Manifesto on the Datafication of Mobility Across Borders

ANNALISA PELIZZA
UNIVERSITY OF BOLOGNA & AARHUS
UNIVERSITY
ITALY & DENMARK

CHIARA LOSCHI
UNIVERSITY OF BOLOGNA
ITALY

LORENZO OLIVIERI
UNIVERSITY OF
BOLOGNA
ITALY

PAUL
TRAUTTMANSDORFF
TECHNICAL UNIVERSITY
OF MUNICH
GERMANY

WOUTER VAN ROSSEM
INDEPENDENT
SOUTH KOREA

Abstract

We present the *Manifesto on the Datafication of Mobility Across Borders*. Datafication is expanding the potential to produce and circulate information about people at unprecedented speed and scope. This is particularly revealed when people are "on the move" through territories of which they are not citizens. In this Manifesto, we are interested in the datafication practices and infrastructures that produce people as radical others. Practices of datafication and data infrastructures make people on the move knowable, but they do not represent them neutrally. They often enact them as "alterity," as inherently alien others against whom an "us" can be identified. Allegedly implemented for security purposes, not always well designed, often sloppily applied, practices and infrastructures of datafication of people on the move as others run the risk of subjecting vulnerable people to a perpetual state of precarity and securitization, and polities to long-term policies of expulsion. As sociologists of technology, ethnographers, political scholars, and software developers, we have witnessed with growing concern the recurrent instrumentalization of datafication for assessing identities of people on the move. The ten principles of this Manifesto are drawn from research conducted over seven years by the *Processing Citizenship* research team and discussed with the international scientific community involved in social studies of science and technology, migration, border and mobility studies, and security studies. We offer these principles based on best practices and empirical observation so that policymakers can hold to account national and European agencies tasked with home security functions, and IT developers can hold to account the infrastructures they design and implement.

Keywords
migration; border; mobility; datafication; policymakers

Introduction

Information has always been used to govern people. Since early modernity, people's movements have been tracked by means of information infrastructures. The problem today is that datafication is expanding the potential to produce and circulate information about people at unprecedented speed and scope. This is particularly revealed when people are "on the move" through territories of which they are not citizens. In this Manifesto, we are interested in the datafication practices and infrastructures that address not so much business executives arriving at airport gates, but the production of people as radical "others." Allegedly implemented for security purposes, not always well designed, often sloppily applied, practices and infrastructures of datafication of people on the move run the risk of subjecting vulnerable people to a perpetual state of precarity and securitization, and polities to long-term policies of expulsion.

Practices of datafication and data infrastructures make people on the move knowable, but they do not represent them neutrally. They often enact them as "alterity" (Pelizza and Van Rossem 2023), as inherently alien others against whom an "us" can be identified (Amelung 2021; Suchman 2020). Databases, for example, are underpinned by ontologies which organize knowledge by categories that make implicit assumptions. But categories may assume that someone will try to break the law, or hide some details of personal identity, or on the contrary that they are respectful of law and are honest. Ontologies do not only *represent* identities, but *enact* them, with different consequences.

The peculiarity of contemporary practices and infrastructures of datafication with respect to past forms of tracking people is their capability to expand the indeterminacy of use temporally and spatially. Highly personal and sensitive data related to bodies, political beliefs, or family is collected about people seeking refuge for asylum decision purposes. Yet this data is likely to be used in the future by authorities unrelated to the asylum process, like security and counterterrorism investigators. Most of the time, who they are, and when and where they use data remains indeterminate. Moreover, the right to be forgotten is rarely invoked for "others." This combination of practices does not only risk contributing to the criminalization of people on the move, but also exposing them to unjustified mobility restrictions in the event of data misuses, and undermining the institution of asylum.

As sociologists of technology, ethnographers, political scholars, and software developers, we have witnessed with growing concern the recurrent instrumentalization of datafication for assessing identities of people on the move. People in need of international protection are detained in camps without having committed any irregularity other than appearing as a "hit" in a database. Individuals can be assigned multiple identities because databases cannot properly match data. In 2023 along the Italian coast a hundred people drowned because national authorities and the European agency for border control Frontex could not agree on the details of detection forms (*La Repubblica* 2023). All this while the inability to identify people fairly and

accurately leads authorities to suspect that everyone could be a potential perpetrator, based on what are, in our view, arbitrary indicators.

