Nordic Council of Ministers

Mapping Digital Tools and AI in Integration Services

A human-centric perspective and recommendations for the Nordic capital cities



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Executive Summary (English)

In this report, we map and explore the use of digital tools and AI in integration-related services across the Nordic capital cities, with particular attention to the "human dimension". We define this as the direct interactions and relationships that are created between human beings during the integration process, including support from caseworkers, NGO staff, and volunteers. The report addresses four objectives: (1) to identify where digital tools add value and where human contact is essential; (2) to investigate the suitability of digital solutions and AI for different groups of refugees and migrants; (3) to identify good practices; and (4) to provide recommendations on scaling or transferring solutions to other Nordic capitals.

The study was conducted with a qualitative research design combining desk research and mapping with a survey, interviews, a workshop and input from researchers and practitioners. We used a human-centric approach to guide the analysis, structured around eight themes: accessibility; human empowerment and agency; human interaction; trust; education and awareness; effectiveness; scalability and adaptability; and fundamental rights and ethics compliance.

General conclusions

Digitalisation is a key component of integration-related services in the Nordic countries with digital tools widely used to help refugees and immigrants access information and services. However, there are also situations where digital tools become barriers for individuals, for instance, for those with limited digital skills, little knowledge of Nordic administrative systems, or low trust in public institutions. AI is being used increasingly in the public sector for various purposes, including integration services. While the technology offers new opportunities, such as the customisation of integration pathways and personalised learning, it also raises questions regarding accuracy, transparency, and implications for privacy and data protection, as well as issues concerning digital dependency and digital sovereignty.

Digital tools and AI in use

The mapping shows that digital tools are already widely used for civic information and guidance, language learning, employment support, health services, communication and coordination. Many of the AI-supported solutions identified are still in pilot or under development, although AI is increasingly used for purposes such as translation, personalised language learning, and support with job applications. Larger municipalities are often more cautious about adopting

AI-based solutions due to compliance concerns, e.g., regarding data security. Staff working in integration services also sometimes use "shadow tools" that are not part of organisational frameworks, such as free AI chatbots and online translation services. These fill practical gaps, but their use also raises ethical and compliance concerns.

Where digital tools add value and where human contact is essential

Digital tools add most value by making information easier to reach, reducing administrative burdens, and making integration services more personalised. Human contact, however, remains essential throughout the integration journey, in particular at the early stages when migrants are not yet familiar with the administrative processes and do not yet have a social network. Many migrants fear that a single mistake in a digital system, for instance when registering job search activity or applying for a new residency permit, may have serious consequences, and seek reassurance from a person. Human verification is also needed wherever AI output is used. The most promising digital solutions combine digital tools with human support and involve migrants in the design and testing to further strengthen accessibility and trust. Where AI is involved, human oversight and verification are particularly important.

Suitability for different groups

Refugees and migrants are a heterogeneous group with different language abilities, educational backgrounds, digital skills, socioeconomic circumstances and familiarity with public institutions. Digitalisation is most likely to benefit those who are already better positioned to navigate integration processes, while it might create barriers for others. For example, AI-supported job search tools can strengthen the independence of people with higher levels of digital literacy, but they may equally add no or little value for people who do not have access to a computer and are not familiar with applying for jobs online. It is therefore important to tailor services to different needs and offer human support and digital skill training for those who are most at risk of digital exclusion. When addressing integration services in the Nordic capitals, it is important to consider not only services, technology, the political landscape, and funding, but also the lived experiences of migrants and refugees. To ensure this perspective, the report includes "individual integration journey" depictions based on three individual migrants' experiences with digital tools throughout their integration process.

Scaling across Nordic contexts

Many existing digital solutions are relatively easy to scale from a technical perspective, such as digital language learning tools or AI-based tools for translating CVs and building tailored job applications. Some of the digital tools identified in this study already exist in multiple Nordic countries or have gradually integrated more languages to reach different migrant communities within the same country. However, scaling across countries requires adapting solutions to cultural norms, for example in how job applications are written or how job interviews are conducted, as well as to differences in how integration processes are organised. Furthermore, digital sovereignty and vendor dependency should be considered when scaling and long-term funding needs to be secured to ensure maintenance and updates.

The report presents 21 recommendations in Chapter 4 and a Human-Centric Assessment Tool in Annex I. Overall, it recommends that any solution is assessed against human-centric criteria before it is developed or scaled. It is, among others, recommended that actors developing and implementing digital tools and AI in integration services should:

- Integrate the human dimension in the design process, so digital services complement rather than replace accessible human support;
- Involve refugees and migrants in co-design and user testing, ensure multilingual accessibility and retain non-digital alternatives;
- Provide digital access to at minimum inclusion activities as soon as possible after arrival in the country. The lack of digital access at the start of the integration journey causes significant frustration and stress hampering integration further ahead in the process.
- Apply a risk-based approach to AI by e.g. exercising special care with vulnerable groups and participating in regulatory sandboxes.
- Apply a fundamental rights approach to big data integration and predictive analytics.
- Strengthen critical digital and AI literacy among both users and the professionals and volunteers supporting them;
- Foster collaboration between civil society and public authorities. NGOs are an important bridge between public institutions and communities.
- Establish clearer governance of shadow tools to mitigate risks;
- Consider digital sovereignty and vendor dependency in procurement and scaling decisions; and
- Test and adapt promising solutions across Nordic contexts, while ensuring sufficient long-term financial, technical and human resources and stronger cross-border knowledge sharing.

Sammenfatning (Dansk)

I denne rapport kortlægger og undersøger vi brugen af digitale værktøjer og kunstig intelligens i integrationsrelaterede tjenester på tværs af de nordiske hovedstæder med særligt fokus på den "menneskelige dimension", som vi i denne rapport definerer som den direkte interaktion og relation, der skabes mellem mennesker i integrationsprocessen i forbindelse med brugen af digitale værktøjer og AI. Det handler således om de direkte interaktioner og relationer, der opstår mellem mennesker under integrationsprocessen, herunder støtte fra sagsbehandlere, medarbejdere i NGO'er og frivillige.

Undersøgelsen, der ligger til grund for rapporten, blev gennemført med et kvalitativt forskningsdesign, der kombinerede litteraturstudier og kortlægning med en spørgeundersøgelse, interviews med interessenter, en workshop samt input fra forskere og praktikere. Vi anvendte en menneskecentreret tilgang, der var specifikt udviklet til dette projekt, som rettesnor for interviews og analysen, der var struktureret omkring otte temaer: tilgængelighed; menneskelig medbestemmelse og handlekraft; menneskelig interaktion; tillid; uddannelse og oplysning; effektivitet; skalerbarhed og tilpasningsevne; samt overholdelse af grundlæggende rettigheder og etiske principper.

Rapporten behandler fire målsætninger: (1) at identificere, hvor digitale værktøjer skaber værdi, og hvor menneskelig kontakt er afgørende; (2) at undersøge, hvor velegnede digitale løsninger og kunstig intelligens (AI) er for forskellige grupper af flygtninge og migranter; (3) at identificere god praksis; og (4) at komme med anbefalinger til opskalering eller overførsel af løsninger til andre nordiske hovedstæder.

Generelle konklusioner

Digitalisering er en vigtig del af integrationsrelaterede tjenester i de nordiske lande, hvor digitale værktøjer især bliver brugt til at understøtte flygtninge og indvandrere i deres adgang til information og tjenester. Der findes dog også situationer, hvor digitale værktøjer udgør en barriere for personer med f.eks. begrænsede digitale færdigheder, ringe kendskab til de nordiske administrative systemer eller lav tillid til offentlige institutioner. AI anvendes i stigende grad i den offentlige sektor til forskellige formål, herunder i forbindelse med integrationstjenester. Teknologien repræsenterer nye muligheder, såsom tilpasning af integrationsforløb og individualiseret læring. Men den rejser samtidig også spørgsmål vedrørende AI værktøjernes nøjagtighed, gennemsigtighed samt konsekvenser for privatliv og databeskyttelse samt, ligesom med de digitale værktøjer, spørgsmål om digital suverænitet.

Digitale værktøjer og AI i brug

Rapportens kortlægning viser, at digitale værktøjer allerede er meget udbredt til information og vejledning om borgerne, sprogindlæring, beskæftigelsesstøtte, sundhedsydelser, kommunikation og koordinering. Mange af de identificerede AI-understøttede løsninger er stadig i pilotfasen eller under udvikling, selvom AI i stigende grad bruges til formål som oversættelse, personlig sprogindlæring og support til jobansøgninger. Større kommuner er ofte mere forsigtige med at anvende AI-baserede løsninger på grund af bekymringer om compliance, f.eks. vedrørende datasikkerhed. Personale, der arbejder i integrationstjenester, bruger også nogle gange "skyggeværktøjer", der ikke er en del af organisatoriske rammer, såsom gratis AI-chatbots og online oversættelsestjenester. Disse udfylder praktiske huller, men deres anvendelse rejser også etiske og compliance-bekymringer.

Hvor digitale værktøjer tilfører værdi, og hvor menneskelig kontakt er afgørende

Digitale værktøjer tilfører mest værdi ved at gøre information lettere at få adgang til, reducere administrative byrder og gøre integrationstjenester mere personlige. Menneskelig kontakt er dog fortsat afgørende gennem hele integrationsprocessen, især i de tidlige stadier, hvor migranter endnu ikke er bekendt med de administrative processer og endnu ikke har et socialt netværk. Mange migranter frygter, at en enkelt fejl i et digitalt system, f.eks. ved registrering af jobsøgning eller ansøgning om en ny opholdstilladelse, kan have alvorlige konsekvenser, og søger derfor tryghed fra et menneske. Menneskelig verifikation er også nødvendig, når der anvendes AI-output. De mest lovende digitale løsninger kombinerer digitale værktøjer med menneskelig støtte og involverer migranter i design og test for yderligere at styrke tilgængelighed og tillid. Hvor AI er involveret, er menneskeligt tilsyn og verifikation særligt vigtigt.

Egnethed for forskellige målgrupper

Flygtninge og migranter udgør en heterogen gruppe med varierende sprogkundskaber, uddannelsesmæssig baggrund, digitale færdigheder, socioøkonomiske forhold og oplevelser med offentlige institutioner. Digitalisering vil gavner oftest dem, der i forvejen er bedre rustet til at navigere i integrationsprocesser, mens den kan skabe barrierer for andre med færre af disse kompetencer. For eksempel kan AI-understøttede værktøjer til jobsøgning være en hjælp for personer med gode digitale færdigheder, men de vil have ringe eller ingen værdi for personer, der ikke har adgang til en computer, og som ikke er fortrolige med at søge job online. Det er derfor vigtigt at tilpasse digitale værktøj og AI til forskellige behov og tilbyde menneskelig støtte samt træning i digitale færdigheder til dem, der er i størst risiko

for digital eksklusion. Det er vigtigt ikke blot at tænke på teknologi, politik og finansiering, når der udvikles integrationstilbud i de nordiske hovedstæder, men også at inddrage migranters og flygtninges egne oplevelser. For at sikre dette perspektiv indeholder rapporten også beskrivelser af den "individuelle integrations-rejse", baseret på tre konkrete migranters erfaringer med digitale værktøjer gennem deres integrationsforløb.

Skalering på tværs af nordiske kontekster

Mange eksisterende digitale løsninger er relativt simple at skalere fra et teknisk perspektiv, såsom digitale sprogindlæringsværktøjer eller AI-baserede værktøjer til oversættelse af CV'er og udarbejdelse af skræddersyede jobansøgninger. Nogle af de digitale værktøjer, der er identificeret i denne rapport, findes allerede i flere nordiske lande eller har gradvist integreret flere sprog for at nå ud til forskellige migrantsamfund i samme land. Skalering på tværs af lande kræver dog tilpasning af løsninger til kulturelle normer, for eksempel i hvordan jobansøgninger skrives eller hvordan jobsamtaler afholdes, samt til forskelle i, hvordan integrationsprocesser organiseres. Desuden bør digital suverænitet og leverandørafhængighed tages i betragtning ved skalering, og langsigtet finansiering skal sikres for at sikre vedligeholdelse og opdateringer.

Rapporten præsenterer 21 anbefalinger i kapitel 4 og et menneskecentreret vurderingsværktøj i bilag I. Samlet set anbefales det, at enhver løsning vurderes ud fra menneskecentrerede kriterier, før den udvikles eller skaleres. Det anbefales blandet andet, at aktører, der udvikler og implementerer digitale værktøjer og AI i integrationstjenester:

- Integrerer den menneskelige dimension i designprocessen, så digitale tjenester supplerer snarere end erstatter menneskelig kontakt og støtte;
- Involverer flygtninge og migranter i design og brugertest, sikrer flersproget tilgængelighed og bevarer ikke-digitale alternativer;
- Som minimum giver digital adgang til inklusionsaktiviteter så hurtigt som muligt efter ankomst til landet. Manglen på digital adgang i starten af integrationsrejsen forårsager betydelig frustration og stress, der hæmmer integrationen længere fremme i processen.
- Anvender en risikobaseret tilgang til AI ved f.eks. at udvise særlig omhu med sårbare grupper og deltage i regulatoriske sandkasser.
- Anvender en grundlæggende rettigheds-tilgang til big data og prædiktiv analyse inden for integration
- Styrker kritiske digitale og AI-færdigheder blandt både brugere og de fagfolk og frivillige, der støtter dem;

- Fremmer samarbejde mellem civilsamfundet og offentlige myndigheder. NGO'er er en vigtig bro mellem offentlige institutioner og lokalsamfund.
- Etablerer en klarere styring af "skyggeværktøjer" for at mindske risici;
- Tager højde for digital suverænitet og leverandørafhængighed i indkøbs- og skaleringsbeslutninger; og
- Teste og tilpasse lovende løsninger på tværs af nordiske kontekster, samtidig med at der sikres tilstrækkelige langsigtede økonomiske, tekniske og menneskelige ressourcer samt stærkere videndeling på tværs af grænser.

Introduction

Digitalisation is increasingly shaping how integration-related services are organised, delivered and accessed across the Nordic countries. For refugees and migrants, digital tools can improve access to information, language learning, guidance, employment support and public services. At the same time, digital and AI-supported services may also create significant barriers when not accompanied by sufficient human support or pose risks to fundamental rights when used outside institutional frameworks.

This report presents a mapping and exploration of digital tools and AI used in integration-related services in the Nordic capital cities. The aim is to provide a systematic overview of current tools, identify good practices, and offer informed reflections and recommendations to support knowledge exchange, mutual learning, and more informed decision-making in the Nordic region. The Nordic capital cities play an important role as common points of arrival and settlement for refugees and migrants. Despite the widespread use of digital tools, there remains limited comparative insight into how different types of digital (including AI-supported) solutions are used across the Nordic capitals, which target groups they serve, and under which conditions they strengthen, supplement or risk weakening integration support.

A central focus of the report is the human dimension of digitalisation and AI use in integration services. This means examining not only whether digital tools and AI are technically functional or efficient, but also whether they are accessible, trustworthy, appropriate and meaningful for different groups of refugees and migrants. The report therefore pays particular attention to where digital tools and AI add value, where personal contact remains essential, and how digital services can be designed and implemented in ways that reinforce rather than replace human interaction. In this context, human interaction may take place in person or through online meetings, chat, email or telephone, and may also include support provided through NGOs, migrant communities, volunteers or personal networks.

In the exploration of the field, we noticed that AI in integration services is less mature than the often more integrated use of digital tools and systems. Thus, most AI tools and initiatives explored in this report are under development or in pilot phases, and several of the generative AI chatbots are used outside organisational frameworks (the so-called "shadow tools"). Also, adding to the immaturity of the field that service providers, public authorities and organisations are currently navigating is the emerging legal requirements (such as the EU's AI Act) and ethical standards for AI use that are still in the adoption phase.

In the report we have used a "Human-Centric Approach" and the independent expert Gry Hasselbalch developed a set of human-centric criteria for assessing digital tools and AI used in integration services (Annex I). These criteria are based on eight themes common in human-centric frameworks: Accessibility, empowerment, human interaction, trustworthiness, education and awareness, effectiveness, scalability and adaptability, and compliance with fundamental rights and ethical principles. The themes were used to structure the exploration of the topic of this report as well as the analysis of the findings. They additionally have guided the recommendations and reflections on how digital tools and AI can be developed, adopted and scaled in an inclusive and responsible manner.

Furthermore, we present the individual experiences of three migrants as examples and perspectives that supplement the broader analysis and discussion of human-centred approaches, incorporating the lived experiences of those navigating integration services.

The report is structured in the following way:

- Introduction introduces the mapping and exploration of the topic, including the background and the methodology applied.
- Chapter 1 presents an overview of how digital tools and AI are used in selected integration-related services across the Nordic countries and their capital cities, with a primary focus on public services.
- Chapter 2 presents the human dimension as a key concept and the key findings from our mapping and exploration regarding where digital tools add value and where personal contact is essential. It furthermore summarises general reflections and findings from the mapping and exploration around the eight human-centric themes.
- Chapter 3 illustrates three migrants' personal experiences with digital tools during their integration journey and a perspective from a refugee center staff member, based on interviews.
- Chapter 4 provides recommendations for the development and scaling of digital tools for the inclusion of migrants and refugees across the Nordic capitals.
- Conclusion summarises the main findings of this mapping and exploration of the topic.
- Annex I provides a guiding framework for the adoption and implementation of digital tools and AI in the Nordic countries. It consists of an assessment tool based on eight human-centric criteria, along with an accompanying set of questions to assess tools and practices.

The report was commissioned by the Nordic Council of Ministers, and the mapping, exploration and report were developed by Norion Consult and the independent senior researcher Gry Hasselbalch, with valuable input and support from the Steering Group, including representatives from the Nordic Capital Network, and the project sounding board.

In this mapping and exploration, we use the terms "migrants" and "refugees", while recognising that they do not capture the full diversity of people's experiences, legal statuses, or forms of self-identification. We use "migrants" as an umbrella term for persons who have moved to the Nordic countries from another country for a variety of reasons. We use "refugees" to refer to people who have fled their country of origin due to a well-founded fear of persecution or serious harm, in line with established legal frameworks. Other terms, including "newcomers", "people with a migrant or refugee background" or just "citizens" and "individuals", is also relevant, but are not used consistently throughout this report.

