitted by MPs Clara Bunger and others and the parliamentary group DIE LINKE. Use of dialect recognition software at the Federal Office for Migration and Refugees BT printed matter 20/3133 [in German].

[274] Ibid.

[275] BAMF. 2022. Response to request under the Freedom of Information Act, submitted by Derya Ozkul on 27 April 2022. Response received on 21 July 2022. Reference No. 138- IFG 1028., 2 https://fragdenstaat.de/anfrage/bamfs-use-of-mobile-phone-data-in-asylum-applications-use-of-mobile-phone-data-by-the-bamf-for-asylum-applications/#nachricht-716361

[276] DW. 2017. Automatic speech analysis software used to verify refugees' dialects. 17 March 2017. https://www.dw.com/en/automatic-speech-analysis-software-used-to-verify-refugees-dialects/a-37980819

[277] Biselli, A. 2018. Eine Software des BAMF bringt Menschen in Gefahr [BAMF software puts people at risk] https://www.vice.com/de/article/a3q8wj/fluechtlinge-bamf-sprachanalyse-software-entscheidet-asyl?utm_campaign=28-01-22,%20Automated%20Society%22%20NL,%20EN&utm_medium=email&utm_source=Mailjet

[278] BAMF. 2022. Response to request under the Freedom of Information Act, submitted by Derya Ozkul on 27 April 2022. Response received on 21 July 2022. Reference No. 138- IFG 1028., 2 https://fragdenstaat.de/anfrage/bamfs-use-of-mobile-phone-data-in-asylum-applications-use-of-mobile-phone-data-by-the-bamf-for-asylum-applications/#nachricht-716361

[279] BAMF. 2022. Response to request under the Freedom of Information Act, submitted by Derya Ozkul on 27 April 2022. Response received

The dialect analysis report (see Figure 8) constitutes one of the files the caseworker takes into account when making the overall assessment of the case. According to BAMF, this report is only complementary and not a replacement for the plausibility of the applicant's narrative. It cannot provide a basis for the final decision on the file.[280] In that sense, the DIAS tool does not automate the process of identification and credibility assessment, but it does provide automated evidence that is part of an applicant's case file. According to responses to a parliamentary inquiry, if the results contradict the information provided by the applicant, the latter will have the opportunity to comment on this question during the asylum hearing.[281]

Therefore, it is vital for decision-makers to learn about the limitations of this tool, and take them into account throughout their decision-making, but whether they do so is not clear. For training of staff, BAMF organised ten courses between December 2017 and March 2018. These pieces of training lasted only four hours and included information about using various systems, such as speech biometrics, name transcription, image biometrics and reading of mobile data carriers, all at once.[282] Therefore, it is not clear whether BAMF officials are adequately trained to interpret the results and make second or third readings if necessary. Moreover, it is unclear whether they are aware of the limitations of these technologies (aside from learning how to use them). These gaps in knowledge can be found potentially through an observation-based ethnographic study at BAMF offices.

Beyond concerns about accuracy, these technologies are seen as 'independent, objective and scalable methods'[283] without critical thinking about how a state institution assesses the claims of its population. In the words of a left-wing member of the Bundestag, Petra Sitte, who is also one of the MPs who made queries at the parliament specifically on this tool:

> 'What is still a vision of the future elsewhere is already a reality in the asylum sector: The state decides on human fates on the basis of software procedures.'[284]

Moreover, introducing such technologies presents an asylum authority as 'modern', 'innovative', and a 'pioneer' in public administration. For example, in June 2018, the DIAS tool was awarded the 'Best Digitisation Project' in the competition for the digitisation and modernisation of public administration. BAMF presented its achievement in the following words by emphasising that this new technology was used for the first time among other public administrations:

> 'With language biometrics, the Federal Office introduced an innovative IT solution in a short time, of which there are still no comparable examples in Germany. Since September 2017, the assistance system has been used in all arrival centres and branch offices of the BAMF. Language biometrics further increase process efficiency without risking the loss of quality in asylum decisions.'[285]

BAMF claims that other European states have been following its practices with great interest because of its role as a pioneer in digitalisation efforts. This position puts BAMF as a leading institution in introducing this technology to other countries. BAMF further seeks to establish collaboration with partner institutions not only to learn from their experiences but also to develop these systems further:

---

on 21 July 2022. Reference No. 138- IFG 1028., 2 https://fragdenstaat.de/anfrage/bamfs-use-of-mobile-phone-data-in-asylum-applications-use-of-mobile-phone-data-by-the-bamf-for-asylum-applications/#nachricht-716361

[280] See Germany's Presidency of the Council of the European Union. 2020., slide no. 22.

[281] Deutscher Bundestag. 2018. Response of the Federal Government to the inquiry by deputies Ulla Jelpke, Dr. André Hahn, Gökay Akbulut, other MPs and the parliamentary group DIE LINKE. Use of speech recognition software by the Federal Office for Migration and Refugees. https://dserver.bundestag.de/btd/19/016/1901663.pdf [In German]

[282] Ibid.

[283] German Bundestag. 8 December 2017. Response to the query submitted by Dr. Petra Sitte, Anke Domscheit-Berg, Dr. André Hahn, another member of parliament and the parliamentary group DIE LINKE. https://dserver.bundestag.de/btd/19/001/1900190.pdf

[284] Biselli, A. 2017. Syrien oder Ägypten? Software zur Dialektanalyse ist fehleranfällig und intransparent [Syria or Egypt? Dialect analysis software is error-prone and non-transparent] https://netzpolitik.org/2017/syrien-oder-aegypten-software-zur-dialektanalyse-ist-fehleranfaellig-und-intransparent/ [Translation from German to English is by Google Translate.]

[285] BAMF. 2018. eGovernment Preisverleihung: 1. Platz https://www.bamf.de/SharedDocs/Meldungen/DE/2018/20180621-am-egovernment.html [Translation from German into English is by Google Translate]

'The "Language Biometric Assistance System", together with other innovative procedures from the BAMF's digitisation strategy, is of great interest to our European partner authorities. As a pioneer in the development of innovative technologies, the Federal Office is a sought-after contact person and guide for the development and introduction of similar procedures in our European partner countries. Together with our European partners, the Federal Office is continuously examining possibilities for cooperation in order to exchange experiences, but above all for the further development of the system.'[286]

Since its introduction, on several occasions BAMF has called for cooperation with partner institutions at a European level. In their words, they wanted 'to take the exchange and cooperation on the project of European language analysis to the next level', calling other institutions to express their interest and getting in touch with the digitalisation team.[287] BAMF has shared its own anonymised language samples for the first time with the authorities in the Netherlands for linguistic testing as part of a pilot project. Moreover, BAMF has exchanged information with Austria, Finland, Norway, Sweden, Lithuania, Greece, Switzerland, and the Netherlands regarding its DIAS tool, and has presented the tool to the authorities in Norway and Switzerland. At the time of writing in 2022, a cooperation at the European level was discussed and tested as part of a pilot project between these countries.[288]

6.2.2. The tested project of speech and dialect recognition in Turkey

Speech recognition has also been piloted recently in Turkey to determine applicants' country of origin. Between 2019 and 2021, the Directorate General for Migration Management (DGMM) conducted an EU-funded project titled 'Technical Assistance for Capacity Building for Effective Nationality Determination'. One of the main objectives of this project was to develop an AI-based Language Analysis System (LAS) to determine the nationality of applicants – specifically to distinguish between Uyghur and Uzbek nationals.[289] As part of this project, an Ankara-based Turkish company, EMFA, developed an AI-based Accent Recognition System (ARS) to analyse different dialects in Uyghur and Uzbek languages.[290] Throughout the piloting process, both human experts and the LAS analysed 574 voice samples of Uyghur and mainly other Asian languages to identify whether the person was speaking Uyghur.[291] According to the project evaluation reports, the software that was developed initially only showed a 53% accuracy rate. After the discrepancies were identified, the software was updated, and the accuracy rate could go up to 70%, but these improvements were not progressive and predictable in terms of providing more accurate results over time. Moreover, the accuracy rate suffered when there were noises in the background.[292] In the end, the evaluation of the project concluded that the software was not 'a reliable tool to be used for nationality determination'[293] and that it was not ready to be implemented:

'This experience in its entirety could suggest that human expertise in LA [language analysis] practice is still important in determining nationalities of the applicants at least for some time until DGMM is ready to embrace full automation for any language analysis. That is, TAT still considers human analysis is a next logical step for DGMM to take before making the use of LAS fully automated as there is a considerable gap between ARS and human expertise in the nationality determination process—[a] gap that is found to be too significant to be ignored during the Pilot Project.'[294]

---

[286] Ibid.

[287] Germany's Presidency of the Council of the European Union. 2020., slide no. 35.

[288] German Bundestag. 31 August 2022. Response to the query submitted by MPs Clara Bunger and others and the parliamentary group DIE LINKE. Use of dialect recognition software at the Federal Office for Migration and Refugees BT printed matter 20/3133 [in German]

[289] Republic of Turkey, Ministry of Foreign Affairs, Directorate for EU Affairs. 2022. Capacity Building for Effective Nationality Determination. https://www.ab.gov.tr/capacity-building-for-effective-nationality-determination_52321_en.html

[290] CFCU, DAI and DGMM. 2021. Technical Assistance for Capacity Building for Effective Nationality Determination. Final Report 10 March 2019 – 11 June 2021., 40.

[291] Ibid., 13.

[292] Ibid.

[293] Ibid., 17.

[294] Ibid., 16.

Overall, this project demonstrated the inadequacies of automating language analyses and the possible harms they may cause if they are taken into account as evidence for country-of-origin determinations. In this case, DGMM has rightly decided not to proceed with implementing this technology. But overall, this project shows the DGMM's willingness to experiment with AI-based tools and the EU's support to invest in new technologies in this domain, despite their limitations.

6.2.3. Plans and developments in other countries

According to BAMF, as of 2020, plans for introducing a similar tool to DIAS were underway with several other European states.[295] Indeed, following the implementation in Germany, a number of other states have planned to introduce this technology into their asylum procedure. For example, Hungary has conducted preliminary studies on using a dialect recognition technology and has considered implementing it as one of the asylum agency's (National Directorate General for Aliens Policing, NDGAP) medium-term goals.[296] Croatia plans to use language identification as part of its asylum procedure to establish applicants' country of origin in the future.[297] The Migration Agency in Sweden tested its use, but in the end, did not find it mature enough to proceed with its implementation.[298] Finally, officials from UDI in Norway had a knowledge exchange with BAMF officials, but again they have not implemented it.[299] Despite BAMF's efforts and other authorities' interest, it is interesting to see that no European state has so far implemented this technology in the last five years since its first introduction in Germany in 2017. The sub-section below explores another use of speech recognition – this time in the transcription of interviews with asylum seekers.

