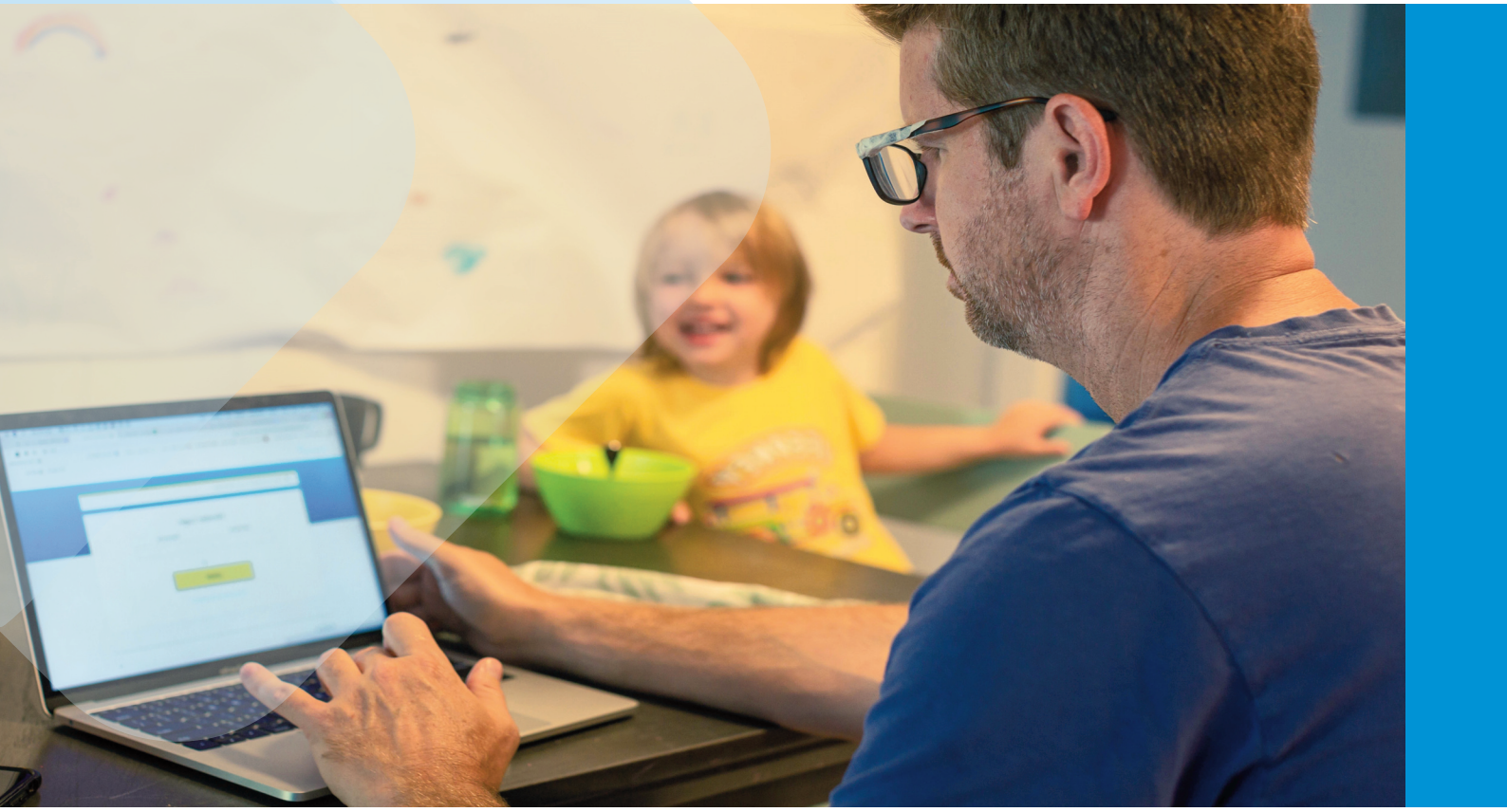
RESEARCH REPORT

Eurofound

Living conditions and quality of life

Digitalisation of social protection



Digitalisation of social protection

Eurofound

European Foundation
for the Improvement of
Living and Working
Conditions

When citing this report, please use the following wording:
Eurofound (2025), *Digitalisation of social protection*, Publications Office of the European Union, Luxembourg.

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Research project: Digitalisation in social protection: trends, risks and opportunities

Acknowledgements: The authors thank Valerie Frey (Organisation for Economic Co-operation and Development), Shea McClanahan (International Social Security Association), Slavina Spasova (European Social Observatory), Aleksander Aristovnik (University of Ljubljana), Ulla Buchert (University of Helsinki), Erzsébet Csatlós (University of Szeged), Lena Enqvist (Umeå University), Lilla Garayová (Pan-European University), Philipp Gräfe (Ruhr University Bochum), Tomasz Janowski (Gdańsk University of Technology), Gianluca Misuraca (Politecnico di Milano and Inspiring Futures), Colin van Noordt (KU Leuven), Edvarts Pāvulēns (Rīga Stradiņš University), Félix Tréguer (Center for Internet and Society of the National Centre for Scientific Research), Barbara Brink, Maarten Bouwmeester and Lucas Haitsma (University of Groningen), and the participants of the online workshop on 14 May 2025, for providing feedback on earlier versions of this report.

Luxembourg: Publications Office of the European Union, 2025

Print:	ISBN 978-92-897-2517-0	doi:10.2806/9940955	TJ-01-25-026-EN-C
PDF:	ISBN 978-92-897-2516-3	doi:10.2806/3139468	TJ-01-25-026-EN-N

This report and any associated materials are available online at https://eurofound.link/ef25026

The European Foundation for the Improvement of Living and Working Conditions (Eurofound) is a tripartite European Union Agency established in 1975. Its role is to provide knowledge in the area of social, employment and work-related policies according to Regulation (EU) 2019/127.

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Executive summary

Introduction

The EU and Norway are global leaders in digital government transformation and their social protection systems are being digitalised rapidly. This provides great opportunities in terms of improving the effectiveness and efficiency of social protection, but it can also reduce access for digitally excluded groups and risk dehumanising social protection. This report focuses on monetary social benefits, specifically those for unemployment, sickness, maternity/paternity, disability, old age and work accidents and occupational diseases, and also minimum-income, child and housing benefits. It maps the extent to which the front- and back-office processes of social benefit systems are digitalised in the EU Member States and Norway and the impact of the EU on this process. It discusses the challenges faced and the opportunities encountered by countries when social protection is being digitalised, as well as mitigation measures and success factors. Finally, policy pointers are presented. This report draws on the literature, input from the Network of Eurofound Correspondents and Eurofound's desk research.

Policy context

The European Pillar of Social Rights includes the right to social protection and inclusion. The 2019 Council Recommendation on access to social protection for workers and the self-employed argues that digitalisation can contribute to 'improving transparency for individuals'. The 2022 European Declaration on Digital Rights and Principles reinforces this vision by committing the EU to a digital transformation that is inclusive, benefits everyone and respects fundamental rights. The EU's Digital Decade policy programme sets out targets for 2030, including on digital skills, infrastructure and government. One of its aims is to make all key public services accessible online by 2030. The digitalisation of social protection happens within legislative boundaries, including those set by the EU's General Data Protection Regulation, Artificial Intelligence Act and Accessibility Act.

Key findings

- The digitalisation of social protection can enhance access, especially outside opening hours and in areas without public offices, including helping addressing non-take-up, for instance by reducing stigmatisation of application procedures; lower administrative costs; and improve user experience, responsiveness and transparency of the system. However, it also comes with challenges, such as increasing vulnerability to cyberattacks, exacerbating inequalities in access to social protection due to digital exclusion and reducing opportunities for referral and support. Digitalisation can reduce biases and errors, but may also cause them.
- For the benefits considered in this report, in 10 Member States and Norway, digitalised application is possible for all, or all but one, of them. The digitalisation of front-office processes is advancing rapidly; for example, from 2023 to 2025, at least five Member States digitalised the applications for various benefits. Usually, applications can be non-digital as well but, in at least five Member States and Norway, one or more of these social benefits can now exclusively be applied for online.
- In benefit systems managed by employers and insurance funds, digitalisation of application procedures can differ between employers and insurers, and central e-portals tend to be less comprehensive than in systems in which national social security plays a larger role. Sometimes, whether people can apply digitally or need to submit paper applications depends on whether they are employees, self-employed or unemployed. Benefits targeting groups in more vulnerable situations (such as housing and minimum-income benefits) tend to be less digitalised, partly because they are often managed at the local level and require more complex entitlement checks than other types of benefits (including proof of income and assets).
- The digitalisation of proofs of fulfilling certain entitlement criteria has been key in facilitating the digitalisation of benefits (e.g. registration at an employment service, proof of recent income). For instance, the digitalisation of healthcare (allowing doctors to issue digital sickness and pregnancy certificates) has been an important step in digitalising applications and entitlement checks for sickness, maternity, paternity and disability benefits. The digitalisation of pensions and healthcare benefits has often been driven by EU initiatives to stimulate interoperability between Member States.
- The digitalisation of front- or back-office processes often does not apply to certain atypical situations (e.g. non-standard employment). Furthermore, benefits targeting atypical, less common situations are frequently not digitalised. Overall, people in atypical situations are frequently excluded from digitalised processes.

- Child benefits are often automated, removing the need to apply. However, this automation typically does not apply to people in certain atypical situations.
- The assessment of applications is rarely fully automated, and human action is often needed to validate the input for or output of decisions (especially rejections) and to process atypical cases.
- Policy documents and strategies highlight the potential of digitalisation to free up resources so that social protection workers can manage more complex cases and support people in particularly vulnerable situations. However, while cost–benefit analyses showing savings are available, it is not always clear if all costs have been considered, and hardly any documented evidence was found clarifying how the freed-up human and financial resources were used.

Policy pointers

- Building and maintaining trust in institutions is a desirable outcome of digitalisation and a precondition for its success. Without it, the usage of, compliance with and support for digitalisation and data sharing may falter. Trust can be strengthened through inclusive stakeholder engagement, transparency of algorithms and data usage, reliable human-in-the-loop mechanisms and accessible appeal mechanisms.
- For digitalisation to be successful, it is important to involve stakeholders, such as people entitled to the benefits, social protection workers, insurers, social partners, doctors and civil society. The advantages for those involved should be clear and well communicated. Particular attention should be paid to the digital barriers, and the administrative and linguistic barriers that may be more pronounced in a digital environment, faced by groups in vulnerable situations when accessing social protection, for instance through inclusion audits in system development.
- To improve access to social protection systems, it is essential to learn from user experiences and queries. However, one should not overlook the views of people who apply by post or in person. Employees of local benefit offices can provide valuable information to improve access. It is also important, but more challenging, to seek input from people who would qualify for benefits but have not applied.
- People in atypical situations not covered by digital benefit processes can be in particularly vulnerable situations. They are at risk of not receiving the benefits to which they are entitled. Social protection systems need to pay special attention to reaching these people.
- To help social protection workers perform their changing roles in digitalised systems, it is key to provide them with training and resources. Their tasks need to be redesigned with a consideration of new digital activities, including interacting with new tools while providing consistent support to the users of their services.
- Even the best-protected digital social protection systems can be hit by cyberattacks, system breakdowns and power cuts. Solid backup plans must be in place to safeguard user data and ensure continuity of social protection.
- Testing digitalisation thoroughly before implementing it, being transparent about the data and algorithms used and running ex ante evaluations and regular monitoring can help ensure that digitalisation has few negative impacts and that, when they do occur, they are mitigated. Accessible complaint procedures, the judiciary, civil society, the media and research organisations have a crucial role to play in spotting built-in biases and data protection infringements.

Introduction

The EU and Norway are global leaders in digital government transformation (UN, 2024). Their social protection systems are being digitalised rapidly. This report focuses on monetary benefits. It maps the digitalisation of interactions with citizens, back-office processes, ongoing measures and strategies, and the impact of the EU on these processes. It discusses possible positive and negative impacts, for both institutions and current, potential and former recipients, and identifies safeguards to address risks. It seeks to understand the success factors and challenges regarding digitalising social protection and draws lessons for mutual learning.

EU policy context

The European Pillar of Social Rights includes the right to social protection and inclusion. The 2019 Council Recommendation on access to social protection for workers and the self-employed argues that digitalisation can contribute to 'improving transparency for individuals'. The report of the High-Level Group on *the future of social protection and of the welfare state in the EU* (2023) mentions that public administration can benefit from digitalisation, which contributes to its efficiency, but can also cause inequalities in the extent to which people are able to access digitalised public services.

The Commission's 2021 Communication on the 2030 Digital Compass: the European way for the Digital Decade sets out targets for 2030, including on digital skills, infrastructures and public services. One of its aims, for instance, is to make 100 % of key public services accessible online by 2030. Since 2014, the European Commission has monitored Member States' digital progress through the Digital Economy and Society Index (DESI) reports. As of 2023, and in line with the Digital Decade policy programme for 2030, DESI is integrated into the annual reports on the state of the Digital Decade and is used to monitor progress towards the targets.

A human-centric digital transformation in the public sector that leaves nobody behind is also called for in the European Declaration on Digital Rights and Principles (2022), the Council conclusions on human rights, participation and well-being of older persons in the era of digitalisation (2020) and the Digital Europe Programme. The 2025 artificial intelligence (AI) Continent Action Plan and the forthcoming Apply AI Strategy aim, for instance, for AI to be used to improve the quality and efficiency of public services and administration. The Communication on 'Digitalisation in social security coordination' (2023) includes the goal of improving access to social security services across borders by using digital tools.

EU funds support digitalisation in the public sector. Importantly, reforms or investments in the Recovery and Resilience Plans (RRPs) in 12 Member States include a focus on improving the transparency of social protection through digitalisation and specific projects on the digitalisation of public services (see Chapter 4).

The European Commission has developed an observatory to monitor and disseminate emerging technologies in the public sector, including in social protection (the EU Public Sector Tech Watch); a set of actions to support the resilience, innovation and skills of public administrations (ComPAct); European Digital Innovation Hubs that help public sector institutions (and businesses) test digital solutions; the GovTech platform, which brings together public administrations and businesses to facilitate the uptake of AI-enabled solutions; and mutual learning programmes, including ones on access to social protection.

The EU's 2016 General Data Protection Regulation (GDPR) (effective from 2018) sets out laws to ensure data protection and security, and the 2018 EU Data Governance Act (effective from 2023) focused on the sharing and reuse of data. The EU AI Act adopted in 2024 (scheduled to be fully effective from 2026) provides a legal framework that bans 'unacceptable risk' AI and regulates general-purpose AI models. It also creates obligations for high-risk AI systems, including systems used to assess eligibility or administer social protection, as they can impact citizens' fundamental rights and access to essential services. The 2016 Web Accessibility Directive (effective for websites from 2019 and fully effective from 2021) set out to make mobile applications (apps) and websites more accessible, and the 2019 Accessibility Act aims to make products and services more accessible, including for people with disabilities and older people. The 2023 version of the Network and Information Security Directive (effective from 2024) aims to increase cybersecurity, especially in critical sectors (e.g. by requiring multi-factor authentication).