Terminology also matters when discussing the digital participation of migrants and refugees. While "digital inclusion" and "digital integration" are sometimes used interchangeably, they can imply different expectations about belonging, agency, and support. As one NGO interviewee with a migrant background explained: ***"I would rather be included than integrated."***

Background

Digitalisation is a defining feature of Nordic societies and a central driver of how public services are designed, delivered, and accessed (Greve et al., 2020). Across the Nordic countries, public authorities increasingly rely on digital tools and, more recently, AI-based solutions have been adopted in areas such as employment services, education, and social inclusion (OECD, 2025a). In the field of integration, digitalisation can improve the accessibility, efficiency, and responsiveness of services for refugees and migrants, while also supporting more tailored and data-informed approaches (OECD, 2025b).

At the same time, data intensive tools like these with increasingly advanced analytical and predictive capabilities may have ethical implications with an impact on societal power dynamics and there are fundamental rights risks that must be carefully considered and addressed (Hasselbalch, 2021). For instance, automated decision-making and information systems can reinforce biases against already marginalised groups (Angwin et al., 2016; Noble, 2018), and the collection and processing of sensitive personal data from vulnerable populations may create privacy risks (European Data Protection Supervisor, 2015), (Winfield & Jirotka, 2018), and "black box" algorithmic decision-making can equally erode accountability mechanisms (Pasquale, 2015).

Also, refugees and migrants constitute a highly heterogeneous group with different needs, resources, and other general conditions that may affect their engagement with digital services. Variations in language proficiency, educational background, digital skills, length of residency, and experiences of displacement or trauma, for instance, all shape whether and how individuals navigate and benefit from digital and AI-enabled solutions. For example, previous work by the Nordic Council of Ministers has illustrated the specific challenges migrant women face, showing that similar barriers to digital exclusion are present in Nordic countries among this group (Brynteson & Jessen, 2025). Recent research from the Nordic countries also highlights the importance of trust in public institutions, showing that access to information is not only a linguistic or technical issue, but also a social and cultural one (Hosseini, 2025).

Recent advancements in AI technologies, as well as a geopolitical focus on AI as strategic global positioning, further drive digitalisation of integration services. Denmark, Finland, Norway, and Sweden are among the OECD countries with the highest use of generative AI tools among people aged 16 to 74 in 2025, and all are above the EU average (OECD, n.d.). At the same time, firm-level adoption has also grown, with more than 35% of firms having adopted AI-based solutions in several Nordic countries, including Denmark, Finland and Sweden (OECD, 2026). In public administrations in the Nordics, AI is already used for tasks such as analytics to support resource allocation, chatbots to handle citizen inquiries and automated decision-making systems (Butt, 2024). However, public trust and approval of AI in the Nordic countries appear lower than global averages, reflecting concerns about ethics, misinformation, inaccurate outcomes and the risk of losing access to human interaction, such as the risk of losing the option to speak with a human service provider (Gillespie et al., 2025).

These developments sit within a broader Nordic and Nordic-Baltic policy context that is prioritising digital infrastructure, cross-border digital services and the responsible use of data and AI, as demonstrated in the Nordic-Baltic roadmap for Digitalisation 2025-2030 (Nordic Council of Ministers, 2024). Similarly, Finland's ongoing work on automation and AI in public digital services serves as an example of how Nordic public administrations are exploring more automated service delivery, including in areas that may affect vulnerable users such as migrants and refugees (Minkkinen, 2026).

Trends in migration and integration policy are also important for understanding the context of this project. Although the project does not assess policy frameworks directly, its analysis is set against the backdrop of Nordic immigration policy shifts towards more restrictive, selective and temporary approaches (Dahlström, 2025; Kessler & Haapajärvi, 2024). Furthermore, it has been argued that a rising "anti-immigration" public sentiment (Horwood, 2023) and increasingly hostile immigration debates in the Nordic countries may have direct consequences for the lives of migrants and refugees (Duru et al., 2026). While we are neither providing an

account of nor assessing the immigration, AI and digital policy developments across the Nordic countries, these shifts are relevant to digital inclusion as they shape the degree of security, institutional access and administrative complexity that refugees and migrants encounter when navigating public services in the Nordic capitals.

The Human-Centric Approach

In this mapping and exploration of digital tools and AI in integration services, we have applied a human-centric approach. The human-centric approach has roots in the human-centred design tradition that places human needs above technological efficiency and optimisation of organisations, processes and decision-making. In product and service design and technology development, this means that people, e.g., end-users, stakeholders, and customers, are involved in a participatory process, not just as inspiration or informants at the start or end of a development process, but collaboratively throughout. This is where the paradigm shifts from designing "for" to designing "with" people (Sanders & Stappers, 2008), also defined in participatory design (Leith, Vogel, & Mehta, 2022). More recently, "human-centric AI" has developed as a distinct approach in design, computer science, and governance. Shneiderman (2022) characterises Human-Centred AI (HCAI) as a deliberate reorientation away from technology-centred approaches toward systems that preserve human agency, responsibility, and control (Shneiderman, 2022). At the same time, the approach has extended beyond technology design with a broader organisational and strategic scope. As Hasselbalch (2025) argues, human qualities can function as a deliberate strategy in which human values are intentionally embedded within workflows and socio-technical management spaces; that is, as a methodological choice that positions "humanness" as a structuring principle in how institutions govern and engage with AI and digitalisation (Hasselbalch, 2025).

In governance, the term "people-centric" traces back to the foundational principles of the World Summit on the Information Society (International Telecommunication Union, 2003) and can also be found as the basis of the EU's digital rights and principles framework (European Commission, 2023). Yet, the human-centric approach has found its fullest expression in the EU's AI strategies that are grounded in a fundamental rights framework and a risk-based approach. As the EU High-Level Expert Group on AI states in its ethics guidelines: "The human-centric approach to AI strives to ensure that human values are central to the way in which AI systems are developed, deployed, used and monitored, by ensuring respect for fundamental rights." (EU High-Level Expert Group on Artificial Intelligence, 2019). This principle is also key to multilateral frameworks, such as UNESCO's AI ethics recommendation (UNESCO, 2021) and the OECD's AI Principles (OECD, 2019). (Aguerre & Hasselbalch, 2025; Hasselbalch, 2021, 2025)

Exploring digital tools and AI use for integration services in the Nordic capitals with a Human-Centric Approach

With a human-centric approach human welfare, dignity, agency and meaningful interaction are placed at the centre of technology design and implementation.

In specific, the human-centric approach that was developed for this report draws on shared EU and Nordic social, cultural, and democratic values, and it is based on principles of relevant policy and legal frameworks, which includes the Nordic national digitalisation strategies, the EU AI Act, and international human rights standards. It is furthermore specifically aligned with the Nordic welfare traditions that prioritise solidarity, equality, and universal access to public services.

Research objective

The objective of this report is to map and explore existing and emerging digital tools and AI used by public authorities and related actors in the Nordic capital cities to support integration services, including civic orientation and guidance, language learning, labour market integration and access to public health services.

Based on this objective, the report covers the following:

- Explores the appropriateness and effectiveness of the use of different digital solutions and AI use in integration services and identifies situations where digital tools add value and where personal human contact ("The human dimension") is essential.
- Investigates on a general level the suitability of different types of digital solutions and AI use for heterogeneous target groups of refugees and migrants, considering factors such as language proficiency, educational background, gender, digital skills, length of residency, as well as other criteria or vulnerabilities.
- Identifies good practices and illustrative examples of digital and, where relevant, AI-based solutions on how to use digital tools and AI to help refugees and migrants in various aspects of the integration process.
- Provides informed reflections and recommendations on how to upscale and/or expand efficient digital solutions to other Nordic capitals, and which barriers that might occur, while ensuring that integration services are strengthened in an inclusive, ethical, and human-centred manner.

Methodology

In the mapping and exploration, we have employed a qualitative research design that combines desk research, interviews and stakeholder engagement to map and analyse digital tools and AI-supported solutions. The purpose was to create an initial picture of the use of digital tools and AI in integration-related services across the Nordic capital cities, and to examine under which conditions such tools can support refugees and migrants in their integration journeys.

The mapping and exploration build on previous Nordic research on digital inclusion and integration, including the Nordregio project Digital Inclusion in Action (Nordregio, n.d.) and the Nordic Council of Ministers project *Promoting Digital Inclusion of Migrant Women in the Nordic Countries* (Brynteson & Jessen, 2025). These studies highlight barriers such as language, digital skills, trust in public services, and the important role of civil society organisations in bridging gaps between institutions and migrant populations. Building on this knowledge, the present mapping and exploration focus more specifically on the use, appropriateness and potential added value of digital tools and AI-supported solutions in integration services, while also investigating where human support remains essential.

In this mapping and exploration, a human-centric approach was applied as the analytical framework. The analysis was guided by three main research questions:

1. Which types of digital tools and AI-supported solutions are used in integration-related services in the Nordic capital cities?
2. What does a human-centric approach mean in the context of digital tools and AI in integration services, and how can the appropriateness and effectiveness of such tools be assessed?
3. What can be learned from existing practices, and what are the conditions, barriers and opportunities for transferring or scaling relevant solutions across Nordic contexts?

Desk research and mapping of digital tools

The desk research included a review of existing studies and public information portals providing information on digital tools and AI-supported solutions used in integration-related services. This formed the basis for an initial mapping of tools and services across the Nordic capital cities. The mapping focused primarily on civic guidance, language learning, education, labour market integration, access to health care and social networks.

The mapping was supplemented through stakeholder engagement, including survey responses, interviews, a stakeholder workshop and input from the project sounding board.

Stakeholder engagement and validation

Throughout the project, we engaged with relevant actors involved in developing and delivering integration services across the Nordic capital cities, including public service employees, NGO representatives, and developers of digital solutions. Furthermore, we collaborated closely with researchers involved in projects on the digital inclusion of migrants and refugees in the Nordics.

A **survey** was conducted to support the mapping of digital tools and services currently used in the Nordic capital cities. The survey collected information on the purposes of these tools, their perceived usefulness, implementation challenges and the use of informal or "shadow tools", such as AI chatbots or other digital solutions used by staff outside formal service systems. In total, 20 responses were received from public representatives in Copenhagen, Helsinki, Oslo, Stockholm, Reykjavik and Mariehamn, as well as from NGO representatives.

A **stakeholder workshop** was held with 27 participants, including representatives from the Nordic capital cities, NGOs, researchers and the project steering group. The workshop explored barriers and opportunities related to the use of digital tools and AI in integration services. It also helped explore the human-centric themes and assess how these are reflected in current practices.

In addition, 17 **qualitative interviews** were conducted with stakeholders, including caseworkers, NGO representatives, project leaders, digital tool developers, and three in-person interviews with migrants[1]. The interviews provided deeper insight into specific tools, lived experiences, the relationship between digital tools and human interaction, and the needs of different user groups.

A **sounding board** of researchers working on migrants' digital inclusion in the Nordic region contributed to the project by participating in the stakeholder workshop, validating initial findings and helping to qualify recommendations on the scaling and transferability of digital solutions across Nordic contexts.

For the qualitative analysis, findings were analysed thematically and structured around the eight human-centric themes. A central component of the analysis was to develop a nuanced reflection on the "human dimension" of the integration of digital tools and AI in integration services.

1. Some of the other interviewees also had migrant backgrounds. However, they were interviewed in their professional capacities as stakeholders rather than about their personal experiences of the integration process. The three interviews here referred to specifically focused on migrants' personal accounts of integration.

Limitations

In this report we present preliminary insights into the landscape of digital tools and AI-supported solutions used in integration services across the Nordic capitals including a general exploration of the topic. This has been qualified by expert input regarding the human-centric approach and digitalisation and AI in integration services and is illustrated through qualitative interviews with relevant stakeholders.

Due to the limited scope and short time frame of the project, the findings in this report only reflect selected experiences and perspectives rather than the full picture across all Nordic capitals and does not represent a complete or representative mapping of all tools, services or user experiences. As such, the study mainly provides qualitative insights into common challenges, practices and trends that can inform future policy development, support implementation processes and inspire further research.

Equally, the interviews were selected to cover different experiences from caseworkers, NGOs, service providers across the Nordic countries, including experiences of migrants. Yet, they serve only as illustrative rather than representative of the topics discussed in the report.

Furthermore, this report does not include a full legal, ethical or fundamental rights assessment of the tools and cases covered.

Chapter 1 Map of Digital Tools and AI Use Across the Nordic Capitals

Across the Nordic countries, refugees and migrants encounter public services in many areas that are central to everyday life and integration, including health, education, employment, social benefits and pensions. As many of these services are now largely digitalised (Digital Europe, 2022), the ability to access and use digital tools has become increasingly important throughout the integration process. Digital services are also relevant beyond the public sector, for example, in relation to banking, transport and other essential services provided by private organisations. Building on this wider context, this chapter section provides an overview of how digital tools and AI are used in selected integration-related services across the Nordic countries and their capital cities, with a primary focus on public services. The analysis focuses on a selection of thematic areas relevant to the integration journey of most refugees and migrants: guidance and civic orientation, language learning, labour market integration, access to health services, and data sharing and coordination among integration services.

Official guidance for newcomers and civic orientation

All Nordic countries have established dedicated websites to help newcomers access information and resources relevant to everyday life. These websites are aimed at foreigners who are moving to, or considering moving to, the Nordic countries. All websites offer information in English, and some also provide information in additional languages such as Russian, Ukrainian, Arabic or Spanish. While some websites include content that has been professionally translated into languages other than English, several also include automatic translation software.

The level at which this information is provided varies across countries. In Denmark and Norway, the capital cities have developed dedicated webpages with extensive information for newcomers. In Sweden and Iceland, newcomer information is primarily provided online at the national level. For example, in Iceland, the Multicultural Information Centre (MCC), which has offices in Reykjavik, provides guidance on living in Iceland more broadly. Furthermore, it provides advice and information to companies, public authorities, and other organisations engaging with migrants and refugees in Iceland. It offers specific guidance for refugees in six

different languages (Multicultural Information Centre, n.d.). In Sweden, national-level online information is also available focusing on society and culture. The City of Stockholm provides some information for international newcomers on its own website, referring users instead to in-person services at the municipal Welcome House.

Overall, the municipal and national websites provide guidance on official registration, access to public services such as healthcare and childcare, entry into the labour market, language learning opportunities, and information about society and culture. Some of them also have a specific focus on informing migrants and refugees of their rights. For example, the Norwegian information site has a dedicated sub-section informing about the rights and obligations that apply in employment relationships, available in 13 languages (Norwegian Labour Inspection Authority, n.d.). Similarly, Finland provides information on how to deal with problems at the workplace, including a video about employee rights in 11 languages (Rikosuhripäivystys, 2018). Furthermore, the Finnish information site includes a dedicated section on the rights and obligations of occupants (InfoFinland, n.d.).

In general, the websites also provide information about in-person services and events. For example, the International House Copenhagen provides an overview of upcoming events, such as monthly welcome events that offer guidance on a broad range of topics relevant to the integration journey, or online events on specific topics, such as renting a home in Denmark (International House Copenhagen, n.d.). The pages also provide information on how to get in contact in case of questions. In Iceland, multiple contact options are provided, including in-person office hours, phone hours, and an e-mail address. In contrast, International House Helsinki offers desk services mainly by appointment. To complement this, an online chatbot was introduced in 2022 to answer questions about available services and provide information about moving to the Helsinki capital region. The chatbot is integrated directly into the website. If it cannot answer a question, users are directed to a customer service representative from Helsinki-info. During service hours, users can also request direct assistance by typing "I would like to chat with a customer service representative" in the chat window (International House Helsinki, 2022).

Trust-M research project (2022-2028): Designing inclusive and trustworthy digital public services for migrants in Finland

The Trust-M project, run by a partnership of Finnish universities, aims to create trustworthy digital public services to improve the integration of migrants in Finland.

In collaboration with the city of Espoo, the project developed a pilot version of a hybrid public-sector service based on conversational interaction, including chatbots. This allows migrants to ask questions in their native language and receive tailored information about rights, duties and practical information. This was based on participatory design with migrant counselling service programs in the Cities of Espoo and Helsinki, and other actors.

The project also provided recommendations for policymakers, as Finland is examining how automation and AI could play a larger role in delivering public digital services. The recommendations aim to ensure that services remain accessible, inclusive and trustworthy for migrants.

More information: https://trustmproject.aalto.fi/

Source: Online sources

The following table provides a short overview of the different official information websites provided by the Nordic countries and capital cities:

Institution	Country (City)	Short description	Website (Link)
International House Copenhagen	Denmark (Copenhagen)	One-stop for registration services, general guidance, events, and career programmes to welcome newcomers in Greater Copenhagen.	https://ihcph.kk.dk/
Danish Immigration Service & Danish Agency for International Recruitment and Integration (SIRI)	Denmark (national)	Official web portal about the rules for entering and residing in Denmark.	https://nyidanmark.dk/en-GB/
International House Helsinki	Finland (Helsinki)	One-stop shop that brings together key public services, providing guidance on registration and general information on public services and life in Helsinki. The website includes a chatbot to help with questions about the services and information provided.	https://ihhelsinki.fi/

Info Finland	Finland (national)	Multilingual website (available in 12 languages) that offers reliable information for people who have moved to Finland or are planning to move to Finland. InfoFinland is produced in cooperation with public authorities.	https://infofinland.fi/en/home
Multicultural Information Centre	Iceland (national)	One-stop shop that provides information on all practical aspects for newcomers to Iceland, with specific information provided for refugees translated in six languages.	https://mcc.is/
City of Oslo – Welcome to Oslo	Norway (Oslo)	One-stop shop that provides information on all practical aspects for anyone moving to Oslo for work, mapping and exploration, or join a family member.	https://www.oslo.kommune.no/english/welcome-to-oslo/
Integrerings- og mangfolds-direktoratet (IMDi)	Norway (national)	Website that gathers official information from Norwegian authorities about life in Norway for newcomers. Information is also available in Ukrainian and Russian.	https://www.nyinorge.no/en/
City of Stockholm – Welcome House	Sweden (Stockholm)	Website in multiple languages to inform about the city of Stockholm's Welcome House.	https://socialtstod.stockholm/nyanlanda/vagen-in-i-samhallet/welcome-house/information-about-welcome-house-in-different-languages/welcome-house-english/
County Administrative Boards	Sweden (national)	Information website for asylum seekers and people who have recently been granted a residence permit in Sweden, available in 11 languages.	https://www.informationsverige.se/en/hem.html
Migrationsverket (Swedish Migration Agency)	Sweden (national)	Official web portal about the rules on how to apply for residency in Sweden, including an online portal to apply and access decisions.	Migrationsverket.se
Swedish Institute	Sweden (national)	Information website about Swedish culture, society and work life. It does not provide direct access to public institutions.	https://sweden.se/

Language learning

Across the Nordics, digital tools are used to support language training for migrants and refugees. These tools are used to offer more flexible and personalised learning opportunities, including both fully online programmes and blended formats.

