

Prague Process Report



Exploring the Potential of Digitalisation in Migration Management in the Prague Process Region

Supported by the Secretariat at ICMPD

Funded by the European Union

This publication was produced in the framework of the Prague Process, funded by the European Union through the Migration Partnership Facility, and implemented by International Centre for Migration Policy Development. With thanks to the Prague Process Secretariat, and participants of the Prague Process Workshop held in Tbilisi in October 2023.

Authors

Irina Lysak and Glen Hodgson

Layout

Marc Rechdane

Prague Process Secretariat

International Centre for Migration Policy Development (ICMPD)

Vienna, Austria

www.pragueprocess.eu

www.icmpd.org

www.linkedin.com/in/prague-process

www.facebook.com/PragueProcess

Copyright

International Centre for Migration Policy Development, 2024

© All rights reserved. No part of this publication may be reproduced, copied or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission of the copyright owners. The contents of this publication do not represent the views of the European Union.

Required citation: Lysak, I. Hodgson, G. (2024). *Exploring the Potential of Digitalisation in Migration Management in the Prague Process Region*. Prague Process, International Centre for Migration Policy Development (ICMPD), Vienna.

Executive Summary

This document has been created following the discussions among - and inputs from - participants of the Prague Process Workshop held in Tbilisi in October 2023, highlighting best practices, key success factors and stumbling blocks to digitalising the various aspects of the migration management cycle, as well as providing some recommendations for next steps. The Workshop focused on the increased role of digitalisation, and how this can be deployed to assist in migration management.

The overarching expectation is that digitalisation will yield substantial benefits in the Prague Process region, streamlining processes for officials and improving the overall experience for migrants. From a migrant's perspective, a single, comprehensive app could serve as a portal to access various services, encompassing applications, healthcare, education, social security, and identification. Furthermore, establishing centralised databases accessible to all government departments is recommended. This should be done while addressing privacy concerns through appropriate authorisations to facilitate data sharing and better support governments, ultimately enhancing the experiences of migrants through application processes. Internal interoperability among national government departments and public authorities is deemed crucial, and this interoperability should be extended to other countries to ensure trans-national compatibility.

In line with this, adopting a *one-stop-shop approach* for migrants and migration management is encouraged, based on best practices from the region. Training, effective communication around the roll out of new systems and feedback mechanisms are also identified as essential elements for successful system implementation and user engagement.

Contents

Introduction	5
Advancing digitalisation	6
e-Visa, online application and appointment scheduling systems, digital services for residency and work permits	6
Comprehensive integrated systems	9
Integration of new technological solutions: ID identifiers, eSignatures, and Blockchain	11
The role of social media and digital services in (re)integration processes	13
Comprehensive and rights-based approach to digitalisation in migration	15
Stumbling Blocks	17
Limited resources	17
Digital divide	17
Communication is crucial	17
Data protection and integrity	18
Conclusions and Takeaways	19
ANNEX I Key concepts	21

Introduction

During the fourth Prague Process Ministerial Conference in Prague in October 2022, the Prague Process participating states highlighted the growing role of digitalisation and the use of modern technologies in all spheres of migration management. States thereby called for the ongoing dynamic developments in this field to be addressed as a horizontal issue across the six thematic areas of the Prague Process Action Plan 2023-2027. As a result, a designated area of work within the Prague Process Migration Observatory and Training Academy – a so-called *Digital Lab* – was launched to address the cross-cutting area of digitalisation.

The *Digital Lab* shall explore the current state of play across the Prague Process region, facilitate intergovernmental exchange and learning, as well as provide strategic and practical guidance on the use of modern technologies within migration management and the related public services.

To kick-off the work of the *Digital Lab*, the Prague Process, upon the invitation of the Ministry of Justice of Georgia, organised a Workshop on the Potential of Digitalisation in the Migration Context. Held in Tbilisi on 24-26 October 2023, the Workshop brought together migration experts and IT specialists of the migration and asylum authorities from 16 Prague Process participating states (AL, AZ, CZ, DK, EE, GE, KG, LV, LT, MD, ME, MK, RO, SR, UA and UZ), as well as the European Commission, EUAA, IOM, EU Delegation to Georgia, Erasmus University Rotterdam, European Parliament, ICMPD, and independent experts from the private sector (Danube Tech and Netcompany).

The Workshop aimed to jointly explore the various benefits, challenges and overall applicability and potential of digitalisation in selected spheres of migration management. Participants explored the available tools and solutions applied in different countries across the region, exchanged ideas about existing gaps and needs in terms of digitalisation. Thematically, the Workshop focused primarily on the digital transformation in migration management as a whole, as well as on specific digital tools concerning legal (labour) migration, integration, migration & development and asylum. However, discussions also touched upon other areas including reintegration and border management-relevant technologies.

Advancing digitalisation

In this section we look at the digital solutions that were presented during the workshop as well as identify the factors that contribute to their success.