The EU's 2024 Interoperable Europe Act aims to provide access to digital public services across the EU through a portal and states that a European interoperability framework is to be established with, for instance, recommendations on lawful data sharing. The Electronic Exchange of Social Security Information is the EU's decentralised information and communication technology (ICT) system that helps social security institutions across the EU exchange information. The ESSPASS pilot project explores digital issuance and cross-border verification of social security entitlements.

The Single Digital Gateway Regulation asked Member States to enable, by December 2023, citizens and businesses to complete certain administrative processes fully online, including claiming pensions and obtaining information on security legislation. The EU Digital Identity (eID) Wallet, which allows users to prove their identity or confirm personal attributes when accessing digital services, should be available to all people in the EU by 2026.

Scope and wording

Social protection comprises a broad range of monetary, tax and in-kind benefits. This report focuses on monetary benefits (the alternative term 'cash benefits' seems outdated, given that monetary benefits are rarely paid in cash nowadays). It thus does not cover services such as access to e-healthcare consultations and digital payment for public transport, applications for in-kind (long-term care, social housing and disability) entitlements or employment services' usage of digital tools, for instance to predict employability (Eurofound, 2020a, 2020b, 2022a, 2024; [1] OECD, 2024a).

The report covers the six branches of benefits identified in the 2019 Council recommendation on access to social protection (unemployment, sickness, maternity/paternity, disability and old-age and survivor benefits, as well as benefits for workplace accidents and occupational diseases) and also minimum-income, child/family and housing benefits. It focuses primarily on public/mandatory coverage and less on supplementary insurance. The benefits captured (especially under headings such as disability, minimum-income and housing benefits) differ largely among countries in terms of their roles and coverage (Eurofound, 2023, 2024). Benefit systems and entitlement criteria are discussed when particularly relevant in the context of digitalisation, but are not the focus of the report.

For readability for an international audience of policymakers and other stakeholders, the report goes into minimal detail on specific benefits and organisations. It avoids using specific names or acronyms for benefits, organisations and digital portals. 'People' and 'workers', rather than 'citizens' and 'employees', are used when the text may also apply to, respectively, non-citizens and self-employed people. 'Users' and 'recipients', rather than 'clients' and 'beneficiaries', are used when referring to service users and benefit recipients, respectively.

Digitalisation can range from translating analogue processes into electronic forms to using new technological possibilities to create new processes (Mergel et al., 2019). 'Automated processes' in this report refers to processes that are conducted digitally, without human interference. The term 'AI' has been used for a wide range of processes and mistakenly suggests that human intelligence is imitated (ISSA, 2020). These processes use algorithms created by humans, sometimes programmed to adjust themselves based on data analysed according to rules, to improve predictive capacity. This report aims to describe specifically what is digitalised, rather than labelling it.

Digitalisation affects not only front-office services, which involve direct interaction with users, but also back-office operations (which may support front-office processes but are usually invisible to users). This report examines a range of both types of processes:

- front-office processes include accessing information on rules, procedures, entitlements and obligations (information); applying for benefits or requesting information (transaction); and confirming continued entitlements (integration);
- back-office processes include processing and assessing applications; performing data exchange (including for the integration of benefits or the calculation of a taxation basis); undertaking proactive outreach activities to inform people of their rights and duties and provide them with support so they can exercise their rights; performing data analysis to identify overpayments, groups in vulnerable situations and service/policy developments; facilitating other processes (e.g. payment and archiving); and ensuring compliance with legal and ethical standards.

Where feasible within the project's resource constraints, a full overview of all Member States and Norway is presented; elsewhere, country examples are provided. Where digitalisation varies between subnational governments or insurers, examples are provided rather than a full overview.

Interoperability between different databases within countries is discussed in the report. However, interoperability in the EU context is often understood as the ability of systems to interact and operate across borders, facilitating intra-EU mobility, which is not the focus of this report. The report also does not focus on survey data on the usage of digital government tools (for example, Eurostat's annual survey on the use of ICT in households and by individuals) or on the many indicators already captured by the EU's DESI dashboard (e.g. Eurofound, 2025).

[1] Eurofound's 2025–2026 project 'public services and benefits: Care services' includes an investigation of e-healthcare, focusing on e-consultations.

Methods

The report draws on information gathered through the Network of Eurofound Correspondents in the Member States and Norway and Eurofound's desk research, complemented with information from the literature, databases and expert input (detailed unpublished country reports from the Network of Eurofound Correspondents can be requested; where national evidence is mentioned without reference to a source, the information comes from these reports).

1 Front-office processes

Framework

Front-office aspects of social protection include access to general and personalised information on and applications for social benefits, entitlement status tracking, benefit receipt, confirmation of continued entitlement and information on the received benefits (Figure 1). All these aspects can be digitalised to various extents. For instance, the digitalisation of applications ranges from downloadable application forms (which need to be printed and submitted in paper form) to full automation (identifying people who are entitled, thus making applications redundant), while the digitalisation of information provision ranges from websites with general information to interactive chatbots and information based on personal data.

In countries where both online and in-person application is possible, the information is usually inserted into the same system. For instance, in Norway, people who want to submit paper forms are encouraged to use the digital self-service system via computers at local benefit offices (but paper-based applications or documents are scanned and digitalised).

Access points and information provision

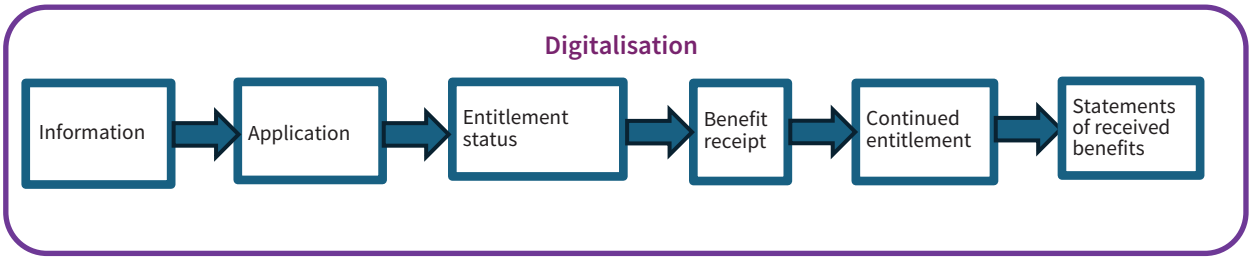
Central portals

There are central portals through which people can access general and personalised information on benefits, apply for benefits (even if these are managed by multiple institutions), follow the status of their benefit payments and provide updates on their situation (Table 1). While portals with general information were already common in the mid-2000s, their accessibility, ability to provide personalised information and provision of access to application procedures has increased (Spasova et al., 2023). Some central portals were established recently, such as in 2024 in Cyprus (previously, separate portals, such as that of the employment office, provided information and allowed online applications).

Services focusing purely on providing a broad range of government-related information (e.g. Citizens Information in Ireland) are excluded from this section. The distinction is sometimes hard to draw. For instance, in Estonia, one cannot apply for benefits through the central portal, nor can one log into it to access personalised benefit information; however, it focuses on social protection benefits, with links to application portals (e.g. to the portal for unemployment benefit applications). Similarly, in Greece, the central portal redirects users to a portal for unemployment and maternity benefits and another one for old-age, disability, work accident and sick leave benefits. Some portals provide information on all benefits but allow online applications only for some. For instance, the central portal in Denmark directs people to the pension portal for pension applications.

The situation is particularly fragmented in those countries where national tax-funded social security plays a smaller role (e.g. Austria, Germany, the Netherlands and Slovenia). For instance, Germany has separate portals for different benefits, managed by sickness funds, government departments, regions and municipalities (Gräfe, 2024). In the Netherlands, there is a single digital login for online public services, but people need to find their way to the various institutions to apply for benefits, such as the tax authority (e.g. housing benefit) or the employment service (unemployment and minimum-income benefits), or apply to their employer. In Portugal and Spain, one can only apply for benefits managed by the social security institution through the central portal; unemployment benefit applications are made through the employment

Figure 1: Digitalisation of benefits: front-office processes



Source: *Eurofound.*

office's online service and housing benefits are accessed regionally in Spain and through the national housing authority in Portugal. Poland has three portals respectively for state social insurance and employment-related benefits, plus social welfare portals run by local governments. In Luxembourg, several benefits can be applied for through the central portal, but maternity and sickness benefit applications go through the social security institution's website, while child/family benefit applications go through a separate portal. Where benefits are managed by regions or municipalities, central portals may link to them (e.g. for minimum income in Denmark), but sometimes people must find their way to local-level websites and offices (e.g. for housing benefits in Ireland and Poland and for minimum income in the Netherlands).

Benefit-specific websites can still provide an important source of consolidated information. For instance, in Portugal, in 2019, information for individuals facing permanent or temporary disability was consolidated into a single digital space. France, in 2000, introduced a portal containing information on all of the types of disability support available and, in 2023, expanded this to allow users to apply for nine types of disability benefits.

Sometimes, it is possible to apply for certain benefits both through the central portal and through the specific institution responsible; this is true, for instance, for unemployment benefits in Latvia and Luxembourg and for housing benefits in Norway.

When applications are to an employer or sickness fund, they may still be submitted through a central portal for self-employed people, covered by national schemes (e.g. in Austria and for sickness benefits in Hungary).

Table 1: Central portals used to apply for and access personal information for various benefits, 2025

Country	Portal (web addresses excluding country codes)	Benefits								
		Unemployment	Sick leave	Maternity/paternity	Disability	Old age / survivors	Workplace accidents/ diseases	Minimum income	Child/family	Housing
Austria	oesterreich.gv	X	X (limited information)	X	X	X	X	X	X	X
	svs (for the self-employed)		X (information on voluntary insurance)	X	X	X	X		X	
	pv				X	X				
	gesundheitkasse		X	X						
	e-ams	X								
	auva						X			
Belgium	belgium or socialsecurity	X			X	X		X		
Bulgaria	egov	X		X	X	X	X	X	X	X
Croatia	gov					X			X	
Cyprus	gov	X	X	X		X (not survivors)		X	X	X
Czechia	jenda.mpsv	X		X				X	X	X
	e-portal.cssz		X	X (parental)	X	X				
Denmark	borger	X	X	X	X	X	X		X	X
Estonia	eesti	X	X	X	X	X	X	X	X	
Finland	kela	X	X	X	X	X	X	X	X	X
France	ameli			X			X			
Germany	sozialplattform	X				X		X	X	X
Greece	gov	X	X	X	X	X	X	X	X	X
	dypa.gov	X		X						
	efka.gov		X			X	X			

Country	Portal (web addresses excluding country codes)	Benefits								
		Unemployment	Sick leave	Maternity/paternity	Disability	Old age / survivors	Workplace accidents/ diseases	Minimum income	Child/family	Housing
Hungary	ugyfelkapu.gov	X			X	X			X	
Ireland	mywelfare	X	X	X		X			X	
Italy	inps	X	X	X	X	X		X	X	
Latvia	latvija.gov	X	X	X	X	X		X*	X	X*
Lithuania	sodra	X	X	X	X	X	X			
	spis			X				X	X	
Luxembourg	myguichet	X					X	X		X
	edelivery			X					X	
Malta	servizz	X	X		X	X			X	
Netherlands	mijnoverheid									
Norway	nav	X	X	X	X	X	X	X	X	X
Poland	empatia.gov				X	X		X	X	
	e-Zus		X	X	X	X	X		X	
Portugal	seg-social		X	X	X	X		X	X	
Romania	cnpp					X	X			
Slovakia	slovensko	X	X	X				X	X	X
Slovenia	euprava			X					X	
	zpiz				X	X				
	zzzs		X							
	poiščidelo	X								
Spain	seg-social		X	X	X	X	X	X	X	
Sweden	forsakringskassan	X	X	X	X		X	X	X	X

** Contains information on the benefit, and at least the possibility of communicating with relevant local governments electronically (and for some municipalities a link to the application form).*
Notes: *This table includes only the websites covering the largest number of benefits in the country and providing more than just information (offering access to application portals). Websites covering only one of the benefits are not considered to be central portals, so have been excluded, bar some exceptions to demonstrate fragmentation.*
Source: *Compiled by the authors from information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Identification and authentication

Unique identifying personal numbers (e.g. the personal identification code in Bulgaria, Central Person Register number in Denmark, personal public service number in Ireland and citizen service number in the Netherlands) play a key role in assigning administrative processes to a person and preventing data from having to be requested more than once. In Germany, a 2021 law initiated the process for implementing the 'once only' principle nationally (the aim of which is for people to need to supply the same information and proof only once). In 2023, based on a pilot project (in the national weapons register), the legal basis was further clarified.

Sometimes, people can submit applications electronically without a digital identification certificate, for instance using a mobile phone number, as is the case with 'eVloge za VSE' ('e-applications for everyone') for disability benefits in Slovenia. Some allow multiple login methods. In Portugal, one can log on to the housing institute's portal with a tax number, citizenship card number or digital key.

Whether or not people have activated their digital identities or accounts and the mode used for applying for benefits determine how people are informed of the process. For instance, in Latvia, if an official electronic mailbox has been activated, the decision is sent to this mailbox, regardless of how the application was submitted.

Digital modes

When applications can be made online via websites, apps are also often available. For instance, in Poland, people can apply for most benefits online and some through a mobile app. In Greece and Spain, digital applications were made through websites until, respectively, February 2021 and September 2024, when apps were introduced. However, apps are not always available as an alternative to web-based applications (e.g. for unemployment benefits in Lithuania). In Austria, the 'Digital Office' app only provides information and cannot be used for benefit applications. Similarly, when other front-office functions are concerned, such as tracking the progress of applications, these may be available only through websites (e.g. for benefits for workplace accidents and occupational diseases in Romania).

In systems in which official communication can be by email (see Tables 6–14), electronic signatures (e-signatures) are usually legally recognised for the authentication of digital transactions, governed by a related EU regulation (the Electronic Identification, Authentication and Trust Services Regulation) and national legislation (e.g. in Latvia).

Communication

All countries have **websites** with general (i.e. not personalised) information on benefits and, when applicable, directions to related services or portals.

When an online application is possible, there are usually **online tutorials** explaining the process. **Video calls** also play a role (e.g. with retirement advisors in Poland and from local social insurance offices with experts from the central office in Latvia).

Chatbots automate interactions between social protection services and their users in some countries (Table 2; OECD, 2024a). They are not always available for all benefits, for instance in Austria and Lithuania. Furthermore, it has been argued that, in Germany, the central portals would benefit from a digital assistant that could help people find the right benefits for their living situation (Theißing and Andersen, 2024). When not answering queries, chatbots can support answers provided by social protection staff, by suggesting answers to queries (Csatlós, 2024a).