We therefore present the *Manifesto on the Datafication of Mobility Across Borders*. Its principles are drawn from research conducted over seven years by the *Processing Citizenship* research team and discussed with the international scientific community involved in social studies of science and technology, migration, border and mobility studies, and security studies.[1] While none of these principles are new to this community, systematic codification has been lacking. Also, the research community is rarely in the room where authorities engage with contractors, decisions about architectures are taken, or technical specifications are drafted. The research community does not sit in high-level expert groups. We offer these principles based on best practices and empirical observation so that policymakers can hold to account national and European agencies tasked with home security functions, and IT developers can hold to account the infrastructures they design and implement.

#1 Data Interoperability Should Not be Pursued as an Isolated and Idealized Objective

The promotion of interoperability among European Union databases has recently played a significant role in furthering the datafication of mobility across borders. The idea of interoperability entails dismantling barriers between database siloes, fostering interconnected border control authorities, and encouraging seamless streams of personal and biometric data (Trauttmansdorff 2022). While these objectives emphasize the imperative of free information flows and are promoted as inherently beneficial for managing mobility, they disregard the fact that a compartmentalized architecture of databases has upheld essential alternative principles, such as limiting the purpose of collected information, data protection, or the minimization of data use in IT systems (Vavoula 2020; Bigo 2021). In the European Union, biometric systems like *Eurodac, the Visa Information System*, or the *Schengen Information System* were deliberately designed to serve distinct purposes separately. The push to integrate these systems questions the value of those alternative principles, especially when the future usages of databases are unclear, and the risk of function creep is a genuine concern. The dominant rhetoric of interoperability, which promotes the circulation and access to data as an unquestioned ideal, can thus cause significant harm and needs to be reevaluated. We encourage avoiding a future that advances one-sided principles such as unrestricted data circulation while shutting the door on principles that protect people.

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[1] Drawing on a European-funded research project, most empirical evidence underpinning the following ten principles refers to the European datafication of mobility across borders. And yet data infrastructures used at European borders and registration centers are made of transnational components: not only European regulations and national officers but also globally honed software, multinational companies, and international business rationalities. The ten principles might therefore well fit non-European cases where mobility is datafied.

#2 Inform Users of the Process They Are Part Of

Those who use data infrastructures for mobility management and control in their working routines and those who are mostly affected by them are rarely involved in their design, nor do they have a holistic understanding of the process. This condition tends to enhance knowledge asymmetries between authorities and users: whereas authorities collect data, officers are not fully aware of how such data will be used, and people on the move are not given the possibility to understand how data processing will impact their futures. While NGOs and international organizations often provide clarifications, the whole process is characterized by a lack of transparency, which makes it problematic to grasp the actual consequences of data provision (Kaurin 2019). On the one hand, street-level officers at registration centers might find themselves hopeless in adapting the complexity of reality to narrowly designed databases. They may even doubt the accuracy of the data they input, as they do not know who will use the data and for which purpose. This indeterminacy is an important measure of accuracy. On the other hand, people whose data are inputted into the systems should also be deemed as users, as they interact with officers and systems, and their lives can be dramatically affected by such interactions. Different from common assumptions, knowing the implications of the identification process for their future might lead people on the move to show more compliance and reveal more accurate data. Knowing why data are collected, with which consequences and being able to keep track of data is crucial for both types of users.