Over the past decade, the Prague Process states have been digitalising their services, modernising obsolete practices, and adopting innovative digital solutions. Digital tools encompass all fields related to migration management from automation to time-saving solutions which increase efficiency. This includes the use of *AI* and *blockchain*, border technologies such as biometrics, social security services for migrants and protecting personal data.

Although advancement on digitalisation is uneven across the region, a key consensus emerged on the necessity of reducing reliance on paper-based systems to enhance efficiency for all parties concerned. Digital solutions ranging from online applications to all-encompassing interfaces for migration management allow processes to operate more quickly, involve less paperwork (sustainable and environment-friendly) and tend to be less time-consuming for officials and migrants. In many instances, digitalisation also means that systems are less open to fraud.

e-Visa, online application and appointment scheduling systems, digital services for residency and work permits

Arguably, **e-Visa, appointment scheduling and online application systems** have become readily available in most countries of the Prague Process region. e-Visa systems of application, checking and delivery speed up the overall visa process. Thanks to digitalisation, receiving a visa can now take only a matter of days in Albania, Kyrgyzstan, and Azerbaijan, to name a few countries. Mobile applications related to the e-visa portal are coming soon to most countries too since many migrants may not have a computer but do have a mobile phone. Oftentimes, developed mobile applications, as is the case with *migAZ* – an application of the State Migration Service of Azerbaijan – offer more than just e-visa services, depending on the needs and resources of national authorities and their level of *digitisation* and *digitalisation*. Moreover, integration of comparably simple AI features such as chatbots and voice bots as part of these portals and apps further reduce the need for human involvement and get ever more widespread across the region. The Czech Republic, for instance, uses chatbots in their online appointment system for migrants and foreigners¹.

¹ Since 2023, the country rolled out a data box – a recognised email to communicate with various authorities, which can fully replace old-fashioned postal services – for own citizens. At the moment, Czech nationals can choose whether or not to use the data box, which may become mandatory in the future.

Digitisation VS Digitalisation

Digitisation is the process of converting analogue information, such as physical documents, images, or sounds, into a digital format, which can be stored, manipulated, and transmitted using electronic devices and computer technology. This conversion involves representing data as discrete binary numbers (0s and 1s), making it easier to store, reproduce, and transmit with high fidelity. Digitalisation, on the other hand, is the process of leveraging digital technologies to transform various aspects of business, society, or processes. It involves reimagining and optimising traditional analogue practices by integrating digital tools, data, and automation. Digitalisation can encompass a wide range of activities, from automating manual tasks and using data analytics to make informed decisions to embracing online communication channels, e-commerce, and cloud computing.

The overall trend is to increase service offerings via mobile apps and desktop solutions, which requires interoperability of databases and different levels of access to data for responsible entities. Even a single country needs an appropriate level of digital advancement, which takes years of constant improvement and development. Moldova, for example, has been developing and fine-tuning this approach since 2012 through the roll out of new computer systems, increased training for staff and the availability of more e-services. The country is currently working on the development of a new IT system and an electronic register for foreigners, ensuring interoperability with other systems, including those related to security. This comprehensive database shall become operational by 2025. Meanwhile, the EU is still in the process of developing the needed infrastructure to offer online Schengen visa services, while the political decision has been finally reached in 2023. Given that the Schengen area unites 27 countries, the process to digitalise visa procedures is way lengthier and more complex.

CASE: EU digital visa

The European Union has the objective of digitising Schengen visa procedures in the near future. This will take the form of an EU Visa application platform, which will become the single-entry point to apply for a Schengen Visa and replace the current visa sticker with a digital visa in the form of a cryptographically signed barcode. With all EU institutions in agreement from a legislative perspective, implementation will begin as of 2024 with the goal to make the platform operational as of 2028. The new platform will allow applications to be done online, as well as allow users to upload documents, check biometric data, pay fees and sign everything with an e-signature. It will also allow users to check information. The IT infrastructure will be decentralised, utilise digitally signed, encrypted 2D barcodes and will apply to short stay visas from the beginning.

In recent times, countries of the Prague Process, including Georgia, Denmark, Romania, Serbia, started launching digital services related to the **issuing of residency and work permits**. The implementation of these advancements has significantly slashed the processing time for applications, resulting in migrants in Albania now obtaining their permits within a timeframe of 30 days to three months, as opposed to the previous standard of six months. Albania also went a step further by offering a single permit for work and residence in the country, while Estonia offers e-residency for foreigners, who do not need to physically reside in the country but want to operate a business registered in Estonia. Other countries such as Uzbekistan offer online scheduling for residency applications, followed by in-person appointment. It is safe to assume that all countries will move down the path of digitalising the applications for residency in the future.