Portals generally provide information in the **national language(s)**, in most cases (sometimes less extensively) also providing information in English and sometimes in other languages (Spasova et al., 2023). For instance, in Germany, Greece and Poland the central website is available in the national language and English, but in Poland, one portal (e-Zus) is also available in Ukrainian, while another (empatia) is only in Polish. In Germany, the central website is available in five other languages. In Finland, information is available in the official languages (Finnish and Swedish), often in English and Sami, and sometimes also in Arabic, Estonian, Ukrainian, Russian and Somali. Language options tend

Table 2: Examples of chatbots used in social protection, 2025

Country	Provider (national)	Description
Belgium	Employment service	Answers questions relating to unemployment and career breaks, helps users navigate the website and promotes using the virtual mailbox for communication with authorities; remembers people's circumstances for continued support while navigating the website
Cyprus	Central portal	Answers questions in writing (English, Greek and 'Greeklish' characters) or orally (through voice assistance) on social insurance, welfare and other government services (established 2025)
Finland	Social insurance	Answers questions regarding family benefits, income support, unemployment, housing support and COVID-19. Answers in Finnish and Swedish, but also understands English
France	Employment administration service	Answers questions submitted orally (i.e. using voice recognition software) (2017 project)
Germany	Employment service	Answers questions, for instance on unemployment benefits, short-time allowance, child supplements, child support, and training and studies
Greece	Central portal	Conducts up to 240 conversations in Greek per minute (established 2023)
Hungary	Disability service	Is integrated within the job search system
Italy	Social insurance	Answers questions on all services, accessed by the website's search engine. Another chatbot has been piloted for more complex questions, but currently covers only one pension scheme
Latvia	Central portal	Assists users and uses audio playback to improve accessibility
Norway	Central portal	Answers questions, with learning capabilities
Romania	Pension service	Answers questions and calculates the number of pension points
Slovenia	Employment service	Answers questions about unemployment benefits, with learning capabilities

Note: *Central portal refers to the e-portal mentioned in Table 1.*
Sources: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts, EU Public Sector Tech Watch and desk research.*

to be more limited for functions beyond basic content, such as application forms (e.g. in Austria, only in German), chatbots and sections of websites adjusted for people with disabilities. For instance, in Hungary, the central portal is in both Hungarian and English, but more detailed content and the chatbot are only in Hungarian, as is the State Treasury's pension calculator.

Online calculators

Websites give information on the benefit amounts that people are or in the future may be entitled to, given different scenarios and factors (e.g. employment trajectories, income, working time, household composition, living costs). Users need to fill in these data, which may be partially complemented with prefilled personal data once they log into their account.

Calculators simulating future pension entitlements are widespread (Table 3). Usually, with the disclaimer that the information provided is for informative purposes only (e.g. in Latvia).

Calculators are also available for other types of benefits (Table 4).

Table 3: Pension simulator examples, 2025

Country	Calculator description
Bulgaria	Need to log in with a personal identification code (social security institution website)
Cyprus	Calculates pensions based on current, not projected, entitlements Excludes credits accumulated from military service, number of children and years in higher education
Estonia	Based on personal data retrieved to calculate pension rights over three pension pillars and for early or postponed retirement, and on user input for entitlements for raising children and public service
France	Calculates retirement age and pension amount
Italy	One system allows one to insert personal and contribution-related data to learn about pension rights, considering, for instance, the time spent abroad, in university education and on maternity leave Another system: calculates supplementary pension entitlements, informed by the personal data it contains
Norway	Calculates the pensions that people would get if they retired on different dates
Poland	Is based on individual data in the system or on estimates, as not all contributions and pension information have been digitalised
Portugal	Provides automatic (by retrieving salary data, with future salaries calculated by assuming a 1 % annual increase) or tailored simulations
Slovenia	Provides real-time estimates of pension entitlements based on user input and personal data in the system
Spain	Estimates future pensions based on retrieved (if logged in) or inserted personal information

Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Table 4: Examples of online benefit calculators for benefits other than old-age benefits, 2025

Country	Benefit	Calculator description
Austria	Unemployment	Draws on prefilled data (employment service)
	Sickness	Requires personal data to be entered (national insurance)
	Childcare	Central government portal and prime minister's ministry website
Belgium	Disability and sickness	Simulates the impact on benefit receipt of engaging in paid work Excludes impacts of taking up work in the civil service (or when household members are civil servants) or social workplaces
Croatia	Child	Central portal
Czechia	Sickness, maternity/paternity, healthcare and minimum income	Portal of the Ministry of Labour and Social Affairs
Denmark	Disability	Pension portal
Estonia	Maternity and parental benefit	Social insurance website. Based on retrieved personal employment income data
Finland	Unemployment and parental	Available on the websites of the national social security institution and unemployment funds, for example. Users do not need to log in and must provide personal information (e.g. salary, tax rate). Has various uses, including estimating how sharing parental leave between parents will affect family income

Country	Benefit	Calculator description
France	Minimum income, housing, disability, unemployment, sickness, maternity/child	Available on a portal (and specific websites) to assess eligibility and the benefit amount
Germany	Sickness	For example, the largest two sickness funds
	Parental	Government
	Housing	For example, the region North Rhine-Westphalia
Latvia	Unemployment, sickness, maternity/parental	Is based on both person-specific data in the system and data provided by the user Excludes people who are both employees and self-employed
Luxembourg	Maternity	Used to calculate the timing of benefits
Netherlands	Maternity and unemployment	Used to calculate the amount and duration of benefits
Norway	Parental and unemployment (and child support for divorced parents)	Central portal
Portugal	Housing	Allows people to enter data to assess their eligibility and the potential amounts
Spain	Unemployment	Retrieves employment and contribution history data to calculate the amount and duration of benefits
	Minimum income	Central portal

Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Proactive application processes

Digitalisation has made application processes more proactive in various ways, including partially prefilling application forms, contacting people who are considered likely to qualify and identifying those entitled and granting (and paying) them the benefit. Proactivity can reduce non-take-up (Eurofound, 2015, 2024).

Prefilled forms

- In France, since 2021, housing benefit applications have been automatically prefilled with income data (from tax data held by social security institutions) (OECD, 2024b). Since March 2025, this has also been done for minimum-income benefit applications. Users must check and correct the declaration and complete it by adding any income not captured by the system (e.g. from abroad, alimony or self-employment). Application forms for the low-income in-work, minimum-income and housing benefits include prefilled means test data. For the online disability benefit application, the system retrieves personal data and attaches them to an overview of employment from another system.
- In Germany, submitting a newborn's tax number triggers the family benefits office to send the parents a letter with personal access details and QR codes for the largely prefilled online child benefit application. However, other benefits (parental allowance, child allowance and health insurance registration) require separate applications.
- In Norway, the pension service prefills information (employment history, earnings).

Alerting people to entitlement

Sometimes, people are notified that they are likely to be entitled to benefits, for which they can then apply.

- In Estonia, people are alerted to their pension entitlement by post six months before they reach pensionable age. Pregnant women with a standard employment contract receive a maternity benefit offer (with the amount, timing and calculation method) online and via email before their due date, based on state registry and health service data. Women in other employment situations (e.g. self-employed) need to apply. Non-working mothers and fathers receive the offer after registering the newborn child. To receive paternity benefits earlier, the father needs to apply online.
- In France, the family fund analyses data to determine non-take-up risks and contacts people who may be entitled to multiple benefits but who have applied for only some of them. By 2026, it plans to set up an eligibility engine, enabling the automatic retrieval of individuals' data and automatic proactive outreach. Furthermore, 30 days before higher-tier unemployment benefits run out, those eligible for lower-tier benefits are automatically informed (but still need to fill out an online form).
- In Lithuania, the social security institution automatically sends document requests to individuals who are approaching retirement age to complete their pension file.

- In Portugal, the social security institution sends the proposal to award the child benefit through its portal, which the parent then needs to agree to for the benefit to be awarded.
- In Norway, people who log into the central portal and fulfil the eligibility criteria for 'cash for care' (for care for one- to two-year-old children who are not in state-funded care) are guided to apply.

Digitally supported proactive alerts to entitlements may also go through social workers. In Slovenia, the system behind the central portal introduced in 2010 supports social workers in identifying users' entitlements. For instance, it can detect people belonging to the same household and access their financial information. The goal is to further automate the process so that the system can identify the benefit types and amounts that people qualify for and the length of entitlement (see Box 3). For legal reasons, social workers need to personally evaluate, print, sign and send applications. Human intervention is recorded and analysed to improve the system and prevent errors.

Automating benefits: making applications redundant

Automating benefits is understood here as making applications redundant by automatically identifying people who are entitled to a benefit and paying them. While digitalisation can facilitate automation, applications can also be made redundant in non-digital environments. For instance, in Sweden, abolishing means testing for child benefits contributed greatly to making applications redundant in 1948. Access to digital information on income is a prerequisite for automating benefits whose entitlement or amount depends on income (for example, in Estonia, register-based income data are used to automatically calculate pensions as well as maternity and parental benefits). However, many countries do not maintain such income registers for all their citizens or they are legally required to keep registers separated. This is why, for example, Germany has automated the income-independent child benefit but not the income-tested child and parental benefits.

Often, benefit automation applies only when people are already entitled to other benefits (based on information available from applications for other benefits) or only for the renewal of entitlements. Unemployment registration or benefit receipt may lead automatically to health insurance coverage (Eurofound, 2024). In Belgium, people whose disability has been attested from 2024 onwards automatically receive European disability cards, while others must apply online. Some of the monetary benefits considered in this report are also automated when entitlement arises from other benefits, with eligible people digitally identified based on the data already on file:

- Hungary, from July 2024, removed the need to apply for the childcare allowance for people who had been receiving another allowance that ends when the child reaches a certain age;
- in Norway, old-age pension applications and calculations are automatically triggered once people already receiving certain benefits (e.g. disability) reach a certain age;
- in Poland, old-age pension supplement is granted automatically for pension recipients when they turn 75;
- in Portugal, since October 2017, social security staff have been required to proactively check recipients' eligibility for minimum-income benefits against social security information and renew the benefits if they are eligible;
- in France and the Netherlands, child benefits are automated only from the second child onwards.

However, there are examples of automated benefits regardless of receiving other benefits.

Several countries grant **child/family benefits** automatically upon registration of childbirth, especially when the benefits are not means tested (e.g. in Sweden) and the amount does not vary per child or otherwise. Application is only required when the situation is non-standard or when benefit supplements are needed.

- In Austria, since May 2015, family benefits have been paid automatically. Data about the newborn child and the parents are automatically transmitted to tax authorities, where they are checked electronically against entitlement criteria. Those entitled are informed by post and payment is made.
- In Estonia, in 2019, child and parental benefits were largely automatised. When a newborn child is registered, the tax authority provide data on the parents' income and working status (OECD OPSI, 2019a). Through the central portal and an email notification, parents are informed of entitlements, amounts, underlying calculations and payment timing. After confirming receipt, the parents start receiving family benefits (Nortal, 2022).
- In Hungary, from July 2024, childbirth at a hospital automatically triggers payment of the one-off childbirth benefit. Officials only need to intervene to reject benefit applications if conditions are not met (e.g. a minimum number of medical visits during the pregnancy).

- In Norway, since 1998, birth registration automatically triggers the sending of a decision letter and, six to eight weeks after birth, the payment of child benefits to the mother. While the system needs human approval, human intervention is only needed in cases of uncertainty, to verify specific conditions before the process continues, rather than to manage the case manually (Estevez et al, 2024). An application is needed if the child is born abroad, the parents want the father to receive the benefit or the receiver is a foster parent.

Sickness benefits often do not need any user input, besides visiting a doctor (see Table 7). When France piloted automated sickness benefits, it excluded groups of workers (e.g. artists and authors) who required ad hoc systems to share data with their social insurance fund (see 'Accurately functioning systems').

Other benefits that are automated include the following.

- In Sweden, when the **pension** agency is notified of a pensioner's death, it contacts the eligible recipients and pays the remaining pension. Only those eligible to receive the remaining pension who live abroad must actively apply. In Portugal, pension payment starts automatically, based on a provisional amount.
- In Malta, **in-work benefits** for working parents with dependent children over the age of 23 are automated. In the year proactive identification of eligible households was introduced, beneficiaries increased from 7 000 in 2021 to 23 000 in 2022.
- In Portugal, some **housing benefits** are assigned automatically using tax authority data (others are accessible online). By logging into the housing institute's portal, users can view the data that are used to calculate the benefit and file complaints.

Other examples include entitlements to reduced co-payments for pharmaceuticals and reduced utility tariffs for older people in Portugal and enhanced healthcare reimbursements in Belgium, eliminating the need to pay upfront and request refunds (which causes non-take-up of the benefit and of healthcare services for people who cannot make upfront payments; Eurofound, 2024). In Estonia, since 2017, a yearly payment has been made automatically to people who have reached pensionable age, have lived alone for at least six months and have a pension below 1.2 times the average pension.

Country overview: online applications and information on application status

Overview

The availability of the option to apply digitally does not mean that many people use it (Chapter 5). However, 10 EU Member States and Norway have digitalised their benefit systems to the extent that all, or all but one, of the benefits investigated in this report can be applied for online (Table 5). In many countries (e.g. Czechia, Denmark, Finland, Italy, Malta, Spain and Sweden), some local authorities or specific schemes do not offer digital applications. Usually, the minimum-income benefit is the odd one out, sometimes because for this benefit, an in-person visit is seen as particularly beneficial for identifying the applicant's support needs (Eurofound, 2024). Housing benefit applications also tend to be less digitalised, especially when managed at the municipal or regional level. Frequently, while online applications are available for relatively common benefits, less common benefits (e.g. disability benefits specific for children and survivors' pensions in some countries) or situations (e.g. applying for a disability benefit in another country) require paper applications.

Table 5: Digitalisation of applications for social benefits, 2025

Country	Benefits								
	Unemployment	Sick leave	Maternity/paternity	Disability	Old age/survivors	Workplace accidents/diseases	Minimum income	Child/family	Housing
All, or all but one, of the benefit types can be applied for fully digitally									
Bulgaria	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Czechia	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partly
Denmark	Yes	Yes (only)	Yes	Yes	Yes	Yes	Partly	Yes	Yes
Finland	Yes	Yes	Yes	Yes	Yes	Partly	Yes	Yes	Yes
Greece	Yes	Yes	Yes	Partly	Yes (only)	Yes	Yes	Yes (only)	Yes
Italy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partly

Country	Benefits								
	Unemployment	Sick leave	Maternity/paternity	Disability	Old age/survivors	Workplace accidents/diseases	Minimum income	Child/family	Housing
All, or all but one, of the benefit types can be applied for fully digitally									
Lithuania	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partly
Netherlands	Yes	Partly	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Norway	Yes (only)	Yes	Yes	Yes	Yes	Yes	Partly	Yes	Yes
Spain	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partly
Sweden	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Two or three of the benefits cannot be applied for fully digitally									
Estonia	Yes	Yes	Yes	Yes	Yes	Yes	Partly	Yes	Partly
France	Yes (only)	Yes	Yes	Partly	Yes	Partly	Yes	Yes	Yes
Germany	Yes	Yes	Partly	Yes	Yes	Yes	Partly	Yes	Partly
Ireland	Yes	Yes	Yes	No	Partly	Yes	Partly	Yes	Yes
Latvia	Yes	Yes	Yes	Yes	Yes	Yes	Partly	Yes	Partly
Malta	Yes	Yes	Yes	Yes	Partly	Partly	Yes	Yes	Partly
Portugal	Yes	Yes	Yes	Yes	Yes	Partly	No	Yes	Yes
Four or five of the benefits cannot be applied for fully digitally									
Belgium	Partly	Partly	Partly	Yes	Yes	Partly	Yes	Yes	Partly
Hungary	Yes	Partly	Partly	Yes	Yes	Partly	Yes	Partly	Partly
Poland	Yes (only)	Yes	Partly	Partly	Partly	Partly	Yes	Yes (only)	Partly
Slovakia	Yes	Yes	Partly	No	No	Partly	Yes	Yes	Yes
Slovenia	Yes	Partly	Yes	Yes	Yes	Partly	No	Yes	No
Six or more of the benefits cannot be applied for fully digitally									
Austria	Partly	Partly	Partly	Partly	Yes	Partly	Partly	Yes	Partly
Croatia	Yes	No	No	Yes	Yes	No	No	Partly	No
Cyprus	Yes (only)	Yes (only)	Partly	No	Partly	Partly	Yes (only)	Partly	Partly
Luxembourg	Partly	Yes	Partly	Partly	No	Yes	No	Yes	Partly
Romania	Partly	Partly	Partly	Partly	Partly	Partly	Partly	Partly	No

Notes: *'Yes' means that all parts of the benefit procedure that can technically be digitalised are digitalised. Physical steps such as visiting a general practitioner for a medical certificate might still be necessary. Paper or other non-digital procedures might still be available. 'Yes (only)' indicates that digital application is the only option. 'Partly' means that the benefit procedure is digitalised only in some regions/cities, for some groups of people, for some employers, for some steps (although all could conceivably be digitalised) and/or for a specific scheme in the benefit group.*
Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Online applications may also only be accessible for specific groups, such as:

- employees (in Germany, in contrast with civil servants and self-employed people, employees' data from public health insurance institutions and/or public pension funds are accessible);
- self-employed workers (for maternity benefits in Austria);
- mothers (in Cyprus, for maternity/paternity benefits, fathers need to apply on paper).