6.2.4. Speech-to-text technology

In Italy, speech recognition technology has been tested for the transcription of interviews with asylum seekers. The Ministry of the Interior has worked with this technology in the framework of the "S.I.N.D.A.C.A." project.[300] This project enables the automatic transcription of asylum seekers' interviews at the Ministry of Interior. The specialised product for this service was developed by CEDAT85, which was procured through a tender for the Department for Civil Liberties and Immigration under the Ministry of Interior in 2018.[301] CEDAT85 is a Rome-based Italian private technology company working on digital voice processing and text analysis by using deep neural network and machine learning.[302]

The specialised software developed by CEDAT85 enables the recording, streaming and automatic transcription of interviews with asylum seekers. This is combined and synchronised with the audio and video recording of the interview.[303] According to the company's statement, the transcription of interviews can take into account 'dialects, accents, foreign terminology, and spontaneous speech, with an accuracy level of no less than 95% and a very high security rate'.[304] The S.I.N.D.A.C.A. project currently runs only with the Italian language, but the company's software is able to transcribe and translate over 24 (mostly European) languages.[305]

[295] Germany's Presidency of the Council of the European Union. 2020., slide no. 30.
[296] EMN. 2020. AD HOC QUERY ON 2020.47 Part 1: Procedures for language identification by asylum authorities, Requested by EMN NCP Belgium on 30 June 2020., 17-18. https://www.emn.lt/uploads/Products/product_1847/202047_part_1_procedures_for_language_identification_by_asylum_authorities.pdf
[297] EMN. 2022. AD HOC QUERY ON 2021.55 The use of digitalisation and artificial intelligence in migration management, requested by Adolfo SOMMARRIBAS on 25 August 2021, Compilation produced on 30 June 2022. Responses from Croatia. Document shared with an AFAR team member via email.
[298] Interview with an official from Swedish Migration Agency, 21 March 2022.
[299] Interview with an official from UDI, 1 July 2022.
[300] The abbreviation S.I.N.D.A.C.A stands for 'Informative Documentation System for the Asylum Commissions' Hearings', and 'Sistema Informativo di Documentazione delle Audizioni delle Commissioni Asilo' in Italian.
[301] Ministero Dell'Interno Dipartimento Per Le Libertà Civili E L'immigrazione. 2018. Contract notice: Computer-related equipment Tender. https://www.tendersontime.com/tenders-details/contract-notice-computer-related-equipment-16cba85/
[302] CABOLO. 2022. CABOLO Product Explainer 2021. https://cabolo.com/wp-content/uploads/CABOLO-Product-Explainer.pdf Note that the company CEDAT85's speech-to-text technology product is called CABOLO.
[303] CABOLO. 2022. Case Studies: Italian Ministry of the Interior. https://cabolo.co.uk/case-studies/italian-ministry-of-the-interior/
[304] Ibid.
[305] For more information on all supported languages, see https://www.cedat85.com/our-offer/

For the system to work, the Ministry of Interior hosts 250 workstations around Italy. These workstations have installed Microsoft Office, MS Word with a (Sincro.doc) plug-in developed by CEDAT85, audio mixer, four microphones (to improve speech capture quality), and one camera for video recording. The ASR [Automated Speech Recognition] engine is able to manage up to 250 transcriptions (of interviews in workstations installed throughout the country) simultaneously.[306]

Once the interview is transcribed, the system inserts the transcript into an MS Word document. The case officer then can process the report in real time by making changes and corrections as necessary. Then the documents are forwarded to the consultation portal. As a result of this process, asylum seekers' allocated files include the audio/video and the original synchronised text, PDF of the original transcript, downloadable synchronised audio with original text, transcript prepared by officers, and any attachments provided by applicants.[307] That means through the portal, decision-makers can have a look at caseworkers' own transcript, as well as transcripts and audio/video recordings of interviews with asylum seekers, provided by the software.

Following the S.I.N.D.A.C.A. project, CEDAT85 has recently been procured to transcribe and translate parliamentary debates at the European Parliament automatically in real-time in 24 different languages.[308]In this project, too, automated speech recognition technology uses machine learning.

Relatedly, in Norway, the UDI tested a similar speech-to-text technology which would be used in interviews with asylum seekers, but so far, they have decided not to proceed with it. At the time of writing this report, UDI found that the technology they tested was not able to transcribe the various languages spoken by asylum seekers satisfactorily.[309]

6.3. Mobile phone data analysis in the asylum procedure

Another technology that some European states have started implementing in the asylum procedure is the analysis of mobile phones and other available 'data carriers'.[310] Mobile phone data analysis does not automate immigration and asylum decision-making, but it provides an automated report that can be used for identity determination and/or the assessment of the applicant's submission. According to a report by EMN on the practices for establishing the identity of third-country nationals in migration procedures, published in 2017, confiscation of mobile phones and other devices was standard practice in the Netherlands, Estonia, and optional in Croatia, Germany, Lithuania and Norway. In Latvia and Luxembourg, mobile phones are confiscated only in the context of criminal procedures.[311] Mobile phone data analysis is currently implemented largely in the Netherlands, Germany, Norway, and to some extent in Denmark and the UK. Legislative changes have passed in Belgium, Austria and Switzerland too, but so far, the practice has not been implemented in these countries. This section describes the details about the implementation, limits of this technology, state authorities' partnerships with private mobile forensic companies, and finally, existing legal challenges to this practice.[312]

---

[306] Cedat 85. 2022. Case Study: Italian Ministry of the Interior. Document shared via email, dated 9 June 2022.
[307] Ibid.
[308] This project's title is for the 'Live Speech to Text and Machine Translation Tool for 24 Languages' project. See procurement details at https://ted.europa.eu/udl?uri=TED:NOTICE:412805-2020:TEXT:EN:HTML
[309] Interview with an official from UDI, 1 July 2022.
[310] Data carriers may include any technological tool that can hold machine readable data such as laptops, or disks but in practice this often refers to mobile phones.
[311] EMN. 2017. EMN Synthesis Report for the EMN Focussed Study 2017: Challenges and practices for establishing the identity of third-country nationals in migration procedures, 32. https://ec.europa.eu/home-affairs/whats-new/publications/challenges-and-practices-establishing-identity-third-country-nationals-migration-procedures_it
[312] Note that mobile phone data analysis is an automated process of data extraction, which is different from social media analysis. Some immigration and asylum authorities conduct social media analysis, but this practice is done manually, unlike mobile phone data analysis where there is a need for specific software. See the responses to EMN's ad hoc inquiry for more information on social media analysis. EMN. 2016. EMN Ad-Hoc Query on NO CLOSED AHQ on use of social media (OSINT) in processing claims in connection with asylum applications. https://emn.gov.hr/UserDocsImages/ad_hoc_upiti/2016/on_use_of_social_media_osint_in_processing_claims_in_connection_with_asylum_applications_.pdf At the time of this inquiry in 2016, 6 Member States reported they had a system in place to monitor and use social media data.

6.3.1. Implementation in Germany

The practice in Germany was made possible with the following legislative changes. First, the Law on Better Enforcement of the Obligation to Leave the Country, which came into force in 2017,[313] broadened BAMF's powers to share applicants' data with other authorities. Second, amendments to the Asylum Act required applicants to hand in their data carrier if they were not able to provide a valid passport. According to the Act, the data analysis is permissible only for the identification of the applicant's identity and nationality.[314]

If the applicant does not have a valid passport, or if their documents are not recognised in Germany,[315] the Asylum Procedures Secretariat notes their legal requirement, requires the person to hand over their device, and take their consent on a form with their signature. If the person refuses to hand over his/her 'data carrier, in particular a mobile phone/smartphone', his/her application for asylum will not be taken into account.[316] The applicant is therefore obliged to comply with this process and enter the relevant passwords to unlock their device. The device is then linked with a computer and data is extracted in the applicant's presence, and a results report is produced. The report can only be used upon the permission of a lawyer working at BAMF who examines its necessity and proportionality for the case.[317] The decision-maker then can make use of the report's content and ask related questions to the applicant regarding possible contradictions to their claimed identity and country of origin (see Figure 9).

The results report contains information on the following points: country codes of contacts stored on the phone, country codes related to incoming and outgoing calls and messages; languages that were used in incoming and outgoing messages; country endings of the browsing history; login names and addresses that were used in applications such as Facebook, and finally geodata (i.e. location data) obtained from saved photos and applications.[318] According to the Ministry of Interior, the software's language analysis can differentiate between 170 languages and dialects, but the accuracy rate of this technology remains unknown.[319] As will be explained further below, the data included in results reports may be unusable too due to various reasons. It is not known whether decision-makers know about this technology's limitations and consider them while making their evaluations.

BAMF claims that result reports from data analysis constitute only one of the files that decision-makers take into account and cannot be a reason alone to reject an applicant's claim. According to BAMF, the analysis is regarded 'as a last possible instrument (ultima ratio)' and is only used 'in the case of persons without a valid ID for whom the country of origin or the identity cannot be sufficiently verified'.[320] Decision-makers need to consider all the information available to them. However, without considering the technical limitations and possible errors, such reports (as was the case with dialect recognition technology) may convey a sense of objective and scientific findings. It is difficult to assess to what extent a contradictory finding does have an impact on decision-makers' final decisions. According to the Federal Ministry of the Interior, there are no statistics on this.[321]

Crucially this technology benefits the private companies that are involved. For its implementation, BAMF works with Atos, which integrates products and services from two mobile forensic companies – MSAB

---

[313] Law on Better Enforcement of the Obligation to Leave the Country [Zweites Gesetz zur besseren Durchsetzung der Ausreisepflicht] https://www.bgbl.de/xaver/bgbl/start.xav?start=%2F%2F*%5B%40attr_id%3D%27bgbl117s2780.pdf%27%5D#__bgbl__%2F%2F*%5B%40attr_id%3D%27bgbl117s2780.pdf%27%5D__1654080701528

[314] Biselli, A. and Beckmann, L. 2020. Invading Refugees' Phones: Digital Forms of Migration Control in Germany and Europe. Berlin: Gesellschaft für Freiheitsrechte e. V., 10. https://legacy.freiheitsrechte.org/home/wp-content/uploads/2020/02/Study_Invading-Refugees-Phones_Digital-Forms-of-Migration-Control.pdf

[315] Ibid., 16–17.

[316] See the consent form at: BAMF. 2022. Response to request under the Freedom of Information Act, submitted by Derya Ozkul on 27 April 2022. Response received on 21 July 2022. File name: d1705-einverstndniserklrung-amd https://fragdenstaat.de/anfrage/bamfs-use-of-mobile-phone-data-in-asylum-applications-use-of-mobile-phone-data-by-the-bamf-for-asylum-applications/#nachricht-716361

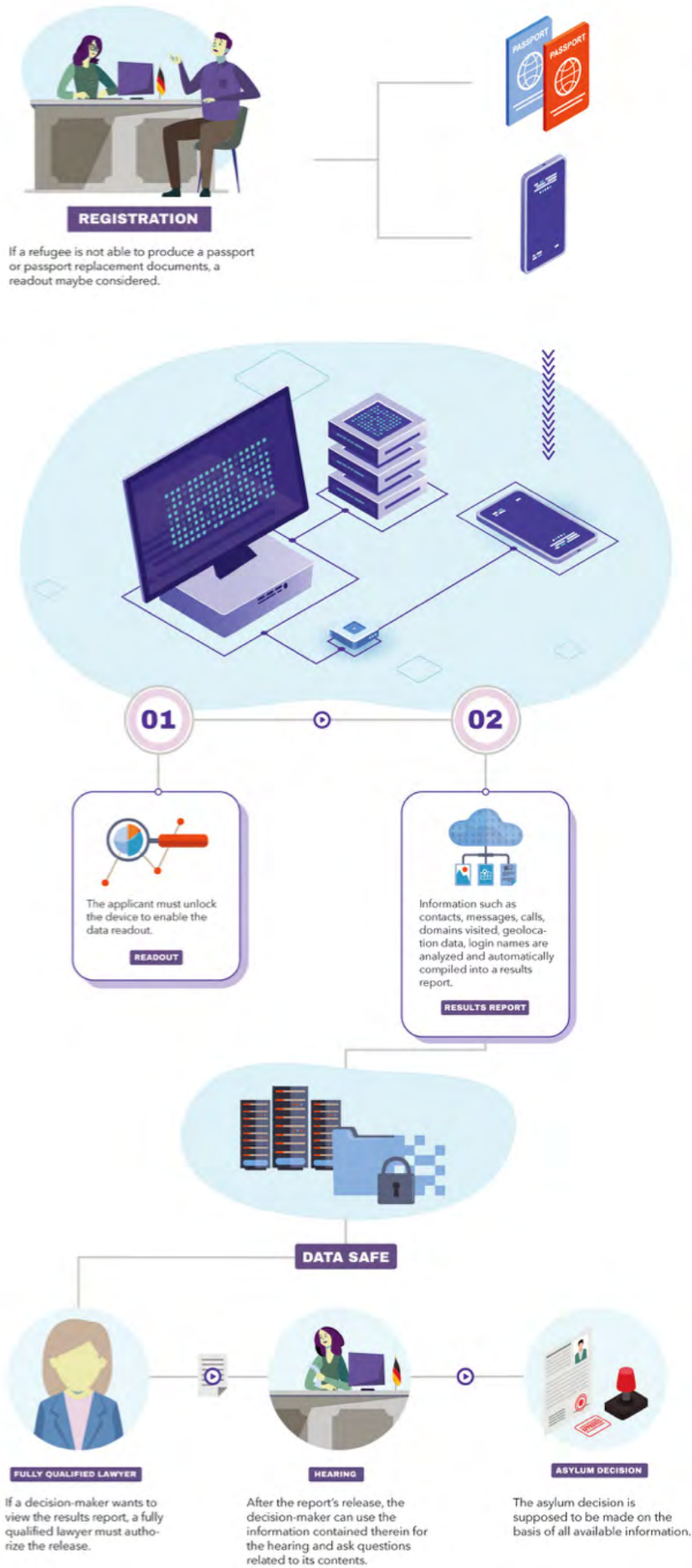[317] Biselli, A. and Beckmann, L. 2020., 13.