CASE: Estonia's pilot project on remote identity proofing for e-residency

In 2022, Estonia has launched a pilot project to look at proving identities remotely. This relates to e-residency and an e-resident's digital ID. The objective is to guarantee an equivalent solution to physical presence, increasing convenience for the clients, staying up with latest developments as well as connecting documents, biometrics and individuals. Remote identification is based on facial biometrics, video streaming, data reading from chips, authentication, comparison, fingerprints, voice, palmprints and iris recognition. Over 60 companies have taken part and the project is inter alia looking at fully automated vs assisted processes, OCR or NFS document reading, passive or active liveness control and also the different mobile apps available. The procurement and development phase will run from 2024 to 2025.

When it comes to the **acquisition of citizenship**, the online application and processing has not yet become a reality and nearly all Prague Process states envisage only in-person procedure, with a few exceptions such as online scheduling or remote phone counselling as the first step. A long-term foreign resident would still need to turn in their paperwork in-person. Georgia is perhaps the only country that supports electronic citizenship applications, by way of exception, for foreigners who have made special contributions to Georgia.

CASE: Latvia's AI-based speech recognition system in citizenship procedure

The Latvian office of Citizenship & Migration Affairs has adopted a free self-check e-tool for citizenship applicants. The goal was the improvement and increased digitization of the citizenship process, the reduction of paper, the move away from old/obsolete technologies, and the promotion of public awareness. This is therefore a web-based electronic solution that uses *artificial intelligence* technologies for citizenship applicants. It is free for all, can be accessed by computer/mobile, provides information on the examination and allows simulating a test envisaged as part of the naturalisation procedure. The tool has a public and an administrative part. There is a Latvian language proficiency test that includes Listening, Reading, Writing and Speaking parts. By means of an AI-based a speech recognition capability (*Tilde ASR²*), the tool produces automatic transcript of the user's speech and indicates mistakes or mispronunciations. The model is trained with various audio recordings: 5,000 to 10,000 hours required to achieve good result. Specific industry texts, terminology, dictionaries, etc. are used to train the speech model. To comprehensively develop this algorithm, text files containing at least 10-20 million words are required.

The success of online appointment and online scheduling systems, e-visas, as well as digital services for processing of residency and work permits is influenced by different factors, including the user-friendly interfaces of platforms, time-efficiency, secure handing of personal data, accessibility and inclusivity, multilingual support, as well as availability with minimal downtime and regular updates and maintenance. The Prague Process countries are gradually building up their capacities to account for these factors of success.

■ Comprehensive integrated systems

The countries of the region share the opinion that seamless integration of single-purpose digital tools with other government systems, databases, and relevant services contributes to a more comprehensive and efficient migration management ecosystem. It reduces redundancy and improves overall coordination. For this reason, the offering of a unified system for everything – starting with visa, employment permit and residence permit – is seen as the way forward. These services may be dealt with by separate ministries but instead of going through different parallel systems for issuing one or another permit, the end user benefits from services via a single point of access such as a virtual portal. Albania, Azerbaijan, Denmark, Estonia, Georgia, Lithuania, Serbia, Uzbekistan have rolled out their integrated systems of various levels of complexity by now. Moldova, North Macedonia, and Montenegro plan their launches in the future.

- 2 An automatic recognition language technology developed by Tilde for Latvia in 2021, allowing machines to recognize words and phrases in spoken language and then convert them into text. This technology is especially crucial for small languages such as Latvian to be equally represented in existing and developing technologies.

The more experienced the countries are, the more complex their systems become, with more features – interfaces in multiple languages, intuitive and simple to use *APIs* (check Annex for terminology) for public users as well as individuals – integrated over time. The availability of new features is equally important for authorities that deliver services to migrants and citizens. New solutions not only save time by ensuring easy access to the same data by government departments, public bodies and agencies but can also result in generating better data analytics, which can translate into policy decisions.

For countries without complex ecosystems, creation of a digital register containing foreigners' data is often an important step in their digitalisation journey. Others, such as Ukraine, which already has a single system containing all information about foreigners and stateless people, face new tasks. For Ukraine, the present objective is to create an information portal for foreign students and to allow them to have a profile and find information about the process to study and obtain a residence permit.

Internally, e-access to materials, decisions and documents for all relevant ministries need to be made available. Government departments cannot have their own separate, siloed computer systems. Building electronic bridges between legacy systems is a key part of digital interconnection between government services. Having as many ministries involved from the beginning is a recipe for success. Different levels of access to authenticated and unauthenticated users are the key to maintaining control and data protection here. A good example is that of Lithuania, where data is exchanged between ministries and agencies with more than 20 institutions able to access systems. By using one system - *MIRGIS* - there is a common core system architecture that improves efficiency and interconnectivity.