Some countries have only recently digitalised benefit applications (along with other front-office aspects). In 2025, Czechia and Slovenia digitalised maternity benefit applications. In 2024, Belgium digitalised minimum-income benefit applications, Luxembourg digitalised applications for benefits for occupational accidents (reporting workplace and commuting accidents) and family benefits, Czechia digitalised unemployment and

child/parental benefit applications (having digitalised disability benefit applications in 2023) and Slovenia and Spain introduced portals to apply for and process national social benefits. In 2023, Spain digitalised sickness benefit applications and Portugal (having started to digitalise other aspects from 2018) digitalised survivor pension applications and status checks. Some other countries had already largely digitalised their social protection systems over a decade ago (e.g. Sweden in 2010).

Benefits managed by the same institution are usually digitalised to similar degrees. For instance, in Slovakia, this is the case for minimum-income benefits, housing benefits and parental/family/child benefits, which can all be applied for through the central government portal. In Romania, benefits managed by the national pension service are digitalised to a larger extent than those managed by other bodies. When benefits are managed by subnational entities, applications tend to be digitalised to different degrees, such as for (regional) minimum-income benefits in Austria. Such differences may reflect different levels of digitalisation and available resources among local entities.

Benefits requiring medical certificates (confirming sickness, disability or pregnancy), require an in-person visit to the doctor (usually a general practitioner (GP)). The rest of the process is then digitalised to different extents. Doctors may need to digitally submit the information or have to issue paper certificates. In some systems, doctors can submit either online or paper certificates. If the latter, workers must follow at least a partially non-digital process (e.g. in France and Portugal). Sometimes, healthcare and other social protection systems are not interlinked, partly due to a lack of a legal basis (as in Croatia).

While front-office aspects for people entitled to benefits may be minimally digitalised, they may be more so for employers, who may be able or required to forward requests to institutions digitally, such as for sick leave benefits in Belgium. In addition, in Slovenia, since 2008, employers have been able to electronically submit applications, terminations and changes to the social insurance institution.

Digital only

Sometimes, applications can only be completed online, such as for:

- unemployment benefits (Cyprus, France and Norway);
- pensions (Greece);
- disability pension supplement (Poland);
- child benefits (Greece, Poland);
- sickness benefits (Denmark, Poland).

Sometimes, only some groups have to apply online, including people who are:

- self-employed (e.g. sickness benefits and the infant-care allowance in Hungary and maternity/paternity benefits in Luxembourg and the Netherlands);
- covered by a certain insurance provider (e.g. sickness benefits in Belgium);
- not in employment (i.e. cannot apply through their employer) or are already receiving other social benefits (e.g. those applying for maternity/paternity benefits in the Netherlands if they are unemployed and/or already receiving unemployment or sickness benefits).

There are also examples of steps in the application process that need to be undertaken online (Eurofound, 2024). In these situations, people may still visit a government office for support with filling out applications using the online tool (e.g. in Cyprus for minimum-income benefits).

Sometimes countries allow for exceptions to online only applications.

In 2024, Slovakia ruled that the sick leave application procedure must be online, but, in practice, doctors may still need to issue paper certificates. Paper applications are accepted as exceptions. Hungary also makes exceptions to required online pension applications. In Denmark, parental leave applications are online by default, but, for people facing difficulties, alternative options can be found.

Doctors (see ‘Sickness benefits’) or employers (see , for example, ‘Maternity and paternity benefits’ and ‘Benefits for accidents at work and occupational diseases’) may also be required to provide benefit-related information digitally.

Examples of ongoing developments

Planned reforms are listed in the benefit-specific sections below and RRF-funded reforms in Table 16. Some reforms span several benefits.

- France is aiming to have a single application form for multiple benefits (family, housing and social inclusion) administered by the family fund by 2027, including applicants not currently in its database. The reform also seeks to automate the retrieval of income information from administrative data for checking continued entitlement, automating means testing and prefilling applications.
- Romania has ongoing projects to digitalise major aspects of social protection (including for maternity and disability benefits) and provide national-level system integration.

Unemployment benefits

Unemployment benefits can usually be applied for only after having registered at a public employment office. Registering as a jobseeker and applying for an unemployment benefit may be separate procedures (Estonia, Poland), or registration may automatically lead to benefit entitlement checks and receipt (Malta). People may apply for (or automatically receive) lower-tier unemployment benefits when they do not qualify for higher-tier benefits or after higher-tier benefits have run out (Eurofound, 2024).

Unemployment benefits have sometimes been among the earliest and most digitalised benefits (e.g. in France and Malta) (Table 6). The digitalisation of unemployment benefits rarely lags behind that of other benefits (Belgium). However, in-person attendance of training or meetings with employment services may be needed to avoid unemployment benefits being lowered, paused or stopped (Eurofound, 2024).

Digitalisation is used to help jobseekers to different extents. For instance, in Italy, users receive an indication of compatibility between their CV and available job positions. In Estonia and Germany, the online system allows users to create a CV with prefilled data from different national registers, search and apply for jobs and register for training courses.

In Denmark, the system utilises data on jobseekers and employment initiatives, with specialised portals offering performance metrics for employment efforts (e.g. time spent receiving benefits before finding new employment), allowing the time spent on less crucial administrative tasks (registration and documentation processing) to be reduced (Kommunernes Landsforening and Kombit, 2025). A 2020–2023 experiment involving unemployment fund members in Denmark triggered a legal change (Ramboll, 2021). Since 2023, unemployed people in Denmark have had the right to have unemployment insurance and employment service meetings take place digitally, except for the first job interview with the employment service and the first meeting with the unemployment insurance institution. Following this legislative change, unemployment insurance and employment services mandated digital communication. Missing the communication is not a valid reason for missing appointments or not responding to job offers. The penalty for violating requirements to engage in job seeking or training can be applied (pausing unemployment benefits for three weeks) (Weber, 2025).

Table 6: Unemployment benefits – possibility of applying (and conducting other front-office functions) digitally

Country	Level of digitalisation
Austria	Benefits can be applied for online and in person. Workers must appear in person at the regional employment office within 10 days of applying online, but this requirement can be waived.
Belgium	The application is on paper / in person, but some steps are mandatorily digital (online applications for the suspension of employment and use of the electronic control card for temporary unemployment). There are different providers (the national unemployment agency or trade unions).
Bulgaria	It is possible to apply, submit declarations of changed circumstances and receive certificates of paid unemployment benefits online.
Croatia	Jobseekers can register and apply for benefits online, in person or by post.
Cyprus	Applications can be made only online.
Czechia	Applying for benefits and the (required) job intermediation is possible online via the app or in person. Paper forms have been eliminated.
Denmark	It is possible to apply, receive personalised information, request assistance, receive notifications, register and interact with the job centre and self-book appointments online. Municipalities offer online courses and job-related advisory programmes. Individuals registered with Digital Post receive notifications via e-Boks or Digital Post regarding their unemployment status.
Estonia	It is possible to register as unemployed and claim unemployment benefits online, using prefilled forms, and to view and update personal information and view the application status and benefits received.
Finland	Applications can be undertaken digitally, through unemployment funds or the national social security institution.
France	An online form must be filled out, which simultaneously registers the person as a jobseeker and for unemployment benefits. The form is used for the first interview with an advisor. Applicants can check their application status online or through an app. Once approved, entitlements are topped up automatically.
Germany	Lower tier (*Bürgergeld*): applications can be made online. Higher tier: benefits can be applied for online, in person or on paper; it is also possible to register as a jobseeker, digitally transmit evidence, request electronic employment certificates, request evidence of other relevant insurance periods required in the application process and file objections online. Meetings can be scheduled as an online videoconference. An online job portal is provided.
Greece	Applications can be made online and in person. Once people have registered online as unemployed, they can apply online for unemployment benefits.
Hungary	Applicants must first register as jobseekers, either online or on paper, and then can apply for the benefit, online, by post or in person.

Country	Level of digitalisation
Ireland	Applications can be made online through the central portal or on paper, but payments must be collected in person. A verified digital identity is needed also when applying on paper.
Italy	It is possible to apply (and complete the required online activation portal registration) online or by phone.
Latvia	Applications can be made online, in person, by email (e-signature) or by post; applications can be completed simultaneously with registering as unemployed.
Lithuania	Applications can be made online, by email (e-signature) or on paper / in person.
Luxembourg	Registration as a jobseeker can be online or by phone, but to receive unemployment benefits one must visit the unemployment benefit service in person (within two weeks).
Malta	It is possible to apply and track the status of claims online or in person. Once a person registers as unemployed (which is only possible online), the claim for unemployment benefits is automatically initiated.
Netherlands	Applications can be made online or by post (triggering automatic registration as a jobseeker). Personalised information can be accessed online.
Norway	Registration as a jobseeker and benefit application can only be done online.
Poland	It is possible to register as unemployed or as a jobseeker online and then apply, also online, for services and benefits like the activation allowance, a grant for starting a business, and training. Basic health insurance coverage is granted automatically upon registration as unemployed.
Portugal	It is possible to apply online; personalised information is available, including on the application status.
Romania	Websites and policies differ between counties, but usually they are limited to downloadable application forms, to be submitted physically or by email. The National Workforce Employment Agency offers a job search portal.
Slovakia	It is possible to apply, access personalised information and update applications online.
Slovenia	People can apply, access their records, communicate with career advisors, update their data, review and sign documents and order official certificates through the online portal. Through this portal, jobseekers can browse available job vacancies, use online tools to create an e-CV and present their profiles to and communicate with potential employers.
Spain	After registering with the regional employment service, people can apply for unemployment benefits through the national online system.
Sweden	It is possible to apply online or by post. The degree of digitalisation differs between the 24 unemployment funds. However, all of them offer personalised information and a digital mailbox.

Notes: *Brown, only non-digital aspects; green, digital aspects somewhat available, e.g. only in some regions or for some groups of workers; purple, only digital aspects. The unemployment benefits considered in this table are from Eurofound (2024): generally, the lower-tier schemes listed in Annex 2 of that report, but, for the countries lacking these, the higher-tier schemes in Annex 1.*
Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Examples of ongoing developments

- In Luxembourg, the possibility of claiming unemployment benefits online was introduced by the Government Council in November 2024, but implementation is still ongoing.
- In Slovenia, employment services have been digitalised further, including creating a job-matching portal and statistically identifying unemployed people's employment prospects.

Sickness benefits

An initial step for applying for sick leave benefits is a doctor's visit, usually in person to a GP. The doctor issues proof of the person's incapacity to work, for consideration by the employer and/or social insurance institution, a process that varies in to what extent it is digitalised and automatic (Table 7). The digitalisation of healthcare has facilitated the digitalisation of sickness benefit applications. For instance, in Czechia, this process was accelerated during the COVID-19 pandemic, when e-prescriptions were introduced. Administrative requirements for doctors differ. For instance, in France, forms are partly prefilled, but doctors must select the reason for sick leave from a list of common reasons and enter the worker's status (employee, civil servant or other).

In digitalised systems, doctors must (in Czechia, Latvia, Poland and Spain) or can submit certificates confirming incapacity to work electronically, which then triggers a process involving the employer and the social security / insurance institution. While in some countries the sick person still needs to apply for sickness benefits (e.g. in Czechia, Latvia and Poland), in most others this is not required (e.g. in Estonia, Germany, Italy, Norway, Portugal, Slovakia and Spain). This is possible only if the system already contains the necessary information, such as the worker's bank account number. For instance, in Estonia, workers can provide this online via the state portal's e-service, their health insurance customer service or email. Sometimes, in-person options (where the beneficiary needs to give a paper copy of the sickness certificate to their employer) have been abolished (e.g. in Estonia and Slovakia). Elsewhere, doctors may still issue paper certificates,

which applicants then need to present, for instance in Portugal, within five days to the social insurance institution. Some countries require workers to submit forms to employers themselves (e.g. in France (within two days to both the social insurance institution and the employer), Hungary and Luxembourg) or do not have digital options for most sickness and related benefits (e.g. Belgium).

Processes differ based on the length of sick leave, especially when employers pay for shorter periods of sick leave while the social insurance institution pays for longer periods. For instance, in Belgium, for absences of over 30 days, employees must provide inability-to-work certificates to their health insurance fund (within 30 days), while, for shorter absences, they provide (paper) certificates to their employer. In Germany, after the six weeks in which the employer pays the employee a full salary, fund members automatically receive a questionnaire, which they can fill out and submit online (if they registered with an online application).