[318] Ibid., 18.

[319] Ibid., 20.

[320] BAMF. 2021. Digitalisierungsagenda 2020: Bisherige Erfolge und Ausblicke auf weitere digitale Projekte im Bundesamt für Migration und Flüchtlinge, p. 15. https://www.bamf.de/SharedDocs/Anlagen/DE/Digitalisierung/broschuere-digitalisierungsagenda-2020.pdf?__blob=publicationFile&v=9 [Translation from German to English is by Google Translate.]

[321] Biselli, A. and Beckmann, L. 2020. 34.

Figure 9: The process of using mobile phone data analysis in the asylum procedure in Germany[322]

REGISTRATION

If a refugee is not able to produce a passport or passport replacement documents, a readout maybe considered.

01

The applicant must unlock the device to enable the data readout.

READOUT

02

Information such as contacts, messages, calls, domains visited, geolocation data, login names are analyzed and automatically compiled into a results report.

RESULTS REPORT

DATA SAFE

FULLY QUALIFIED LAWYER

If a decision-maker wants to view the results report, a fully qualified lawyer must authorize the release.

HEARING

After the report's release, the decision-maker can use the information contained therein for the hearing and ask questions related to its contents.

ASYLUM DECISION

The asylum decision is supposed to be made on the basis of all available information.

---

[322] Biselli, A. and Beckmann, L. 2020., 13.

and T3K-Forensics.[323] The Ministry of Interior spent €4,788,507.60 on the hardware and software for the reading process and €1,070,000 for data analysis only in 2017.[324] Moreover, support and licences, which must be bought on an annual basis, will lead to ongoing costs.[325]

Civil society criticised this practice extensively due to its violations of privacy, lack of meaningful consent, lack of necessity and proportionality, and finally lack of transparency as to the opaque nature of the software and algorithms. Moreover, a non-governmental organisation, Gesellschaft für Freiheitsrechte [Society for Civil Rights, in German], shows that the practice does not necessarily produce conclusive findings. For instance, in the first quarter of 2019, 23% of readouts were found to fail on a technical basis; and among all evaluated reports, 55% had unusable information. The reason for unusable content may be related to little availability of data in the carrier, either because it was not being used for a long time or because it has been used only for a short period of time, or contradictory data due to the use of the mobile phone by multiple people.[326]

Another important question is whether or not this technology is needed at all. For example, In the first quarter of 2019, 1,236 result reports (out of 3,502 readouts) were released for decision-makers' consideration. Out of these, only 1% of result reports (in other words, 12 cases) contradicted asylum seekers' submissions.[327] In all other cases, reports corresponded with applicants' submissions. This result begs the question of whether this technology is indeed needed, what its added value is to the asylum procedure, and whether its potential risks are worth it.

Following their extensive report, in May 2020, GFF challenged the practice of mobile phone data analysis in three German administrative courts – Hanover, Berlin, and Stuttgart – with three plaintiffs, respectively from Syria, Afghanistan and Cameroon and their lawyers. In June 2021, the administrative court of Berlin ruled that the practice of searching mobile phones on a routine basis was unlawful. At the time of writing this report, the other two court cases are still ongoing. GFF's long-term aim is to have the legality of this practice challenged at the Federal Constitutional Court.[328] If the Federal Constitutional Court finds the practice unlawful, this may have a ripple effect on practices in other countries as well.

6.3.2. Implementation in the Netherlands

In the Netherlands, the National Police's Department of Aliens, Identification and Human Trafficking (AVIM) scans through all data carriers via 'a quick look' by a staff member and extracts all the available data on some of the selected carriers.[329] The practice is conducted via forensic extraction devices and a software that transports data from these devices to AVIM's computers.[330] AVIM seems to be using mobile phone data analysis as widely as possible. For example, according to an inspection report of the Dutch Inspectorate of Justice and Security, the number of mobile phones that were extracted and analysed was at the maximum capacity at the time of inspection (7 out of 30 asylum seekers per day).[331] Technical capacity has recently been improved, and currently data from all mobile phones can theoretically be extracted and analysed.[332] In practice, however, still only those where there is some perceived benefit to

---

[323] Bundesministerium des Innern, für Bau und Heimat. 2018. Response to the written question (No: 6/225) by MP Alexander Ullrich, dated June 26, 2018. https://andrej-hunko.de/start/download/dokumente/1186-software-fuer-sprachbiometrie-forensik-handyauswertung-beim-bamf-mdb-alexander-ulrich/file

[324] Bundestags-Drucksache 19/1663: Use of voice recognition software by the Federal Office for Migration and Refugees, April 16, 2018, answer to question 13., as cited in Biselli, A. and Beckmann, L. 2020, 34-35.

[325] Bundestags-Drucksache 19/6647: Use of IT assistant systems at the Federal Office for Migration and Refugees, December 19, 2018, answer to question 15., as cited in Biselli, A. and Beckmann, L. 2020, 35.

[326] Biselli, A. and Beckmann, L. 2020. 29.

[327] Ibid., 29-30.

[328] GFF. 2022. Refugee Phone Search. https://freiheitsrechte.org/en/themen/digitale-grundrechte/refugee-daten

[329] Bolhuis, M. P. and van Wijk, J. 2021. Seeking Asylum in the Digital Era: Social-Media and Mobile-Device Vetting in Asylum Procedures in Five European countries. Journal of Refugee Studies, 34(2), 1595–1617, 1602.

[330] Inspectie Justitie En Veiligheid (Inspectorate of Justice and Security). 2016. De identificatie van asielzoekers in Nederland: Vervolgonderzoek naar de Registratie en Identificatie van Asielzoekers door Politie en Koninklijke Marechaussee. The Hague: Inspectie Justitie en Veiligheid., 22, as cited in ibid., 1602.

[331] Biselli, A. and Beckmann, L. 2020., 33.

[332] Bolhuis, M. P. and van Wijk, J. 2021., 1602.

the assessment of the case are extracted.[333] It is not clear, however, whether or not this selection is being made on an informal basis or a set criteria.

This practice has been made possible in the Netherlands by the authorities' wide interpretation of the existing Dutch Aliens Act 2000 (Article 55), and therefore did not need a legislative amendment. Because it did not need to go through the Dutch parliament, the practice has been largely unnoticed. It also has not attracted as much criticism as the BAMF's practice has.[334] However, the practice in the Netherlands raises equally problematic ethical questions in terms of the right to privacy, lack of meaningful consent, and transparency. It is also questionable whether the practice does indeed bring any benefit for the authorities (and for asylum seekers). So far, no evaluation has been made with regards to its use and its benefits.

6.3.3. Implementation in Norway

In Norway, mobile phone data extraction has been implemented for years. The practice started even before 2015 but in earlier days it was done on an ad hoc basis. Over time, a more structural method was acquired: a specialised digital forensics unit at the Aliens Police, the National Police Immigration Service (PU), started extracting data from data carriers like mobile phones.[335] In 2016, it was reported that the Norwegian police seized mobile phones of even unaccompanied asylum seeker children if they did not have valid identity documents.[336] Later, in 2017, the government proposed an amendment to the Aliens Act, so that the police could have the right to seize and extract data from asylum seekers' mobile phones,[337] during the registration process in arrival centres.[338] Until then, seizure of mobile phones was performed on the basis of Section 10 of the Police Act.[339] The legislation has allowed the PU to confiscate and extract data from asylum seekers' mobile phones to establish and/or verify their identity.

Reportedly, the PU decides which mobile phone should be extracted on an informal basis with no set criteria. For example, while a young single Syrian man's mobile phone data would likely be extracted (even if he seems to have valid documents), an applicant from another country may not be subject to the same process, unless there are any issues with their identity documents.[340] This shows that the practice may be discriminately implemented based on prejudiced perceptions of asylum seekers' demographic characteristics.

6.3.4. Implementation in Denmark

In Denmark, the police have been seizing asylum seekers' mobile phones from as early as February 2015 and performing reportedly 'an almost complete copying' of asylum seekers' mobile phone data.[341] The practice includes even unaccompanied asylum seeker children who do not have valid ID documents in order to identify them.[342] Like BAMF in Germany, the Danish police use MSAB's XRY system for data extraction.[343]

Within the asylum procedure, the Danish Immigration Service can ask asylum applicants to share their Facebook profiles. This practice is used if caseworkers feel they need further information from the

---

[333] Ibid., 1602.

[334] Ibid., 1602.

[335] Ibid., 1603.

[336] NTB. 2016. Norsk politi beslaglegger asylsøker-mobiler [Norwegian police seize asylum seeker mobile phones]. Abc/nyheter, 16 February 2016. https://www.abcnyheter.no/nyheter/norge/2016/02/16/195200340/norsk-politi-beslaglegger-asylsoker-mobiler

[337] Biselli, A. and Beckmann, L. 2020., 45.

[338] Olsen, T. 2017. Listhaugs nye ankomstsenter: Vil tappe mobiler og bruke avansert datainnsamling for å sjekke asylsøkere [Listhaug's new arrival center: Will tap mobile phones and use advanced data collection to check asylum seekers]. Aftenporten, 26 October 2017. https://www.aftenposten.no/norge/i/55R2K/listhaugs-nye-ankomstsenter-vil-tappe-mobiler-og-bruke-avansert-datainnsamling-for-aa-sjekke-asylsoekere

[339] Biselli, A. and Beckmann, L. 2020., 45.

[340] Bolhuis, M. P. and van Wijk, J. 2021., 1603.