One-way digital tools are used is through private language training providers, which offer flexible online or blended courses. One example is the accredited Norwegian language school Lingu AS, which offers preparation for the official Norwegian Language Test, Norskprøven (Lingu, n.d.). Its offer includes digital education modules that can be accessed from any location and at any time, as well as AI-based tools to support oral exam practice. This approach aims to make language training more scalable and personalised, although participants have to pay for the offer.

A related development can be seen in publicly supported research and innovation. In Finland, the DALAI-FIN project is exploring how AI-powered solutions can support migrant integration through personalised and flexible language training (Research.fi, 2025). Running from 2025 to 2028, the project brings together universities, language schools and government bodies to create an inclusive AI-enabled learning environment. Similarly, it focuses on adapting learning to individual needs, including through personalised exercises tailored to participants' profiles, such as their professional field. In Finland, there are also research projects aimed at developing a digital tool to assess oral language skills for students. From 2019-2023, the DigiTala project has developed models for the automatic assessment of Finnish and Swedish speech. This has now been expanded to include the automatic assessment of other interactions, such as gestures and facial expressions, to refine the model as part of the AASIS project from 2023 to 2027 (University of Helsinki, n.d.).

Furthermore, free digital tools combine language learning with everyday media consumption and learning about culture and values. For example, the non-profit organisation Lingvis currently provides free learning apps for Swedish, Icelandic and Finnish (Lingvis Foundation, n.d.-a). In Iceland, this includes a collaboration with the public-service broadcaster RÚV, which provides Icelandic TV content with interactive subtitles and language support in several languages (Lingvis Foundation, n.d.-b). Based on the learner's current language level, new vocabulary is highlighted in the subtitles, followed by learning exercises. In Sweden, Lingvis founded the non-profit association Språkkraft (see also p. x) in 2025, which developed digital language-learning solutions and has reached more than 650,000 users (Lingvis Foundation, n.d.-c). As in Iceland, this also included a collaboration with the Swedish public-service television company SVT, though it was later discontinued due to funding issues. Språkkraft currently offers the app Språkkraft Reading Coach, which provides personalised language training based on Swedish media

content (Språkkraft, n.d.). In addition, Språkkraft has developed classroom technology for live captioning in multilingual teaching environments in collaboration with language schools in Sweden. This allows teachers to activate live transcriptions that students can follow in real time. In Finland, the public broadcasting service Yle produces content in many foreign languages and offers simplified Finnish for learners (Yle. n.d.-a), as well as a variety of gamified resources for language learning, including videos and word games (Yle, n.d.-b). These resources are often used by migrants to prepare for the Finnish citizenship language exam.

NGOs in the Nordics use digital tools to connect migrants with volunteers who help them practise and improve their language skills through video calls. In Denmark, for example, the platform Sprogland offers the possibility to book a video call with a Red Cross volunteer (Boblberg.dk, n.d.). According to an interviewee involved in the organisation, it currently includes more than 300 volunteers who meet regularly with migrants online to support their Danish learning. This initiative also benefits from close collaboration with Danish language schools, which recognise the value of giving learners additional opportunities to speak the language and learn more about local culture. In Sweden, the NGO Hand in Hand for Women offers digital fika sessions, where foreign-born women can practise Swedish with native speakers and receive support in integrating into society (Hand in Hand for Women, n.d.).

While digital language learning offers typically require a certain level of digital literacy, other initiatives combine language learning with support for digital skills. One example is the LearnConnect 3060 project in Oslo, which aims to empower migrants and refugees by helping them acquire Norwegian language skills and digital literacy (FURIM Institute, n.d.).

The table below provides an overview of some of the digital tools available in the Nordic countries that are designed to support language learning. The overview is non-exhaustive and does not include widely used global language-learning platforms, such as Duolingo or Babble, which offer courses in many languages.

Title of tool (provider)	Country	Description	Website (Link)
AI tutor (BetterDanish)	Denmark	Danish teaching based on AI technology to practise speaking, writing, listening and reading with an AI tutor based on a monthly subscription.	https://betterdanish.dk/#
DALAI-FIN Research project (University of Helsinki)	Finland	DALAI-FIN uses AI to provide personalised, flexible language teaching. It automates tasks such as generating relevant exercises and instant feedback and uses advanced speech-recognition and LLMs to help learners improve their skills.	https://research.fi/en/results/funding/84359
Digital Fika (Hand in hand for women)	Sweden	Digital fika supports foreign women in speaking Swedish with native Swedes in a more convenient and digital setting, using digital platforms to make it easier for them to integrate into society.	https://www.handinhandforwomen.com/digital-fika
Digital language training (Bara Tala)	Iceland	Online application for job-related language learning for Icelandic, which is translated into 25 languages. Provided through workplaces, organisations and unions with subscription.	https://www.baratala.is/en
DigTala in action research project (University of Helsinki, Aalto University and University of Jyväskylä)	Finland	The goal of the DTA project is to develop a mobile application that enables training independent of time and place. The application enables learners of Finnish with migrant background to practice pronunciation and speech production in Finnish. The app is also suitable for assessment.	https://www.helsinki.fi/en/projects/digitala-action
Hej Svenska! (Information Sverige)	Sweden	Free language learning app and website for Swedish.	https://www.hejsvenska.se/

LearnConnect360 project (FURIM Institute/Oslo Municipality)	Norway	The LearnConnect360 project aims to empower migrants and refugees in Oslo through the acquisition of Norwegian language skills and digital literacy, essential for effective integration and participation in Norwegian society and the workforce.	https://furim.no/projects-hub/learnconnect-360
Lingvis Live (Språkkraft/Lingvis Foundation)	Sweden	Real-time transcripts for both online and offline classes developed by Språkkraft, in collaboration with language schools.	https://lingvis.org/lingvis-finland.html
Online language training (Lingu AS)	Norway	Lingu AS is an accredited Norwegian language school offering a digital self-service solution, AI-supported learning and collaborative tools.	https://lingu.no/?locale=en
Reading Coach App "Läscoach" (Språkkraft)	Sweden	Free app to support those learning the Swedish language to read up-to-date and daily media content from the Swedish media, with integrated support in 32 languages. Includes personalized exercises from authentic content.	https://sprakkraft.org/
RÚV orð programme (Lingvis Foundation)	Iceland	RÚV orð is a service enabling people to map and explore Icelandic by watching RÚV's media content and clicking words in subtitles for language support.	https://ord.ruv.is/
Sprogland (Boblberg/Red Cross)	Denmark	Sprogland.dk is an initiative developed in collaboration with the Red Cross, giving users the opportunity to practise and improve Danish through online video calls with a volunteer from Sprogland.	https://boblberg.dk/sprogland
Voki (Helsfyr)	Norway	AI-based learning platform for Norwegian developed by the Oslo adult education centre Helsfyr.	Voki.no

Labour market integration

Participation in the labour market is important for the economic integration of migrants and is also closely linked to social inclusion. While digital skills are needed for many jobs, they also play an important role in supporting the job search and hiring processes. Preliminary findings from an ongoing Swedish research project, however, document significant barriers to migrants' digital inclusion for labour-market access, including fragmented services across websites, login and authentication problems, and document-handling difficulties for smartphone-only users, alongside other barriers related to migrants' legal status and life conditions (Duru et al., 2026).

Digital tools used in the labour market integration process serve different purposes, including providing information about employment opportunities, supporting job-search activities, facilitating communication between jobseekers and employment services, strengthening work-related language and digital skills, and assisting with career guidance and matching. The actors involved range from public employment services and municipalities to NGOs, educational providers, employers, research institutions, and private companies.

At the national level, the Nordic countries provide information websites on employment and working life. Denmark, Iceland, and Finland have dedicated websites that target international job seekers and employers and provide practical information on finding employment, workplace culture, recruitment processes, and labour market regulations. In the case of Norway and Sweden, this information is included in the official information website for newcomers. Additionally, the Swedish public employment service provides information for asylum seekers and migrants on entering the Swedish labour market (Arbetsförmedlingen, n.d.-a). Furthermore, a specific internship programme in Sweden connects academics from outside Europe with Swedish employers, and more than 6,500 have participated thus far (Jobbsprånget, n.d.). In the case of Iceland, the page is run in collaboration between public institutions and industry associations. In general, these platforms are primarily designed to attract and support international talent – for example, the Danish page states that it aims to "help Danish employers find qualified employees from Europe and assist job seekers from Europe in finding a job in Denmark." (Workindenmark, 2026). In Norway, Arbeidsplassen provides information about finding work, including specific guidance for Ukrainian refugees (Norwegian Labour and Welfare Administration, n.d.-b). An overview of specific information pages with information on work-related issues is provided in the table below:

Organisation	Country	Description	Website (Link)
Workindenmark (Agency for Labour Market and Recruitment)	Denmark	Website to help Danish employers find qualified employees from Europe and assist job seekers from Europe in finding a job in Denmark.	https://workindenmark.dk/
Work in Iceland (Ministries of Industries and Innovation; The Federation of Icelandic Industries)	Iceland	Website providing practical information for international job seekers in Iceland.	https://work.iceland.is/working/
Work in Finland (Business Finland, KEHA Centre)	Finland	Website to provide information for international talent and companies operating in Finland that want to recruit international talent.	https://www.workinfinland.com/en/
Arbejdsplassen (NAV)	Norway	Section with information about working in Norway for Ukrainian refugees on the official website providing information for job seekers and employers.	https://arbeidsplassen.nav.no/en/work-in-norway/finding-a-job
Arbetsförmedlingen	Sweden	Website by the Swedish public employment service to provide support for jobseekers, which also provides some specific information for asylum seekers and migrants.	https://arbetsformedlingen.se/
Jobbsprånget	Sweden	Includes a chatbot to help with questions.	https://jobbspranget.se/

Alongside information portals, digital tools are increasingly integrated into employment and integration services. In Norway, participation in employment-related activities can be supported through NAV's digital Activity Plan, which is used to plan, document and follow up activities between the jobseeker and NAV. The plan may include activities such as job-search tasks, courses, work-oriented measures and meetings with NAV (Norwegian Labour and Welfare Administration, n.d.-a). In the context of migrant and refugee integration, such digital planning tools can support coordination between the participant and public employment services by making agreed activities visible and traceable.

A growing area of development concerns the use of AI-supported tools for career guidance and job-search support. One example is the Jobbsjansen project in Norway, which has developed a digital platform aimed at migrant women outside the labour market. As explained by an interviewee, the platform combines language learning, digital skills development and employment preparation through specialised AI chatbots that support users with tasks such as CV writing, job applications, interview preparation, career exploration and Norwegian language practice. This illustrates how AI-based tools are increasingly being used as supplementary learning and guidance resources within labour market integration programmes.

Private providers also play an important role in the Nordic landscape. In Denmark, AI-supported tools such as "Digital JobHelp" are also used by many municipal job centres and Danish unemployment insurances (A-kasse) to provide job seekers with structured guidance on job applications, CVs, and interview preparation (JobHelp Solutions, n.d.). As explained in an interview, the platform has been designed to accommodate the specific needs of non-Danish job seekers. It includes informational videos in 9 languages that also cover cultural aspects and norms relevant to finding a job in a Danish workplace. Furthermore, it has an integrated AI-based function to translate CVs into Danish and English. In general, these tools differ from general-purpose AI chatbots in that they are designed around labour-market-related questions and practical job-search support. In Sweden, Lingio provides a mobile-based platform for vocational Swedish and workplace learning. Its courses cover 25 professions and include e-learning, translation support and a coaching portal, with content developed around everyday workplace situations (Lingio, n.d.). While not exclusively designed for migrants, such tools are relevant in sectors with many foreign-born workers, including care, transport, construction and service-related occupations.

Ongoing research projects in Sweden and Finland investigate aspects of digitalisation and the labour market integration of migrants and refugees, see the boxes below.

Research project: Technological Transformation, AI and Migrant Skills in the Finnish Labour Market (TAIMI) (2025-2031)

This multidisciplinary research project examines how digitalisation, AI, and changing forms of work are reshaping skills, inclusion, and working life in Finland. As labour shortages grow and workplaces become more technologically mediated, migrant workers play an increasingly central role across key sectors. TAIMI investigates how technological transformation can support fair, inclusive, and sustainable labour markets, rather than deepen inequality or skill underutilisation. The project works closely with municipalities, employers, trade unions, NGOs and migrant organisations. It is funded by the Strategic Research Council and implemented by a broad consortium of universities and research centres.

More information:
https://taimi.projectsites.aalto.fi/

Research project: Digital Navigation of Migrants in the Swedish Labour Market: Opportunities and Challenges of Digitalisation (2025-2028)

This interdisciplinary project explores how digitalisation reshapes migrant's access to the Swedish labour market, including public authorities. It includes a multi-stakeholder perspective, engaging with civil society organisations, libraries, employers and migrants. The project investigates both the challenges and opportunities related to digitalisation for the inclusion of migrants and their labour market participation. It is funded by FORTE and includes an interdisciplinary research team from Lund University and the University of Gothenburg.

Based on interviews with 59 migrants in Sweden, the preliminary findings of the project show (Duru et al., 2026):

- Weak support structures and residence uncertainty can leave migrants feeling stuck rather than helped, where support in finding employment seems disconnected from real job pathways and waiting times for residence permits delay entry to the labour market.
- Access alone is not enough: support also needs to be usable, guided, and connected to real employment pathways, e.g., receiving face-to-face help and support in a language they understand.
- Migrants do not navigate passively: they combine persistence, strategies, and digital tools to improve their chances of finding jobs, where AI can help as an assistant but works best as support rather than as a substitute.

Access to public health services

Digitalisation has significantly changed the way healthcare is provided and accessed in the Nordics, including tools such as electronic health records, tele-medicine services, and mobile health applications (Bywall et al., 2025). Across the Nordic countries, access to personalised digital health services is generally linked to national identity infrastructure. Denmark, Norway, Sweden, Finland and Iceland all require some form of national eID or strong electronic identification to access personal health records, prescription services, appointment booking and secure communication through their main digital health portals. However, this should be distinguished from access to healthcare itself: emergency care, in-person consultations, telephone advice and some targeted migrant or refugee health services are not dependent on eID.

Recent research from Sweden found that while the digital transformation in healthcare has the potential to improve public health, migrants are at higher risk of exclusion from benefiting from these services due to language barriers, low digital literacy, and unfamiliarity with the healthcare system, which are exacerbated by cultural differences (Bywall et al., 2025).

Examples of digital health care services in the Nordic countries and capital cities are:

In Sweden, public digital health services are centred on 1177.se and the 1177 app, where users can access health information and, after logging in, use services such as viewing medical records, checking prescriptions, booking or changing appointments and requesting prescription renewals. Access to these personalised services requires a Swedish personal identity number and e-identification, such as BankID or Freja+, while general health information and telephone advice via 1177 remain available without logging in (1177, n.d.-b). On the official website, a selection of health and healthcare information is available in several languages, including Arabic, Somali and Ukrainian (1177, n.d.-a).

In Denmark, the nationwide app "min læge" provides digital access to doctors, including video consultations and the ability to request prescription renewals (Min Læge, n.d.). Patients can access personal health data via the official national health portal "min sundhed" and the corresponding mobile application (Sundhed.dk, n.d.). However, both digital services are currently available only in Danish.

In Finland, Helsinki residents can access health and social care services through the digital portal "Maisa", which allows citizens to book appointments for certain non-urgent medical services, such as vaccines, view test results, participate in video counselling, and view social care decisions, among other functions. It also provides professional self-assessment tools, such as depression and alcohol-use assessments, which users can complete independently before seeking or receiving

public health services. Maisa allows users to choose Finnish, Swedish or English as the service language (Maisa, n.d.), thereby seeking to improve access to professional digital health information for migrants.

Finland also established the PALOMA Centre of Excellence as a national hub to promote the mental health of people with a refugee background, supporting equal access and quality (Innokylä, n.d.). As part of this national initiative, the free, web-based PALOMA training package has been developed to provide professionals with basic knowledge to meet people with refugee backgrounds and support their well-being (Innokylä, n.d.). The initiative also published the PALOMA handbook with extensive information about the prevention, recognition and treatment of mental health problems of people with refugee backgrounds (UNHCR, n.d.).

In Iceland, the national health portal "Heilsuvera" offers information in Icelandic, English, Polish, and Spanish, and also offers an online chat where nurses will, to the best of their ability, accommodate other languages if the patient does not speak Icelandic (112 Iceland, n.d.).

In Norway, users can access services such as contacting doctors, booking appointments, requesting repeat prescriptions, e-consultations, video consultations and patient records via the public health portal "Helsenorge" (Helsenorge, n.d.-c). Public health information is available in English, and Helsenorge has a language policy covering Norwegian, Sámi languages and selected foreign-language translations based on ongoing assessments (Helsenorge, n.d.-a). In addition, Oslo launched a municipal online doctor service in May 2026, available via Helsenorge and the Helsenorge app for residents registered in Oslo. The service offers video consultations with a municipal doctor as a supplement to the GP system (Oslo kommune, n.d.). The system is also currently also being tested in other municipalities, and users can indicate the need for an interpreter when booking (Helsenorge, n.d.-b).

Data integration

Across the Nordic countries, integration efforts are generally coordinated nationally, with responsibilities for different parts of integration policy often shared among several ministries and government agencies (Berlina et al., 2025). Capital cities and other municipalities are central to delivering integration services to refugees and migrants in all countries. This creates a coordination challenge: the individual integration pathway often cuts across employment services, adult education, language training, social support and other municipal services.

Digital integration platforms are therefore relevant as tools for reducing fragmentation, improving caseworker access to information, and supporting more coherent individual integration plans.

Examples of platforms as such in the Nordic countries are:

In Oslo, the municipality is developing "Flyktningportal", which aims to facilitate the coordination and integration of various public services and systems targeted at refugees. For example, the portal has already been introduced for adult education, enabling teachers and staff of the Norwegian Labour and Welfare Administration (NAV) to access selected information on participants' integration plans, with data drawn from municipal and national systems. Overall, the introduction and expansion of the portal is expected to simplify work processes, thereby freeing up time for user-focused services in city districts and resulting in overall cost savings in the future (Oslo commune, 2025).

Finland also maintains the ALPO register, which centrally collects information on visits to migrant guidance and counselling points and can be used for forecasting, monitoring and research (Kotoutuminen.fi, n.d.).