CASE: Lithuania

The need for digitalisation is based on an increasing number of foreigners coming to Lithuania, a lack of personnel, complex data exchanges between agencies and institutions and the demand for employees and investment from abroad. The core concept was the inclusion of all e-migration services in one single portal and the *MIRGIS* tool was therefore developed and launched in 2019. Since then, the services and functionality have been expanded to include a unique code for foreigners (*ILTU*), a solution for external service providers, and the addition of national visas. Services include residence permits, citizenship applications, citizens' identity documents, travel documents and the issuance of e-resident cards. Regarding data exchange, the *MIRGIS* solution provides integration with 20 other state registers. The next steps will feature the inclusion of automated and data-driven solutions, as well as the development of a mobile solution.

A *one-stop-shop* for applying for all services digitally and in person is a great example of best practice, applied in the Nordic and Baltic states. The combination of online and offline elements is important since some people prefer a face-to-face service (particularly elderly and individuals with mental/

physical handicaps). Both approaches therefore need to be catered for. A good example takes the form of the facilities provided across Georgia where all services can be carried out under one roof.

CASE: Georgia

A successful digital transformation is built on a six-step process, which covers business strategy transformation, business operations realignment, adoption of new practices and people re-skilling, and change management. In this regard Georgia has built a Citizenship and Migration Electronic Management System *DCM* (regularly updated since its inception in 2009). This assures that inter alia migration services are provided through dedicated public service halls (117 branches), regional branches located throughout the country and also, by the remote, online “Distance Service”. These deliver e-services like granting Residence Permits, Citizenship, Establishing the Status of Stateless People and Emigration permits. These are backed by electronic seals, time stamps, and e-signatures while assuring data and document security. Georgia also has a Consular Case Management Electronic System. This is characterised by e-processes, increased efficiencies, less bureaucracy, more user-friendliness and increased quality in the overall service (from registration to visas - including an eVisa portal - issuance of return travel documents, scheduling appointments and offering advice). Digital services in Georgia also extend to a Readmission Case Management Electronic System which covers all stages of the readmission process from registration to review, planning, travel documentation and the transfer of relevant information.

Integration of new technological solutions: ID identifiers, eSignatures, and Blockchain

The integration of unique ID identifiers and *eSignatures* is crucial in modernising migration management, offering efficiency and convenience. The use of unique ID identifiers for migrants (through a number or digital ID) is a key to facilitating the electronic system and ensuring that all information is in one place and relevant information can be accessed easily and efficiently. For example, in the Netherlands, migrants receive a special passport, which includes a unique identification number. This document is used for identification purposes and is linked to various administrative services. Considerations need to be made regarding the link to the identifiers that are required, such as a photograph, name, age and nationality as well as their current status and how biometric data will be stored and shared. Moldova is working on an electronic ID for applications for temporary residence permits, planning its launch in 2025.

One way to implement ID identifiers is the use of *Blockchain*. During the Workshop, Danube Tech profiled solutions that interconnect decentralised identity networks and enable interoperable identity applications. This included hosted platforms that help self-sovereign identity developers and solutions providers to work with decentralised identifiers. Solutions were also profiled that

created and managed decentralised identity networks on the blockchain. It was also highlighted how verifiable credentials could be created and issued in different formats.

CASE: Danube Tech³ and the use of Blockchain

Blockchain is a data structure (a “chain of blocks”) whereby data entries can be appended to this data structure (like in a “ledger”). Usually, blockchains are operated by multiple nodes in a network (a “distributed ledger”) and these blocks are linked together by cryptography (“hashes”, “signatures”). Data entries are immutable and generally publicly visible. These technologies are being looked at for migration management and ID storage. This technology can be utilised to store and authenticate name, age, gender, ethnicity and citizenship for example. Blockchain technology therefore allows personal information to be stored on the relevant decentralised ledger. The issue however is that digital identities may not be safe. Blockchain makes surveillance easier while there is simultaneously no way of updating/deleting data and there are *GDPR* concerns associated with this technology. The states that opt for it should consider these limitations to ensure the technology brings benefits to migrant and refugee populations without harming them.

Yet blockchain can be used by migrants for remittances (via wallets and exchanges: countries where cryptocurrencies are most often used include Nigeria, Vietnam, Philippines). Blockchain can also be used for accountability and transparency. We are already seeing examples of this in Austria and Germany for the public administration, as well as property ownership in Georgia to raise two examples. There is also the European Qualification Passport for Refugees (EQPR): this allows refugees to apply to universities, find a suitable course and then a job in Europe.

Furthermore, digital ID wallets for immigration purposes are also being discussed. Netcompany supports the development of a sophisticated system, where migrants would be given a “digital wallet”. This solution is built on the EU digital ID standard used since the COVID-19 pandemic, allowing migrants to seamlessly send and receive documents to and from state authorities. It centralises information sharing, certificates and the current status of migrants in one digital location. Beyond these functionalities, the digital wallet offers access to learning and integration courses, provides notification, maintains a calendar of upcoming activities/events, and enables migrants to digitally sign documents within the wallet. However, concerns persist around the ability of migrants to opt out, data protection and privacy concerns, and potential hesitancy to use the system, especially if their application for asylum is denied, for example.