[341] Koch Stræde, M. and Gjerding, S. 2016. Hundredvis af asylansøgeres mobiler kopieret af politiet [Hundreds of asylum seekers' mobiles copied by police]. Information, 17 February 2016. https://www.information.dk/indland/2016/02/hundredvis-asylansoegeres-mobiler-kopieret-politiet

[342] Gram, M. and Hvilsom, F. 2016. 15-årig: Jeg vil bare gerne i kontakt med min familie [15-year-old: I just want to get in touch with my family]. POLITIKEN, 16 February 2016. https://politiken.dk/udland/fokus_int/Flygtningestroem/art5611355/15-årig-Jeg-vil-bare-gerne-i-kontakt-med-min-familie

[343] Biselli, A. and Beckmann, L. 2020., 44.

applicant. When practised, the officials reportedly inform the applicant that they must comply with their request under Danish law.[344] The practice is permitted under the Danish Aliens Act following an amendment to the law in 2017.[345]

6.3.5. Implementation in the UK

Extraction and analysis of mobile phone data by the police are used in the UK too. Legislative changes to the Police Act in 2013 provided not only the police but also immigration officers the right to intervene with property and equipment.[346] Until recently, little information was available on the extent to which it was being used. Privacy International, a charity working at the intersection of new technologies and the right to privacy in the UK, has investigated this practice and found that immigration officers could access an extensive level of detail, including deleted messages.[347]

For this, the British police have reportedly worked with Cellebrite, an Israeli mobile forensic company that presents itself as a global leader in digital intelligence.[348] Cellebrite's software enables the police to access search history and WhatsApp messages.[349] Indeed, throughout recent years, the UK Home Office's Immigration Enforcement authority paid large sums of money to Cellebrite. In February 2020 alone, Immigration Enforcement made a payment of £30,800 for IT running costs, £1,710 and £27,025 for system clearing and a further £120,890 for other IT running costs.[350] In December 2020, Immigration Enforcement made a further payment of £43,440 to Cellebrite for IT running costs.[351]

Privacy International (PI) has also found that the Home Office operated a secret, blanket policy of seizing, keeping and extracting data from the mobile phones of nearly 2,000 asylum seekers who arrived on UK shores between April and November 2020. In 2021, the practice was taken to court, and the PI provided written submissions as an intervener in the case.[352] On 25 March 2022, the High Court ruled that the Home Office acted unlawfully and violated Article 8 of the European Convention on Human Rights (ECHR).[353]

6.3.6. Plans and developments in other states

The practice of mobile phone data analysis has been made possible also in Belgium (in 2017), Austria (in 2018), and more recently in Switzerland (in 2021) with similar amendments to asylum laws. However so far there has been no evidence of their implementation. In Belgium, the legislative changes were heavily criticised by human rights organisations. The Belgian Data Protection Commissioner also criticised the practice and noted that information gathered from data carriers should be used only when it is necessary.[354] In 2018, the Coordination and Initiatives for Refugees and Foreigners (Coordination et Initiatives pour Réfugiés et Étrangers, CIRé) lodged a complaint against the amendment to the law at the Belgian Constitutional Court.[355] The Constitutional Court decided not to annul the practice, but it strongly advised limiting the discretion of the asylum authorities. According to the Court's decision, the

[344] Meaker, M. 2018. Europe Is Using Smartphone Data as a Weapon to Deport Refugees. Wired UK, 2 July 2018. https://www.wired.co.uk/article/europe-immigration-refugees-smartphone-metadata-deportations

[345] Biselli, A. and Beckmann, L. 2020., 44.

[346] Townsend, M. 2016. Revealed: immigration officers allowed to hack phones. The Guardian, 10 April 2016. https://www.theguardian.com/world/2016/apr/10/immigration-officials-can-hack-refugees-phones

[347] Meaker, M. 2018.

[348] Ibid.

[349] Ibid.

[350] Home Office. 2021. Transparency data: Home Office spending over £25,000: February 2020. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907385/Home-Office-Spending-Over-25000-February-2020.csv/preview.

[351] Home Office. 2021. Home Office spending over £25,000: December 2020. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/986845/Home-Office-Spending-Over-25000_December_2020.csv/preview.

[352] Taylor, D. 2022. Home Office accused of 'bullying' asylum seekers into handing over phones. The Guardian, 25 January 2022. https://www.theguardian.com/politics/2022/jan/25/home-office-accused-of-bullying-asylum-seekers-into-handing-over-phones

[353] R (HM and MA and KH) v Secretary of State for the Home Department. See Privacy International's analysis of the ruling at https://privacyinternational.org/news-analysis/4810/uk-high-court-rules-blanket-seizure-asylum-seekers-phones-breached-article-8.

[354] Biselli, A. and Beckmann, L. 2020., 44.

[355] Biselli, A. and Beckmann, L. 2020., 46.

General Commissioner for Refugees and Stateless Persons (Commissariat Général aux Réfugiés et aux Apatrides, CGRA) must have good reasons to believe that data carriers, such as mobile phones, have essential information in them.[356]

6.4. Assessment of appeal cases' type and complexity

In addition to technologies that are used to help decision-makers to identify an asylum seeker and create evidence for decision-making, some technologies are used to help officials with their case management. For example, in the Netherlands, the Ministry of Justice and Security is currently evaluating whether text mining can support them to triage appeal cases. This practice is based on a statistical model and is currently under development. As was explained in Section 5.2, among others, these cases can include appeals to decisions on asylum claims. The triage tool is expected to determine which lawyer will work on the relevant appeal case.[357]

6.5. Matching tools for screening similar cases

In the Netherlands, the Immigration and Naturalisation Service (IND)'s A&B Directorate[358], which looks at asylum applications, is currently using a 'case matcher' system.[359] This tool enables IND caseworkers to find out about applications made on similar grounds by making a search among all cases. This technology is based on text analysis (text mining), 'a smart system for searching and filtering'.[360] Behind it is a scoring system, 'which ranks cases and documents' (based on, for example, where a term is found in a text or whether multiple search terms are found to be clustered within a text).[361] Through filters, such as document type, opening date, nationality, and search terms, the system generates similar (closed) documents and cases. One of the main rationales for introducing this technology is to reduce the time that caseworkers need to spend on the decision-making of each new case and to ensure consistency in their decision-making.[362] This tool helps them to find relevant cases and documents.[363] Therefore, the main benefit of this tool is providing caseworkers with easier access to similar cases and making their decision-making process easier and more consistent.

A possible by-product of the Casematcher's design is that while searching for other past decisions, caseworkers can identify common narratives of asylum seekers. For example, those who claim asylum based on a particular ground may be telling the same story in their claim as others applying based on the same ground.[364] Such findings may lead decision-makers to understand the common risks in the country of origin. Or they may lead decision-makers to perceive the applicant as copying others' stories and therefore lying in their application. These perceptions may lead them presumably to reject the applicant based on his/her perceived lack of credibility. Although the Casematcher was not developed to detect such possible fraud cases, and although it cannot identify patterns itself, it is important to note that this could be a possible unintended consequence of the tool.

---

[356] See the Court's judgment at https://www.const-court.be/public/f/2021/2021-023f.pdf, and a legal analysis of the decision at the following: CIRé. 2021. newsletter juridique, 69. Protection internationale: issue du recours en justice contre les "lois Mammouth", 7.
[357] Interview with an official from IND, 14 June 2022.
[358] The A&B Directorate of the IND makes decisions on asylum applications, on cases in which people with asylum status want to bring family members to the Netherlands, and on reassessments of permits.
[359] The case matcher system is currently in use, but some of its features are still under development. Additional information received following the interview with an official from IND, 14 June 2022.
[360] Additional information received by email after fact checking with IND, 1 September 2022.
[361] Additional information received by email after fact checking with IND, 1 September 2022.
[362] Additional information received by email after fact checking with IND, 1 September 2022.
[363] Interview with an official from IND, 14 June 2022.
[364] Interview with an official from IND, 14 June 2022.

6.6. Automated distribution of welfare benefits

Finally, algorithms are used for distribution of welfare benefits to asylum seekers. In Norway, since October 2020, the UDI has been using an automated system to distribute welfare benefits to asylum seekers staying in reception centres around the country.[365] As part of a recently introduced IT system, MOT, designed for case management, logistics and finances, UDI uses a Microsoft Dynamics-based system to allocate welfare benefits to asylum seekers.[366]

This algorithm takes into account a high number of parameters, including asylum seekers' characteristics (age, family size, age of children, if any,[367] and whether or not they are below or above 18 years old), as well as the type of reception centre they are staying in and status of their asylum application.[368] The algorithm runs every two weeks, which is the period where asylum seekers receive their payments, and re-calculates the payments.[369]

The MOT system is installed in computers at UDI, and a portal version, which works slightly more slowly, is fitted in reception centres across the country.[370] UDI staff process the matching of benefits, and reception centre staff can see the details of asylum seekers and how much benefit they receive. This way, both UDI and staff at reception centres can identify possible mistakes by looking at asylum seekers' personal characteristics and family composition. Staff at reception centres can also see the variables that were considered and explain to asylum seekers why they receive that much benefit if the latter have any questions.[371]

The UDI acknowledges that the algorithm does not function perfectly due to the presence of some bugs, which are caused by mistakes in data imported from other administrative systems and the fact that the system processes too much information.[372] At the time of writing in 2022, the accuracy rate is estimated to be around 95%.[373] Reportedly, UDI staff check possible mistakes on a regular basis and adjust possible errors manually. These mistakes can be found through the indication of an 'unclear status' for an asylum seeker. Or they may also be found out during regular communication between UDI and reception centres. Because the staff at reception centres have access to the system, they can see asylum seekers' personal characteristics and family size and can identify if there are any mistakes. Asylum seekers themselves can question the accuracy of their payment too, by asking reception centres directly. Reception centre staff can then review the parameters and either explain to asylum seekers why they receive the amount they do, or if there they find a potential mistake, ask UDI to review the result. UDI staff then review the case and, if there is a mistake, correct it manually. If the asylum seeker was not paid as he/she should have been paid, that payment is processed retrospectively.[374]

The main benefit of this algorithm is that it reduces the workload of UDI and reception centre staff.[375] Previously, staff were calculating the benefit amount by looking at each of the parameters. With this algorithm, they do not have to spend as much time as before because the calculations are done automatically. However, it is important to note that both UDI and reception centre staff still need to check asylum seekers' payments and adjust manually as needed. These problems are expected to fade out as UDI finds out and resolves the remaining bugs in the system.[376] In the meantime, it is vital that possible mistakes are reviewed and investigated on a regular basis.

---

[365] Interview with an official from UDI, 14 September 2022.
[366] Interview with an official from UDI, 14 September 2022.
[367] The older the children are, the more benefits they receive. The algorithm re-calculates the payments at the time of their birthdays. Interview with an official from UDI, 14 September 2022.
[368] If an asylum seeker is rejected and appeals the decision within the required timeframe, he/she continues receiving payments. If he/she is rejected and is deemed to be deported from Norway, then he/she receives less payments. Interview with an official from UDI, 14 September 2022.
[369] Interview with an official from UDI, 14 September 2022.
[370] Interview with an official from UDI, 14 September 2022.
[371] Interview with an official from UDI, 14 September 2022.
[372] Interview with an official from UDI, 14 September 2022.
[373] Interview with an official from UDI, 14 September 2022.
[374] Interview with an official from UDI, 14 September 2022.
[375] Interview with an official from UDI, 14 September 2022.
[376] Interview with an official from UDI, 14 September 2022.

7. New technologies after arrival: matching tools for relocation, settlement or finding accommodation and volunteers

Finally, across Europe, several matching tools have been developed to match asylum seekers and refugees either with countries of relocation in order to find a state that would host asylum seekers and refugees or with federal states/municipalities in a specific country in order to settle them in the most suitable area for their integration. These matching tools are developed based on the idea that where refugees settle may have a direct impact on their integration and well-being.[377] Such tools can help asylum seekers/refugees settle in places best suited to their needs. Or they can prioritise the needs and preferences of local and national communities and public authorities. For example, in the US, the algorithm developed by the Annie™ Moore project makes suggestions to a large resettlement agency in the country (HIAS) to help them with their placement with a view to increasing refugees' employability.[378]

In Europe, EASO, national immigration authorities, as well as some research institutions in cooperation with state authorities at the national and local levels, have cooperated to develop similar tools. In Norway, the immigration authority, UDI, has developed a tool that matches asylum seekers with reception centres around the country according to reception centres' and asylum seekers' characteristics. What is crucial to understand in these practices is what their rationale is, how their selection criteria are chosen, which criteria are prioritised, and whose preferences are included in the development and implementation of the tool. In theory, matching tools can include criteria set by states, sub-states/municipalities, but also migrants, asylum seekers and refugees themselves. This section explores the specifics of each of these practices in detail.

7.1. EASO's matching tool for relocation

The first matching tool in Europe was developed by EASO following 'Europe's migration crisis' within the EU's relocation scheme.[379] Relocation refers to the transfer of persons having already international protection status or in need of international protection from one EU Member State to another.[380] The aim of EASO's tool was to match asylum seekers with countries of relocation in line with the procedures and criteria set out in Council Decisions. The tool was expected to benefit all stakeholders. Firstly, it was expected to benefit the first countries of arrival, such as Greece and Italy, by decreasing the number of asylum seekers. It was also expected to benefit countries of relocation, by preventing asylum seekers' secondary onward movement after relocation. And finally, it was expected to benefit asylum seekers by facilitating their integration into the country of relocation.