In Finland, municipally organised integration services are supported by nationally provided digital infrastructure. The KEHA Centre has developed Koto-AJ, a national client information system for integration services. The system is intended for use by municipalities, supports municipal integration casework, improves information exchange between integration actors, and produces data for knowledge-based management at municipal, regional and national levels. It was introduced for municipal use in 2025, and becomes mandatory after a transition period from 1 January 2027 (KEHA Centre, n.d.-a). The purpose of the Koto-AJ system is mostly to support professionals work in integration matters not related to employment.

In addition to Koto-AJ, Finland already uses the Tuutti service, a digital platform primarily intended for professionals working in employment and integration services across Finland (KEHA Centre, n.d. -b). Access to the system may be granted also to third sector organisations and various partners whose scope is within integration and employment support It is centrally managed by the KEHA Centre and implemented at the municipal or organisational level. The system gathers data on client meetings and uses it to produce reports, steer activity oriented towards immigrants and refugees and assess the usability and visibility of informational sources and digital tools targeted at immigrants. It also serves as a platform for collaboration among cities to learn from each other's experiences, test new solutions, and exchange best practices, including an online library with support materials for municipal staff working in integration services. The expert also noted that the plan is to utilise AI more within the system. Currently, Co-Pilot is integrated into the platform as an AI-based support tool for accessing information, with a limited role in answering questions about training materials for professionals working in migrant integration and in locating relevant information within the platform's materials. According to expert information, municipalities can use Tuutti to produce reports based on their own data, but a more centralised analysis of client data at the national level is currently not possible due to data-protection restrictions.

In Sweden, digital coordination has mainly focused on improving information exchange between specific public services rather than creating one shared integration platform. The Swedish Public Employment Service, Arbetsförmedlingen, is developing solutions to exchange information with municipal adult education, including Swedish for migrants. The aim is to make it easier for labour-market services and municipalities to share relevant information about a person's education pathway, such as educational needs, applications, admission, course participation, interruptions and results (Arbetsförmedlingen, n.d.-b).

Cross-cutting use of "shadow tools"

The mapping revealed widespread use of "shadow tools", understood as informal or unofficial digital tools used by integration workers in their daily practice, across different integration services. These include general AI chatbots, such as ChatGPT and Copilot, translation apps such as Google Translate, and other digital solutions that are not formally integrated into service provision but are nevertheless used by staff to guide and support migrants and refugees. These tools appear to be used primarily for language and communication support, particularly when official information or professional interpretation is not available in the client's language. As one public employee in a Nordic capital city explained: "*We use general OpenAI apps like ChatGPT and Copilot in communication. We use different free AI apps to create videos and to inform our clients.*" Staff also reported supporting clients to use AI-based tools themselves, for example in relation to job search activities. One respondent described providing *"citizens with a number of prompts that they can choose to use when writing CVs and job applications"*, alongside guidance on *"dictation and text-to-speech and using AI"*. The same respondent noted that clients are presented with a range of options for using AI, including "*ChatGPT, Gemini, Le Chat, Claude, Chat.dk*". Some of the advantages that were highlighted are that these tools are accessible, even for citizens with limited language skills, thus supporting "help to self-help".

Chapter 2 The Human Dimension: Key Insights, Human-Centric Themes and Good Practices

A central component of the mapping and exploration was to explore the human dimension of digital tools and AI use in integration services, and to identify situations where digital tools add value and where personal contact is essential. This chapter provides an overview of key insights gained in the project regarding the role of the "human dimension" in the context of digital tools and AI use in integration services.

The qualitative interviews and stakeholder workshop were centred around eight "human-centric" themes. Following a depiction of the "human dimension", we present reflections and conclusions based on these themes that were used to both structure the discussions and interviews as well as the analysis of these.

In this chapter, we also present good practices identified across the Nordic capitals.

Annex I presents a guiding framework for the adoption and implementation of digital tools and AI in the Nordic countries in the context of integration services. It consists of an Assessment Tool with eight human-centric criteria based on these themes with an accompanying set of questions to assess, identify and describe the appropriateness of digital tools and AI use in integration services.

What is the Human Dimension?

In this report we define the "human dimension" as the direct interaction and relation created between human beings (e.g., a case worker, a counsellor or a volunteer and a migrant) in the integration process. This may be in-person meetings, or mediated through online tools, chat, email or telephone. The human dimension also includes the migrant's social network or community. Furthermore, it is a strategic priority and a principle in inclusive design processes and implementation of digital and AI tools in which the experiences and input of users are directly involved, and human qualities are prioritised.

The Eight Human-Centric Themes

Accessibility

Human Empowerment and Agency

Human Interaction

Trust

Education and awareness

Effectiveness

Scalability & Adaptability

Fundamental Rights and Ethics Compliance

Key Insights Regarding the Human Dimension

Human interaction is fundamental to trust and feeling secure. A consistent finding across the mapping and exploration was that direct human contact, whether face-to-face, online or via the phone, help building trust in the integration process. According to the NGO representatives and caseworkers interviewed for this report, many migrants feel insecure when interacting with digital systems fearing that a single mistake could have serious consequences for their lives. A consequence could e.g., be penalties for failing to register job search activity correctly or errors in welfare applications. As one interviewee working directly with migrant women entering the job market in Oslo noted, they often lack confidence when navigating digital systems related to welfare, education, or work. As a result, many users of the online service she was working with require substantial guidance even when the digital tools themselves are perceived by service providers as relatively simple, as they remain anxious about misunderstanding it, making mistakes or entering incorrect information.

Insecurity and anxiety about the system are not always simply a question of digital literacy. In some cases, it is also a result of complex processes, and the insecurity about how to respond. For example, a student from Canada described his experience when applying for a visa to Denmark: ***"I have faith in myself, but I also would like to talk with someone else to ensure that all is okay. I could also have emailed to ask the authorities for guidance, but this was not necessary because I could ask my mom for help to check that all is correct"*** , illustrating how personal support networks can reduce the need for human support from public services.

Human interaction is irreplaceable throughout the integration journey. It is not merely useful at the outset of the integration process; it is important on a continuous basis. This was emphasised consistently in the interviews by both those

delivering integration services and those representing migrants and refugees. One representative of an NGO delivering a language learning digital platform, emphasised the value of one-to-one contact: ***"We would like to have the one-to-one contact, because the relationship matters. There is the opportunity to sit and talk with this other human being, and there is time to speak."*** On the question of whether direct human contact could ever be replaced, she said: ***"I think you can supplement to a great extent, but human contact offers something quite unique."***

MCC.is: Hybrid Support in Iceland

The Multicultural Centre portal (mcc.is) in Iceland was developed to provide accessible information and advice for refugees and migrants dispersed across the country geographically. The platform aims to ensure that individuals in remote areas receive the same level of support as those in urban centres.

The portal operates on a "hybrid interaction" (Eriksson et al., 2023) model rather than relying exclusively on digital information. To accommodate users with limited digital literacy or language barriers, the organisation maintains human support. This includes open computer labs, one-to-one counselling sessions, and the provision of written instructions via email. Counsellors remain available on weekdays to guide users through the website and assist with complex administrative processes that automated systems cannot address.

Language accessibility remains a priority. However, standard translation tools often struggle with Icelandic nuances. While advanced translation services are used to improve clarity, there is recognition that reliance on these tools among users can sometimes obscure actual language proficiency levels. Consequently, the portal is positioned as a complement to human interaction rather than a replacement, combining digital resources with consistent personal guidance.

While the core portal offers basic advice and information, a specific civic educational module is currently being prepared as an extension. These educational materials are in the final stages of design and will be launched in the autumn 2026. Unlike previous programs that focused heavily on general cultural orientation, the new materials are structured into modular formats, allowing users to select content relevant to their immediate interests and practical needs. The design process of the educational module incorporated feedback from refugees and migrants, who reviewed and approved much of the content to ensure cultural relevance.

The MCC.is website: https://mcc.is/

Source: Interview with representative and online sources

Migrants' social network and communities are crucial components of the integration process and therefore form the basis for successful digitalisation. Formal integration services, digital or otherwise, rarely reach migrants in isolation. Information travels through social networks and communities, and awareness of digital services is often generated through word of mouth within specific cultural communities. It was reported that user groups of the digital tools were significantly shaped in communities that organically shared information about them. For example, an initiative in which migrants can practice their Danish through online video calls with volunteers has huge popularity among health care workers from Iran and Sri Lanka, even though the target group is much wider.

This points to a human dimension of integration that digital tools are poorly equipped to address on their own: the need for social connection, belonging, and peer support. As one representative of a digital literacy initiative explained it: ***"Why don't we just put our courses online? Because our group is so lonely, and their self-confidence is so low, that they need to take care of each other - to reconnect, to be seen and heard."***

Migrantour, Food for Thought and Empowering Ukrainian Youth: Digital Tools Support Social Network and Community Building

The Danish civil society organization Crossing Borders offers the "Migrantour" and "Food for Thought" programmes. These are initiatives where digital tools function as facilitators for empowering migrants to act as leaders and with other citizens. As such, these programmes deploy digital tools to foster human connection, community building and networking across cultures.

The Migrantour program, active in Copenhagen neighbourhoods like Nørrebro and Nordvest, trains migrant citizens to serve as guides who narrate their experiences and contributions to the community. Complementing this is "Food for Thought," a series of community dinners that provide an informal setting for internationals to share stories and build social networks over shared meals.

Empowering Ukrainian Youth is a programme that comprises four youth hubs in the four largest cities in Denmark including Copenhagen, Aarhus, Odense and Aalborg where each Hubs is led by a female Ukrainian youth leader who coordinates events for Ukrainian youth and local citizens to meet and discuss common interests and concerns where the Ukrainian youth act as hosts rather than being refugees and guests.

All initiatives are designed to foster agency and direct interpersonal engagement, shifting the focus from administrative support to social capital building.

Digital tools play a supportive role in sustaining these physical interactions. The organization utilizes existing platforms such as social media, blogs, and messaging applications to coordinate logistics, publicize event schedules, and amplify the personal narratives generated by participants. While Crossing Borders previously attempted to develop a dedicated application ("Global App") to connect people globally, technical challenges with spamming and low engagement led to its discontinuation. Consequently, the current strategy relies on widely adopted commercial platforms to bridge communication gaps without requiring users to adopt new technology.

This approach underscores the organization's view that there are many migrants and refugees that already possess the necessary digital literacy for daily life; therefore, technology should be leveraged only to lower barriers to entry for face-to-face events, not to replace them. Collaboration with Danish municipalities further supports this model by providing physical spaces, ensuring that the digital layer effectively serves the core objective of human-led community integration.

MigrantTour website: https://migrantoursdenmark.crossingborders.dk/

Food for Thought website: https://crossingborders.dk/food-for-thought/

Empowering Ukrainian Youth Hubs website: https://empoweringukrainianyouth.crossingborders.dk/

Source: Interview with representative and online sources

The human dimension ensures nuance that digital services cannot contain on their own. Integration involves navigating a new language, culture, labour market, school system, and daily life all at once, which is not a standard process. Case workers and counsellors are attending to various cultural contexts, personal histories, and individual circumstances. It was repeated that no digital system can represent these nuanced contexts completely. As one integration specialist from Helsinki who provides services for the most vulnerable migrants put it: ***"Every plan is really personal and requires a wider approach."***

A representative of a digital language learning platform described this in terms of the complexity that comes with learning to live in a new society: ***"There are so many nuances. I mean, one thing is learning a language, but when you are in a new society, there are so many nuances in the culture to understand as well."*** This

includes understanding institutions, the labour market, social norms, small talk, and regional dialects, nuances that are difficult to convey through digital tools and that benefit directly from human engagement. This human dimension of "nuance" is also closely interlinked with human dignity. As one NGO representative noted: ***"We give migrants a human face and a voice and challenge the narrative of criminal foreigners. We all are our story – if you want to welcome them and treat them as humans, they need to have the chance to tell their stories."*** Digital tools, no matter how well designed they are, cannot fulfil this role on their own, he said.

Inclusive design is a foundation for digitalisation. The human dimension also functions as a guiding principle in the design and implementation of digital tools themselves. Several organisations highlighted the importance of building systems based on direct input from the people they are intended to serve. As explained by one of the developers of a digital tool to support language learning, they followed a user-driven design process at the beginning, in which ***"any idea of a new feature should come from the users".***

Digital tools and AI can empower or disempower depending on the target group and context of use. The impact of digital tools in integration settings is not uniform. For instance, the more vulnerable a person is – in terms of digital skills, educational background, social position, or stage in the integration journey – the greater their need seem to be for direct human interaction. Advanced digital tools tend to be most beneficial for people who already have higher levels of education, digital literacy, and social stability.

Thus, AI-based tools to support job seekers might help migrants with higher digital literacy to feel empowered. As one job platform developer explained: ***"users can dive into the knowledge of job-seeking in Denmark on the platform, and this increases their activity between meetings with the Jobcenter because they feel empowered and it creates a sense of mastery of life, because you're not waiting for someone to help you".***

For those who arrived recently, with less education, or with different forms of vulnerability, on the other hand, a digital and AI tools-only approach risks increasing exclusion rather than reducing it. As one case worker explained: ***"They really need face-to-face interviews as they feel much safer in that way."*** Knowing that a trustworthy person is available to assist makes a tangible difference to how migrants experience, and engage with, the wider integration system.

Use of AI needs a "human in command" approach. Where AI tools are introduced in integration services, good practice consistently points to a "hybrid interaction model" (Eriksson et al., 2023) in which human support and verification remain central. At one programme, where they use AI chatbots to support the job application processes of migrant women, a counsellor noted that some women are not confident using AI tools independently, and she sits beside them to guide the

process. Also, when generative AI services are used to help draft responses or prepare for job applications, the output is not always reliable, and human interaction and verification, therefore remains essential. She therefore also stressed that counsellors must understand users' broader life situations and help them ask the right questions, not simply provide technical assistance.

Digital tools and human interaction serve different and complementary purposes in the integration process. For instance, digital tools are described as effective for documentation and information storage. Online meetings or phone calls with caseworkers, counsellors, or volunteer teachers are also described as valuable and can in some cases even be more accessible than an actual in-person interaction, particularly for target groups where leaving the home is difficult (e.g., women in some communities or those living in rural areas with fewer physical services available). The most effective solutions are the ones where digital tools expand accessibility and reduce administrative burdens, while at the same time preserving human relationships that provide trust and nuance.

Jobbsjansenhjelpen.no: AI-Supported Tools for Hybrid Labour Market Integration

Jobbsjansenhjelpen.no, launched in 2024 by the Jobbsjansen projects in Oslo, Nordre Follo, and Asker, provides digital support to migrant women aged 18-55 who are outside the labour market. The platform has a set of pre-configured chatbots designed to assist with specific tasks, including drafting job applications, simulating interview scenarios, and practicing language skills at different proficiency levels (e.g., A1 or A2). These tools operate within a password-protected environment where users can select tailored modes of interaction, such as an "employer" bot for interview practice or a "career counsellor" bot for guidance on professional norms.

Users can familiarise themselves with digital tools under supervision within the password-protected environment. Human counsellors provide ongoing support working alongside users to review the output generated by the tools, helping them verify information and maintain active engagement with the application process rather than relying exclusively on automated responses.

Source: Interview with representative and online sources

The Eight Human-Centric Themes

The qualitive interviews and stakeholder workshop were centred around eight "human-centric" themes. The following summarises general reflections and findings from the mapping and exploration around these themes.

Accessibility[2]

Technical access (e.g., access to devices, connectivity, and design usability) is a precondition for migrants' and refugees' use of digital tools, that is, access to the required devices or technical features of the solution. For example, the VINCE project aimed to develop a digital solution to help migrants access public services in Finland. An interviewee involved in the project explained that at the beginning, the technical team envisioned a computer platform that would require virtual reality (VR) glasses, but active engagement with migrants showed that a mobile app would be much more useful for the target group.

Nevertheless, most access barriers are not related to technical access. They are social and contextual. For instance, there may be a lack of understanding required to use digital tools in a specific context, a lack of digital skills in general, or users might have low trust in authorities and, therefore, mistrust information that is provided by them. Or there may also be different expectations and habits based on migrants' previous cultural and social experiences with access to public systems in their countries of departure that differ greatly from the place of arrival.

Fully automated solutions, such as chatbots and hotline-only support, in many cases generate frustration, rather than relief, especially for users who lack digital literacy skills or when systems fail to respond to nuanced requests. Furthermore, digital systems can make migrants' needs less visible to public institutions and case workers who seek to support them (Duru et al., 2026). Across the capitals, various examples of the most accessible solutions are illustrated to balance technological efficiency with human counselling. Examples of solutions like this are chatbots that direct to human counsellors, job application support tools supplemented by human support and online civic information supplemented with in-person meeting points. One expert noted that AI translation services can enable real-time access to full, high-quality content that traditional translation services cannot due to timing delays. By offering up-to-date content in primary languages alongside transparent AI translation for others (with clear error warnings) services can expand access while helping users learn to evaluate accuracy and potentially encouraging language learning.

Some older administrative systems used today have been designed around institutional legal compliance frameworks and task-oriented aims with user needs

2. In this report we make use of an expansive definition of "accessibility" encompassing physical, technical, economic, and knowledge barriers to service use.

as a secondary concern. One example is one municipality's introduction program, which until recently ran on a 20-year-old system built primarily to track financial support and fulfil legal obligations with little consideration for the diverse needs of the people it served. Fragmentation across departments meant that teachers, social workers, and financial controllers each operated in separate platforms, creating coordination barriers that indirectly affected migrant and refugees' access to coherent support. A new data integration system with a user-facing app is now introduced as part of modernization efforts.

Vince: A Co-Created Framework for Digital Inclusion in Migrant Integration Services

The VINCE project (2023–2026), funded under the EU's Central Baltic Programme, aims to enhance public integration services for migrants in Finland and Sweden by developing a joint virtual platform that consolidates digital resources. The initiative addresses language barriers and fragmented access to commonly used services supporting everyday life (e.g., leisure activities and studying), through a mobile application designed to provide reliable information, translation tools, and anonymous support environments.

A core component of the project is its inclusive design approach with direct migrant participation. Approximately 500 test users from migrant communities were actively involved throughout the design process, ensuring the tool reflects real-world. This co-creation approach guided the selection of features, such as limiting language options to those proven reliable through testing and shaped the interface to be accessible for users with varying levels of digital literacy.

The Vince Project: https://vince.eucen.eu/

See also Vince project's Privacy-by-Design approach.