#3 Value Infrastructural Tensions to Improve Implementation

Data infrastructures for identification do not seamlessly emerge as a result of legal provisions. They see the involvement of multiple rationalities: political, technological, administrative, sometimes humanitarian. Identification infrastructures worldwide are made of technical specifications, system legacies and protocols that may be incompatible with carefully agreed regulations, binding laws and institutional habits. Sometimes, expert groups can sort such incompatibility out. Often, the intricate layering, tensions, and conflicts that emerge during implementation from the interplay of these diverse rationalities are considered as obstacles. It is however crucial to recognize that tensions are not only issues to solve but can constitute resources to foresee broader organizational challenges posed by datafication. Refusal to adopt a standard might not be a matter of resistance, but of under-funding. Difficulties in sharing data might not be an issue of data-jealousy, but of poor semantic interoperability. Infrastructures of datafication of mobility, in particular, can impact inter-organizational relations between local, national, supranational and business actors. Such tensions should therefore be considered opportunities to reflect on inter-institutional relations, rather than exclusively as problems to solve.

#4 Beware of Univocal Ontologies, Multiply Them

Database ontologies are never neutral: they make visible some conditions, while they silence others. They may highlight that someone is jobless, while they make their professional skills invisible. Or they can stress someone's country of origin, without mentioning that they have lived in another country in the last ten years. Poor ontologies can lead to exclusion and misrepresentation when crucial aspects of identities and experiences are not adequately included. For example, failing to recognize someone's professional achievements can hamper their future opportunities for integration. It is thus important that ontologies are

designed to encompass multiple rationalities. Such ontologies should represent the diverse lived experiences of migrants and people on the move in their multiplicity. Our research indicates that policymakers and IT developers should more actively engage with migrants, asylum seekers and lawyers in the design and evaluation of ontologies. By involving those directly affected and their spokespersons, ontologies can be co-designed, a practice which better acknowledges the complexity of mobility and improves accuracy and fairness.

#5 Conceive of Time as a Resource for Producing Relevant Knowledge

A common trend in mobility management is the attempt to accelerate the procedures used to register and identify people on the move. This is particularly sensitive in the assessment of asylum applications. The acceleration of procedures affects people's possibilities to successfully navigate them. Only through time people have the possibility to understand what counts as relevant knowledge from the perspective of the asylum system, or which information might be crucial for their cases. For example, having been a victim of torture or rape for many border crossers may be a traumatic experience that they prefer to hide to authorities. Moreover, time allows developing relations of mutual trust with the various social actors (lawyers, mediators, psychologists) who can help asylum seekers collect documents supporting their stories. Whereas the rhetoric of acceleration is often discursively justified by the need to avoid time-wasting, the implementation of fast procedures tends to lead to inaccurate data and poorly assembled knowledge (Olivieri et al. 2023). Time should instead be considered as a key resource to produce knowledge that is valuable for both authorities and applicants.

#6 Reinforce Accountability Mechanisms of EU Agencies Producing Security Knowledge

In recent years, European agencies operating in border control, migration and asylum domains have experienced significant expansion in their financial resources and discretionary powers (Loschi and Slominski 2022; Trauttmansdorff 2024). This has been concomitant with reinforced roles for technology developers, providers, contracting regulations and technological instruments available to the agencies with a multiplication of actors involved in such domains. Agencies like Frontex and EU-Lisa produce knowledge by compiling and stocking data on border operations, migration trends based on land, sea, air surveillance, and monitoring technologies obtained from private contractors. However, secrecy looms large as these agencies apply security arguments to protect such knowledge production and sharing. It is of utmost importance establishing stronger mechanisms to map who produces, values, and controls such forms of knowledge and how, with the aim of reinforcing accountability mechanisms, public scrutinization and awareness. The ultimate aim is to protect human rights also in border, migration, and asylum domains.

#7 Foster Open Identification Technologies

The political economy of datafying mobility can lead to an overreliance on commercial and proprietary technology, reducing control over critical data infrastructure by democratically accountable institutions. Data infrastructures utilized at European borders and registration centers are built from a combination of transnational components, which often include elements sourced from multinational corporations (Lemberg-Pedersen, Rübner Hansen, and Halpern 2020). Opting for off-the-shelf technologies entails

incorporating globally-honed solutions, with their ontologies and biases. As institutions rely more and more on digital technology for migration and mobility management, there is a risk of being tied to proprietary solutions like closed-source biometric template algorithms and border-specific hardware (Pelizza 2021; Van Rossem 2024). Public actors should reduce their dependencies on closed solutions and pursue software and hardware solutions that empower them to retain control over their systems. This approach can reduce dependencies on commercial entities, mitigate vendor lock-in effects, and strengthen transparency and accountability of infrastructures of datafication of mobility.