EASO's matching tool had several advantages. Firstly, it could process a large number of applications in a short amount of time and identify the optimum place of relocation according to set matching criteria. The tool could take into account 'different matching criteria simultaneously (qualifications and characteristics

---

[377] Regarding the impact of resettlement place on refugees' integration and onward movement, see for example, Hyndman, J. 2022. Geoscripts and refugee resettlement in Canada: Designations and destinations. The Canadian Geographer / Le Géographe Canadien, 66(4), 653–668.

[378] See more about the project, https://www.refugees.ai

[379] For a comprehensive examination of EU's relocation scheme, see Guild, E., Costello, C., and Moreno-Lax, V. 2017. Implementation of the 2015 Council Decisions Establishing Provisional Measures in the Area of International Protection for the Benefit of Italy and of Greece. Brussels: Policy Department C: Citizens' Rights and Constitutional Affairs European Parliament. https://www.europarl.europa.eu/RegData/etudes/STUD/2017/583132/IPOL_STU(2017)583132_EN.pdf See also Bauböck, R. 2018. Refugee Protection and Burden-Sharing in the European Union. JCMS: Journal of Common Market Studies, 56, 141–156; Niemann, A., and Zaun, N. 2018. EU Refugee Policies and Politics in Times of Crisis: Theoretical and Empirical Perspectives. JCMS: Journal of Common Market Studies, 56, 3–22; Zaun, N. 2018. States as Gatekeepers in EU Asylum Politics: Explaining the Non-adoption of a Refugee Quota System. JCMS: Journal of Common Market Studies, 56, 44–62.

[380] For a full definition of the term 'relocation', see the European Commission's Glossary at: https://home-affairs.ec.europa.eu/pages/glossary/relocation_en

of the applicants, priority to vulnerable applicants, the capacities of Member State to receive vulnerable persons, preferences, deadlines).'[381] Secondly, it could provide transparency for the relocation process by keeping records of the profiles that were relocated and the degree to which the set matching criteria were used. In late 2016 and early 2017, EASO worked with the Greek Asylum Service to pilot, test and refine the tool.[382] The software was developed in 2017,[383] but, in the end, despite its benefits, it could not be put into practice.

This was due to several possible reasons. One conceivable factor was Member States' reporting of their preferences at different times. For example, reporting on its failure, the Greek Ombudsman wrote the following:

> 'If the pledges [by Member States] were made all at the same time, the relocation system would have been more successful in matching preferences of the asylum seekers with the states opening places.'[384]

Another likely factor was the timing. By the time the tool was developed, 'Europe's migration crisis' was already largely halted. IOM commented that the tool was developed 'at a very late stage' and that it also 'did not sufficiently take into account possible interpersonal or professional links of beneficiaries with certain Member States'.[385]

Finally, Member States had too granular and specific preferences, which made the matching process challenging. Too specific preferences, such as 'language skills, families, single persons, the composition of relocation groups', reportedly delayed the matching process.[386] Indeed, back in 2017, the European Commission had noted that the tool could be effective only if the Member States could have flexible enough preferences.[387] That meant that the Member States should not have had too strict and narrow preferences or imposed additional requirements, such as requiring proof of extended family links. Moreover, Member States were encouraged to increase their monthly pledges for relocation and avoid excluding applicants that were deemed as vulnerable.[388] Because these problems continued, in the end, EASO's matching tool was not accomplished, and officers continued matching asylum seekers with countries of relocation manually.[389]

---

[381] European Commission. 2017. 212 final. Report from The Commission to The European Parliament, The European Council and The Council. Eleventh report on relocation and resettlement. Brussels., 6. https://eur-lex.europa.eu/resource.html?uri=cellar:55dd120c-2434-11e7-b611-01aa75ed71a1.0001.02/DOC_1&format=PDF

[382] European Commission. 2017. 74 final. Report from The Commission to The European Parliament, The European Council and The Council. Ninth report on relocation and resettlement. Brussels., 12. https://www.eumonitor.eu/9353000/1/j4nvke1fm2yd1u0_j9vvik7m1c3gyxp/vkcwef2wk5wo/v=s7z/f=/com(2017)74_en.pdf

[383] EASO. 2018. EASO Annual General Report 2017. Luxembourg: EASO., 27. https://euaa.europa.eu/sites/default/files/EASO-Annual-General-Report-2017.pdf. Note that the final version of the tool was expected to be finalised in the first quarter of 2018. See EASO. 2019. Consolidated Annual Activity Report 2017., 17. https://euaa.europa.eu/sites/default/files/EASO-Consolidated-Annual-Activity-Report-2017.pdf

[384] The Greek Ombudsman. 2019. Relocation revisited. The Greek case. Athens: The Greek Ombudsman., 32. https://www.synigoros.gr/resources/docs/20190215-relocation-go-report.pdf

[385] IOM. 2018. IOM's Recommendations: A Permanent Solidarity Mechanism in the EU:SS Lessons Learnt from Relocation., 4. https://iom.factory.iomdev.org/resources/ioms-recommendations-permanent-solidarity-mechanism-eu-lessons-learnt-relocation

[386] IOM. 2018. IOM's Recommendations: A Permanent Solidarity Mechanism in the EU:SS Lessons Learnt from Relocation., 4. https://iom.factory.iomdev.org/resources/ioms-recommendations-permanent-solidarity-mechanism-eu-lessons-learnt-relocation

[387] European Commission. 2017. 212 final. Report from The Commission to The European Parliament, The European Council and The Council. Eleventh report on relocation and resettlement. Brussels., 6. https://eur-lex.europa.eu/resource.html?uri=cellar:55dd120c-2434-11e7-b611-01aa75ed71a1.0001.02/DOC_1&format=PDF

[388] European Commission. 2017. 260 final. Report from The Commission to The European Parliament, The European Council and The Council. Twelfth report on relocation and resettlement. Brussels., 6. https://eur-lex.europa.eu/resource.html?uri=cellar:576ad00d-3aec-11e7-a08e-01aa75ed71a1.0001.02/DOC_1&format=PDF

[389] The Greek Ombudsman. 2019. Relocation revisited. The Greek case. Athens: The Greek Ombudsman., 32. https://www.synigoros.gr/resources/docs/20190215-relocation-go-report.pdf [Accessed 2 March 2022].

7.2. GeoMatch project

The GeoMatch Project, conducted by the Immigration Policy Lab (IPL), a collaboration between Stanford University and ETH Zurich, developed an algorithm for matching refugees with the optimum place for them in a country of asylum. This matching tool helps state authorities assign refugees (or asylum seekers/ immigrants) to particular locations in the country. For this, it uses supervised machine learning and optimal matching techniques.

The GeoMatch matching tool works in the following way: first, data about past migrants' (or refugees') personal characteristics, such as age, gender, education, or English language skills, are entered into the GeoMatch tool. Then GeoMatch finds patterns in this data and shows how a particular settlement location make migrants likely to achieve the desired outcome, such as finding a job. Based on this analysis, the GeoMatch predicts refugees' (or migrants') probability of integrating into different locations across the country and makes a recommendation for the best possible locations.[390] After the tool suggests several locations, placement officers choose the final place themselves.[391]

The tool was tested first in the USA. This test used the historical registry data about more than 30,000 refugees, aged 18 to 64, who were resettled in the country's different regions between 2011 and 2016. The results showed that compared to the actual outcomes, the median refugee would be more than twice as likely to find a job when placed by the algorithm. The tool was later tested in Switzerland with historical data obtained from the Swiss State Secretariat for Migration. The research team looked at outcomes for asylum seekers who had received subsidiary protection in Switzerland and who were placed across 26 cantons from 1999 to 2013. This time, the results showed that, if placed by the algorithm, asylum seekers' employment rate would be 73 per cent higher than in actuality (26 per cent instead of 15 per cent in actuality).[392] The tool was later piloted in Switzerland with 2000 asylum seekers and the team received interest from the authorities in the Netherlands and the USA to run similar tests.[393]

In the Netherlands, the IPL team has worked with the Dutch Central Agency for the Reception of Asylum Seekers (COA) to test the tool. COA is the agency that provides reception services such as housing to asylum seekers in the Netherlands. Sjef van Grinsven, a project leader at COA, has stated that using the GeoMatch tool can lead to better integration outcomes by strengthening their analysis.[394] Currently, the two institutions are working together to test the algorithm through a randomised controlled trial, to see whether it can be used in the Netherlands.[395] This project is still in the exploration phase, and its help in settlement outcomes is yet to be seen.

In these tests and pilots, the GeoMatch tool prioritised employment outcomes. However, the tool can in fact prioritise different integration criteria, depending on the availability and quality of past data in that particular location. It can also include refugees' (or asylum seekers'/immigrants') preferences.[396] Nonetheless, which integration criteria the tool will prioritise and whether it will consider refugees' (asylum seekers'/immigrants') preferences depends on the state authorities' choice.

---

[390] IPL. 2022. https://immigrationlab.org/geomatch/

[391] Bansak, K., et al. 2018. Improving refugee integration through data-driven algorithmic assignment. Science, 359(6373), 325-329, 329.

[392] Ibid., 328.

[393] IPL. 2022. The Origins of a Breakthrough Technology. https://immigrationlab.org/2019/03/12/origins-breakthrough-technology/

[394] IPL. 2022. New Funding Advances GeoMatch in Canada and the Netherlands. https://immigrationlab.org/2021/03/03/geomatch-canada-netherlands/

[395] J-PAL. 2022. A Data-Driven Approach to Refugee Integration. Cambridge: J-PAL. https://www.povertyactionlab.org/initiative-project/data-driven-approach-refugee-integration

[396] IPL. 2022. https://immigrationlab.org/geomatch/

7.3. Match'In project

A research group in Germany has also been developing a matching tool under the framework of the 'Match'In Project'.[397] Funded by Stiftung Mercator, Match'In is a pilot project that seeks to develop an algorithm in order to match asylum seekers/refugees to the best possible place of settlement. Specifically, the project aims to develop a tool for the federal states to match asylum seekers/refugees to specific municipalities. The aim of the tool is to match asylum seekers'/refugees' characteristics, requirements and needs with municipalities' resources and structures. The idea behind the project is that such a dual matching system would increase refugees' integration into their settlement area and reduce possible secondary onward movement.

To develop the tool, researchers from the University of Hildesheim and the Friedrich-Alexander University of Erlangen-Nuremberg are currently working together with responsible ministries of several federal states, municipalities and representatives of refugees. The first and key stage of the project is to identify stakeholders' (that is municipalities' and asylum seekers/refugees') criteria. Municipalities' criteria depend mainly on their structural and institutional conditions. Refugees' criteria, on the other hand, can include their preferences to some extent. The Match'In project team members plan to ask refugees for prioritisation of their criteria. Refugees can state, for example, if housing, education, or labour market access is more important to them. The team also plans to ask refugees their preferences regarding certain issues (such as preferred leisure activities), and issues that refugees themselves identify as important (such as their religious community). The team is currently developing the algorithm and the relevant software, and will test it with selected municipalities and voluntarily participating refugees.[398] Currently, in total 23 municipalities from four federal states (Hesse, Lower Saxony, North Rhine-Westphalia, Rhineland-Palatinate) are participating in the project.[399]

Figure 10: Match'In procedure[400]

---
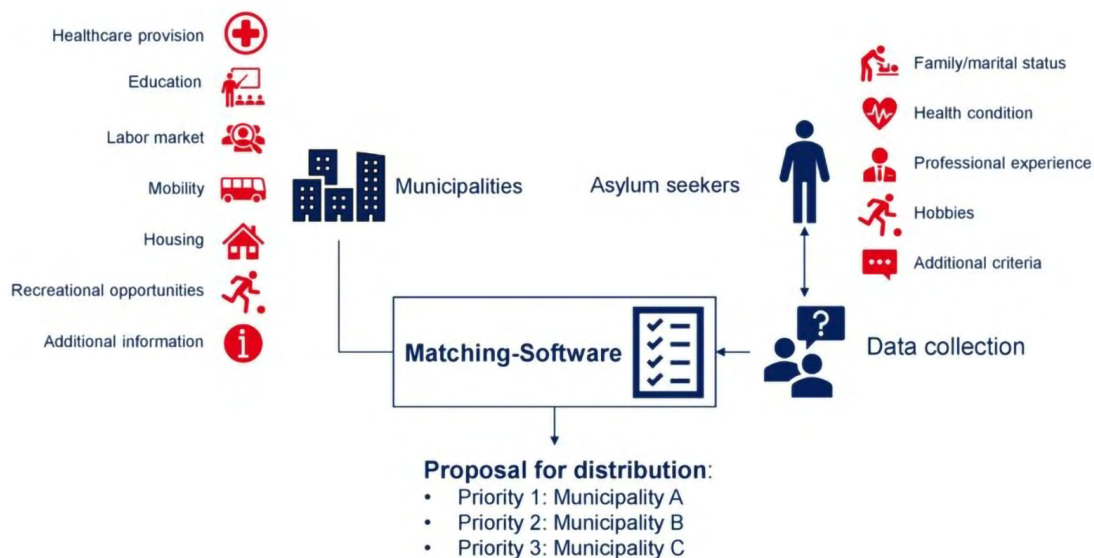
[397] See Match'In Project. 2022. Home. https://matchin-projekt.de/en/

[398] Email communication with a member of the Match'In team, June 2022.