Source: Interview with representative and online sources

Projects that shift from standard design to a focus on user needs increase general accessibility. For instance, in the case of digital language learning, solutions including self-paced learning based on the users' immediate practical needs (such as writing CVs or using local transport apps) are most often more accessible than one-size-fits-all solutions. In one case, a Danish language learning platform where volunteers teach Danish via online meetings at flexible hours, addresses the needs of migrants who cannot attend evening classes to learn at their own pace at weekends or other suitable times that they agree on. The one-to-one online language learning experience also ensures that learning meets individual needs, going beyond the generally targeted standard language courses, when learning the

language is tied up with the practical needs of the person learning the language. As a representative of the platform said: *"One thing is learning a language, but when you're in a new society, there are so many cultural nuances to understand as well. It could be anything from if you have children, to understanding the institutions, the job market, small talk, and all these things - there are different dialects, too. So, we can see that it's important for them to grasp all these nuances through this one-on-one instruction."*

The accessibility of a tool or a system also depends on the different social contexts of target groups, such as childcare responsibilities for migrant women, geographic isolation in rural areas, and physical disabilities. As one representative from an employment service that developed a digital platform with AI-supported tools for migrant women in Norway explained, many of the women wanted to work but did not know how to navigate the Norwegian labour market. They also lacked family or social networks that could help them with these processes. In addition, many struggled to use basic computer programmes, digital public services, and online communication, despite being able to perform simpler tasks such as sending emails. The development of AI-supported tools aimed to reduce these access barriers by providing accessible assistance that users could practise independently and repeatedly.

Innovative features and solutions such as voice-enabled interfaces, or using familiar platforms used by the target groups, such as messaging apps like Telegram or Signal are described as effective for increasing access for a variety of user groups. Yet, when users feel most powerless, community guides and in-person mentors become indispensable. Ultimately, accessibility in this context means that a system is designed to accommodate for a wide range of users, providing easy access to direct human support whenever digital tools reach their limits.

Human empowerment and agency

Whether a digital tool empowers or disempowers users, both migrants and refugees, and the caseworkers and volunteers who support them, to a large extend depends on the user and target group. Digital tools tend to be used most effectively by the ones who already possess higher levels of digital literacy, education, and social stability. For instance, for newly arrived, individuals with fewer digital skills, or otherwise various vulnerabilities, the greater their need is for direct human interaction, and a digital-only approach will in these cases disempower rather than empower. While individuals with higher levels of education and with more experience in the country can feel more empowered with more advanced digital solutions.

Especially, language barriers, are inhibitors of empowerment and agency. Translation services that translate information into specific languages are therefore reported to be empowering. They enable migrants to engage more

independently with public services and everyday life, whereas services that exist only in the Nordic languages or for migrants who speak languages for which translation services do not exist are experienced as disempowering.

Many digital systems are still built around the needs of institutions rather than the needs of users. As one interviewee put it, digital platforms are often ***"not created with refugees and migrants in mind,"*** but rather designed for a relatively homogeneous user group.

When services require digital-ID, assume high digital literacy, or fail to account for language barriers and cultural context, they become obstacles to agency.

AI-VIKTOR: Digital Integration Support for Ukrainian Displaced Persons in Denmark

For refugees arriving in Denmark after fleeing the war in Ukraine, one of the first challenges is ***"an unknown situation and lack of information",*** as a representative from the NGO Bevar Ukraine explained. Questions about residence, municipalities, housing, social benefits, employment, healthcare, taxation and education can arise at any time, often before a person has sufficient knowledge of Danish or knows which authority to contact.

To address this information gap, **Bevar Ukraine developed AI-Viktor,** an AI-based digital support service specifically designed for Ukrainian displaced persons in Denmark. The solution was inspired by the practical experience of Bevar Ukraine's social and legal counselling work with Ukrainians navigating the Danish system.

AI-VIKTOR is available **24/7** and allows users to ask as many questions as necessary in their own language. While intended primarily for Ukrainians, the service supports **90+** languages. It is accessible through digital channels already familiar to many Ukrainians, including WhatsApp and Telegram, as well as through Bevar Ukraine's website. Voice functionality also makes the service more accessible to people who have difficulties reading or writing, but the organisation notes that some users face struggles related to digital literacy or assumptions about their ability to use such technology.

Unlike generic models, Viktor is trained exclusively on official Danish legal texts and government data to achieve higher accuracy and reduce the risk of misinformation regarding Danish rules and public services. The service can also help users understand letters and decisions from Danish public authorities. AI-Viktor can explain complex Danish documents in the user's own language and assist the user in structuring a possible response to the relevant authority.

More than **10,000 people** have used Viktor since its launch, likely also including social workers or municipal employees that advice local Ukrainian refugees. In testing conducted by Kommunernes Landsforening (Local Government Association of Denmark), Viktor provided correct answers in 15 out of 17 test questions regarding Danish regulations. The feedback on the remaining two questions was reviewed by Bevar Ukraine's IT volunteer team and incorporated into the system's knowledge base.

Through AI-Viktor, Bevar Ukraine aims to support municipalities in reducing repetitive information requests and language-related misunderstandings, and to provide Ukrainian displaced persons with continuous access to reliable information to help reduce the uncertainty and the information gap associated with settling in a new country.

Viktor the chatbot: https://bevarukraine.dk/da/viktorai/

Source: Interview with representative and online sources

Human interaction

The need for human interaction is essential from beginning to end of the integration journey. Both those delivering integration services and those representing migrants and refugees were unanimous on this point. Interviewees for this project also stressed that it is important that there are clear and accessible pathways to human experts; caseworkers, volunteers, and support staff. This is also supported by findings from an ongoing research project in Sweden, where public actors described a potential to move back from digital-only services towards meetings and an increased focus on personal relationships and shared responsibility between the customers and the public service provider (Duru et al., 2026). For example, personal meetings with jobseekers help job agents understand the profile better and improve the chances of matching them with job offers.

Examples of good practice include platforms that combine digital tools with human touchpoints, such as language learning apps paired with volunteer-led online sessions, and information sites that clearly signpost in person or phone hours and email contacts for those needing further support. However, a recurring concern was that as resources shrink and efficiency pressures grow, the human dimension is often the first to be cut. A key gap identified was the absence of meaningful feedback loops, such as mechanisms for users to report problems.

It is more beneficial to the integration process to treat human interaction as a design requirement when solutions are developed and implemented, than having to accommodate it later when the tool is already implemented. During the COVID19

pandemic digital solutions were created to solve some of the issues related to the lack of human interaction in this period. Nevertheless, many of these were quick solutions created to solve a problem in an emergency sometimes based on design created for other target groups and contexts. Today, many of these systems and tools remain in use and issues are emerging when e.g., a solution was originally transferred to fit with one target group and context to another.

Migrants and refugees rely on their social networks and communities to navigate the integration process. Information is passed from person to person, and awareness of digital services most often spreads through word of mouth within cultural communities. Digital tools that support and reinforce the human interaction in these social networks are therefore important additions to formal channels of information. As one representative of a digital literacy initiative in Denmark said: ***"There are many things that are hidden. If you are Danish, you know these things. But you depend on people telling you about your rights. You need a community to inform you. Our target group has no family here, no network here - they are very isolated, especially when they are not connected to the job centre. They might have spouses, or be self-sufficient, but there is a large group that is left behind."***

Trust

Trust is for migrants and refugees as well as caseworkers is a precondition for effective interaction with digital tools and systems[3]. As one workshop participant stated, ***"if the tool cannot be trusted it becomes ineffective and the other criteria really do not matter."***

The perception of a tool's trustworthiness and reliability is closely interlinked with how transparent a digital tool or system's capabilities are experienced. If, for instance, it is perceived as part of a "black box"-system where impacts and e.g., a decision-making logic remains hidden. It is easier to trust a tool when it is connected to a system where there are clear explanations of how information is processed, how decisions are made and the impact of the use of a system or tool regarding the migrant's situation.

A recurring barrier to building trust in digital tools and systems relates to the rigidity of the systems; when they fail to capture the full complexity of a migrant's situation. Technical barriers such as multi-user access problems, slow performance, and fragmented data across platforms were reported to undermine case workers' ability to form a complete picture of the individuals they support. These technical

3. Trust" is a term with various often contested definitions. Specifically, over the last two decades, it has been used widely in public discourse on digitalisation and AI to describe various levels of citizen engagement and awareness, as well as specific design requirements of what has been described as "trustworthy systems". We are aware that there are specific uses of terms like" trust"," confidence"," security" and others, in literature, but in this study, we use the very general definition of" trust" that is used in public debate and policy discourse on digitalisation.

restraints erode trust in the digital systems among both practitioners and the migrants who depend on them. For example, one case worker noted that in the context of registering migrants' participation in obligatory language courses, parental leave cannot be registered across systems simultaneously although they need to be. Yet, if updates are not made in all relevant platforms, they risk losing their rights to support. Every registration in a digital system as such may have serious impacts, but the users do not trust that the system registers the correct information in the right places. In another case that involves a national job platform, every jobseeker is legally required to have an active job-search profile set up digitally. One caseworker described this as unworkable for many of her clients, who lack the digital skills to complete it. Thus, if she activates the obligation and they fail to comply, they risk losing benefits. To protect them, she leaves the digital task inactive. This lets her keep clients within the legal system on paper, while shielding them from a requirement the system itself does not make feasible for everyone. In these cases, the systems' users have to adapt to and navigate technical systems that they experience they cannot trust with the complexity of an individual's situation.

Trusting a system relates to clearly designated accountability. Systems that create responsibility and accountability gaps (where responsibility for decisions and outcomes are unclear) erode trust. Legal frameworks provide some level of trust. Though at a very general level. For example, the EU AI Act reinforces accountability by mandating human oversight in automated decision-making and with transparency requirements, and error correction. Yet, legal certainty does not translate directly into trustworthiness if these legal requirements and protections are not perceived or not translated into migrants' experience with digital tools. In general, as one expert noted, trust should be measured on a spectrum of "how much" rather than treated as binary. For instance, displaying errors demonstrates system fallibility and provides concrete reference points for calibration, whereas hiding imperfections leaves users either gullible or suspicious.

The perceived trustworthiness of digital tools is furthermore closely linked to the availability of human intermediaries to navigate complexity. Migrants and refugees often rely on counsellors, social workers, or trusted community networks to validate tool outputs, particularly when translation issues arise – such as when web page translations are outdated or reduced in scope compared to original language versions. Users are aware that the wrong action can have serious consequences for their situation. Many therefore prefer direct interaction with a person to ensure accuracy rather than risking making an error themselves.

People's trust is particularly fragile when they use tools and systems for the first time. Some arrive with high trust in the authorities of the Nordic countries, but may be disappointed later, while others start with low trust and learn to rely on the

system over time. This dynamic is underscored by varying levels of digital literacy and prior experiences with authorities in their countries of origin. Refugees often come from societies where population trust in authorities is low, creating hesitation towards public digital systems. Consequently, it has been reported that trust is sometimes higher with non-profit organisations and NGOs, which offer a shared language and cultural understanding, whereas formal institutions may struggle to build confidence. This is supported by the findings from an ongoing research project in Sweden on the labour integration of migrants, which show that NGOs can be easier to approach because they are not considered to directly control social benefits, or the legal permits needed for residency and work. The research from Sweden also shows that although civil society actors make services feel safer and more usable, their role remains in many cases informal and often under-resourced (Duru et al., 2026).

Education and awareness

Implementing digital tools and AI solutions requires complementary education initiatives and here, no single approach fits all users. Different groups need different forms of education tailored to their stage in the integration journey and other contextual factors, such as educational background.

Digital literacy is a precondition for participating in daily life in the Nordic countries. As one interviewee noted of Finnish civic life, for instance, ***"whenever you want to sign a class for handicraft, football course, anything, this is all digital".*** This means that basic digital competence is a prerequisite for ordinary participation in everyday life. Yet, knowing the basics of accessing and using digital tools is not enough. For instance, for many migrants who already use digital technologies comfortably, the relevant question shifts from whether to adopt more advanced digital and AI tools to how critically they can engage with them, making critical digital literacy the more urgent skill to build. As one participant summarised it: ***"From my perspective I am going for literacy. To make sure that the people have the agency. If you want to use it or not is not a question anymore. The goal is to understand the tool, to become critical. "***

Digital tools implemented often assume, as one workshop participant described it, ***"high levels of administrative literacy and digital skills."*** A crucial supplement to digital literacy is "administrative literacy" (Safarov, 2024), which was mentioned as the ability to understand bureaucratic terminology, navigate institutional structures, and operate within complex governmental systems, which is rarely transferable from a migrant's country of origin. Administrative systems, procedures, and expectations differ substantially across countries, meaning newcomers must largely learn them from scratch. Thus, dedicated local support and education services are a precondition to digital access. In this context, digital empowerment is more than just technical onboarding. It means learning how to use a tool in a specific cultural and social context.

In other words, a person's skills and awareness of a tool define how it is used and experienced. In the interviews and the workshop, it was repeatedly emphasised that education is an essential component of digital tools and AI implementation. Training those who deliver education is therefore also important. Volunteers acting as educators, for instance, need structured preparation in using translation tools and applying accessible digital pedagogies.

There are innovative digital learning initiatives. But the contextual realities of user groups will hinder implementation if these are not considered from the outset of the initiative's design. One initiative developed gamified tools, a 3D prototype world for teaching basic skills, and physical mystery boxes built as escape-room exercises. Despite enthusiasm at professional conferences, these efforts struggled with limited reach, and the project ultimately ended without sustained uptake. As a representative of the initiative cautioned, ***"gamification is not a silver bullet, not everyone is comfortable with playing along learning".***

DigiUp Toolbox

The DigiUp Toolbox supports trainers who guide migrant women in strengthening their basic digital skills. It was developed by Moniheli, a Finnish cooperation network with expertise on immigration and integration issues and funded by the Nordic Council of Ministers. The toolbox provides practical, adaptable materials that make learning accessible and relevant to everyday life, from searching for jobs to using digital tools at work. It also emphasises active engagement in the learning process, so migrant women gain both digital skills and general agency for participating in society.

The project was guided by principles of accessibility, inclusion, participation, and cultural awareness. A central goal was to ensure that the training responded directly to the real-life needs of migrants, rather than imposing fixed content. As the project manager explained: ***"providing this toolbox offers a training framework for trainers as it's hard to start from zero. Migrant women are eager to learn but there was a lack of safe and inclusive learning opportunities for them"*** highlighting the toolbox's role as a practical support resource.

Trainers were encouraged to ask participants what they wanted to learn, including employment-related digital skills such as writing CVs online, using email, or basic typing skills. In the development process, pilots were conducted in Estonia, Finland, Denmark and Norway, with feedback received from trainers for further development. The main content of the DigiUp Toolbox is available in English and several Nordic and Baltic languages so far.

The project also focused on ensuring participation for migrant women by considering barriers such as childcare responsibilities, e.g., by providing some childcare or allowing women to bring their children to the training.

The toolbox is available for free here: https://www.digiuptoolbox.com/about-us

Source: Interview with representative and online sources

Språkkraft and RÚV Orð

Språkkraft was founded in Sweden in 2015 in response to increased refugee arrivals and the language barriers they faced. In 2016 they launched SVT Språkplay in collaboration with the public service broadcaster. Its Icelandic adaptation, RÚV Orð, followed a similar model. Rather than producing dedicated educational content, both tools embed language learning into everyday media (news, podcasts, books, and television) allowing users to engage with the same content as local populations while building vocabulary and grammar skills.

The approach targets adult learners with existing literacy in their native language. Rollout relies on partnerships with municipalities, libraries, public broadcasters, and non-profits, and includes digital literacy support for less experienced users. Users self-assess their proficiency level, and the system adjusts vocabulary display accordingly, reducing cognitive load while maintaining engagement with authentic content.

The platform supports learning several Nordic languages from 15-30 migrant languages, with coverage driven by user demographics. Success is measured primarily by sustained use rather than test outcomes. Cultural familiarity is treated as integral to integration. Media is seen as carries language as well as the culture and values of a society. As a representative from Språkkraft put it: ***"If they watch the same TV shows as we do, read the same books as we do, maybe they will share our values."*** For example, in Iceland there is one TV show where they go to different parts of Iceland making small stories of everyday life. This gives migrants access to ordinary Icelandic families speaking naturally in their own environments.

Språkkraft: https://sprakkraft.se/
RÚV Orð: https://ord.ruv.is
About RÚV Orð :https://mcc.is/da/news/ruv-ord-a-new-way-to-learn-icelandic

Source: Interview with representative and online sources

Effectiveness

Digital solutions are generally seen as effective when they lighten workloads rather than add to them, reducing time and friction and not introducing new tasks for both migrants using the tools as well as caseworkers and counsellors. As one workshop participant put it, ***"a solution that doesn't help save time and effort is largely meaningless".*** Yet effectiveness is not purely a matter of technical design. It also depends heavily on the target groups' digital skills and the contexts in which tools are used. For instance, elderly users, people unfamiliar with the Latin alphabet (such as Arabic language speakers), and newly arrived people tend to struggle most with standard digital interfaces. It is therefore important that migrants can get support in many places and that "multi-channel" services are available.

It was underscored that efficiency and optimisation trends can backfire when cost-cutting takes priority over genuine time savings, displacing the human elements that are often central to integration work. This can create tension between organisational priorities aimed at reducing resource use and the interpersonal support many migrants need during their transition. For example, a digital solution that provides a more effective process for jobseekers could ideally free up resources to provide more individualised support that those who need it most need, but it might also lead to budget cuts where counsellors are expected to cover more clients. In this context, effectiveness as measured by institutions may differ substantially from effectiveness as experienced by the people the tools are meant to serve. As one caseworker, who relies on digital tools to record integration progress and plan activities, observed, these tools ***"mean little to her clients".***

Also, as one expert noted, new digital services, particularly AI-powered ones, require substantial human labour for maintenance and supervision. These labour costs are often overlooked during planning and procurement phases.

Effectiveness is evidently preconditioned by user-friendliness. Simple applications designed for routine tasks, like booking appointments and reporting employment status, tend to perform well, whereas complex interfaces designed to accommodate more nuanced situations tend to be less effective. Fixed system requirements become obstacles when bureaucratic needs are more complicated.

The design process itself plays a decisive role in effectiveness. Tools built primarily around institutional needs, rather than the people who actually use them, tend to underperform. Involving users in the design process of digital solutions will ensure a level of effectiveness that corresponds with the specific needs of the target groups of tools.