Table 7: Sick leave benefits – possibility of applying (and conducting other front-office functions) digitally

Country	Level of digitalisation
Austria	Doctors send certificates electronically to the employer and healthcare fund (but workers must send paper copies if the certifying doctor is out of network). Employers can confirm workers' entitlement to sickness benefits electronically. Workers can also self-report to healthcare providers online, but need to apply for sickness benefits in person, by post or by email. Self-employed people can apply for sickness benefits online.
Belgium	Workers must provide paper certificates to their employer and/or sickness fund. Employers can submit information to sickness funds digitally or on paper. Applications can be followed digitally. For the Auxiliary Fund for Sickness and Disability Insurance (about 100 000 members), doctors can upload a certificate, which is forwarded to employers / insurance institutions.
Bulgaria	Doctors can upload certificates and patients can then download them via the portal.
Croatia	Workers need to deliver the certificate on paper.
Cyprus	The application can only be completed online, through the central portal, by the employee, who uploads the doctor's certificate. Social insurance institutions and employers are notified automatically. The employer completes the application and the social insurance institution assesses it.
Czechia	In 2020, paper forms were replaced by electronic communications. The applicant hands a doctor-generated identifier to the employer, linking forms from the doctor and the employer. The employee can keep track of their case online.
Denmark	Applications can only be made through the digital self-service portal, where people can also find personalised information on their eligibility and the procedures, track their cases and seek assistance. They also need to manage their case online, once approved. Applicants need a medical certificate and must inform employers.
Estonia	Doctors electronically forward certificates to social insurance institutions and employers. Employers, if necessary, provide additional information to insurance institutions (on workload and ineligibility due to holidays). Workers are not informed digitally of the decision, but can access certificates online. Eligibility determination and payment of sickness benefits are entirely automated, once there is a certificate.
Finland	Applications can be completed online (by uploading medical certificates) or by post. Employers can also apply online or by post for compensation for payments made to employees that fall under social insurance's sick leave benefits.
France	Doctors upload certificates to the system (partially prefilled with personal data), which are then forwarded to the social insurance institution. Telemedicine is available in some cases to replace in-person doctor appointments. The worker receives a printed certificate from the doctor, which needs to be presented to the employer (within two days, by email or on paper).
Germany	Electronic certificates enable the direct and automated transmission of sick notes from doctors to insurers. Employers can access the sick note digitally from the health insurance fund, without the employee having to submit it separately.
Greece	Doctors use the electronic prescription system to send certificates to workers, who must submit applications online to the insurance agency (within eight months) to receive the sickness allowance. Employers must approve the application through the same portal.
Hungary	Applications are made largely by email (or on paper), not through online portals. Since 2022, doctors have been able to email certificates to patients, who then submit them to employers (who may accept submission via email). Self-employed people submit applications to the government, which, since 2024, can only be done online.
Ireland	Benefits can be applied for on the online portal or by post.
Italy	Since 2011, electronic medical certificates have been issued by doctors to the public administration. Workers are automatically notified.
Latvia	Applications can be submitted online, in person, by email (e-signature) or by post. Online application is possible only if the sick leave certificate has been electronically registered in the healthcare information system.
Lithuania	Doctors can issue electronic certificates to employers and the social security institution. Applications for sickness benefits are made online, by email (e-signature), on paper or in-person. Personal information and updates about the steps in the process can also be accessed online.
Luxembourg	Employees must submit certificates for medical leave to their employer (in person, by post or via email) and the national health insurance institution, which they also notify of their absence from work (by post or online). Self-employed workers must send sick leave certificates only to the national health insurance institution (by post or online).

Country	Level of digitalisation
Malta	Workers can submit medical certificates for sickness benefits electronically or on paper.
Netherlands	Workers submit requests for sick leave to employers, who determine the modality. Employers can report employees' sick leave online to access sickness benefits. Self-employed people can report sickness to the social security institution and receive sickness benefit decisions via their online portal.
Norway	Doctors upload electronic certificates to the system. The patient is notified by text message and email and can submit additional information, review the sick leave certificate, send approval of its submission to the employer and check the status of their application.
Poland	Doctors (and medical assistants) issue sick leave certificates electronically, which are automatically sent to the social security institution and employers. Still, employees must inform employers about their absence within two working days. Patients can apply for sick leave benefits, view their issued certificates and track their status online.
Portugal	Healthcare services can send medical certificates electronically to social security services, which process the payment.
Romania	Paper forms need to be submitted by the employer or self-employed person. There are differences between counties, but, after the forms have been printed, filled in and scanned, they can usually be submitted via email; occasionally (e.g. in Bucharest), filing requests and uploading documents online is also possible. There is no instantaneous access to information.
Slovakia	A doctor confirms the start day and duration of sick leave electronically. The employer is informed and confirms the data digitally. Benefit recipients can access personalised information on rules, current and projected future entitlements and obligations, the status of benefit processing and (since 2013) an overview of paid sickness benefits for the past 10 years.
Slovenia	Certificates are digitalised and benefits need to be applied for digitally, except for unemployed farmers, shareholding executives and professional athletes, who do so on paper. Insured people can view information on issued certificates online.
Spain	Doctors issue electronic sick leave certificates. The social security institution, employers and workers are automatically notified.
Sweden	Applications and access to personalised information are online.

Notes: *Brown, only non-digital aspects; green, digital aspects somewhat available (e.g. only in some regions or for some groups of workers); purple, only digital aspects (only if digital action by the worker is needed, not if doctors need to submit certificates digitally).*
Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Examples of ongoing developments

- In Lithuania, procedures for automating sickness benefits started in 2025, including usage of an electronic seal in decision-making, alternatives for submitting notifications, the automated calculation of benefits and the transfer of calculated amounts.
- In Slovenia, an online application for sickness benefits is being developed in 2025. A project is under way to allow doctors to electronically propose decisions on temporary work incapacity, replacing the paper-based process. These proposals, along with decisions and related documents, will be exchanged via an online system. Employers and insured people will be informed digitally.

Maternity and paternity benefits

If maternity and paternity benefits can be received prior to childbirth, they usually require a doctor's certificate (confirming pregnancy and the expected birthdate). Otherwise, a birth certificate is needed. The interaction between healthcare providers, parents(-to-be), employers and social security / insurance institutions is digitalised to varying degrees (Table 8). Employers can sometimes only process documents online (e.g. to receive a state subsidy in the Netherlands).

Table 8: Maternity/paternity benefits – possibility of applying (and conducting other front-office functions) digitally

Country	Level of digitalisation
Austria	Employees inform their employer in writing, who then sends confirmation to providers electronically. Self-employed people can apply directly online with their provider. It is possible to apply online for other maternity/paternity benefits.
Belgium	Applications are paper based. Pregnant women or new parents need to gather multiple forms (doctor's certificate, birth certificate once available, etc.) from various people/groups and submit them to their health insurance fund. It is possible to apply online for maternity benefits with family benefit providers.
Bulgaria	Online applications are possible.
Croatia	The childbirth allowance can only be applied for in person when registering the child.
Cyprus	Maternity benefits can be applied for online. Paternity benefits can be applied for only on paper.

Country	Level of digitalisation
Czechia	Doctors issue electronic confirmations of the expected/actual date of delivery, which are automatically sent to the public administration. The pregnant woman is then digitally informed of the e-form number, identifier and decision, accessible online (and from the doctor). The woman reports her expected date of birth and identifier to the employer, which then needs to fill out forms. For fathers and other people caring for a child, employers apply digitally to the social security institution. Employers inform the people concerned.
Denmark	People apply, plan their parental leave and receive assistance online. For people facing difficulties, alternatives can be provided.
Estonia	Doctors upload pregnancy declarations, triggering a benefit offer digitally (non-working mothers and fathers can receive the benefit after the child has been registered in the population registry).
Finland	Applications and access to personalised information can be online.
France	A doctor sends the pregnancy declaration to the insurance fund (online or on paper). The declaration is accessible online to the pregnant person and employer, and the latter needs to upload supporting documents (e.g. payslips). It is possible to apply online for paternity leave and parental leave. Unemployed people must apply online personally to the insurance fund.
Germany	In some regions, applications can be made through their digital portals. In 10 regions, after completing the digital application assistant, the application must be printed out, signed and sent by post to the parental allowance office.
Greece	The childbirth allowance, parental leave allowance and maternity benefits (if doctors submit an electronic 'probable birthdate' certificate and employers electronically fill out absence-from-work information) can be applied for online.
Hungary	The application process for maternity and paternity leave varies by employer. For the childbirth allowance, online application is possible. The infant-care allowance application is submitted to the employer or only online for self-employed people and farmers. Paternity leave applications need to be submitted by post (in writing) to the employer, with a paper copy of the child's birth certificate.
Ireland	Applications are made online on the central portal or by post.
Italy	Maternity and paternity leave can be applied for online, by phone or in person.
Latvia	Applications can be made online, in person, by email (e-signature) or by post.
Lithuania	Applications can be made online or by email (e-signature), and personal information and updates about the steps in the process are available online. Doctors can issue electronic certificates of pregnancy, but these are also available on paper or in person.
Luxembourg	Downloadable forms must be printed and signed by the employer and can then be sent by post or uploaded online. Self-employed people must complete the procedure online.
Malta	Applications can be made online, with a medical certificate and a declaration signed by the employer.
Netherlands	A pregnancy declaration needs to be given to the employer; people who are receiving social benefits (e.g. unemployment) and self-employed people can apply for benefits only online.
Norway	Applications and access to personalised information can be online.
Poland	People apply for and check maternity leave details online, and employers receive notifications via the online system. It is possible to apply for childbirth allowance online, in person or by post. However, some documents (e.g. the doctor's certificate with expected birthdate benefits paid before birth, or an authorised copy of the birth certificate for benefits paid after birth) must be uploaded.
Portugal	Prenatal child benefits can be applied for online or on paper.
Romania	There are differences between counties, but applications are usually restricted to downloadable forms that need to be submitted in person or on paper. Sometimes, forms can be submitted digitally, via email or, more rarely, through the website.
Slovakia	Maternity leave/pregnancy benefits can be applied for online or on paper. The childbirth allowance is automated in most cases. Other maternity/paternity benefits must be applied for on paper or in person, but downloadable application forms and a digital overview are available.
Slovenia	Benefits can be applied for online.
Spain	It is possible to apply online for maternity/paternity leave (with a certificate of pregnancy or a birth certificate) and childbirth allowance.
Sweden	Applications and access to personalised information can be made online.

Note: *Brown, only non-digital aspects; green, digital aspects somewhat available (e.g. only in some regions or for some groups of workers); purple, only digital aspects.*
Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Examples of ongoing developments

- Portugal's programme Simplex 2022 aimed to link social security and health services by 2022, allowing the automatic verification of prenatal child benefit entitlements and eliminating the need to apply for them (besides accepting the proposal through the portal). However, as of January 2025, the programme's website did not flag this measure as concluded.
- Slovakia plans to digitalise maternity/paternity benefits by 2026. Automation (removing the need to apply) and providing detailed pregnancy benefit information are planned within the RRP.

Disability benefits

While the final step of applying for disability benefits may be digital, preceding steps for assessing disability status and medical examinations require in-person meetings. For instance, in Norway, before permanent disability benefits can be granted, appropriate treatment and work-oriented measures aiming to improve earning capacity must have taken place, including building a personal file and being assigned a counsellor. An application for disability benefits is then usually submitted in consultation with the counsellor, doctors' certificates and medical reports are often sent digitally and data are exchanged between social security and health services. In Hungary, the application can be digital, but must be accompanied by a GP referral and medical documentation proving the disability.

When disability benefits refer to disability pensions (i.e. early retirement from work due to disabilities), they often go through the same system as old-age benefits (see, for example, Slovakia; Table 9).

Table 9: Disability benefits – possibility of applying (and conducting other front-office functions) digitally

Country	Level of digitalisation
Austria	It is possible to apply online, by email or by post with one's pension provider. Child disability benefits are only accessible in person via the tax authority.
Belgium	Benefits can be applied for (and cases can be followed) online. Disability-related benefits have been partly regionalised. Nevertheless, the national social security institution plays a role in online applications (e.g. for later-life-care benefit applications in the Flemish Region).
Bulgaria	Online applications for needs assessment and disability allowance are possible.
Croatia	Applications can be made online or in person (disability pensions).
Cyprus	Applications are on paper; beneficiaries have to undergo assessments by different medical councils throughout the application process. Application forms are downloadable online.
Czechia	Applications and communication can be online.
Denmark	Personalised information on rules, procedures and eligibility is available online, and applications can be made online (also possible for additional support services, such as transport assistance and extra aid). The system has information on accumulated rights from different workplaces. Applicants can track and manage their cases online.
Estonia	The application for a work ability assessment and the work ability benefit can be online via the unemployment fund's self-service section. The application for the determination of the degree of severity of disability can be online, via email, by post or in person; it can also be through the unemployment insurance fund if submitted together with an application for the work ability assessment. The applicant's medical data are obtained from the national e-health system, so no further doctor input is required.
Finland	Applications can be made online, with medical certificates.
France	In 2022, online applications were introduced for various disability benefits. In the 25 % of regions where this is not possible yet, paper application forms must still be sent/delivered, including a medical certificate and proof of identity. The social insurance institution begins payments when, digitally, it is informed of approval by the local disability service.
Germany	Online applications are possible (including for reduced-earning-capacity pensions). The portal allows users to view their insurance account, update personal data and exchange messages and documents.
Greece	Requests for disability assessment and certification can be made online, but disability benefits must be applied for in person.
Hungary	Disability support can be applied for online, by post or in person.
Ireland	The disability allowance must be applied for on paper by collecting the form in person from a local office and submitting it by post.
Italy	It is possible to apply online for the disability allowance. Doctors send certificates to the social insurance institution electronically. Applicants receive the decision electronically.
Latvia	Applications can be made online, in person, by email (e-signature) or by post.
Lithuania	Applications can be made online or by email (e-signature); personal information and updates about the steps in the process are also accessible online. These processes can also be undertaken on paper or in person.
Luxembourg	The declaration and disability pension application form can be downloaded, but not submitted online.

Country	Level of digitalisation
Malta	Applications can be made online, in some cases by the applicant and in others by healthcare specialists certifying diagnoses.
Netherlands	Applications and appointments can be accessed and managed online. Application by post is also possible, but in-person application is not.
Norway	An application can be made by post or digitally by filling out an electronic form and uploading supporting medical documentation electronically (doctors' certificates and medical reports are often sent digitally). Applicants can track their application status, receive updates and communicate with social services online.
Poland	Applications can be made online, in person or by post (the pension supplement for disabled people only digitally). However, disability allowances for children and the social pension for people unable to work but not entitled to a standard disability pension must be applied for in person or by post.
Portugal	Applications can be made online, in person or by post.
Romania	There are differences between counties, but usually applications are restricted to downloadable forms that need to be submitted in person or on paper. Sometimes, forms can be submitted digitally, via email and, more rarely, through the website.
Slovakia	The pension application must be made in person with the social insurance institution. The assessment process and status can be followed online. An online tool for preparing for retirement is available to people aged over 39.
Slovenia	Online access is available for benefit-related documents, communication with institutions, electronic document retrieval (e.g. disability pension statements) and applications (also possible for other disability benefits, such as service dogs, technical aid and vehicle adaptation). It is only possible to apply for a disability pension online.
Spain	Applications can be made online, by uploading medical certificates.
Sweden	Applications can be made online.

Notes: *Brown, only non-digital aspects; green, digital aspects somewhat available (e.g. only in some regions or for some groups of workers); purple, only digital aspects.*
Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Examples of ongoing development

- Hungary is connecting the job search system for people with a disability to the state rehabilitation administration system, integrating the use of AI to further develop job recommendations and suitability-ranking algorithms.
- Norway, to comply with EU regulations on coordination of social security systems (883/2004), introduced a new medical certificate for disability benefit applications to Member States / other European Economic Area countries. During the transition period, both forms will be in use. At present, the new form must be filled out electronically, printed and sent by post. Eventually, however, the new form will replace the previous form (Nav, 2025).

Old-age/survivor benefits

In some countries, pensions have been at the forefront of digitalisation (e.g. in Belgium and Norway). Elsewhere, they are less digitalised (Table 10) or were digitalised later than other benefits. For instance, France started providing personalised pension information online in 2022, after digitalising other benefits.