³ Danube Tech is an Austria-based consulting and development company that works on decentralized identity infrastructure products.

CASE: Netcompany's immigration wallet

The immigration wallet solution developed by Netcompany⁴ aims to aid migration management, considering the increasing migration flows into the EU, including irregular flows and asylum seeking. The wallet should allow governments and authorities to register migrants with relevant data and biometrics, speed up immigration processes, keep track of in-country immigration and detect fraud. On the other hand, the wallet enables migrants to digitally identify themselves everywhere in the EU, store and manage personal identity data and other official documents issued by governments or trusted private sources in electronic format, access public and private digital services, share personal data with public and private entities, as well as use the information as confirmation of the right to reside, work or study in a certain state. The system should support three pathways: 1) linking asylum with local integration; 2) digital support for the return journey to migrants whose claims were denied; 3) facilitate identification for prospective migrants and asylum seekers through a third country migrant ID.

An important development represents the use of *eSignatures*. These are available in some Prague Process countries, while they are under development in others. The objective is that these should be commonplace and rolled out across more countries. eSignatures play a significant role in streamlining migration processes, offering efficiency, security, and convenience. They are more and more often used in digital visa, residence permit or work permit applications as well as for other kinds of interactions offered through online portals, to ensure remote identity verification during consular services or even as part of reintegration processes for return migrants to sign partnership agreements outlining the support and services they will receive upon reintegration. Furthermore, eSignatures can be utilised to digitally authenticate documents such as certificates, diplomas or other credentials. This aids in the recognition of qualifications across borders. The implementation of eSignatures in migration processes often aligns with broader efforts toward digital transformation and the adoption of electronic government (*eGovernment*) initiatives.⁴

■ The role of social media and digital services in (re)integration processes

Social media plays a crucial role in the integration process for migrants, and leveraging key channels can significantly aid their journey. In the Netherlands, migrants are encouraged to create a LinkedIn account and profile as well as join Facebook community groups, with support provided to navigate information that can help in their life in the country. The provision of language courses and cultural training is deemed important for migrants, emphasising the relevance of partnership with NGOs as well as the business sector that can help to build the knowledge, skills, and expertise of governmental agencies in these areas.

⁴ Netcompany is a global company with its HQ in Denmark that works on responsible digitisation and digital transformation in public and private enterprises.

CASE: TransLocal lives research project

The research project aims to identify the various ways in which refugee migrants creatively and/or effectively use technologies, and how this affects the social participation of refugee migrant groups within their host societies. The 6-week Digital Place-makers program in the Netherlands constitutes part of the TransLocal lives research project whereby eleven expert place-makers helped migrants with issues related to belonging, connecting, being themselves and facing challenges as a newcomer in Rotterdam and the Netherlands. Throughout six hands-on sessions, participants experiment with both analogue (collaging, story-boarding, writing) and digital tools (desktop filming, video-making, photography, voice recording) to co-produce knowledge using their everyday life digital practices as a starting point. The result includes eleven short films that explore how to make a place in the host society and give visibility to newcomers' experiences and stories of belonging. More can be found at: www.translocallives.com

Providing smartphone-friendly solutions and mobile technology in several languages is important to facilitate the integration process. Mobile tech can range from education and language learning to health, housing, employment, social inclusion and transitional ties. However, approaches tend to be top-down, much of the potential of mobile tech is linked to geographic location, and migrants are not included in the design and development of digital/mobile tech solutions.

CASE: easyRights

The easyRights project combines co-creation and AI technology to make it easier for immigrants to understand and access the services they are entitled to. Bringing together immigrants, the public sector, and private organisations, easyRights have developed solutions that provide personalised, context-aware information to its users, taking into account background, demographics, and language skills. The tools support immigrants in their search for responses to different needs in a manner that saves time for both migrants and for social service staff and cutting costs for the public administration. Available tools that were developed within the easyRights project include, among others, CALST app to train language pronunciation and Capeesh offering courses to train migrants in vocabulary and expressions that can help them navigate specific services.

Supporting migrants on their journey, covering social and cultural differences as well as their rights and responsibilities in destination countries is important too. Uzbekistan has a mobile app to help its citizens in this regard, which supports the work of local consulates. Given the large number of Uzbeks moving to Russia to find work, the state has produced information that can be accessed digitally by labour emigrants. This includes information on work permits, the fees involved, the process and the documentation required, as well as language, cultural and legal support. There is

also an SOS button available on the app which allows citizens to call for help. This connects citizens with consulates and allows them to access the support that they need.

In the realm of reintegration, digital tools play a pivotal role in enhancing support for returning migrants, providing financial assistance for resettlement or launching new ventures. The recognition of skills, knowledge, and training acquired abroad is equally crucial. Georgia exemplifies a proactive approach by running reintegration programs and offering a comprehensive e-platform that centralizes all the necessary services for returning migrants. The Georgian government places a strong emphasis on supporting the reintegration of its returning citizens, having prioritized this initiative since 2015.