The degree to which systems support information sharing between the migrant and caseworker also shapes how useful they are perceived to be. Tools that offer this kind of shared visibility of a migrant's situation help level the information playing field between caseworkers and clients. One capital city application, for

example, lets migrants register their participation in introduction programmes while simultaneously feeding that data to social services. Several interviewees and workshop participants emphasised the need to improve data sharing between municipal departments. Information portals are essential for keeping both migrants and professionals updated from a single, shared source. At the same time, it was emphasised that these efficiency gains should not come at the expense of data protection. Before further data integration can be pursued, privacy concerns need to be addressed by design.

Ongoing maintenance needs of systems also have an impact over the longer term. When contexts of use, such as laws and integration circumstances, change frequently, digital solutions require continuous updating. Another example was tools adopted hastily during the pandemic. Several interviewees noted that these now require redesign, having lost some of their relevance once emergency conditions eased.

Digital JobHelp

Digital JobHelp is a digital career-guidance platform used by municipalities, unemployment insurance funds (A-kasser) and private organisations across Denmark. It includes an online platform with self-service guidance, such as videos that provide step-by-step guidance for the job search and an AI-based tool to build a CV and tailored applications.

The platform includes content and features designed to support migrants, such as videos translated into nine languages (as of now), with a specific focus on providing information about cultural norms in Denmark that are important for foreigners to understand when searching for a job in a Danish company. The AI tool converts CVs from any language into Danish or English, adapting them to the Danish format.

As one of the developers explained: ***"The aim is to provide users with a feeling of empowerment, because you're not waiting for someone to help you".*** At the same time, Digital JobHelp seeks to enable staff (e.g., counsellors at the job centre) to share knowledge with job seekers from other countries, even if they don't speak the same language.

In the interview, a broader tension around digital effectiveness was also highlighted: while the platform may free up staff time and improve support, these gains could also be translated into larger caseloads or reduced resources rather than more individualised guidance.

Digital JobHelp: https://jobhelpsolutions.com/loesninger/

Source: Interview with representative and online sources

Scalability and adaptability

Perspectives on the cross-border scalability of digital tools when considering whether solutions developed in one context could translate to others, initiatives and AI pointed to both opportunities and obstacles. While several solutions were considered as good candidates for wider rollout, practical barriers and risks associated with greater technological standardisation continue to affect implementation across different national contexts.

As one expert noted, greater standardisation may create dependencies on a limited number of systems and providers. These dependencies can affect price, availability, and control in the long term, as highlighted by the findings of the Trust-M project (Minkkinen, 2026). Considerations around scalability therefore also intersect with questions of digital resilience and European technological sovereignty, including the extent to which public services should depend on common platforms and AI infrastructure.[4] While this risk exists with the scaling of digital infrastructure in general, it is still important to consider it also in relation to specifically digital integration services.

Several workshop participants noted that integration, digital and inclusion policies often change, making it difficult to keep digital services updated and thus also scale across capitals. At the same time, the public systems and structures are often in transition. One of the migrants interviewed explained that she relied on information from Facebook groups to navigate the official registration process when moving to Denmark, since it provides information from people who have just gone through the process, while official information websites might not be updated yet.

Also, despite some similarity in national approaches and policies among Nordic countries, there are still differences that can complicate adaptation. Integration services, for instance, are organised quite differently from one country to another. One representative of an organisation noted that several Nordic countries already have well-established integration programmes with long track records and stronger financial backing, meaning there is at times little will to adopt tools or ideas developed elsewhere in the region.

Residence permit procedures and integration processes also vary significantly between countries, and no generic software solution currently exists that supports all national contexts equally. Nonetheless, some platforms have cross-border potential. AI tools operating in the same languages can, in principle, be adapted for different national cases, although performance varies considerably by language. National information-platform models also show a cost-effective approach at a

4. See the EU's" Tech Sovereignty Package" 2026: https://digital-strategy.ec.europa.eu/en/policies/eu-tech-sovereignty

national level, where public authorities compile fact-checked information that local services can subsequently adapt to their own context.

Specific applications illustrate both what can transfer across borders and what requires local adaptation. Job-search preparation tools, including CV writing guidance, training in job interviews, etc., address skills that are broadly applicable across Nordic labour markets. However, what is valued in each national context still has to be learned separately, since cultural norms play a significant role in navigating the labour market. Language-learning approaches can similarly be exchanged, particularly methods that combine app-based learning, though curricula and language content need to be adapted locally. Mainstream platforms tend to serve major languages well, but niche languages have comparatively limited learning materials relative to English.

Organisational models also have an effect on scalability. Employer-of-record services aimed at supporting mobile workers occasionally function as informal information partners, assisting with documentation and local registration, and some providers of such services operate internationally with potential to scale across not only the Nordic region, but also EU regions.

For government-led initiatives, scalability largely depends on the availability of personnel. One representative of an AI-supported job application platform noted that expansion to other Nordic countries would require additional staff to take on responsibility for running the platform. As a result, several such projects remain pilot initiatives despite their broader relevance to shared Nordic challenges around labour market integration, language barriers, and digitalisation.

Cultural and organisational mindsets across the capitals also have potential to be transferred from one country to another. One NGO representative observed that certain neighbouring contexts have a stronger culture of co-creation and collaboration, describing their own local environment by contrast as more siloed, with NGOs competing for funding rather than working together.

Several projects expressed confidence in the potential for scaling at a European level. One application combining AI-based querying, language services, and virtual meeting rooms was highlighted for its technical capabilities, which include cloud-free data storage and automatic content updates from trusted sources. A representative noted the tool could potentially launch in other Nordic countries and more broadly across Europe, with international partners already involved and further stakeholder interest emerging. However, such scaling would require new investment, local partnerships, and adaptation to each country's specific service systems and languages.

Fundamental Rights and Ethics Compliance

Across the Nordic capitals, official digital and AI-based integration solutions are generally described as operating within legal frameworks, such as data protection regulation and regulations on digital inclusion. Thus, the formal governance layer around officially sanctioned tools appears reasonably mature. Yet, a significant and less visible layer of practice consists of the use of what can be termed "shadow tools", that is; digital tools that are used without these being part of any formal service architecture. These include free AI chatbots such as ChatGPT and Copilot, translation applications such as Google Translate, and other digital services that are not part of official frameworks. Their use introduces a set of ethics and fundamental rights risks different from those associated with procured systems. For example, there are no data agreements between the relevant authorities and the providers of these tools. Also, the providers behind the shadow tools are overwhelmingly large US technology companies, which raises questions regarding digital sovereignty and jurisdictional control over personal data.

A related pattern concerns generative AI specifically. As with shadow tools, the generative AI landscape referenced in the mapping, workshop, survey and by respondents is dominated by US providers, with little mention of European alternatives (apart from chat.dk and Le Chat). Some reported training their own models in-house. National AI ethics frameworks and initiatives were also described as points of reference, but the overall impression is of a field where practical adoption is outpacing ethical reflection.

Another theme concerns whose interests are prioritised in new data integration initiatives and platforms. Several respondents raised the need for better data integration primarily to support case workers' tasks, with lesser attention paid to how migrants themselves might be enabled to control or make active use of their own data throughout the integration process in line with emerging EU data governance policies.

Themes related to the ethical impact of digital tools and AI use for integration services were raised directly in workshop discussions with stakeholders. Some participants raised the concern that digital tools might come at the expense of other channels of support, limiting the options available to users who may not be well served by a digital-first approach. They questioned whether AI tools might accumulate data for purposes beyond the original, intended use, and how users could be meaningfully protected against this. Several noted the basic technical constraint that AI tools depend on access to large volumes of good-quality data, which currently limits the realistic scaling of AI tools across borders, especially in legally sensitive processes. There was also uncertainty among practitioners themselves about what data AI tools actually share with their providers, alongside broader questions about who controls the training and profiling processes behind these tools. One workshop participant raised a dimension largely absent elsewhere in the mapping, which was the environmental impact of AI tool use.

The Vince App: Privacy-by-Design in an AI-Powered Integration Tool

Rather than passively permitting anonymity, the Vince app is actively designed to discourage users from entering personal information in the first place, shifting the burden of data minimisation away from the user. Basic preferences, such as language settings, are stored only locally on the user's own device rather than backed up or synced to external servers.

Together, these choices reflect a privacy-by-design model. Rather than relying on downstream legal safeguards such as data processing agreements, consent forms, or retention policies to manage risk after data has been collected, VINCE minimises legal and ethical exposure by simply not collecting identifiable data in the first place. This is a notably different approach from tools that manage compliance through contractual allocation of controller/processor responsibility after the fact. With no persistent personal data set, there is little basis for user profiling or discriminatory data use; the lack of identification lowers barriers to trust for populations who may be wary of institutional data collection, including migrants with uncertain legal status; and the narrow scope of personal data processing substantially simplifies the tool's exposure to legislation such as the GDPR.

One perspective with a longer historical view came from an interview with a representative of an education and lifelong learning network. Non-procured machine translation tools, such as Google Translate, were already widely used 10 years ago. In other words, the use of shadow tools is not a new phenomenon. Yet, it is one that has evolved considerably over the last decade. Over time, the network has developed guidance on the use of tools spanning primary, secondary, and higher education levels. More recently, concern about data privacy, particularly in relation to US-based providers, has intensified, and this is now visible in concrete municipal practice. There is a demand for AI training courses for staff, but municipalities maintain lists of approved AI tools. In this network's context, ChatGPT is explicitly not permitted for use, reflecting a precautionary stance based primarily on data protection concerns. The representative was clear that AI also holds benefits, yet it was underlined that the sector needs to take time to reflect properly on how to adopt it responsibly.

A perspective from a private sector provider of a digital job support solution

A representative from a private-sector provider of a digital platform aimed at supporting the digitalisation of employment services in municipalities described how they navigate legal compliance, ethical concerns, and funda-

mental rights considerations when developing and deploying digital and AI-based tools for a vulnerable, often non-Danish-speaking user group. Their flagship product is a video-based, knowledge-sharing platform used by several job centres and unemployment insurance funds to help job seekers (including migrants and refugees) build the skills and materials, such as CVs and applications, needed to enter the labour market.

According to the representative, larger municipalities are notably more cautious about adopting AI-based solutions than smaller ones, partly because they have more extensive legal departments capable of closer scrutiny, which tends to lengthen negotiation periods focused heavily on GDPR compliance. The single most decisive compliance factor, in the provider's account, is where the data is stored: their core platform's data is hosted in Sweden, which is treated as unproblematic since it falls within the EU legal framework, whereas solutions originating outside the EU (such as the US or China) are described as facing near-automatic rejection by municipalities, regardless of the underlying quality of the technology. To further manage compliance risk, the provider has structurally separated its offering into two platforms: a core video-based platform, which is rule-based and contains no AI, and a separate AI-based tool. For the former, the provider acts as data processor; for the latter, it deliberately takes on the role of data controller, assuming full legal responsibility for data handling directly toward the job seeker. The provider frames this as a pragmatic workaround that has, in practice, made municipalities more willing to approve AI features, effectively shifting responsibility for legal exposure away from the public authority and onto the private vendor.

Beyond legal compliance, a recurring ethical concern raised by municipal partners is the mandatory use of AI tools. Where use of a digital tool is a formal requirement for job seekers to remain compliant with job-centre expectations, municipalities have pushed back, particularly because CVs and applications may contain personally sensitive information that some individuals may not wish to have processed by an AI system. The provider notes that this concern eases considerably as long as use of the AI features remains optional rather than compulsory, suggesting that consent and voluntariness are treated as the primary safeguard for fundamental rights protection. Notably, the provider's non-AI core platform is explicitly marketed as an advantage precisely because it falls outside AI-specific legislation: it uses simple rule-based triggers, such as showing a user who has watched a CV-building video a related video on building an application, rather than AI-driven profiling of individual users. This distinction between "simple" recommendation logic and behavioural profiling is used by the provider both as a compliance strategy and as a selling point to risk-averse municipalities.

Chapter 3 Integration Journeys

When addressing integration services in the Nordic capitals, it is important to consider not only services, technology, the political landscape, and funding, but also the lived experiences of migrants and refugees. These experiences vary widely and are shaped by a multitude of factors. To illustrate this, this chapter presents three individual migrants' experiences with digital tools throughout their integration journey. The aim is to provide nuance and perspectives on the broader analysis and discussion of digital tools in integration services and human-centred approaches, based on the direct experiences of people who have undergone an integration journey. It is important to note that the chapter presents only three individual experiences in a very specific context and is meant as an illustration of the role of individual experiences in the outcome of an integration journey. Thus, it does not represent the experiences of migrants and refugees in general.

The integration journey was used as a framework to depict phases and aspects relevant to integration processes. The integration journey is different from person to person and does not present a linear sequence of events or mandatory steps that people necessarily must follow. Instead, it emphasises key areas and phases that newcomers go through when they arrive and settle in a new country, whether temporarily or long-term. This includes arrival and reception, documentation and legal status, settlement and stabilisation, routes into work or education, social life and long-term security.



Figure 1: A visualisation of the integration journey used in the interviews and workshop

As a point of departure, access to official integration programmes and public services typically expands once refugees are granted protection and other migrants obtain the right of residence or the official registration certificate. By this stage, however, it is important to note that individuals may already have had substantial digital and in-person interaction with immigration and reception authorities in the Nordic countries. For asylum seekers already in the country, the period awaiting a decision may last for months and, in some cases, years. During this period, access to digital identification and authenticated public services varies considerably by country, legal status, and identification arrangements. Some individuals may lack access to the electronic identification required for many public services in the Nordic countries for the entire period of time waiting for, e.g., the right of residence, while others may have some form of digital identification but remain unable to use services that require a national identity number, population registration or a higher level of authentication. These limitations can create practical barriers, frustration and uncertainty during the pre-decision period. For those who are eventually granted the right to remain, this may also negatively affect their subsequent integration, as they might have little trust in the system that they have experienced from a vulnerable, stressful position.

Background of interviewees

All interviewees in this study have personal experience with the Danish integration system. Alina and Maria have settled in Denmark with their partners (from Denmark), while Robert is temporarily based in Denmark and Norway for a study programme. They differ in legal status and nationality: Alina (from Ukraine) is on a refugee visa; Robert (from Canada) is on a study visa; and Maria (from Mexico and the United States) is on a family reunification visa as a spouse. Both Alina and Robert are between 20 and 30 years old, and Maria is between 30 and 40 years old.

Alina Interviewee #1	Robert Interviewee #2	Maria Interviewee #3
• Female • 20–30 years old • Airport staff • Refugee • Refugee visa • From Ukraine	• Male • 20–30 years old • Student • Migrant • Study visa • From Canada	• Female • 30–40 years old • Teacher trainer • Migrant • Family unification • From USA/ Mexico

The interviewees represent multilingual profiles; all speak at least two languages (including English), have a high level of education (university degrees) and digital literacy, and have prior international experience from living abroad. As the project focuses on the capital cities and requires interviewees to recall their experiences as recently as possible, they also report having arrived in Copenhagen in the past two years.

Digital tools throughout the integration journey

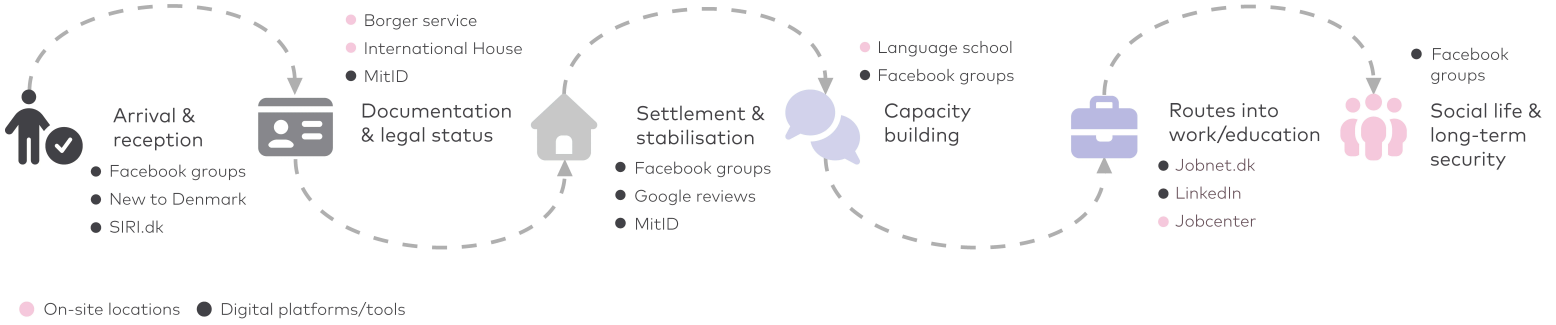


Figure 2: The integration journey and digital platforms or tools, or service locations at each relevant phase for interviewees with a migrant background in Copenhagen.

The interviewees with a migrant background mentioned a range of digital tools, platforms, and services that they encountered at different stages of their integration journey. As illustrated in the figure, these touchpoints span both formal and informal settings, as well as digital platforms and physical, on-site services. The level of human interaction also varies across the journey. During the initial arrival and reception stage, newcomers may rely largely on digital information and may not necessarily encounter a person who can provide direct guidance.

In contrast, the documentation and legal-status stage typically involve more face-to-face support, as registration is required to access essential services and is in Denmark often facilitated by staff at an international citizen centre *(International House)* or Citizen service centre *(Borgerservice)*. Language schools and jobcenters similarly provide physical touchpoints where digital systems are complemented by direct interaction with service providers. Alongside these formal services, informal digital spaces also play an important role. Facebook groups, for example, are used by many migrants throughout the journey, serving as a means of connecting with local communities and as sources of information based on experiences of others who have already had to navigate similar processes.

For refugees arriving at accommodation centers (temporary residence locations), this can look slightly different, as the on-site staff are usually supporting and guiding them in the arrival and reception phase. As a refugee centre staff member described it, they are the first local people they see on a daily basis, therefore, apart

from administering their accommodation, they also provide an overview of municipal channels to refer residents so they can register adequately. It is crucial to support people to use the systems immediately when they arrive, particularly for those who are not used to digitalised systems:

"A lot of the new Congolese families who have just received their MitID (Danish national eID) and have to try to log in for the first time, and then they have forgotten the code, and they don't understand that it is locked [...] then they have to go back to the civic center and get a new code. It's a shame they have to spend so much time on it. They learn the hard way that you have to remember codes" (Staff member, refugee temporary accommodation centre)

Integration is thus supported through an interconnected (but at times also fragmented) ecosystem of digital tools, institutional services, and peer-to-peer networks, with different forms of human support becoming more or less visible at various stages of the journey.