[499] Participating municipalities include the following: Groß-Gerau (district), Hersfeld-Rotenburg (district), Hochtaunuskreis (district), Main-Taunus-Kreis (district), The City of Darmstadt [in Hesse]; Aurich (district), Helmstedt (district), Göttingen (district), Region Hannover, Hanseatic City of Lüneburg [in Lower Saxony]; The City of Essen, The City of Hamm, Hanseatic City of Herford, The City of Krefeld, The City of Preußisch Oldendorf in the district Minden-Lübbecke, The City of Troisdorf in the district Rhein-Sieg-Kreis, The City of Wuppertal [in North Rhine-Westphalia]; and Birkenfeld (district), Donnersbergkreis (district), The City of Kaiserslautern, The City of Koblenz, Mainz-Bingen (district), The City of Pirmasens [in Rhineland-Palatinate]. See Match'In Project. 2022. About the Project. https://matchin-projekt.de/en/about-the-project/

[400] Ibid.

Compared with the pilot projects listed above, the Match'In project is particularly interesting as the research team has been working to create the software following 'a participatory and multi-stage process' consulting with various stakeholders, including asylum seekers and refugees themselves.[401] It plans to take into account several criteria, such as municipalities' availability of healthcare, education, housing, labour market, transport and recreational opportunities, as well as asylum seekers'/refugees' family compositions, professional experience, health conditions, and hobbies (see Figure 10). These factors will be considered by the software to develop a ranking of the participating municipalities as regards their 'match' with the personal situation of the asylum seeker/refugee to be allocated. The final decision on the allocation will be taken by the person in charge of the distribution process.[402]

7.4. Implementation in Norway: the use of an algorithm for allocation of reception centres

In Norway, since October 2020, UDI has automated the process of allocating asylum seekers to reception centres around the country.[403] The system, called MOT, is designed to match asylum seekers to reception centres according to asylum seekers' personal characteristics (such as age, gender, family size, spoken language, presence of vulnerabilities, such as health conditions) and reception centres' characteristics (such as the presence of rooms for specific health conditions) and availability.[404] MOT is a recently introduced, comprehensive IT system designed explicitly for UDI's case management, logistics and financial needs[405] (see section 6.6). It uses Microsoft Dynamics, part of Microsoft Business Solutions. For two years, UDI has worked with reception centres, run by NGOs and municipalities across the country, to reconfigure the Microsoft Dynamics package to meet its own needs.[406]

One of MOT's functions is to allocate asylum seekers to reception centres automatically according to a predefined set of attributes (see another of its functions in section 6.6). Caseworkers can also match asylum seekers with reception centres manually if they want to due to practicalities. For example, groups of Ukrainian migrants who arrived in Norway under temporary protection were allocated to reception centres as a group without matching each individual because they were found to be a relatively homogenous group and could travel as a group on the same bus, unlike asylum seekers coming from different nationalities at different times. Otherwise, MOT can process the entire matching system on its own.[407]

The system works in the following way: UDI caseworkers process the automated matching system, and the system provides a score for each reception centre that is suitable for that applicant with the relevant weights. Once caseworkers match asylum seekers following the MOT's suggestion, the system sends a message to the initial reception centre, indicating that those asylum seekers are on their way to exiting the first reception centre on that day and time. The reception centre then helps asylum seekers with their travel arrangements and practicalities. In the meantime, the second reception centre receives another message indicating that asylum seekers will be transferring from one to another on that day and time. The second reception centre can then ensure that their room is ready. With the help of MOT, reception centres can see a list of all asylum seekers living in that centre and receive the details of incoming asylum seekers from UDI, such as their personal (and family) characteristics, as soon as the matching takes place.[408]

The IT system has two main benefits for the UDI. The first is efficiency. In fact, the IT system works slower than initially expected because it relies on an outsourced application, Microsoft Dynamics, and it processes a huge amount of data with around 20 attributes for each asylum seeker and several attributes for each

---

[401] Ibid.
[402] Email communication with a member of the Match'In team, 13 June 2022.
[403] Interview with an official from UDI, 14 September 2022.
[404] Interview with an official from UDI, 14 September 2022.
[405] UDI. 2021., 47.
[406] Interview with an official from UDI, 14 September 2022.
[407] Interview with an official from UDI, 14 September 2022.
[408] Interview with an official from UDI, 14 September 2022.

reception centre. Nonetheless, it is reported to still save a significant amount of time for UDI caseworkers. With the automated matching system, caseworkers do not need to go through each reception centre individually and can find the most suitable centre for the applicant automatically. UDI acknowledges that the system still does not function perfectly and as fast as initially thought. At times caseworkers may need to match and enter allocated centres manually, but UDI is working on resolving problems and plans to create some new rules that will improve the matching system. The second benefit of the system is financial. Because reception centres are run by NGOs and municipalities, UDI makes contracts with them before allocation. Based on these contracts, UDI needs to pay reception centres a certain amount of money regardless of whether the centre is fully operational or not. This matching tool, therefore, helps UDI find the best suitable place for the applicant and makes sure no resource is spent unnecessarily.[409]

7.5. Local-level initiatives

There have been some initiatives at the local level which include refugees' preferences in the matching tool explicitly. For example, an interdisciplinary team of academics and practitioners developed the Pairity matching tool. The aim of this tool is to match refugees with volunteer groups who wished to help them in their integration processes. The team has recently completed a two-year pilot phase with a national group of volunteers in Justice and Peace's Samen Hier program in the Netherlands.[410] With the help of the Pairity matching tool, status holders from various nationalities were matched with 42 'welcoming groups' of volunteers in four Dutch municipalities.[411] Matching criteria included six main factors related to geographical distance (to ensure that matches lived close enough together), vulnerability, household composition, labour market experience, culture and language skills, hobbies and interests.[412] Preliminary results of the project have been encouraging with status holders reporting a better acquisition of the Dutch language and better social integration into the Dutch society.[413] Following this pilot program in the Netherlands, the Pairity team plans to work in other countries that are 'interested in the promise of community sponsorship'.[414]

In Germany, the Humboldt-Viadrina Governance Platform, a Berlin-based NGO working on transparency and participation, currently advocates developing a similar tool to help Ukrainians settle in the country.[415] Their proposed matching tool aims to enable municipalities to provide information about their available services and for Ukrainians themselves to express an interest in a particular Municipality according to their own preferences. In the initial phase, the Platform proposes working with the cities of the Alliance of Safe Harbours and their willing municipalities in order to settle Ukrainians arriving from Poland.[416] It is currently in discussions with relevant stakeholders, and the algorithm is yet to be built.[417] Overall, these local initiatives aim for refugees to have a greater say in the process by actively involving their preferences.

---

[409] Interview with an official from UDI, 14 September 2022.

[410] See Pairity. 2022. Results from our Netherlands Pilot. https://pairity.ca/research-evidence/

[411] These municipalities included Almere, the Hague, Haarlem, and Rotterdam. See, Samen Hier. 2020. Midterm Review Pilot Samen Hier: December 2020., 3. https://justiceandpeace.nl/wp-content/uploads/2021/04/2021-03-Samen-Hier-Mid-term-report-EN.pdf

[412] Pairity. 2022. Platform Details. https://pairity.ca/platform/

[413] Samen Hier. 2020.

[414] Pairity. 2022. Mission. https://pairity.ca/mission/

[415] Humboldt-Viadrina Governance Platform worked on developing a matching tool initially to match asylum seekers rescued on the Mediterranean Sea with cities that wanted to host them across Europe. However, for this type of matching tool, they could not mobilise enough political will. They are, therefore, currently focusing to develop a matching tool only for Ukrainians who are on temporary protection and can move freely across Europe. For more updates on their work, see https://www.governance-platform.org/en/

[416] Humboldt-Viadrina Governance Platform. 2022. Concept Paper: Matching and Relocation of Refugees in the Context of the Ukraine War to German Safe Harbour Communities. Berlin. Document shared via email, 24 June 2022.

[417] Email communication with a member of the Humboldt-Viadrina Governance Platform, 24 June 2022.

8. Conclusion

The aim of this report has been to map out the existing uses of new technologies across European immigration and asylum systems both at the national and the EU level. As shown, many different new technologies are currently being used in various processes of the European migration and asylum systems. Some of the technologies included in this report are already in use, some are in testing or under construction, and others have been implemented but have been discontinued for various reasons.

Among those that are identified in this mapping research, the technologies that are currently in use include forecasting tools; the automated processing of residency and citizenship applications in Norway and, to some extent, in Sweden; document verification in the Netherlands; risk assessment and categorisation of applications for marriages, the EU Settlement Scheme and identification and prioritisation of irregular migrants in the UK; speech recognition to help applicants with citizenship applications in Latvia; name transliteration and dialect recognition for the identification of asylum seekers' country of origin in Germany; speech-to-text technology for the transcription of interviews with asylum seekers in Italy; automated distribution of welfare benefits to asylum seekers in Norway; matching tools for the allocations of reception centres in Norway and for screening similar asylum applications in the Netherlands; as well as mobile phone data extraction in Germany, the Netherlands, Norway, Denmark, and the UK; and finally electronic monitoring in the UK.

Those that are under development or in testing stages include risk assessments and profiling through interoperability between large EU information systems; document verification in Belgium and France; categorisation of appeal cases' according to their type and complexity in the Netherlands; and matching tools for settlement and integration of migrants, asylum seekers and refugees in Germany, Switzerland, and the Netherlands. Previously lie detection technologies were tested in Hungary, Latvia and Greece in the context of the iBorderCtrl project. And speech and dialect recognition for the identification of asylum seekers' country of origin was tested in Turkey. And finally, those that were implemented but have been halted or revised include risk assessment for the processing of visitor visa applications in the UK and screening of employment sponsorship in the Netherlands.

The vast variety of uses of new technologies makes it clear that each technology needs to be explored in its own right, taking into account the context in which it was developed, as well as the particular needs and benefits of stakeholders that develop and use each technology. This mapping, therefore, debunks a totalising, black-and-white perception of new technologies. New technologies can be used for various purposes ranging from including migrants' preferences in their settlement processes (as in the case of preference matching tools) to profiling them through risk assessments or even constantly monitoring them through invasive tools such as electronic monitoring. These can have a varying impact on users. For example, automating decision-making processes for visa and citizenship applications may bring significant benefits to state officers and applicants as they can reduce the time required for decision-making. This is also the case with the matching tools that can process the preferences of various stakeholders and find optimum solutions for all. Automation of these processes may save stakeholders a significant amount of time.