Table 10: Old-age/survivor benefits – possibility of applying (and conducting other front-office functions) digitally

Country	Level of digitalisation
Austria	Applications have been accessible online since 2014, with information on, for example, the annual contribution base amounts and total credits.
Belgium	Applications and consultations of retirement dates, supplementary pensions and payments made are accessible online.
Bulgaria	Online services include applications for a pension and/or allowance, the receipt/delivery of the administrative act (the result of the submitted application), requests for a pension recalculation, applications for the suspension of the pension and applications for transferring the pension to a bank or other payment service provider and/or to change the pensioner's address for the issuance of certificates (e.g. on the amount and type of pension).
Croatia	Online applications and status tracking are available for old-age and survivor pensions; paper applications are also possible.
Cyprus	Personalised information and applications for statutory pensions and supplementary benefits for low-income pensioners are available online, but, for other pensions (social, disability and survivor), applications must be made on paper. Paper forms (signed electronically with an eID) can be emailed.
Czechia	Benefits can be applied for online or (more commonly) in person.
Denmark	Applications and access to personalised information are available online. Bereavement sets in motion the automatic payment of a survivor's pension based on the contributions made.

Country	Level of digitalisation
Estonia	Applications can be made online, by email, by post or in person; personalised information is available online. There is no prefilling of applications. The pension decision, including the person's data and pension calculation, is typically sent by email.
Finland	On the different pension providers' websites, people can in most cases apply and get personalised information. A pension can also be applied for by post. It is also possible to apply online for a survivor's pension and for supplementary pensions/benefits on the social insurance authority's website.
France	Applications can be made online.
Germany	Online application is possible. Requests for insurance history and pension receipt information (including for online submission to the tax office), social security cards and address and bank detail changes can also be made online.
Greece	Applications for old-age and survivors' pensions can only be made online.
Hungary	Benefits can be applied for online or in person.
Ireland	It is possible to apply for the state pension benefit (and benefits for 65-year-olds and pension caring support) online through the central portal or by post. A survivor's pension can only be applied for by post.
Italy	Applications can be made online.
Latvia	Applications can be made online, in person, by email (e-signature) or by post.
Lithuania	Applications can be made online or by email (e-signature), and personal information and updates about the steps in the process are also available online. Applications can also be made on paper or in person.
Luxembourg	Applications for old-age and survivors' pensions can only be made on paper. Forms can be downloaded.
Malta	Applications can be made online, but the retiree (or survivor) receives a letter from the social security institution a few months before retiring that must be signed and returned via post. The orphan's pension procedure is entirely online. Survivors' pensions are sometimes automatically initiated upon registration of a spouse's death.
Netherlands	It is possible to apply online for public and occupational (survivors' and old-age) pensions.
Norway	Applications can be made online, with partially prefilled information. Survivors' pensions are partially proactive due to the digitalisation of registers.
Poland	It is possible to apply online or in person (also for survivors' benefits). However, documents confirming the length of employment and remuneration amount must be submitted, with an ID, in person at a local social security office. People can access personal information on eligibility online.
Portugal	Applications for old-age pensions and survivors' pensions can be made online.
Romania	Online application is possible. Online requests and status tracking are available for public and mandatory private pensions (e.g. monthly employer payments).
Slovakia	Pension applications are done in person, at a social insurance office. Applicants can follow the application status online.
Slovenia	Access to benefit-related documents is available online, as are communications with institutions, electronic document retrieval (e.g. pension statements) and applications.
Spain	It is possible to apply, check the status of applications, manage appointments, communicate and make changes to personal data online.
Sweden	It is possible to apply and access personalised information online. Survivors' pensions are largely proactive.

Notes: *Brown, only non-digital aspects; purple, only digital aspects.*
Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Some systems consolidate public and occupational pension information. In Norway, pension applicants can grant the pension service access to public and private pension schemes so that all pension information can be gathered in one place. In Germany, since 2023, a portal has consolidated information from statutory, occupational and private pension providers.

Examples of ongoing developments

- France is working on enabling applicants to follow the processing of their claim online and expects the various pension regimes to be collated into one database by 2028.
- Romania, in 2024, announced a project to implement an app that automatically generates the pension payslip (which, for instance, needs to be shown as proof of pensioner status to get public transport discounts), which is currently sent by post. The app will also include modules for data analysis and prediction. A portal is expected to be online in September 2025, including pensions and extending functionalities.
- From 2026, Slovakia will automatically send people pension forecasts showing their entitlements, with varying frequency based on the person's age.

Benefits for accidents at work and occupational diseases

Countries usually have digital national systems to record workplace accidents, driven by the requirement to monitor these, with an important role played by labour inspectorates. For occupational diseases, the processes are sometimes less digitalised (e.g. in Estonia and France) than for workplace accidents (Table 11).

The level of digitalisation may depend on employers' insurance provider. As for other benefits, digitalisation is advancing beyond being able to apply digitally alone. For instance, in Luxembourg, since 2024, workers have been able to monitor the progress of their cases on workplace accidents or occupational diseases through the central portal, via email or on the telephone.

Table 11: Benefits for accidents at work and occupational diseases – possibility of applying (and conducting other front-office functions) digitally

Country	Level of digitalisation
Austria	Accidents can be reported to the workplace accident authority both in writing and online, by employees, doctors and/or employers. It is not possible to apply online for related benefits.
Belgium	Employees must declare occupational diseases to the national competent authority by post. Employers can declare accidents online. A digital database of insurance policies gives an overview of the policies of employers' insurance companies and the periods covered.
Bulgaria	Workers can digitally request information on decisions to accept an accident as a workplace accident, file notices of suspected occupational diseases and request certificates of the presence or absence of work-related accidents.
Croatia	Workers need to submit the certificate on paper.
Cyprus	Applications are on paper (see 'Disability benefits'), but forms are downloadable from the central portal and from the Department of Social Insurance Services.
Czechia	Applicants hand doctor-generated identifiers to employers, allowing forms from doctors and employers to be linked. Employees can follow their case online (as noted in 'Sickness benefits' and 'Disability benefits'; however, in this case, the doctor marks in the application that it relates to an accident at work or occupational disease). For additional benefits covered by the employer's insurance, employers send a workplace accident record by email (e-signature), via a data mailbox or by post.
Denmark	People can report an accident at work and apply for related benefits online, receive online updates regarding their benefits and access personalised information online. Employers must report workplace accidents online.
Estonia	If paid by the Estonian Health Insurance Fund, the doctor electronically forwards certificates to the social insurance institution and the employer. Employers, if necessary, provide additional information to the insurance institution (on workload or ineligibility due to holidays). Workers are not informed digitally of the decision, but they can access the certificates issued online. The payment of sickness benefits is automated once there is a certificate. For Social Insurance Board benefits, applications and additional documents are submitted by email, by post or in person. Employers are obliged to register occupational accidents online with the Estonian Labour Inspectorate and submit their investigation results. If the Labour Inspectorate starts an investigation, it exchanges information online with the employer. Workers can access their cases, communicate with inspectors and submit documents online. For occupational diseases, the Labour Inspectorate notifies the employer, which needs to submit a report online via a different portal (prefilled with data from the employment register, the population register and the Health Insurance Fund, for the Labour Inspectorate and employers).
Finland	The level of digitalisation depends on the occupational healthcare provider and the insurance company. Employees notify their employer and get an insurance certificate to access healthcare services. Employers notify their insurance company (which can be done via email). Employees can also report directly to insurance companies if the employer fails to do so (it is unclear whether this can always be done online) or can email the Finnish Workers' Compensation Center to get compensation in cases of uninsured work.
France	As regards workplace accidents, the GP sends an e-declaration to the social security institution or issues a paper declaration to the person insured, who must then forward it to the health insurance fund and to the employer; the employer then provides the employee with a workplace accident form and submits a workplace accident declaration to the health insurance fund online. For occupational diseases, employers or employees must send the social security institution an occupational disease declaration and supporting documents. The social security institution then sends a working conditions questionnaire (online or on paper) to both the worker and the employer.
Germany	Applications can be made online.
Greece	Workers can apply for benefits electronically, uploading the doctor's accident/disease certificate; employers are informed by the system.
Hungary	Applications are made largely by email (or on paper), not through online portals. Since 2022, doctors have been able to email certificates to patients, who then submit the certificates to their employers (which may accept them by email). Self-employed people submit applications directly to the government, which since 2024 has only been possible online.
Ireland	Applications can be made online through the central portal or by post.

Country	Level of digitalisation
Italy	Employees must present a medical certificate (electronically or on paper) to the employer, which reports the accident/illness to social security electronically. Employees can apply for allowances in person, via post or via certified email.
Latvia	Applications can be made online, by email (e-signature), in-person or by post.
Lithuania	Applications can be made online, by email (e-signature), on paper or in person; personal information and updates about the steps in the process are also accessible online.
Luxembourg	Employees can submit certificates in person, by post or by email to employers. If sent by post, employees must inform employers by phone. Employers report accidents to the national accident insurance institution (by post or online) and to the labour inspectorate. For occupational diseases, employees must inform employers (by post or email), and the doctor must inform the national insurance institution.
Malta	Workers can apply online, attaching reports that can be downloaded, and these must have been filled in by employers, doctors and/or police officers, scanned and reuploaded.
Netherlands	There is no standard benefit, but compensation is made available after legal action, in addition to regular sickness and/or disability benefits.
Norway	Employers report occupational injuries digitally. The social security institution asks workers to submit documents (a damage declaration or medical documentation).
Poland	Applications can be made online (can be completed by the employer, employee or self-employed person), in a similar procedure to that for sickness benefits, with additional documents required. There is a paper element (accident report), but all documents can be submitted online to apply for benefits. For single compensation for an accident at work or an occupational disease, an in-person visit is needed.
Portugal	The health services send a certificate of an occupational disease to the social security services, which verify the condition(s) for granting the benefit. If the healthcare services provide a paper certification of illness, the worker should send the certificate to the social security services. A permanent inability to work resulting from a workplace accident/illness must be applied for on paper via post.
Romania	Workers can apply through an online portal, but documents must be printed and scanned. Online tracking of requests is possible.
Slovakia	Applications can be made online (an 'accident supplement'). A doctor issues an electronic certificate of the inability to work. Status information is also available online (including the type of accident benefit that is being applied for, the registration date and the application status (i.e. whether the decision deadline has been extended, the proceedings interrupted or the award decision stopped)). Applications need to be submitted on paper if the doctor issues a paper certificate (see 'Sickness benefits'). Additional benefits can be accessed online (i.e. 'accident annuity', 'disease compensation' and a survivor's allowance after a workplace accident or illness results in death).
Slovenia	Since 2020, incapacity-to-work certificates have been digitalised, but paper copies need to be handed in by the worker. Since 2008, employers have been able to electronically submit applications, terminations and changes to the social insurance institution. Since 2012, insured people have been able to view information on the certificates issued online. In 2016, electronic reimbursement claims were enabled, followed by online applications for health insurance certificates (employers are required to have these for their workers) in 2018 (see 'Sickness benefits' and 'Disability benefits'). It is possible to apply online for a disability allowance for a disability resulting from a workplace accident or occupational disease.
Spain	Workers can apply online or in person with the required documentation (medical reports, accident notification forms and employer certifications) and can authenticate the application using a digital certificate or electronic ID.
Sweden	Applications can be made online.

Notes: *Brown, only non-digital aspects; green, digital aspects somewhat available (e.g. only in some regions or for some groups of workers); purple, only digital aspects. The table contains cross-references to the 'Sickness benefits' and 'Disability benefits' sections; the section to refer to depends on whether the workplace accident leads to temporary or permanent work incapacity.*
Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Examples of ongoing developments

- In Czechia, from 2026, employers will be obliged to submit reports and records of workplace accidents exclusively electronically via the labour inspectorate's portal.
- In France, from 2023 to 2027, the national workplace insurance institution is enhancing the traceability of contacts, the online services offered and the social media presence of companies. The ergonomics and functionality of online tools are also being overhauled, and new services are being developed (a rate simulator, a benign work stoppage register and online enrolment for voluntary workplace accident insurance).
- In Slovakia, the digitalisation of benefits for accidents at work and occupational diseases is being developed as part of the RRP.

Minimum-income benefits

Minimum-income benefit applications tend to be less digitalised than other benefit applications, especially unemployment benefit applications. The reasons for this include that these benefits are more often managed subnationally, require more complex entitlement checks and are not insurance based and, sometimes, in-person applications are considered an important way to identify the support needs of groups of people who may be in vulnerable situations (Eurofound, 2024; Table 12).

Table 12: Minimum-income benefits – possibility of applying (and conducting other front-office functions) digitally

Country	Level of digitalisation
Austria	Benefits can be applied for online in five of the nine regional states.
Belgium	Benefits can be applied for online.
Bulgaria	Applications can be made either on paper in person, or digitally (through the central portal or by email with electronic signature).
Croatia	Applications must be made in person at the welfare office.
Cyprus	Applications can only be made online.
Czechia	Applications can be made by uploading downloadable forms in a 'data-box' (not through online forms) or emailing them, or in person.
Denmark	In-person unemployment registration is required; an online application can then be made (within four days).
Estonia	Documents can be submitted in person, on paper or (usually) by email (with household income, a bank statement and housing costs attached). Some municipalities have a self-service portal for applications. No prefilled data are available.
Finland	Applications and decisions can be accessed online. Phone applications are also possible.
France	Applications can be made online or on paper (attaching/submitting supporting documents on income and family situation). Quarterly resource declarations are prefilled and must be approved and submitted online.
Germany	*Grundsicherung im Alter / Erwerbsminderung / Hilfe zum Lebensunterhalt:* Online applications are available on the central portal, but not for all municipalities. People enter their postal code to find out if online applications are available or to be directed to the responsible local welfare office.
Greece	Applications can be made online.
Hungary	Applicants must first register online or on paper as jobseekers and can then apply for the benefit online, by post or in person.
Ireland	Basic supplementary welfare needs to be applied for in person at the local social welfare office (but it is possible to apply for working-family and additional-needs payments through the central online portal or by post).
Italy	Applications can be made online. Digital registration and digital signing of a family activation pact are required.
Latvia	The level of digitalisation varies by municipality. Only Riga allows for online application through the central portal. In other municipalities usually it is possible to apply in person, by email (e-signature) or by post, and to download the application form.
Lithuania	Applications can be made online. It is also possible to apply through the appropriate municipality. Applications can also be made on paper or in person.
Luxembourg	Applications can be sent digitally or by post. Notifications are sent by post.
Malta	Applications can be made online.
Netherlands	Applications can be made online.
Norway	In 348 municipalities (covering 99.8 % of the population), applications can be made digitally (or on paper); users can retrieve their data from the Norwegian State Housing Bank, access an overview of applications and add attachments.
Poland	Applications can be made in person or by post, or online through the central portal, through a form to apply for various forms of social assistance
Portugal	Applications can be made online.
Romania	Forms and lists of documents that have to be submitted are available online. The documents can be submitted online to the General Directorate for Social Assistance and Child Protection at the county level. Some county authorities provide 'smart forms' that can be partially filled in and submitted directly in the browser.
Slovakia	It is possible to apply online.
Slovenia	Applications can be made in person or by post. General information and forms are available online.
Spain	Applications can be made online.
Sweden	Applications must be submitted in person with the relevant regional authority; there are no personalised web services, automated eligibility tests or proactive identification, by technology or otherwise.

Notes: *Generally, the minimum-income benefits included in this table are those listed in Annex 1 of Eurofound (2024). Brown, only non-digital aspects; green, digital aspects somewhat available (e.g. only in some regions or for some groups of workers); purple, only digital aspects.*
Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Examples of ongoing development

- In Estonia, the 2024–2026 project 'Future-proof data economy ecosystem' includes a subproject to develop a (novel) methodology for determining subsistence benefits, identifying needs based on data (including housing costs and household data).
- In Latvia, online submission of applications through the central portal is planned to be broadened to all municipalities. A new system is under development, which could allow more automatic processing of information.