#8 Uphold Transparency in Identification Technologies

Technologies used for identification, targeting, or profiling people on the move run the risk of operating as black boxes. As a consequence of this opacity, uncertainty proliferates and doubts may emerge regarding the validity of individuals' identity claims. This can lead officers to place more trust in the system's outputs rather than in individuals' claims. The importance of transparency will become even more crucial with the increased use of artificial intelligence (AI), potentially rendering decision-making about identity an opaque process that proves challenging to explain, even for expert users. This is especially relevant when AI systems derive decisions not just from specific categorizations or targeting rules but also from anomaly detection (Aradau and Blanke 2022), identifying alterity through data points that deviate from expected patterns. Therefore, policymakers, EU agencies, and IT developers should prioritize creating systems and interfaces that clearly explain the outcomes they produce, to comprehend the rationale behind decisions, and why certain outcomes are presented as a way to foster trust in the systems.

#9 Enacting People Goes Hand-in-Hand with Enacting Polities. If Necessary, in the Long-Term, Be Brave and Discontinue!

When people on the move become "migrants" by being registered in border management databases, it is a specific idea of Europe that is prompted. When security is given priority over health in identifying people rescued at sea, it is specific values that are given priority. When information systems entail a division of labor between national and supranational agencies, it is a specific institutional architecture of Europe that is enacted. Enacting people on the move goes hand in hand with enacting diverse imaginaries, values and architectures of the polity to which an "us" can be reconducted (Pelizza and Loschi 2023). As data infrastructures are crucial in enacting people on the move as other to Europe, they also have implications in defining what Europe is supposed to be with respect to whom and what is not European. For example, if someone is refused entry because assessed as "economic migrant," this implies an understanding of Europe as a polity that distinguishes between economic and political rights. Furthermore, infrastructures are obdurate: they establish path dependencies, standards and habits that cannot be easily modified. Therefore, the design, deployment and use of data infrastructures and practices for datafying mobility should anticipate the long-term consequences for the imaginaries, values, and architectures of the polities that we want. Missions and balances shift: existent provisions can become inadequate, while new needs emerge. Infrastructures and practices must be reviewed, assessed, modified, and—if necessary—discontinued.

#10 Rerouting Our Future Visions of Datafication

The dominant visions and fantasies that undergird the processes of datafying mobility in Europe have continuously led to the dehumanization of border and mobility control. Nonetheless, policymaking continues to operate on the assumption that data capture, storage, and processing are fairly neutral practices. The visions of datafication are grounded in the (far from neutral) logics of legibility, abstraction, and frictionless processing—aiming to construct a singular and true personal identity that must be secured to enable legitimate mobility. However, these principles sharply contrast with the multiple "worlds as emergent from complex and multi-scalar mobile relations, flows, circulations, and their temporary moorings" (Sheller 2018, 20). To dismantle both the material and normative borderscapes (Brambilla 2015) that result in violence and death today, we must start cultivating radically different visions of the future that take multiple realities into account. Recognizing this to be a challenging task, this principle calls for a sustained reflection about new visions that can redirect datafication *against* abstraction and dehumanization, and *towards* notions of enhanced responsibility, accountability, and mobility justice. These visions should not only challenge the lethal consequences of today's state borders in our globalized world but reflect on how people on the move can be empowered and their agency enhanced, making it possible for them to be mobile without fear of violence and death.

Acknowledgements

Author Biography

Annalisa Pelizza is professor in science and technology studies at the University of Bologna and at Aarhus University. Chiara Loschi is assistant professor in tenure-track at the University of Bologna. Lorenzo Olivieri

is postdoc researcher at the University of Bologna. Paul Trauttmansdorff is postdoc researcher at the Technical University of Munich. Wouter Van Rossem is a software engineer who has recently defended his PhD dissertation in STS (*Processing Citizenship* project) at the University of Twente and now lives in South Korea.

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