CASE: Georgia's digital services to returning citizens

Georgia's Internally Displaced Persons, Ecomigrants, and Livelihood Agency administers a robust reintegration program. This program is designed to offer a range of digital services to returning citizens, aiding their seamless reintegration into communities. The State Programme for Supporting Reintegration of Returned Georgian Migrants, initiated in 2020, extends support in various forms. This includes the provision of medical and healthcare services, financial backing for social projects, assistance with vocational education and entrepreneurial ventures, and the facilitation of temporary livelihoods.

Albania, another exemplary case, has also embraced digital tools in its reintegration efforts for nationals returning home. The country offers comprehensive reintegration programs, incorporating digital resources for reception and assistance. Services encompass providing information about social security, education, initiating businesses, and vocational skills training. Albania's strategic approach includes the establishment of Migration Centres, a digital referral system, and the provision of online advice and counselling to returning individuals. This digital-centric approach underscores the commitment to leveraging technology for effective and streamlined reintegration processes.

■ Comprehensive and rights-based approach to digitalisation in migration

The digitalisation of services and processed in the migration context involves complex regulatory and policy considerations to ensure responsible and ethical implementation. Considerations related to data privacy and security is among the key ones, necessitating the need for compliance with existing data protection laws and regulations – for example, the EU's *GDPR regulation* – which define how migrant data, including personal and biometric information, is handled.

Another crucial consideration relates to the ethical use of technology, impact on human rights and non-discrimination policies. One of the ongoing debates revolves around the use of *artificial intelligence* in migration processes. In this regard, the work on the European AI legislation - the EU AI Act – is exemplary.

The political negotiations on the Act have been concluded in December 2023, with discussions at the technical level continuing until February 2024. This regulation aims to ensure that fundamental rights, democracy, the rule of law and environmental sustainability are protected from high-risk AI, while boosting innovation and making Europe a leader in the field.⁵ The AI Act will have implications for migrants, incorporating the law enforcement directive, GDPR regulation, and existing legislation in the migration area. The impact of the AI Act on migration management will depend on the risk level. Some EU states may need to halt the deployment of certain tools, such as predictive policing and biometrics. There will be obligations related to data governance applications, including the avoidance of bias, technical documentation, and human oversight. Transparency obligations will require systems like chatbots to clearly identify themselves as non-human. Overall, monitoring the market's digitalization of society is seen as positive. The AI Act is expected to add an explanatory dimension, requiring governments to explain their decisions.

On the whole, legislation pieces such as GDPR and the AI Act are considered beneficial for users, but there is a call for a measured approach, reducing legislative speed, and focusing on enforcement, guidelines, and clarity to avoid potential problems and confusion.

⁵ Read more about the reached political deal on the EU AI Act [here](#)

■ Stumbling Blocks

In this section we detail the challenges, obstacles and common mistakes that are met in implementing digital solutions.

■ Limited resources

All states suffer from a shortage of financial resources and personnel when it comes to implementing new digital systems. This means that countries cannot create the perfect system but need to deal with the resources that they have to do as much as possible with as little as possible. A common issue encountered is that people get trained and then move departments, so the training of new people is an almost constant process, and thus very time-consuming.

■ Digital divide

The creation of a *digital divide* due to technology is also a source for concern. Older people and those without digital skills risk being left behind and not having the same access to services. Similarly, not all regions have good WiFi and cellular connectivity. At the same time, not everyone can afford a smartphone or a computer. This means that people cannot access the services that they need.

■ Communication is crucial

While adopting digitalisation and creating services is important, it was agreed that if no one knows about them then they go unused due to a lack of knowledge. There are various examples of this across the Prague Process region. It is therefore essential that education campaigns are launched to inform migrants and citizens of the digital services that are available and the benefits that they bring. In short, it is not sufficient for governments to create new services, they also need to market the services available.

Furthermore, people do not currently know what apps and solutions are available and which ones are the best to use. A user-centric design is crucial when designing and building these and it is vital to begin from the starting point that all migrants are not the same: they are a diverse group with different cultures, languages and approaches. Measuring success of apps and digital solutions over the medium to long term is important but rarely done today.

Linked to this point is the fact that many new systems are not used due to a resistance to change. Many countries experience that there is an overall resistance to change internally (among officials and state employees) as well as the general public (they get used to an old system and do not want to change it). This issue is linked to the fact that new systems are developed but training is not available immediately. It is essential that training is provided immediately to as broad a user group as possible. Training covers internal public officials as well as the general population who need to use the new services provided. This needs to be done regularly, and a “train the trainers” model is effective to spread competence within ministries and government agencies. When it comes to the general population, e-training modules, ‘how to’ videos and short social media clips are very effective.