Common themes in the integration journey

We have identified the following common themes in the integration journey based on the three interviews conducted:

Theme 1: Human support in navigating the integration journey

Interviewees expressed that fears and anxieties due to uncertain situations create pressure that is relieved through community and personal support from family members, friends, colleagues, or peers, both abroad and locally, particularly in the early phases of the integration journey. In this respect, there are no digital tools that address the psychological needs of alleviating anxiety about moving to a foreign country and the toll it takes. Instead, interviewees described turning to community members in similar situations or to close relationships to address this need. All of them addressed the involvement of friends and family as part of the "support system" that ensures a positive settling-in experience. Maria, for example, benefited from having friends who already lived in Copenhagen, as well as family connections through her husband's family, who immigrated to Denmark many decades ago.

"I'm very lucky that I had two friends before moving to Copenhagen that already lived there [...]. You just need one friend and then it starts to open doors" (Maria)

At the same time, Maria's experience illustrates that having local contacts does not necessarily mean having access to the right information. Her husband, for example, was often unfamiliar with administrative processes that he had never had to navigate himself. When Maria had to attend International House to set up the Danish digital identity system, MitID, she therefore found the in-person interaction useful because it gave her an opportunity to ask questions alongside completing the digital process.

"It was helpful that I ended up having to go [to the International House] because then I could ask extra questions." *(Maria)*

However, personal contact with public integration services can also be perceived negatively, and more of a formality than actual help. For example, Alina had monthly calls with the Danish job centre, but she did not feel that it provided her with useful answers or real job opportunities. Instead, she applied for many jobs herself and eventually found the job at the airport independently, even though she was recommended not to apply because she did not speak Danish.

"They don't really care (in the jobcenter). I applied for any type of jobs, cleaning, waitress, anything." *(Alina)*

In other cases, experiences with uncertainty about what formal support they are entitled to characterise the process. For example, Maria and her husband had been told that the municipality might be able to assist them in finding accommodation but were unsure whether such support was available. At the same time, they were reluctant to seek assistance because they perceived their own situation as comparatively privileged and were concerned that scarce support should instead go to people in greater need.

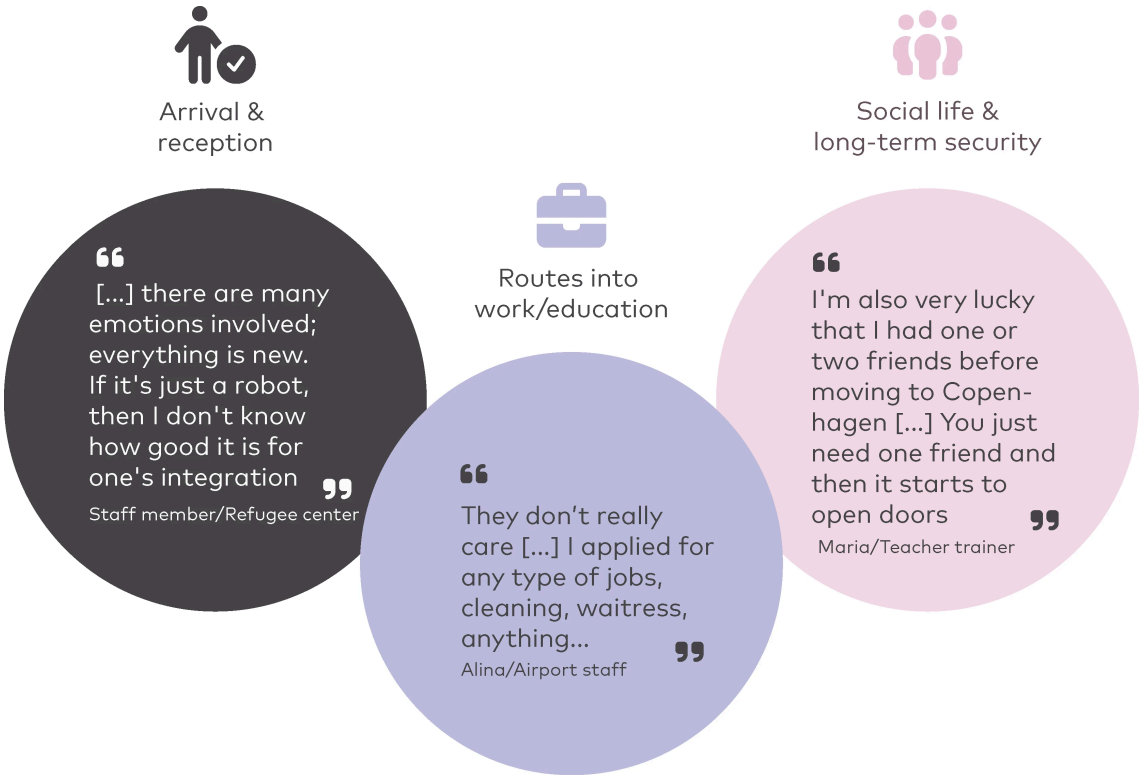
"We are both highly skilled migrants; [...] We would rather struggle a bit more than take from a refugee who actually is looking for that kind of support." *(Maria)*

This suggests that access to support is also shaped by whether migrants understand their eligibility and feel it is legitimate for them to use the available support.

Similarly, Alina explained that she mainly relied on informal support from her boyfriend and his family, which helped her understand the system, find accommodation, and connect with the local community. Thus, according to her, the missing parts in the integration journey visualisation were informal support and a sense of belonging, which she perceives both as key elements of integration. Another missing area is community-building for young adults, because she found some community spaces for children or older people, but fewer options for people in her age group.

From the perspective of the refugee centre staff member, it is important to have human contact and to approach people with support on a personal level, as this also supports the residents' well-being and integration.

" I can't imagine that reception could work without an employee who also mediates conflict, also because there are many emotions involved; everything is new. If it's just a robot, then I don't know how good it is for one's integration."
(Staff member, refugee temporary accommodation centre)



Theme 2: Finding trusted information and guidance

Identifying reliable information on integration steps, such as the application process, banking, and other official paperwork, is often time-consuming and demanding. As explained in the interviews, official information is generally available in Denmark (e.g., on official websites), but it still requires effort to determine what applies to your specific case. Furthermore, as Alina explained, it can be confusing to find relevant information because there are many digital platforms and systems, such as MitID, e-Boks, official immigration websites, and job portals. She suggested that it would be useful to have one universal integration tool or platform for newcomers. This could provide step-by-step guidance about what to do after arrival, which services to use, which documents are needed, how to contact the municipality, how to find a language school, how to search for jobs, and where to find communities.

"It would be nice to have a universal tool for integration when you arrive." (Alina)

In Maria's case, Facebook groups provided her with valuable information on the visa application process, finding accommodation, and other aspects of settling in Denmark. In those groups, other migrants who have recently been through the same process share their personal experiences, which proved much more valuable to her than any other source of information.

"I just literally looked up both options on the official websites, but the best option is Facebook groups. Those are the best and most reliable information because those are the people that have just gone through the process." (Maria)

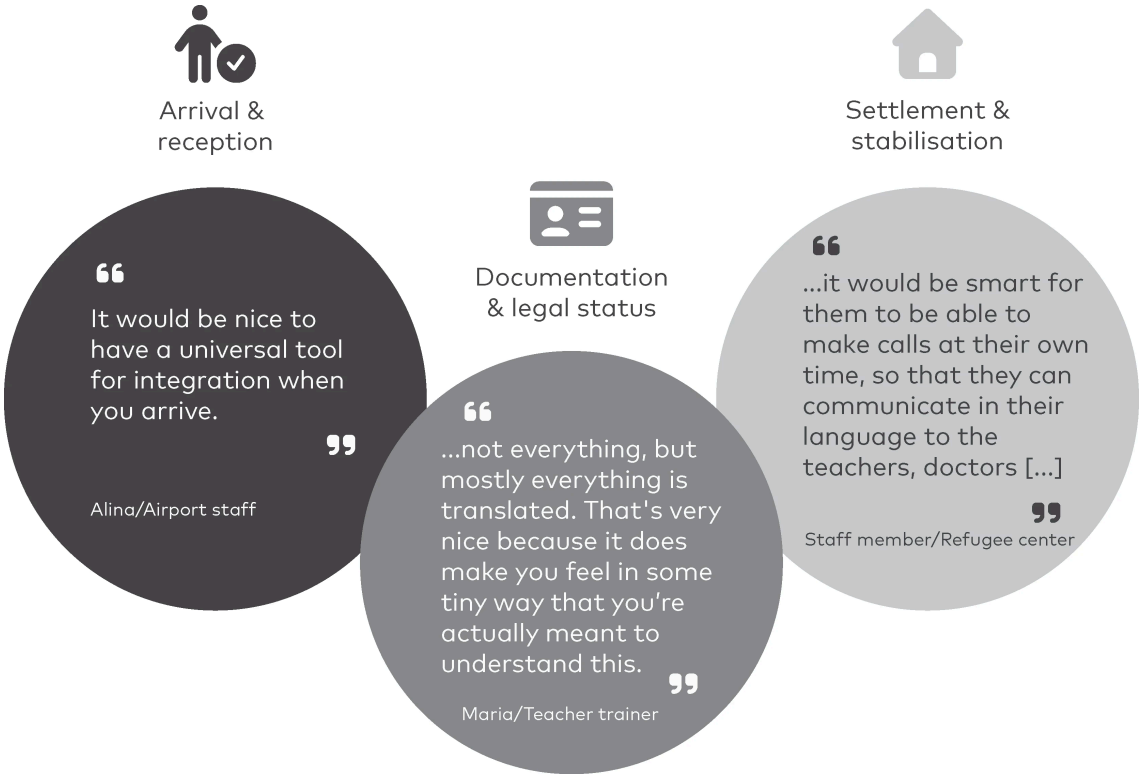
Furthermore, she appreciates that many of the official documents that she receives from public services (often through digital mail), are translated into English. Since she feels comfortable using digital tools, she could also use translation software for documents received in Danish, but it nevertheless makes a difference for her since it gives her a feeling that she is actually meant to understand this. It is on an emotional level rather than a practical level that it matters to her:

"Whenever you receive something in the mail, not everything, but mostly everything is translated. That's very nice because it does make you feel in some tiny way that you're actually meant to understand this." *(Maria)*

Robert found it relatively easy to access reliable information and was able to handle most processes online. Furthermore, he felt he could have emailed the public authorities during the application process but did not deem it necessary, as he received sufficient guidance from his family, which reassured him. After his arrival, he participated in an orientation week for international students, which further provided him with relevant information and helped him make new connections with whom he could exchange experiences regarding the process.

For the staff member at the refugee center, she sees the benefit of a digital tool that can make her support role more widespread, and that can enable refugees to get a basic overview to make their process easier. For her, a tool like the chatbot Viktor could be a good example to expand on and that it shows how digital tools can give this basic overview and support that staff are currently very busy with:

"In relation to how much time we spend calling for our residents, to doctors and everything else, I can't figure out if such tools exists, but it would be smart for them to be able to make calls at their own time, so that they can communicate in their language to the teachers, doctors [...] it could be cool to have it in many different languages, specially based on specific languages like, Amharic, Farsi, Kinyarwanda that we often don't speak." (*Staff member, refugee temporary accommodation centre)*



Theme 3: Uncertainty and the fear of getting it wrong

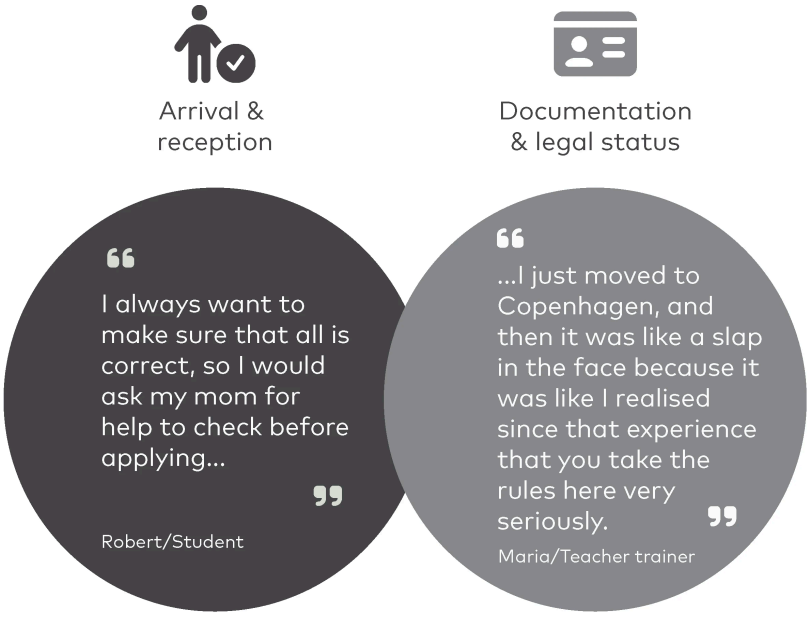
In particular, at the beginning of the integration process, the interviewees experienced uncertainty about the rules, processes, and the consequences of making a mistake. As official documents and applications require everything to be correct, there is also a need for someone to ensure there are no mistakes when addressing public authorities and to verify the information.

"I always want to make sure that all is correct, so I would ask my mom for help to check [all my documents] before applying for my new residence permit." *(Robert)*

Maria shared a personal experience about receiving a high fine for using public transport without a ticket on the day she arrived in Denmark late at night. There was no way to buy a ticket on the metro, and she had not downloaded the ticket app since she mistakenly believed she needed a Danish telephone number. While she felt very disappointed in the moment, she now considers it an important lesson in Danish culture about the importance of rules.

"She could have easily just told us how to do it. We would have bought a ticket, but she didn't care. Like she was someone you don't mess with, and we were so tired and so disappointed. It was like, wow, I just moved to Copenhagen, and then it was like a slap in the face because it was like I realised since that experience that you take the rules here very seriously." *(Maria)*

Another example she shared concerned the sign-up for the language courses, for which she had not yet received confirmation. While she was not overly worried in this case, she still wondered whether anything had gone wrong in the process and decided to follow up via e-mail. While this is just a minor concern, it still illustrates the fear of making a mistake, which could potentially lead to missing (or at least delaying) an important step in the integration process.



Chapter 4 Recommendations

This section provides reflections and recommendations on how to upscale and/or expand digital solutions and AI use to other Nordic capitals, and which barriers might occur, while ensuring that integration services are strengthened in an inclusive, ethical, and responsible manner.

The recommendations are addressed to distributors, public procurers, implementers, and adopters of digital tools and AI in integration services, as well as to policymakers and civil society actors across the Nordic countries.

Foundational Principle: A Human-Centric Approach Based on Concrete Criteria

Digital tools and AI are not inherently beneficial or neutral. They embody value choices that shape the human environments in which they are deployed. A human-centric approach is particularly important in integration services, where authorities engage with refugees and migrants who often will include people in vulnerable positions and who are dependent on the outcome of actions by public authorities. Scaling should not be pursued for its own sake. Any solution considered for expansion should be assessed against a human-centric baseline so that efficiency gains do not come at the cost of dignity, trust, or inclusion.

The human-centric assessment tool presented in this report's Annex I is based on eight criteria (Accessibility, Human Empowerment and Agency, Human Interaction, Trustworthiness, Education and Awareness, Effectiveness, Scalability and Adaptability, and Fundamental Rights and Ethics Compliance). It functions as a core recommendation to guide concrete implementation and development of tools in integration services and as a baseline for policy work and Nordic scalability projects and cooperation around digitalisation and the use of AI in integration services in the Nordic capitals and beyond.

Ensure the human dimension by design

1. Treat the human dimension (direct interaction between caseworkers, counsellors, volunteers, and migrants, including the migrant's social network and community) as a design requirement in any scaled solution, not an optional add-on. (see also Recommendation 15, "The Human Dimension", "Human Empowerment & Agency" and "Human Interaction" and criteria 1–2 of HC Assessment Tool, Annex I)

Address barriers before scaling

2. Identify and address barriers to scalability before initiating new collaborative projects. Common barriers include limited funding for maintenance and updates, shortage of specialist staff, shifting political priorities and pending or changing immigration policy priorities.
3. Secure long-term funding for the maintenance and evolution of tools being considered for expansion, since promising pilots often struggle to move beyond initial phases once project funding ends.
4. Ensure both technical and human resources are in place for scaling. Sustained political support and accessible human expertise are as essential as technical infrastructure.

(see also "Scalability and Adaptability" and criteria 7 of HC Assessment Tool, Annex I)

Test and adapt across borders

5. Pilot cross-border testing in at least two Nordic municipalities before wider rollout, to explore adaptation needs tied to different national contexts.

Address issues of shadow tools and digital sovereignty

6. Develop and share across borders explicit policies and strategies for the use of shadow tools in integration services to ensure that all digital and AI-based integration tools operate in line with legal protections, standards and fundamental rights frameworks. Formally procured tools are governed by compliance frameworks, but there is a largely ungoverned use of "shadow tools" dominated by non-European big-tech providers, where risk mitigation and compliance are less assured, and practitioners themselves are often uncertain about the risks involved.
7. Address digital sovereignty in procurement and deployment decisions before scaling. When procuring new digital tools and systems, relying on major international vendors may seem reliable and cost-effective, but it can create dependencies that affect price, availability, and long-term control, as well as fundamental rights implications for users. Public organisations should assess risks such as price increases, unstable usage-based cloud costs, political disruptions, and the cost of switching providers. To reduce vendor lock-in, they can develop in-house expertise and use, e.g., open-source AI models managed internally or through European cloud or IT providers.

Address issues of big data integration and analytics

8. Apply a fundamental rights approach to big data integration and predictive analytics. While digital data integration platforms are relevant in integration processes for addressing fragmentation, improving caseworker access to information, and supporting more coherent individual integration plans, as well as exploring integration trends to improve the integration journey of migrants and refugees, big data initiatives tend to prioritise quantitative, machine-readable approaches and at times neglect the more qualitative experiences and inclusive approaches that take into account the experiences and needs of the people from whom data is extracted and analysed (Neiva & Borges, 2026). Socio-technical data infrastructures should not reinforce existing power asymmetries (Hasselbalch, 2021) or neglect qualitative, lived experience in favour of purely quantitative approaches (Neiva & Borges, 2026).

Strengthen the support ecosystem when scaling

9. Foster and continue strong collaboration between civil society and public authorities as tools scale. NGOs play a crucial role in digital inclusion due to their direct contact with target groups, their bridging function, and their knowledge of the communities they serve.
10. Equip caseworkers and volunteers with the skills to guide migrants through

newly scaled tools, including critical engagement with tools (not just operational literacy).