Automating decision-making processes can help some applicants, but if not designed inclusively, they can disadvantage others who may have problems accessing them. For example, it has been found that applicants whose requirements cannot be calculated automatically can suffer from the automation process. In the processing of applications for the EU Settlement Scheme in the UK, those who do not have National Insurance numbers are reported to lack sufficient evidence of residence in the country.[418] In particular, vulnerable groups are reported to have problems accessing digital systems or having their details verified in automated checks.[419]

---

[418] Booth, P. 2019.
[419] See Godin, M. and Calin Bica, M. 2019.

They may also lead to discriminatory outcomes due to their design, implementation, or the existence of 'feedback loops'. For instance, only asylum seekers' mobile phones may be routinely checked for identity verification, or credibility assessment, or only third-country nationals' data may be used for law enforcement purposes.[420] Or, as shown in the UK Home Office's use of algorithms in categorising visitor visa applications, both the design and feedback loops may result in applicants from certain nationalities being rejected at a higher rate than others. Looking from the other side, the use of algorithms may render the previous patterns of discrimination more visible too. For example, the discovery of this particular algorithm has partially revealed the Home Office's own business rules. If it was not for the discovery of this algorithm, it would not be clear that the Home Office was using a list of risky nationalities in their decision-making.

Moreover, if there are any technical vulnerabilities, mistakes or discriminatory outcomes in other data systems, they can translate into mistakes in the processing of these applications too. It is, therefore, crucial to check the use of algorithms in each system both separately and in combination with each other to ensure that they do not create a domino impact and lead to incorrect outcomes in other areas.

This brings the question of whether decision-makers are knowledgeable enough about how these technologies work and what their limitations are, and whether they (can) take these limitations into account when making their decisions. It is, therefore, crucial to investigate how much training decision-makers receive, whether they receive training on the limitations of these technologies, and, relatedly, what their impact is on bureaucrats' behaviour and final decision-making.

Understanding these details and the impact of using new technologies on decision-making is directly related to transparency-related questions. These technologies' technical details, and indeed whether any automation has been introduced in a decision-making process, may not always be publicly available, and even if some details are available, it is often not possible to understand how their algorithms work from the outside. Without transparency, it is not possible for migrants to understand how decisions impacting their lives were reasoned and for them to have a right to an effective remedy. This mapping research has investigated and found some technologies currently used in Europe, but there may be other uses that it has not been possible to find out. There is, therefore, a need for a continuous investigation of the use of algorithms and independent monitoring of bureaucracies' evidence-gathering and decision-making processes and their impacts on outcomes.

This mapping has also made it clear that even though there is a vast variety of practices, not all European states have used them to the same extent. It is not possible to measure to what extent each technology is being used across European states because of the lack of full transparency in this field. However, it is clear that while some authorities have automated (parts of) their decision-making systems, others have remained more cautious about introducing these practices. For example, despite having technical capacities, as in the adaptation of name transliteration, dialect recognition, and mobile phone data extraction, some authorities have deliberately decided not to use them. Whether or not states choose to implement a particular new technology may depend on what is possible in their jurisdiction, resistance from the civil society, internal bureaucratic culture, and among others, influences by other states and the EU. Going forward from this research, there needs to be systematic research at a global level to understand to what extent states, supranational institutions, and non-governmental organisations influence each other to introduce new technologies.

This mapping research has also found that many of these technologies are designed to benefit state authorities. Migrants' (asylum seekers' and refugees') interests and voices have generally not been included in the design and the decision to employ many of them. Of all the practices included in this report, those that include migrants in their design tend to be initiated at the local level (such as matching tools that work directly with municipalities, non-governmental organisations, and migrant organisations). In other

---

[420] See Brouwer, E. 2020; Brouwer, E. 2019. Schengen's Undesirable Aliens: Definition, Trust, and Effective Remedies, in Caught in between Borders. Citizens, Migrants, Humans, edited by Minderhoud, P., Mantu, S., and Zwaan, K., Nijmegen: Wolf Legal Publishers, 17-26.

words, many of these technologies are designed in a way that supports migration controls or benefits state administrations' needs rather than addressing migrants' and refugees' needs. It is therefore crucial for future research to explore to what degree migrants are included in the design of a specific technology and relatedly what its impact on their experiences is.

Overall, the development and use of new technologies are directly related to questions about power. Who is involved in the design process and which institution is financially and technically capable of developing or procuring these technologies can directly impact the design, implementation, and outcome of the process. Moreover, the use of new technologies may lead some state authorities to be perceived as more 'innovative' in their solutions and, therefore, more 'advanced' than others. This may create some states' decision-making systems to be perceived as more 'developed' or 'objective/scientific' than others. Research in this area needs to have a critical approach towards what is seen as innovative and investigate the wider implications of these technologies on the immigration and asylum administration and the perceived capabilities of state authorities. Who benefits from them, who has access to their details, and who is excluded remain key questions.

AI-generated image for: digitalisation + human mobility. Credit: DALL·E 2 / OpenAI.

9.   Appendices

9.1. Appendix I: List of questions shared in the online questionnaire

Algorithmic Fairness for Asylum Seekers and Refugees (AFAR) Project

About This Questionnaire

Mapping New Technologies in European Migration and Asylum Governance

You are being invited to participate in a questionnaire as part of a research project titled 'Algorithmic Fairness for Asylum Seekers and Refugees', funded by the Volkswagen Foundation under its 'Challenges for Europe' programme (October 2021 to October 2025).

This questionnaire is part of the WorkPackage on Mapping of New Technologies, which explores the use of existing and piloted new technologies in European migration and asylum governance. This WorkPackage is led by Dr Derya Ozkul, Senior Research Fellow at the Refugee Studies Centre, University of Oxford.

The questionnaire is designed to collect factual information regarding the emerging and piloted new technologies in European migration and asylum spheres. Results will be disseminated in a report that will be made available for free from the AFAR project website and will inform other academic publications.

This questionnaire has been designed for completion by scholars and practitioners who have knowledge of European migration and asylum governance and the use of new technologies in this field. We are interested in obtaining factual information regarding these technologies.

Participation is entirely voluntary and anonymous. When you write your answers, please do not include any personal information in this questionnaire. You can find more information in data handling and privacy policy.

We envisage that the questionnaire will take around 10-15 minutes to complete. Other than the initial consent question and a question about which country you work in, all questions are optional.

We appreciate that you do a demanding job, and we thank you very much for taking part in this questionnaire. Your contribution to this research is incredibly valuable. For any questions or assistance in filling out the questionnaire, please email us at derya.ozkul@qeh.ox.ac.uk.

Ethics review: The University of Oxford Central University Research Ethics Committee has reviewed and provided ethics clearance for this study (Ethics Approval Reference No: SSH/ODID DREC: C1A_22_002).

1. I have read the above information and consent to participating in this questionnaire.
Yes
No

2. Please state the country you work in. (This will be the country about which you will answer the questionnaire.)

3. In the country you work in, which new technologies (automated decision-making systems) have been used in the processing of visa and immigration applications? (For example, computerised risk assessment of applicants) Please explain.

   a) In which timeframe has this new technology been used? (For example, 2017-Present)
   b) Which state institution has used this technology? Please state the name.
   c) Which private company or other entities have designed and implemented this technology?
   d) Is this technology used for specific groups (such as specific nationalities) or for all immigrants? Please explain.

4. In the country you work in, which new technologies (automated decision-making systems) have been used or piloted in the processing of asylum applications? (For example, dialect recognition technologies) Please explain.

   a) In which timeframe has this new technology been used? (For example, 2017-Present)
   b) Which state institution has used this technology? Please state the name.

c) Which private company or other entities have designed and implemented this technology?
d) Is this technology used for specific groups (such as specific nationalities) or for all asylum seekers and refugees? Please explain.

5. In the country you work in, which new technologies (automated decision-making systems) have been used or piloted in the processing of resettlement or placement of asylum seekers and refugees across the country? (For example, preference matching assessments) Please explain.

a) In which timeframe has this new technology been used? (For example, 2017-Present)
b) Which state institution has used this technology? Please state the name.
c) Which private company or other entities have designed and implemented this technology? Please state the name.
d) Is this technology used for specific groups (such as specific nationalities) or for all asylum seekers and refugees? Please explain.

6. Have there been any legal challenges for the use of new technologies in migration and asylum spheres in your jurisdiction? Please explain.

7. Please provide links to related official documents or online sources that can be helpful to understand these practices.

Thank you for participating in this questionnaire.

9.2. Appendix II: Answer given by Ms Johansson on behalf of the European Commission

EN
E-000845/2022
Answer given by Ms Johansson
on behalf of the European Commission
(10.6.2022)

1. As the question regarding the use or provision of the technology referred to by the Honourable Member falls entirely under the responsibility of the relevant EU agencies; the European Border and Coast Guard Agency (Frontex), the European Union Asylum Agency (EUAA), the European Union Agency for the Operational Management of Large-Scale IT Systems in the Area of Freedom, Security and Justice (eu-LISA) and the European Union Agency for Law Enforcement Cooperation (Europol), the Commission has asked the Agencies to provide the details requested by the Honourable Member. EUAA already replied that it did not use or provide any technology/software involving mobile data extraction. The other Agencies' reply will be sent by the Commission to the Honourable Member as soon as possible.

2. The Commission or EUAA do not collect the data that the Honourable Member requested. These concern individual asylum procedures, which Member States conduct.

3. Algorithms fall under intellectual property rules. The Commission does therefore not know their specifics. It is generally aware that Member States might make use of algorithms in their migration procedures. EUAA only uses Artificial Intelligence tools for forecasting asylum-related migration movements based on big data.

Available at: https://www.europarl.europa.eu/doceo/document/E-9-2022-000845-ASW_EN.html

9.3. Appendix III: List of FOI requests

FOI request submissions to the UK Home Office via email

Title of submission	**FOI Request on Streaming Tool for Visa Applications**
Case Ref No	68491
Date of Submission	16/02/2022
Question	Dear Home Office,

I am making this application on behalf of the Algorithmic Fairness for Asylum Seekers and Refugees research project, https://www.hertie-school.org/en/fundamental-rights/research/algorithmic-fairness-for-asylum-seekers-and-refugees.

We understand that in August 2020, the Home Office discontinued its use of streaming software that was used to process visa applications. In relation to the Streaming Tool, please provide the following information:

1. Could you confirm in writing that the Streaming Tool (and its software Streaming App or any other similar software) is no longer in use in Home Office's processing of visa applications, as of August 2020.

2. Could you inform us which tech company was involved in the design and implementation of the related software?

3. Could you inform us where and how the testing data to develop this tool was obtained? Could you inform us which data points were used in the design and during implementation of this technology? Could you also provide the weighted ratios of data points if any?

4. On 9 March 2021, Home Office has shared the guidelines for the Streaming App v3.0, dated 20 November 2017 in response to an FOI request by Jack Maxwell https://www.whatdotheyknow.com/request/705642/response/1740984/attach/5/Anne x%20G%20Streaming%20App%20admin%20guide%20REDACTED.pdf?cookie_pas sthrough=1

The guidelines state that "depending on how profiles and bulk tables are setup at your post, you will either see the manual questions screen or you will go straight to the streaming outcome screen" (see Page 26). Could you confirm whether all applicants were assessed following the same questions?

In the event that you determine some of the information I have requested to be exempt from disclosure, please redact exempt information with black boxes, instead of snipping or excerpting, and please state which category of exemption you believe applies to the information.

If it is not possible to provide the information requested due to the information exceeding the cost of compliance limits identified in s.12 FOIA, please provide advice and assistance as to how I can refine my request, as required under s.16 FOIA.

Yours faithfully,

Derya Ozkul

Outcome	Successful

Title of submission	**Follow up FOI for response to FOI Request on Streaming Tool for Visa Applications**
Case Ref No	69629
Date of Submission	03/05/2022
Question	Dear J Jones,

Thank you very much once again for your response.