As stated previously, engagement with the broader civil society is still low. There is limited contact with NGOs as well as the private sector, and many of the systems are still developed in-house as opposed to being sourced from experienced commercial vendors.

■ Data protection and integrity

One of the concerns with digitalisation is that threats to privacy and compromising personal data are increased. Because new systems are being rolled out and things move fast, there is a trend to adopt as many digital processes as possible, as quickly as possible. This can result in corners being cut with regards to data protection since this is often a secondary consideration, especially regarding migrant populations. Furthermore, the ability to use and collect good and accurate data is crucial. This should be ensured, since without this data good decisions cannot be made.

Conclusions and Takeaways

The digitalisation journey in migration management has begun for all countries in the Prague Process region, with many already harnessing results from the advancements in e-visas, online application systems, and unified platforms, while also looking into development of new digital solutions. It is anticipated that digitalisation will bring many advantages, including time and cost savings for officials and a more user-friendly experience for migrants. However, the journey is not without challenges, as highlighted in the stumbling blocks section. Such challenges as limited resources, the digital divide, and communication hurdles, the critical need for ongoing education campaigns and user-centric design will need to be addressed to make the most of digitalisation.

Key takeaways and recommendations for implementing digital solutions effectively

- Increased digitalisation will save time for officials, save money and ensure a better experience for users/migrants. eVisas, e-signatures and e-portals are particularly popular in this regard.
- Having one app as a portal to access all services is the way forward from a migrant perspective (i.e. applications, healthcare, education, social security, ID).
- When it comes to creating systems, all relevant entities need to be involved from the beginning.
- When it comes to updating their operations, it is important that officials have adequate training first, before the systems are rolled out.
- Creating centralised databases accessible and operable by all government departments and agencies is the way forward for sharing data, with the appropriate authorisations added to address any privacy concerns.
- Interoperability of systems internally between national government departments and public authorities is crucial. This should also be extended to other countries so that trans-national interoperability is secured.
- Countries across the Prague Process region should look to adopt a one-stop-shop approach for migrants and migration management. This should be based on best practices from across the region.
- A common and mutually recognised eID system should be adopted across Europe and Central Asia. This would feed into an interoperable migration information system for the Prague Process region. The best approach would be to have specific criteria that all can agree on and then develop a system from this harmonised starting point.

- Training for all user groups is essential when new systems are rolled out, as is communication on the new systems and services. Moreover, feedback should be gathered from a number of different user groups on new systems to ensure that problems are fixed and updates provided.
- Further links to the private sector and civil society should be explored across the whole region, as well as including migrants in the design and development of digital solutions (user-centric design) since a one-size fits-all approach will not work.
- Close cooperation with other countries is crucial in terms of developing common systems, sharing best practice, avoiding mistakes and ensuring mutual recognition. Workshops, standing committees, cooperation and dialogues are essential in this regard. This covers external activities with third countries as well as internal discussions between different ministries, agencies and government departments.

The first Workshop of the Prague Process Digital Lab provided the needed space to explore the evolving landscape of digital solutions, setting a base for future discussions. Based on the inputs received, the following topics can be considered for follow-up activities:

- Blockchain methodologies as a solution for migration management. This could take the form of a deeper information or training session on how blockchain technologies could be applied to migration management.
- Technical workshop on an eID: this could cover the elements (data and biometrics) to be stored, as well as the specifications and mutual recognition.
- Workshop on how AI can assist in the migration management process, as well as addressing the problems that it can create.

ANNEX I Key concepts

This section provides definitions of the key concepts and terms related to digital solutions in migration management as covered in the discussions.

Application Programming Interface (API) - An API is a set of rules and protocols that allows one software application or system to interact with another. It defines the methods and data formats that applications can use to request and exchange information. APIs are used to enable the integration and communication between different software systems, allowing them to work together and share data.

Artificial Intelligence (AI) - AI refers to the simulation of human-like intelligence in computers and machines. It encompasses a wide range of technologies and techniques that enable systems to perform tasks typically requiring human intelligence, such as understanding natural language, making decisions, learning from data, and recognizing patterns. AI systems can be rule-based, like traditional expert systems, or they can leverage machine learning algorithms, including neural networks, to improve their performance through data-driven insights. AI has applications in diverse fields, and it continues to advance rapidly, reshaping the way we interact with and benefit from technology.

Blockchain - Blockchain is a distributed and decentralized digital ledger technology that records transactions across a network of computers in a secure and transparent manner. Each new transaction, or "block," is linked to the previous one, forming a chain of blocks. This structure ensures the immutability of recorded data, as altering a single block would require changing every subsequent block, making it highly resistant to tampering and fraud. Blockchain technology is most commonly associated with cryptocurrencies like Bitcoin, where it is used to maintain a public ledger of all transactions. However, its applications extend beyond finance to supply chain management, voting systems, and more, offering a trustworthy and efficient way to verify and store data without the need for centralized intermediaries.