Child/family benefits

Child benefit applications require submission of a birth or pregnancy certificate, or are triggered by the registration of the child (see 'Automating benefits: making applications redundant'; Table 13).

Table 13: Child/family benefits – possibility of applying (and conducting other front-office functions) digitally

Country	Level of digitalisation
Austria	Benefits are automated. Since 2015, when eligible, the family allowance has been applied automatically at childbirth by the tax authority. Forms can be filled out and sent to the tax authority electronically if this does not apply (e.g. for children born before 2015).
Belgium	Application procedures differ between payment funds, but they can always be done online (including uploading the pregnancy certificate). Usually, they can also be done by post.
Bulgaria	Applications can be made digitally (through a website or by email with electronic signature).
Croatia	Applications can be accessed online. Single-parent benefits can only be applied for in person.
Cyprus	The childbirth grant, child benefit, single-parent benefit and tuition subsidy for children up to four years of age can only be applied for online. Parental leave and the orphan benefit must be applied for on paper; forms are available on the central portal and on the Department of Social Insurance Services website (only on the latter for orphan benefit). Paper forms (signed with an eID) can be emailed.
Czechia	Benefits can be applied for online (with prefilled information) or (with downloadable forms) in person / by email.
Denmark	Applications can be made online.
Estonia	Benefits are automated. One of the parents has to accept the offer. An application is needed if the child is born abroad.
Finland	The first application can be made online. Subsequent ones are automated.
France	Benefits can be applied for and monitored online.
Germany	Applications, notifications from the family allowance office and appeals are accessible online.
Greece	Applications can only be made online, and must be resubmitted yearly.
Hungary	It is possible to apply in person, on paper by post or electronically (the one-off child birth grant is automated). Employment-dependent child benefits must be applied for with the employer, with differing procedures (but only online (with the government) for self-employed people).
Ireland	Parent and child benefits can be applied for online (via the central portal) or by post.
Italy	Applications can be made online.
Latvia	Applications can be made online, in person, by email (e-signature) or by post.
Lithuania	Applications can be made online, through the social assistance portal (not the central portal). They can also be made on paper or in person.
Luxembourg	Applications can be made by post or online, with online follow-ups.
Malta	Applications can be made online.
Netherlands	It is possible to apply online.
Norway	Benefits are automated: the system detects a new birth and triggers the award of child benefits to the mother by default. An application is needed (and can be online) only in certain cases (e.g. if the child is born abroad).
Poland	Applications can only be made online.
Portugal	Benefits are largely automated (besides the need to accept the proposal online). People who do not receive the benefits automatically can apply online.
Romania	Forms are available online. The online submission of documents is possible in only some counties.

Country	Level of digitalisation
Slovakia	It is possible to apply online.
Slovenia	It is possible to apply online (see 'Maternity and paternity benefits').
Spain	The level of digitalisation varies by region. It is possible to apply online for the parental allowance, child benefits for low-income households and child benefits for carers of children with disabilities/illnesses.
Sweden	Benefits are automated.

Note: *Brown, only non-digital aspects; green, digital aspects somewhat available (e.g. only in some regions or for some groups of workers); purple, only digital aspects.*
Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Housing benefits

Housing benefits are often managed by local or regional governments and are less accessible through central online portals than other benefits (Table 14). While this report is about monetary benefits, social housing may also be applied for online, as possible, for instance, through some social housing providers' websites in Slovenia (e.g. the Housing Fund of the Republic of Slovenia). Processes usually differ between municipalities (e.g. in Italy). However, in Germany, for instance, the application for eligibility for social housing is rarely available digitally.

Table 14: Housing benefits – possibility of applying (and conducting other front-office functions) digitally

Country	Level of digitalisation
Austria	The level of digitalisation varies by regional/local authority.
Belgium	Applications can be made online in the Flemish Region and the Brussels Region; it is unclear if this is possible in the Walloon Region.
Bulgaria	It is possible to apply online.
Croatia	Applications must be made in person with the municipality.
Cyprus	Rent subsidies for students and displaced people and housing aid must be applied for on paper; forms are downloadable. Housing subsidies for young people can be applied for online.
Czechia	Applications can be made online, by email or on paper (housing supplements for minimum income must be applied for on paper, with documents attached on financial, employment and family circumstances).
Denmark	Applications can be made online.
Estonia	Housing benefits are part of minimum-income benefits.
Finland	Applications can be made online.
France	Applications can be made online.
Germany	It is possible to apply online in several regions (e.g. Schleswig-Holstein developed a system allowing online applications for the benefit and supplements, and some other regions have implemented the same or a similar digital system).
Greece	Applications can be made online or in person.
Hungary	For the housing allowance for jobseekers, the application form can be submitted electronically or on paper. For other housing subsidies (i.e. those that are employment dependent), the level of digitalisation varies by employer.
Ireland	Applications can be made online or by post.
Italy	Housing benefits are part of minimum-income benefits.
Latvia	The level of digitalisation varies by municipality, but usually applications are made in person, by email (e-signature) or by post, and the application form can be downloaded.
Lithuania	The level of digitalisation varies by municipality. Home rental incentives and heating subsidies are applied for via municipalities or online via the SPIS portal.
Luxembourg	Applications can be submitted by email or post (forms are downloadable), but a copy must be sent by post to the administration to confirm the application. Updates on the progress of the application can be sent by email. A letter is sent by post in the case of a dispute.
Malta	Applications can be made online (rent benefits).
Netherlands	Applications can be made online or on paper.
Norway	Applications can be made online or on paper.

Country	Level of digitalisation
Poland	Applications can be made in person or by post to the municipal welfare centre or sometimes online through the centres' portal (and must be verified by the property manager or administrative office). People with a disability can apply online for a special 'independence housing benefit'.
Portugal	The *Porta 65 Jovem* and *Porta 65+* benefits can be applied for online. The *Apoio extraordinário à renda* benefit is automated.
Romania	Generally, documents cannot be submitted online. Municipalities vary in how they present information.
Slovakia	Housing benefits are part of minimum-income benefits.
Slovenia	Applications can be made in person or by post. General information and forms are available online.
Spain	All regions have digital portals for housing benefits, but the extent of digitalisation differs.
Sweden	Applications can be made online.

Note: *Brown, only non-digital aspects; green, digital aspects somewhat available (e.g. only in some regions or for some groups of workers). Generally, the housing benefits listed in this table refer to the subsidies listed in Annex 3 of Eurofound, 2023.*
Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

Payment

Benefit payments can almost always be received by digital bank transfer, and sometimes people are given the option to collect payments in person (e.g. for municipal social benefits in Hungary). There are exceptions. In Ireland, weekly jobseeker payments need to be collected at the post office, unless combining unemployment benefit receipt with part- or short-time work (Eurofound, 2024). More commonly, benefit payments are exclusively digital, such as for benefits in Denmark or maternity/paternity benefits in Luxembourg. In Italy, the minimum-income benefit is delivered through an electronic payment card.

Confirming continued entitlement

Usually, benefit recipients need to confirm their entitlement to continue receiving benefits after some time or need to provide information if some relevant aspect of their situation changes. This section exemplifies the role of digitalisation in such processes and highlights an example in which digitalisation clearly facilitates front-office processes for a specific group of recipients: proof of life for pension recipients living abroad.

Re-evaluation of entitlements

When online applications for a benefit are available, usually re-evaluations can also be arranged online. For instance, in Portugal, since mid 2021, it has been possible to request a re-evaluation of family benefit amounts online. In Norway, sickness benefit recipients can report changes in income or job situation that may affect the benefit amount and can request an extension online. In Germany, Schleswig-Holstein's online housing benefit service allows people to digitally report changes in their situation and confirm continuation.

Sometimes, benefit extensions are proactively granted based on digital information. For instance, in Lithuania, when certificates confirming the disability level are extended, disability benefits are automatically extended. In Portugal, since 2017, the staff of the social security institution have renewed minimum-income benefits based on information from its information system.

Proof of life

Pension recipients living abroad usually need to prove yearly that they are alive. This can be a burden for both pension recipients living abroad (in terms of sending documents and visiting offices, e.g. certifying their signatures) and administrations (in terms of human resources and training). In Spain, proof of life could previously be provided by email, but this was considered sensitive to fraud. The Netherlands and Spain have both introduced apps to prove life. In Spain, 36 600 pensioners submitted proof through the app between January and September 2024 (the year it was launched), amounting to 31 % of pensioners living abroad (36 % registered for the app). Letters are sent to pensioners abroad to increase their awareness of the app and its advantages (La Moncloa, 2025). In Portugal, a pilot project for retired civil servants, which started in Macau (a former colony), allowed proof of life to be submitted via face or voice recognition through an app. In Estonia and Lithuania, since 2020 and 2024, respectively, pension recipients (of old-age, disability and survivor benefits) living abroad have been able to verify their identity via a video call.

2 Back-office processes

Framework

The digitalisation of back-office processes for social benefits is sometimes hard to disentangle from that of front-office processes. For instance, the input for a chatbot is a back-office or website management procedure, but using the chatbot is a front-office service. The automation of benefits is based on back-office processes. However, given their large front-office impact (e.g. beneficiaries being proactively informed, making applications redundant), the automation of benefits is included in Chapter 1 on front-office processes.

Roughly, the back-office processes in this chapter cover what happens after people have sought information or applied, namely entitlements are checked, the amounts and the duration of the benefit are determined, payment is set up and (continued) entitlement is checked; administrations can also seek to learn from the data generated by interacting with people (Figure 2). Digitalising back-office functions can facilitate the digitalisation of front-office processes; for example, online applications are facilitated by digitalised data storage.

Assessing applications

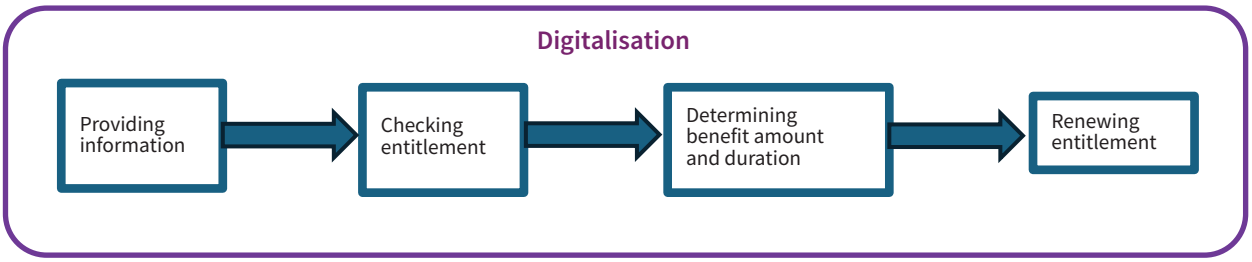
Digitalising input

Back-office processes are usually conducted with the support of software designed to guide staff through administrative procedures. Such software can provide templates for administrative acts, automated follow-ups with deadlines and electronic case files. Sometimes, digital applications are linked with this software through standardised electronic interfaces. Administrative staff may manually enter information from digital applications into the system.

In-person or paper applications may be processed digitally or vice versa. Even when application processes are largely digitalised, assessments may still require largely non-digitalised processes. For instance, sometimes, front-office processes generate digital files, which are then processed largely manually. In Slovakia, sickness benefits files are digitally generated. However, the file is then assigned to an officer who calculates the benefit and issues and sends the decision. In Sweden, the level of digitalisation of the institution dealing with pensions is below that of the institution dealing with most other benefits, with more cases being manually processed. In Malta, housing benefits and benefits related to workplace accidents rely on manual evaluations, although applications can be made online. In Hungary, online and in-person applications are both processed by social protection staff, but the former requires digitally signing the decision and uploading it, while the latter requires printing and signing paper decisions.

However, frequently in-person and paper applications are processed digitally. This is the case, for instance, for pension applications in Slovakia, where in-person applications are entered into software with retrieved personal data. Data from another system (on employment history) are attached to the application. In Belgium, while unemployment benefits require paper applications, they are entered into digital back-office systems. This is also the case for minimum-income benefits in Sweden, where regional welfare offices have digitalised back offices. Digitalisation facilitates automation of processes. Finland's social insurance institution analyses paper applications digitally, automatically recognising the applicant, the benefit applied for and the types of attachments included (applicants need to submit documents, for example rental contracts). Machine learning is used to recognise attachments. Previously, staff had to rotate, magnify

Figure 2: Digitalisation of benefits: back-office processes



Source: *Eurofound.*

and read attachments on their computers to classify them (Väänänen, 2021).

Applications are digitally and automatically checked to determine if they are complete and the documents submitted are accurate. In Slovakia, automation helps to detect if there are missing documents or if there is incorrect information in applications. In Germany, child benefits apply until the age of 21 (if unemployed) or 25 (if in higher education or vocational training). For those aged 18+, a student status certificate must be uploaded twice a year. The system assesses the probability that it is such a certificate and checks if it concerns the right child and period and if it is from a known German university. Family benefit office employees then accept or reject the certificate. The algorithm is trained using certificates anonymised by another algorithm.

Automated decisions

In automated systems, human interference is usually restricted to atypical cases and rejections. In Norway (the country included in this report with the most widespread use of automatic decisions), in 2023, automated decisions were most common for maternity/paternity and old-age benefits (Table 15). In December 2024, 70 % of sickness benefit decisions were also automatic (introduced in 2020) (Trædal and Lærum, 2024). Overall, staff do minimal manual work for standard cases and mainly handle more complex scenarios (e.g. self-employed people or changes in the work percentage during maternity/paternity leave) and answer questions. The system alerts caseworkers when a case needs their judgement. For sickness benefits, routine eligibility checks (whether sick leave exceeds employer-paid days or earnings and coverage criteria are met) are automatic. A caseworker only intervenes to confirm checks or if something is unusual. When sickness benefits are denied, all decisions are assessed by case handlers, who can write manual notifications that justify decisions or use standardised text. In Hungary, electronic maternity benefit applications are processed through automatic decision-making, and decisions are humanly checked before being communicated (Csatlós, 2024a). In Estonia, unemployment benefit applications are evaluated, amounts are calculated and applicants are emailed the decision, all automatically.

Table 15: Automated decisions to grant benefits in Norway, different schemes, 2023

Benefit	Automated decisions (%)
Maternity/paternity	61
Old age	51
Sickness	26
Unemployment	22

Source: *NOU, 2023.*

Benefit amounts

Not only is automation used to approve or reject benefit applications, but it also plays a role in calculating the amount and duration of the benefit, informing applicants and paying out the benefit. This is the case in Norway for the benefits listed in Table 15. For disability benefits, automatic calculation happens after manual approval. For sickness benefits, the system gathers information about the applicant's income over the last three months automatically from the employer income registry. Pension amounts are calculated instantly and automatically when an application is lodged, based on lifetime earnings. In Slovakia, unemployment benefit applications are partially prefilled and deductions from benefits are automatically calculated. The amounts as regards benefits for workplace accidents and occupational diseases are also determined automatically using information from social insurance databases. In Germany, the provision of workplace accident benefits is partially automated. For child benefits, besides determining entitlement and preparing a decision proposal, the process is partially automated by a calculation aid. A clerk's intervention is required in each case. Monthly payments are automatically calculated and paid for the following months when an application is approved. Employment service workers input applicants' data, and the system calculates the corresponding benefit levels, retrieving data from health insurance providers, pension funds, customs and the register of foreign nationals. In the Netherlands, for about 90 % of public old-age pensions, the amount is determined by an algorithm using prefilled data (e.g. about one's foreign employment and residence). In Luxembourg, the family allowance system's algorithm adjusts payment according to changes in the situation reported by the beneficiary, entered by the administrative agent. In Slovenia, agreements and protocols for electronic data exchange (e.g. between the national financial administration and health insurance providers) facilitate decision-making and payment for pension benefits based on real-time information. In Estonia, supplementary pension allowances for low-income pensioners are automatically calculated and paid.