May I please ask for the following two-follow up questions:

Please provide a copy of the Equality Impact Assessment for person-centric attributes. [This is mentioned on Page 18 of the published 'Revised interim workflow routing solution for visitor applications'.]

Please provide the rationale for including 'previous declared travel to or current residency in Schengen or European Economic Area (EEA) countries during the 5 years prior to application' among person-centric attributes. [This is mentioned on Page 12 of the published 'Revised interim workflow routing solution for visitor applications'.]

Please advise me if I need to make a new FOI request for these follow-up questions. Thank you very much.

Yours faithfully,

Derya Ozkul

Outcome	Not successful - due to being exempt from disclosure under Section 31(1)(e) of the FOIA.

Title of Submission	**FOI Request on the Role of Nationality in Sham Marriages**
Case Ref No	69126
Date of Submission	31/03/2022
Question	Dear Home Office,

I am making this application on behalf of the Algorithmic Fairness for Asylum Seekers and Refugees research project, https://www.hertie-school.org/en/fundamental-rights/research/algorithmic-fairness-for-asylum-seekers-and-refugees.

According to a recent study by the Public Law Project, we understand that the Home Office has been using an algorithm to determine whether a marriage or civil partnership should be investigated as a 'sham marriage'.

In relation to this algorithm, could you please confirm whether or not nationality of a partner is considered among possible risk factors that would lead to an investigation?

Please note we do understand that according to the definition of a sham marriage or civil partnership, being a 'relevant national' is one of the criteria that is considered. We would like to know whether any specific nationalities among "non-relevant nationals" are considered among factors. For example, all else being equal, would the algorithm assess a Pakistani applicant differently than a Canadian applicant (based on the difference in their nationality)? We look forward to your confirmation.

Yours faithfully,

Derya Ozkul

Outcome	Successful

Title of Submission	**FOI request on the collection and sharing of religious and political data on ATLAS**
Case Ref No	69330
Date of Submission	13/04/2022
Question	Dear Home Office,

I am making this application on behalf of the Algorithmic Fairness for Asylum Seekers and Refugees research project, https://www.hertie-school.org/en/fundamental-rights/research/algorithmic-fairness-for-asylum-seekers-and-refugees.

On 20 December 2021, Home Office shared the Data Protection Impact Assessment (DPIA) for ATLAS in response to an FOI request by Kaelynn Narita. https://www.whatdotheyknow.com/request/810384/response/1940001/attach/4/67130%20Kaelynn%20Narita%20Draft%20Response%20PDF.pdf?cookie_passthrough=1

According to this DPIA, we understand "ATLAS processes a number of sets of OFFICIAL (with sensitive caveat) personal data including, but not limited to, criminal convictions, financial details, religious, political and health data." (as written in response to Q.5 on page 3 of the DPIA)

In relation to this statement, could you please provide the following information

1. What do the terms "religious and political data" refer to? Could you please include their definition – particularly the definition of political data?

2. How and where does the ATLAS obtain these two types of data?

3. With which governmental bodies and external entities this data is shared?

Thank you very much for your response.

Yours faithfully,

Derya Ozkul

Outcome	Partially successful

Title of Submission	**Follow up on response to FOI request on the collection and sharing of religious and political data on ATLAS**
Case Ref No	69767
Date of Submission	10/05/2022
Question	Dear Home Office,

I am making this application on behalf of the Algorithmic Fairness for Asylum Seekers and Refugees research project, https://www.hertie-school.org/en/fundamental-rights/research/algorithmic-fairness-for-asylum-seekers-and-refugees.

Thank you very much for your email and attached responses to my FOI request on 13 April 2022 (FOI Reference: 69330) regarding the collection and sharing of religious and political data on ATLAS.

I had asked about the specifics of the ATLAS system in relation to all data (including immigration data). However, the responses I receive only concern with asylum decision-making. Nowhere in the questions I submitted, I had asked about asylum decision making. This mistake may be due to the title of our research project.

Would it be possible for your colleagues to respond to my questions (not only in asylum decision making, but also for instance immigration data) as listed in the request?

Thank you very much in advance.

Kind regards,

Derya Ozkul

Outcome	Partially successful - due to perceived lack of clarity in the question

Title of Submission	**FOI request on the use of algorithms in Homes for Ukraine scheme**
Case Ref No	69617
Date of Submission	29/04/2022
Question	Dear UK Home Office,

I'm making this request on behalf of the Algorithmic Fairness for Asylum Seekers and Refugees research project, https://www.hertie-school.org/en/fundamental-rights/research/algorithmic-fairness-for-asylum-seekers-and-refugees.

Could you please respond to the following questions regarding the 'Homes for Ukraine' scheme?

Please confirm: Does the matching scheme involve any algorithms or streaming tools? For example, a family of 5 can be automatically matched to a +3-bedroom house.

If there have been any uses of algorithms,

Please provide us with a copy of these algorithms and any policies and guidance in place that determine their use.

Please provide us a complete list of factors that the algorithm takes into account

Please advise: Which software and platform are used for this matching scheme?

Please advise: Which entity has developed and maintains this software and platform?

Please provide us a copy of the Data Protection Impact Assessment (DPIA) that is completed for this scheme.

Thank you very much for your response.

Yours faithfully,

Derya Ozkul

Outcome	The Home Office does not hold this information.

Title of Submission	**Triage tool for sponsor visits**
Case Ref No	70242
Date of Submission	06/06/2022
Question	Dear Home Office,

I'm making this request on behalf of Algorithmic Fairness for Asylum Seekers and Refugees research project.

The ICBI report 'An inspection of the Home Office's use of sanctions and penalties' (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/951438/An_inspection_of_the_Home_Office_s_use_of_sanctions_and_penalties__November_2019___October_2020_.pdf), dated January 2021, refers at footnote 102 to "front-end triage by caseworkers" used for sponsor visits "to address those cases where we had assessed the risk to be the highest".

Please provide the following information:

Is the Home Office currently using a triage tool to assess sponsorships (sponsor visits)?

How does the Home Office assess the risk in relation to potential sponsors?

Copies of any reports or evaluations completed in relation to this triage tool.

Copies of any internal policies, guidance or standard operating procedures in relation to this triage tool.

Kind regards,

Derya Ozkul

Outcome	Partially successful - due to perceived lack of clarity in the question

Title of Submission	**Triage tools used by Home Office Departments and Directorates**
Case Ref No	70302
Date of Submission	09/06/2022
Question	Dear Home Office,

I'm making this request on behalf of the Algorithmic Fairness for Asylum Seekers and Refugees research project.

Could you please provide the following information?

The complete list of Home Office Departments and Directorates that use any 'triage tools' that may help them identify and prioritise cases in their relative decision-making processes.

Relevant Equality Impact Assessments & Data Protection Impact Assessments for these triage tools.

If it is not possible to provide all the information requested, please prioritise my first question listed above (list of Departments and Directorates).

Thank you very much.

Kind regards,

Derya Ozkul

Outcome	Not successful – too broad question invoking FOI Cost Limit

Title of Submission	**FOI Request in relation to (partly) automation of ILR applications in the UK**
Case Ref No	71163
Date of Submission	03/08/2022
Question	Dear UK Home Office,

I'm making this request on behalf of the Algorithmic Fairness for Asylum Seekers and Refugees (AFAR) research project.

Could you please answer the following questions regarding the automation of residency applications in the UK?

Please confirm: Is any part of the permanent residency (indefinite leave to remain, ILR) applications in the UK (partly) automated?

If so, please provide us with a copy of the workflow that explains which parts of the process are automated.

Please provide us with a list of databases that the Atlas system is using to make a decision on ILR applications.

Please confirm: Is there any use of triage systems in the processing of ILR applications?

If so, please provide us with the factors that determine the allocation of applicants in different categories.

Thank you very much for your response.

Yours faithfully,

Derya Ozkul

Outcome	Successful

Title of Submission	**FOI request in relation to citizenship applications in the UK**
Case Ref No	71166
Date of Submission	03/08/2022
Question	Dear UK Home Office,

I'm making this request on behalf of the Algorithmic Fairness for Asylum Seekers and Refugees (AFAR) research project.

Could you please answer the following questions regarding the automation of citizenship applications in the UK?

Please confirm: Is any part of the citizenship applications in the UK (partly) automated?

If so, please provide us with a copy of the workflow that explains which parts of the process are automated.

Please provide us with a list of databases that the Home Office's system is using to make a decision on citizenship applications.

Thank you very much for your response.

Yours faithfully,

Derya Ozkul

Outcome   Not successful - due to being exempt from disclosure.

FOI request submissions to the BAMF via FragDenStaat

Title of Submission	**BAMF's use of Language and Dialect Identification Assistance System (DIAS)**
File No	IFG-1028 in Unit 13B
Date of Submission	27/04/2022
Question	I am writing to you on behalf of the Algorithmic Fairness for Asylum Seekers and Refugees (AFAR) research project.

In relation to the Language and Dialect Identification Assistance System (DIAS), which is used by BAMF, could you please answer the following questions?

1) In the context of the development of the relevant software, can you explain from which source the training data was obtained?

2) We understand that the dialect recognition analysis is implemented for Arabic, currently covering the dialects of Egyptian, Iraqi, Levantine and Gulf Arabic. As of 2022, for which other languages DIAS has been piloted and employed? 3) Have applicants' voice recordings ever been shared with any institution (outside of BAMF) and/or any other state or any other third parties?

4) Can you please share copies of data protection impact assessments that were conducted for this software?

5) In the answer to Q. 22 of Ulla Jelpke, the member of the Bundestag, BAMF states that the evaluation results are expected to be available in the second quarter of 2018. (See the responses listed at:https://dserver.bundestag.de/btd/19/001/1900190.pdf) Can you share these evaluation results for 2018, and for the following years, if subsequent evaluations were made?

6) Can you please advise what the current error rate is, as of 2022?

7) Can applicants object to an incorrect result provided by DIAS, and instead request an additional test? For example, can applicants request an additional language analysis by a linguistic expert?

8) Which company has developed and currently owns the software that is used for DIAS? Thank you very much. Please feel free to reply in German.

Outcome	Successful and available at https://fragdenstaat.de/anfrage/bamfs-use-of-language-and-dialect-identification-assistance-system-dias-nutzung-des-sprach-und-dialekterkennungsassistenzsystems-dias-durch-das-bamf/#nachricht-746355

Title of Submission	**BAMF's use of mobile phone data in asylum applications**
File No	IFG-1027 in Unit 13B
Date of Submission	27/04/2022

Question

Dear Sir/Madam,

I am writing to you on behalf of the Algorithmic Fairness for Asylum Seekers and Refugees (AFAR) research project.

In a recent study "Invading Refugees' Phones: Digital Forms of Migration Control", a German NGO included some information on BAMF's use of mobile data screening technology to identify asylum applicants' identity.

1. Could you please explain since when (which year,) BAMF has used mobile phone data screening in assessing asylum applications?

2. How many asylum applications did BAMF reject based on mobile data screening (due to the fact that the applicant was considered to come from a country other than where s/he stated s/he came from)? Please list the percentage of these rejected applications out of the total rejected applications, by year.

3. Which company/entity provides the software for this technology? Could you please share a copy of the data protection impact assessment related to the use of this software?

4. Do applicants know whether their mobile phones will be screened during the assessment process? Do they know which data will be extracted from their mobile phones? If available, please share the consent forms they need to sign.

5. What happens if the applicant does not agree with giving their mobile phone to BAMF for screening purposes?

6. Are applicants reported on the results of mobile phone data screening? Do they have a chance to explain any possible differences between their narrative and the result of mobile phone data screening?

Thank you very much for your responses.

Sincerely,

Derya Ozkul

Outcome

Successful and available at https://fragdenstaat.de/anfrage/bamfs-use-of-mobile-phone-data-in-asylum-applications-use-of-mobile-phone-data-by-the-bamf-for-asylum-applications/

AFAR

Algorithmic Fairness
for Asylum Seekers &
Refugees