Digitisation - This is the process of converting analogue information, such as physical documents, images, or sounds, into a digital format, which can be stored, manipulated, and transmitted using electronic devices and computer technology. This conversion involves representing data as discrete binary numbers (0s and 1s), making it easier to store, reproduce, and transmit with high fidelity. Digitisation enables the preservation and efficient access to vast amounts of information, as well as facilitating the development of digital technologies, such as the internet, which have become integral to modern life.

Digital divide - The digital divide refers to the social and economic gap between those who have access to modern technology and information communication technologies, particularly the internet, and those who do not. It encompasses disparities in digital access, literacy, and the ability

to effectively use technology. The digital divide can manifest as differences in internet connectivity, access to computer hardware, digital skills, and the opportunity to benefit from the advantages of the digital age. It is a global issue with far-reaching implications and efforts to bridge the digital divide often involve policies and initiatives aimed at increasing technology accessibility and digital literacy, ensuring that everyone can participate in the digital economy and society.

Digitalisation - This is the process of leveraging digital technologies to transform various aspects of business, society, or processes. It involves reimagining and optimising traditional analogue practices by integrating digital tools, data, and automation. Digitalisation can encompass a wide range of activities, from automating manual tasks and using data analytics to make informed decisions to embracing online communication channels, e-commerce, and cloud computing. The goal of digitalisation is to enhance efficiency, innovation, and responsiveness while often improving user experiences.

eGovernment - This refers to the use of information and communication technologies (ICT) to deliver government services, information, and interactions to citizens, businesses, and other government entities. It involves the digitalisation and automation of administrative processes, making government services more accessible, efficient, and transparent. E-government initiatives encompass a wide range of activities, from online portals for accessing public services and information to digital communication channels for citizen engagement and participation. The goal of e-government is to improve the delivery of public services, streamline government operations, enhance transparency, and empower citizens to interact with their government more conveniently in the digital age.

eSignature - These are digital alternatives to traditional handwritten signatures used to authenticate and validate documents and agreements. These digital signatures are created using various electronic methods, such as typing a name, drawing a signature, or using specialized e-signature software and cryptographic techniques. E-signatures offer a secure and convenient way to sign documents and contracts electronically, saving time and resources compared to physical signatures. They are legally recognized in many jurisdictions, provided they meet certain authentication and security standards, making them a widely used tool in various industries for conducting business transactions, signing contracts, and authorizing digital documents.

GDPR - The General Data Protection Regulation (GDPR) is a comprehensive data protection and privacy regulation enacted by the European Union (EU) in 2018. It establishes strict rules and principles for how personal data of EU citizens is collected, processed, and protected. GDPR gives individuals greater control over their personal information, requiring organizations to obtain clear consent for data collection, disclose how data will be used, and provide mechanisms for data access, correction, or deletion. It also imposes stringent data security and breach notification requirements, along with substantial fines for non-compliance. GDPR has had a significant impact worldwide, influencing data protection practices and policies well beyond the EU, as many international organizations that handle EU citizen data must adhere to its rules to ensure privacy and security.

Machine learning - Machine learning is a subset of artificial intelligence (AI) that involves the development of algorithms and models allowing computers to learn and make predictions or decisions based on data. It enables systems to improve their performance and make sense of complex patterns and information without being explicitly programmed. In essence, machine learning algorithms are trained on data, which could be anything from text and images to numerical data, to recognize patterns, correlations, and trends. The more data they are exposed to, the better they become at making accurate predictions or decisions.

Network File System (NFS) - NFS is a mechanism for storing files on a network. It is a distributed file system that allows users to access files and directories located on remote computers and treat those files and directories as if they were local. For example, users can use operating system commands to create, remove, read, write, and set file attributes for remote files and directories. Using the NFS protocol, you can transfer files between computers running Windows and other non-Windows operating systems, such as Linux or UNIX.

One-stop-shop - A “one-stop shop” is a concept commonly used in the context of business or government services, where it refers to a centralised location or platform that offers a wide range of products, services, or information, making it convenient for users to access everything they need in one place. Whether in e-commerce, government services, or other sectors, a one-stop shop simplifies the customer or user experience, streamlining processes and reducing the need to navigate multiple channels or entities. This approach aims to improve efficiency and customer satisfaction by providing a comprehensive and integrated solution to meet various needs or requirements.

Optical character recognition (OCR) - OCR is also referred to as text recognition or text extraction. Machine-learning-based OCR techniques allow you to extract printed or handwritten text from images such as posters, street signs and product labels, as well as from documents like articles, reports, forms, and invoices. The text is typically extracted as words, text lines, and paragraphs or text blocks, enabling access to digital version of the scanned text. This eliminates or significantly reduces the need for manual data entry.



Supported by the Secretariat at ICMPD

Funded by the European Union