Build shared infrastructure for knowledge exchange

11. Establish a coordination mechanism maintaining a shared registry of tools with evaluation data, supported by joint demonstration projects tested across multiple capitals to generate comparative evidence on what scales well.
12. Encourage shared documentation of successes and failures, plus cross-border user testing with civil society input, so lessons transfer between capitals rather than each city starting from scratch.

Ensure equitable, inclusive reach

13. Work towards a shared Nordic baseline for language coverage as tools scale with human review for critical legal translations, and multilingual architecture built in at the early design stage. English plus common migrant languages (e.g., Arabic, Somali, Ukrainian, Farsi, Turkish, Kurdish).
14. Ensure equitable access across migrant and refugee populations when scaling, avoiding patterns where expansion concentrates on groups already prioritised in past crisis responses, while others are left behind.
15. When developing digital services for migrants, include users in the design stage to ensure the services meet their needs and reflect their diversity in cultural and linguistic backgrounds. Design should not only aim to increase the efficiency of the service, but also how to enhance trust, inclusion and long-term care for vulnerable groups.
16. Always consider non-digital alternatives for target groups without digital skills, access or trust in digital services.

The integration journey

17. Providing digital access to inclusion and integration-related services, e.g., learning a language prior to the formal integration point (when e.g., asylum is granted), will reduce barriers later in the integration journey. Every migrant and refugee arrives at the formal integration point with different first encounter experiences with the respective national digital systems of the Nordic countries. For instance, in some cases, it takes months or years before they are granted various levels of digital access (e.g., digital IDs) to public services. In some cases, no access is granted; in others, only access to see information, but not to act, is granted. The lack of digital access to participate in society is a barrier once the formal integration journey starts.

Address AI-specific risks

18. Exercise special care with AI when dealing with vulnerable target groups. Some AI systems that influence decision-making in the context of migration qualify as "high-risk" under the EU Artificial Intelligence Act, including some AI systems in migration, asylum, and border control management. The target groups of this mapping have been exposed to these systems, and their effects on trust and vulnerability must be considered.
19. Pursue legal certainty through participation in regulatory sandboxes before scaling AI solutions. AI is a nascent field, and the consequences of use are not yet fully understood. We can only begin to foresee the fundamental rights impacts of data-intensive technologies applied in contexts of people in vulnerable positions, such as refugees and immigrants. Participation in the AI Act's legal sandbox projects in the Nordic countries is advisable to contribute to developing the legal certainty needed in this specific area. Relevant sandbox initiatives include those in Denmark (regulations.ai), Norway (Datatilsynet), and Finland (Traficom) etc.
20. Where AI is used in public advisory services being scaled, apply the following principles, adapted from the Trust-M project by Aalto University (Trust-M, 2026):

    - Continuous human oversight by trained staff monitoring accuracy, suitability, and fairness;
    - Co-creation and stakeholder consultation reflecting linguistic, cultural, and social diversity;
    - A digital sovereignty risk-management plan covering provider-switching criteria and financing arrangements;
    - A collaborative network for sharing knowledge across municipalities, including smaller ones with fewer development resources.

21. Develop and share across borders explicit policies and strategies for the use of AI-based tools to operate in line with legal protections, fundamental rights frameworks and shared standards for critical use.

Concluding remarks

This report shows that digital tools are already an integral part of integration-related services across the Nordic capitals. The use of AI, on the other hand, while increasing, it is still not widely integrated. Digital solutions are being used to deliver a variety of integration services, such as providing official information, supporting language learning and employment, and facilitating access to public institutions and health care. AI-supported tools are beginning to extend these possibilities, particularly through translation, personalised guidance and support for tasks such as job searching. While many of the AI applications identified in this study remain at the pilot or development stage, free AI chatbots and translation tools are also being used informally outside established organisational frameworks, posing questions that are yet to be answered regarding risks, such as data protection, dependencies and transparency of interests.

Digitalisation efforts cannot be assessed independently of the people and contexts in which digital tools are used. In the report, we have described how digital tools can increase flexibility, accessibility and opportunities for people to act more independently. Yet, these benefits are not distributed equally. Refugees and migrants differ considerably in their language skills, digital literacy, educational backgrounds, familiarity with Nordic administrative systems, personal circumstances and levels of trust in public institutions. Particularly when people face several barriers at the same time, a digital-only approach will most of the time reinforce exclusion.

A thorough understanding of the "human dimension" is key to any digitalisation initiative. In our exploration, we understood human interaction as an important condition for making integration work well. In most cases, digital tools and digitalisation efforts work best when they are supplemented with human interaction. Caseworkers, counsellors, volunteers, community networks, and other trusted people help migrants understand complex systems, assess digital services, and build confidence to use digital tools and services independently. The most promising examples identified in the mapping therefore tend to combine digital tools with various modes of human support. Another dimension of this starts at the very tool adoption and design phase, when involving refugees and migrants themselves in the design and testing of solutions to ensure that services respond to actual needs rather than assumptions about users.

The mapping and exploration of this report also illustrate that successful digitalisation evidently requires much more than developing a technically functional tool. Digital services need ongoing maintenance, updated and reliable content, appropriate technical and human expertise, and organisational resources over time.

This is especially relevant when considering whether promising pilots can be sustained or transferred between Nordic countries and cities. Different languages, institutional structures, service systems and target groups mean that solutions cannot necessarily be transferred directly between national contexts.

Integration occurs within a broader support system. This was clear when we spoke with people meeting and working with refugees and migrants on a daily level. NGOs, migrant communities, volunteers and social networks play a significant role in helping people navigate digitalised Nordic societies. They provide individual support, social connection and belonging that digitalisation initiatives should always seek to support and integrate in services.

Further research could build on this mapping and exploration of digital tools and AI use in integration services in the Nordic capitals by examining the experiences of different groups of refugees and migrants in greater depth, following digital and AI-supported services over time, and investigating specific areas such as health, education, community-based support. Fundamental-rights assessments of emerging AI applications integrated or used outside formal institutional frameworks are furthermore of great importance.

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Annex I: The Human-Centric Assessment Tool

The Human-Centric Assessment Tool

The following is a guiding framework for the adoption and implementation of digital tools and AI in the Nordic countries in the context of integration services. It consists of eight human-centric criteria with an accompanying set of questions. The questions are designed to guide systematic, human-centric evaluation of digital tools and AI in integration services for migrants and refugees across the Nordic countries and can be used to identify, describe, and assess tools and practices.

This Human-Centric (HC) Assessment tool can be used by developers designing solutions, distributors selecting tools, public procurers procuring services, implementers deploying systems, and adopters integrating them into daily practice.

1. ACCESSIBILITY

Migrants and refugees can obtain civic orientation information, access employment services and language training resources with higher satisfaction across diverse target groups (educational level, short- and long-term residents, status of residence (asylum, refugee, mapping and exploration, work, family), gender, employment history, socio-economic status, language, disability or functional impairment). Technical solutions and interfaces are user friendly (UX) and reaches the intended target groups.

Reach and design

- Does the tool work across commonly available devices (mobile, desktop, tablet) without specialised hardware?
- Is the interface usable by people with minimal digital literacy, compatible with assistive technologies (e.g., screen readers, captioning), and does it accommodate visual, hearing, cognitive, physical, or psychosocial disabilities?
- Has the design been tested with members of the intended target groups before deployment, including people with disabilities?

- Does the tool accommodate users regardless of legal status, residence permit type, employment history, or socio-economic position, and regardless of caregiving responsibilities, irregular schedules, or geographic isolation?
- Does the tool account for differences in gender, educational background, and length of residence (newly arrived vs. long settled), and is it tested for satisfaction across these groups specifically?

Barriers beyond technical access

- Does the tool address social and contextual barriers such as low trust in authorities, in addition to technical ones?
- Does it avoid relying solely on fully automated channels (e.g., chatbot- or hotline-only support), and instead combine digital tools with accessible human-supported channels?
- Is the tool designed around user needs rather than institutional compliance or administrative tracking, and does it reduce (rather than reinforce) fragmentation across departments?
- Are multiple entry points available (online, offline, hybrid, in-person) so no group is excluded?
- Does the tool avoid creating additional burden for users with disabilities (e.g., extra documentation, repeated assessments) that could reinforce exclusion?

Flexibility and personalisation

- Does the tool offer modular, self-paced options tailored to users' immediate practical needs rather than a "one-size-fits-all" approach?
- Are accessible formats such as voice interfaces or familiar platforms (e.g., messaging apps) used to widen reach?
- Is there easy access to community guides, mentors, or in-person support when the digital tool reaches its limits?
- Are alternative formats available (e.g., plain language, sign language interpretation, audio, large print) alongside voice interfaces and messaging apps?

AI-specific

- Are offline or low-bandwidth alternatives available where AI features require connectivity or devices the target group may lack?
- Does the platform integrate with digital ecosystems already familiar to users, rather than requiring adoption of an entirely new platform?
- Are AI-assisted features designed to be usable with assistive technologies, and do they avoid introducing new barriers (e.g., CAPTCHA, voice-only interaction with no text alternative) for users with disabilities?

2. HUMAN EMPOWERMENT AND AGENCY

Users (migrants and refugees) obtain greater confidence in navigating public services when using the tools, greater self-efficacy in job-search or language-learning activities, and a sense of agency. Digital and AI tools enhance caseworkers' ability to make informed, context-sensitive evaluations.

Confidence and control

- Does using the tool increase users' confidence and self-efficacy in navigating public services, job-search, or language learning?
- Do users retain meaningful choice and control, including the ability to opt out of features?
- Can users access and, where appropriate, correct their own profiles, preferences, and data?
- Does the tool build users' capacity rather than create dependency?
- Does it strengthen, rather than constrain, caseworkers' ability to make informed, context-sensitive judgements?

Language and administrative literacy

- Are translation and localisation available in users' native languages, including less widely spoken ones, and are gaps (services only available in Nordic languages) identified and addressed?
- Does the tool account for varying levels of administrative literacy (understanding bureaucratic terms and institutional structures)?
- Where services require e-ID or assume high digital literacy, are alternative pathways provided?

Design

- Was the tool designed with refugees and migrants, and specific target groups, in mind, rather than adapted from a more homogeneous user group?

AI-specific

- Does the AI component build independence, or does it create new dependency on opaque processes?
- Do users understand the basis for AI-generated suggestions, and can they override, correct, or challenge them?
- Are users' rights regarding AI profiling or recommendation systems clearly communicated?

3. HUMAN INTERACTION

The solution does not replace essential human interaction. Pathways to human experts are clear to users (caseworkers, refugees and migrants) when using the tool.

Preserving human contact

- Does the solution preserve essential human contact rather than replacing it entirely, with clear, accessible pathways to human experts?
- Is human support guaranteed at decision points where errors would have serious consequences?
- Does the tool support connection to community networks or peer support, rather than bypassing them?
- Are there meaningful feedback mechanisms for reporting problems or challenging outcomes?
- Was human interaction built in as a design requirement from the start, rather than added afterward?

AI-specific

- Are there clear escalation routes to human staff when an AI chatbot or automated system cannot handle a nuanced request?
- Does the platform signpost in-person, phone, or email contact alongside digital channels?
- Are AI-mediated interactions clearly labelled, so users know when they're dealing with a machine versus a human?

4. TRUSTWORTHINESS

The solution provides information consistent with official policies and procedures thereby strengthening trust in public services. Communication remains transparent and there are clear accountability mechanisms that help users understand how public decisions are made, based on which information and where responsibility lies. Users and professionals understand which decisions are supported by the system, and which assessments remain the responsibility of the caseworker.

Transparency and accountability

- Is information consistent with official policies and procedures?
- Is decision-making logic explainable rather than a "black box," to both users and practitioners?
- Are accountability mechanisms clear when errors occur, or outcomes are disputed?
- Do users and caseworkers understand which decisions are system-supported, and which remain the caseworker's responsibility?
- Is it clear how user data is processed, stored, and shared, and are system limitations communicated to avoid unrealistic expectations?
- Are there timely mechanisms to correct errors?

Handling complexity

- Where a case doesn't fit standard system logic, is there a defined process to ensure the person doesn't lose access to benefits or rights as a result?
- Are multi-user access issues, slow performance, or data fragmented across platforms identified and addressed?
- How can users trust that their information is correctly registered, given that errors may carry serious consequences?

Trust dynamics

- Does implementation account for users' varying baseline trust in authorities?
- Are human intermediaries available to validate tool outputs, particularly where translation may introduce errors, and are translations kept current and equivalent to the original?

AI-specific

- Where AI supports a decision, is its output consistent with official policy and procedure, and is this checked systematically rather than assumed?

- Where automated decision-making is used, is there defined human oversight and a clear process for correcting errors?
- Can users and caseworkers see the basis for an AI-generated output (what information it used), rather than receiving it as an unexplained result?
- Is it clearly documented which decisions the AI supports, and which remain the caseworker's sole responsibility?

5. EDUCATION AND AWARENESS

Implementation of the digital and AI solutions are complemented with user education initiatives and support.

Integrated support

- Is user education built into the implementation from the outset, differentiated by users' stage in the integration journey, background, and context?
- Is training provided to both end-users and the professionals/volunteers supporting them?
- Does education cover critical engagement with digital and AI tools, not just basic operation?

Administrative literacy

- Is it recognised that administrative literacy rarely transfers from a user's country of origin, and is dedicated support provided to build it as a precondition for digital access?
- Is education framed as empowerment rather than technical onboarding?

Training the trainers

- Are staff and volunteers who act as educators given structured preparation, including in translation tools and accessible pedagogy?
- Is training content shaped by what learners themselves say they need, rather than a fixed curriculum, and does it challenge assumptions of high digital/administrative literacy among users?

AI-specific

- Do training programmes build critical understanding of AI capabilities and risks, not just how to use the tool?

- Is AI training available for staff/volunteers, and do organisations maintain approved-tool lists and sector-level guidance on responsible use?
- Do generative AI education initiatives include European AI rather than only the generic US AI models?

6. EFFECTIVENESS

The solution is experienced as effective by users reducing workload in the entire eco-system of use and does not create extra work tasks.

Workload and design

- Does the solution reduce workload for users, caseworkers, and the wider ecosystem, without adding new tasks or duplicating existing processes?
- Is it usable in both routine and complex scenarios, and designed around user needs rather than institutional compliance only?
- Do effectiveness gains reach the people the tool is meant to serve, not just the institutions deploying it, and is there a risk that efficiency gains lead to reduced staffing rather than reinvested time?

Information flow

- Does the system support meaningful, two-way information sharing between users and caseworkers, and across relevant departments (e.g., social services, employment)?
- Are privacy and confidentiality addressed by design before further data integration is pursued?

Maintenance and reassessment

- Are maintenance and update requirements sustainable given how frequently laws and circumstances change?
- Has the tool been reassessed for continued relevance if it was adopted hastily (e.g., under emergency conditions)?

AI-specific

- Do AI features demonstrably reduce time and friction for users and caseworkers, or do they add complexity and verification work?
- Is the effectiveness of AI features assessed separately from the rest of the platform?
- Are the energy and environmental costs of running and maintaining AI features considered part of a sustainability assessment?

7. SCALABILITY AND ADAPTABILITY

The solution can potentially be rolled out across the Nordic capital cities. It supports multilingual interfaces and can be customised to local policy nuances. Many stakeholders assess the solution as "good".

Cross-context deployment

- Can the solution be deployed across different geographic/administrative contexts with reasonable adaptation, including multilingual interfaces and cultural customisation?
- Are technical and financial requirements realistic for cross-border expansion, and can quality/personalisation be maintained at scale?
- Does scalability depend on personnel or infrastructure that may not transfer between contexts?
- Are there documented processes for adapting content and workflows locally, and viable partnership models across different organisational cultures?
- Is the solution positively assessed by a broad range of stakeholders (users, caseworkers, municipalities), and is this assessed systematically rather than anecdotally?

Policy and structural barriers

- Does the tool account for policy volatility and the fact that residence/integration procedures vary significantly between countries, with no single generic solution fitting all?
- Could existing local integration programmes create resistance to an externally developed tool?

Transferable elements

- Which elements are broadly transferable e.g., across Nordic labour markets (e.g., CV or interview guidance) versus needing locally adapted content (e.g., language curricula)?
- Does the tool serve major languages well while acknowledging more limited resources for niche languages?

AI-specific

- Does AI performance vary by language, and is this accounted for in scaling plans?
- Does the technical architecture support cross-border deployment, and is the data needed to scale AI features realistically available across contexts, especially for legally sensitive processes?

- Are the investment and local partnerships needed for scaling AI tools realistically planned?
- Are the environmental and energy costs of scaling AI infrastructure across multiple cities/countries accounted for in deployment planning?

8. FUNDAMENTAL RIGHTS AND ETHICS COMPLIANCE

The solution follows national and/or EU level law, such as the EU AI Act, the General Data Protection Regulation and Nordic national regulation on digital inclusion and it aligns with the EU Charter of Fundamental Rights. Digital and AI solutions align with standard ethical recommendations, such as the EU High Level Group on AI's Assessment List for Trustworthy AI. Risks of bias and discrimination are addressed purposefully.

Legal and ethical baseline

- Does the solution comply with data protection law (such as the GDPR, relevant digital inclusion laws, and the EU AI Act), and align with ethical and human rights standards, such as the EU Charter of Fundamental Rights and the EU HLEG Assessment List for Trustworthy AI?

Shadow tools

- Are there clear policies on unofficial "shadow tools" (e.g., free AI chatbots, translation apps) used outside formal service architecture, including data agreements with their providers?
- Are users and practitioners made aware that shadow tools carry different risks than formally procured systems?

Data sovereignty

- Is data stored within the EU/EEA legal framework, and are non-EU providers (US, China) subject to heightened scrutiny?
- Are European alternatives used where available?

Privacy by design

- Does the tool minimise data collection at the point of entry rather than relying only on downstream safeguards (consent forms, retention policies)?
- Are basic preferences stored locally where possible?

Consent and agency

- Is use of AI features optional, particularly for sensitive information such as CVs or applications?
- Are users consulted on how data-handling and AI arrangements are designed?
- Does the tool let users actively control and use their own data, not just serve caseworkers' practice?

Governance

- Does the solution include non-digital channels for users that are not well served by a digital-first approach?
- Do organisations maintain approved-tool lists (e.g., restricting general-purpose AI where warranted), and is environmental impact (including energy and carbon footprint of AI infrastructure) considered in procurement?
- Where a private vendor acts as data controller for AI features, are affected users informed of this and its implications?

About this publication

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