Steps in the assessment of applications

Sometimes, only specific steps in the processing of applications are automated, with iterations of interactions between automated and non-automated processes (Box 1). For instance, in Poland, for disability benefits, cross-referencing of medical records and employment history is automated, reducing manual verification efforts. In Slovenia, sickness benefit applications (including medical certificates) are automatically verified. Frequently, human intervention is still involved in all cases. For instance, in Luxembourg, for sickness benefits, digitalisation in the assessment of applications is mainly restricted to verifying the

information provided by the employer against that held by the sickness fund. In Malta unemployment, pension and healthcare benefits are largely (but not fully) automatically processed. In Finland, by 2020, about 3 % of the social security institution's 19 million benefit decisions were automatic, while the rest involved at least some human involvement. Usually, human intervention is limited to the initial state (validating input) and/or the final stage (validating decisions). Examples of this include the following.

- **Validating input.** In Slovakia, for pension applications, social security staff mainly play a role in confirming the data inserted. The assessment, calculation and final decision then take place automatically. Pension payments are automated wholly or partially.
- **Validating decisions.** In Slovenia, standardised, prefilled decisions for parental, family and other benefits are prepared automatically for employees at social work centres, who need to validate them (see Box 3).

Legality

Automating decision-making has been a topic of legal discussions, as it is a relatively new area and the laws are not always clear.

- In Finland, the ombudsperson noted that people have the right for decisions about their benefits not to be taken without human involvement, since this is a legislative grey area. When automatic, the decision must specify the individual responsible for the decision, the automatic nature of the decision, the information sources used and instructions for appeals, including for benefit rate adjustments, cancellations and reviews based on updated information. The act regulating automatic decision-making was amended in 2023, and it now requires, for instance, the disclosure of automated decision-making procedures.
- In Hungary, the administration must inform the user that the decision was made automatically, and the methodology and essential rules applied must be available on its website and personalised interface (Csatlós, 2024a)
- In Norway, automatic decisions are not allowed when 'discretionary conditions' are involved. This concerns, for example, disability benefits: given the high stakes and individual nuances (each case must meet legal criteria for permanent disability), decisions are made by caseworkers.
- In Sweden, decisions 'can be made by an officer on their own, or by several jointly, or be made automatically' (Administrative Procedure Act). However, it is unclear when exactly automated decision-making is allowed. This is partly because the law seeks to be 'technology-neutral', so it does not become obsolete due to future developments (Reichel, 2023).

Box 1: Processing of online unemployment benefit applications in Germany

Currently, the processing of online applications for unemployment benefits is supported electronically and is partly automated in terms of, for instance:

- preparing the applications for processing (e.g. automatic notifications for applicants about missing documents or missing unemployment registration);
- reviewing the general eligibility requirements and the application documents for potential blocking periods and suspensions of benefit payments.

Automatic processing is terminated if an application is rejected, there are data conflicts, the action of a clerk is required for other reasons or the timely preparation of the processing was unsuccessful. Manual (further) processing by clerks is supported by the unemployment service's ICT processes, including data imports (e.g. from the employment certificate). Approval, amendment and cancellation notices are automatically generated from the clerks' entries. Unemployment benefit payments are automatically calculated and allocated for the following months when an application is approved. Changes made by employees are considered. Evidence of other insurance periods (e.g. childcare, military service and sick pay periods) is requested electronically from the statutory health and pension insurance institutions. Reports and contribution calculations, including contributions to other social insurance providers (e.g. the pension and health insurance institutions), are carried out automatically. Reimbursement claims with the pension insurance institution are already processed electronically. Other social insurance providers are expected to follow from 2027. The automation of unemployment benefit processes is being expanded. Automatic determination of the assessment wage (based on the average daily gross wage during the assessment period) is being implemented as a step to automate the determination of unemployment benefit entitlement.

Automating/facilitating other processes

Information requests through chatbots, calls and emails are sometimes digitally directed to appropriate offices or people. For instance, Austria's social insurance institution's call centre uses voice recognition to automatically forward requests to appropriate departments. The system's linguistic model has been trained to recognise specific terms. In addition, AI is used to automatically distribute emails to relevant departments, and this is accurate about 93 % of the time. Italy's social security operator automatically directs emails to the responsible officer.

Automation can facilitate the **issuing of documents and communications**. For instance, for disability insurance in Slovenia, the most frequently requested documents by insured people are certificates stating the period of insurance. These have been automated. In Lithuania, digital tools to issue international pension certificates are being developed.

Digital tools are used for **archiving**. From 2023, Luxembourg's family insurance fund has used electronic document management, including to facilitate the management of legal archiving deadlines. For example, its financial department archives accounting documents (e.g. bank statements and invoices) in the fund's e-tool.

Detecting overpayments

Overpayments can be caused by many factors, such as users' unawareness that they need to provide updates about their situation, a misunderstanding of the criteria, errors in calculating qualifying conditions (e.g. the income base), the prepayment of benefits that depend on future income (which may be higher than expected) and administrative error. Overpayments can also be caused by fraud.

Identifying fraud is among the main applications of digital analytics in social protection, for instance in Belgium (for unemployment), Italy (for workplace injuries and accidents) and Spain (for temporary disability) (Ruggia-Frick, 2021). Related uses of digitalisation include the following.

- In Denmark, the benefit payment authority monitors payments, based on the analysis of a wide variety of data, such as those from civil, housing and tax registers, including about recipient's housemates and family members (EU Public Sector Tech Watch).
- In Finland, the social security institution is investigating using machine learning to identify risks factors for overpayments, marks them, and hands them over (with a justification) to case handlers for their assessment.
- In Germany, to detect fraud, digital tools are used nationally for child and unemployment benefits and by each health insurance fund for sickness benefits. There is no solid legal basis for consolidating healthcare fund billing information nationally, but the national health insurance fund advocates for this. For housing benefits, data are compared with those of the pension office.
- In Italy, a project digitally checks the authenticity of sickness certificates for sickness benefits.
- In Malta, AI is used to detect irregular patterns in sickness and unemployment benefit claims.
- In Slovenia, sick leave trends are analysed digitally to detect irregularities and optimise policymaking.

Further examples are discussed in the subsection 'Equal treatment'.

Learning from the data and improving support

Learning from information requests

Information request analysis can provide insights into people's needs and wants and can complement information from complaints to improve processes, information and communication activities (Grøndahl Larsen and Følstad, 2024).

- In Belgium, themes covered by the employment office's chatbot are regularly updated based on the analysis of customers' questions.
- In Estonia, a 2000 pilot study analysed the reasons for calls, emails and chatbot queries (EU Public Sector Tech Watch).
- In Italy, a project uses the data of people who interact with the chatbot (especially wage supplement recipients) to learn from mistakes and users' behaviour to improve the chatbot's answers.
- In Norway, an analysis of conversations revealed that queries were more successfully dealt with if the virtual assistant was trained based on a knowledge base that was updated daily, with priority given to a specific type of information and a permanent link between the assistant and a human expert. Topics were added to the remit of the conversational assistant, especially to help employers and freelancers.

Besides learning from queries, lessons can also be drawn from navigation data. For instance, in Italy, a system is being developed to use these (anonymous) data for web interface and content improvements.

Improving social protection systems and policies

Digitalisation provides an opportunity to better use data to inform policymakers and thus to improve social protection systems and policies. However, such usage seems uncommon (OECD, 2025a; van Noordt and Misuraca, 2022). Digitalisation can be used to enhance the following aspects.

Understanding of the support needs of unemployed people (e.g. OECD, 2024a; Eurofound, 2024). Estonia has an AI-based conversational assistant for people at risk of long-term unemployment. In Slovenia, since 2021, the share of employers cooperating with the employment service digitally has been monitored digitally (whereas it had been previously monitored through surveys). A profiling model is being implemented to assess employment prospects and the risk of long-term unemployment and to identify, in a timely manner, those users who can be guided through online services and those who require a personal advisor.

Effectiveness of policies. In Lithuania, ministries can request administrative data (aggregated from various registers and information systems) for their activities and analyses. Lithuania further monitors the effectiveness of social support measures across municipalities using linked survey and administrative data. Social support indicators such as poverty reduction, assistance and prevention are combined into an index, facilitating yearly cross-municipal comparisons.

Prevention of social protection needs. Digitalisation can facilitate data analysis to identify risk factors that can be acted upon to prevent future social protection needs. In France, the social security institution uses geo-localised socioeconomic data and anticipates local needs for benefits to develop context-based diagnostic and interventional models. Reasons for absenteeism could further be analysed, although this is not always possible due to data-sharing limitations between social protection and healthcare bodies (e.g. in Poland). In Germany, building site inspectors are allocated based on the predicted likelihood of occupational accidents, aiming to prevent accidents by identifying the companies with the greatest need for guidance (OECD, 2025a). In Finland, in a regional project in 2018, data from maternity clinics, kindergartens, schools, healthcare providers, mental healthcare providers and social services were used to identify risk factors for negative outcomes (e.g. low grades and substance abuse). In total, 1 340 risk factors were identified (e.g. bad teeth in children, parents missing maternity clinic appointments and a child's siblings bullying others at school). Finland's social insurance institution, in a 2020/21 pilot, identified young people at risk of becoming (in the next six months) long-term income support recipients, based on the institution's database (using variables such as gender, age, marital status, place of residence, the number of benefit applications, interruptions in studies, and information on benefits and entitlements). Earlier (2018), Finland developed an algorithm (informed by socioeconomic, earnings and benefit information) to identify people who would retire on a disability pension in two years. Generally, a challenge with such predictions is the risk of stigmatisation, based on the variables feeding the model. It is also not always clear how risk factors are acted upon and what the impacts were after action was taken, and there are tensions as regards data protection (see Chapters 4 and 5).

Needs reduction and escalation prevention among social protection users. For instance, digitalisation has been applied to integrate those not in employment, education or training (Estonia), online gambling addicts (Portugal) and over-indebted people (the Netherlands and Portugal); to enable longer lives at home (Czechia); to support migrants (Finland and Germany), victims of human trafficking (the Netherlands) and homeless people (Catalonia, Spain); to identify the daycare facilities to inspect (the Flemish Region, Belgium); and to assign energy efficiency grants to low-income homeowners (South Holland, Netherlands) (based on information from the EU Public Sector Tech Watch and the contributions from the Network of Eurofound Correspondents).

Accuracy and efficiency of forecasting social protection finances. This is, for instance, done by the French Organizations for the Collection of Social Security and Family Benefit Contributions national fund and being developed in Latvia (ISSA and UNU, 2024; OECD, 2025a; Table 16).

3 Strategies

Principles, policies and actions

All of the Member States (and Norway) have current national digitalisation strategies. These are typically modelled after EU policy documents and initiatives: timelines often go up to 2027 (reflecting the timeline of the Digital Europe Programme) or 2030 (reflecting the timeline of the Digital Decade programme). In addition, strategies are often clearly organised around targets and focus areas identified by the European Commission, such as e-health, digital identity, connectivity, basic digital skills and ICT specialists.

Most Member States have adopted multiple official digitalisation strategies. These include national roadmaps for the Digital Decade presented to the European Commission. The second annual report on the state of the Digital Decade (2024) points out that these national roadmaps include only 70 % of the expected EU-level targets, and only 52 % of national targets are aligned with EU-level targets. However, most countries have national targets in line with EU targets in the area of digital public services for citizens (except for Austria, Estonia, Germany, the Netherlands and Portugal, which have not set targets in this area in their national roadmaps; Sweden's target is below the EU target). Because of the existence of multiple strategy documents, national roadmaps might not reflect all national goals or focus areas.

Besides national roadmaps, most strategies are general in character and focus on digitalisation broadly (also encompassing connectivity infrastructure, the economy and/or the private sector) rather than focusing on the digitalisation of social protection per se. The digitalisation of government or public services as a whole is often included as an area of focus in general digitalisation strategies. For example, the 2026 España Digital (Digital Spain) strategy includes a 'pillar' on the digitalisation of public services; the 2025 Digital Cyprus Strategy includes a 'strategic portfolio' on digital government. Within these areas of focus, the digitalisation of monetary social protection benefit systems is typically grouped together with other public services, such as healthcare or tax services, and is implicitly discussed under this umbrella. This structure complicates the identification of policy guidelines, actions or targets pertaining specifically to the digitalisation of social protection.

Besides general digitalisation strategies, some countries have separate or additional strategies focusing on the digitalisation of public services and public administration (Figure 3). Examples include Lithuania's state digitisation development programme, Poland's integrated state informatisation programme, Italy's three-year plan for IT in the public administration and Luxembourg's electronic government strategy. While these strategies focus exclusively on how digitalisation relates to the public sector, in these cases too, social protection is not examined separately from other public services; for example, there is no distinct acknowledgement or analysis of how the digitalisation of social protection may improve access to social rights, as opposed to access to 'services' more broadly. Other countries lack such specific strategies focusing on the digitalisation of public administration and public services and have only general strategies (e.g. Croatia and Czechia).

Figure 3: Digitalisation strategies capturing social protection

Source: *Eurofound.*

In other cases, the digitalisation of social protection is mentioned across several sectoral or specific documents; for example, in Romania, there are brief mentions of the digitalisation of public services and social protection in the national strategy for employment, the national strategy on the rights of people with disabilities (A fair Romania) and the national strategy in the field of AI. In Austria, there is a national e-government strategy, but one of the main national health insurance funds also has its own digitalisation programme. In Germany, there is a ministerial digitalisation strategy for labour and social administration, but there is also a specific digitalisation strategy for statutory accident insurance. Similarly, in

Finland, France and the Netherlands, social insurance institutions have formulated their own development strategies, which include the digitalisation of services among other goals and proposed actions. These strategies may not have the same reach as national strategies.

There are only a few examples of government strategies that are specifically focused on the digitalisation of social protection, for example in Bulgaria and Portugal.

Generally, strategies reflect different levels of digitalisation of public services and social protection. Goals and focus areas differ based on the country's level of digitalisation. Countries where the process of digitalisation started a relatively long time ago (e.g. Denmark and Sweden) are now focusing on improving specific areas, such as interagency digital cooperation or municipal-level digitalisation. In countries with a lower level of digitalisation, for example Slovakia, strategies more explicitly focus on laying the groundwork for digitalisation or on digitalising specific services and benefits. More digitalised countries have also had more iterations of strategies (e.g. Sweden's cybersecurity strategy dates from 2017).

Regardless of whether they focus on digitalisation broadly or on the digitalisation of public services more specifically, strategies tend to be very general in both language and content. They typically state broad objectives and guiding principles, which include:

- developing user-centric, accessible, trustworthy and attractive digital public services (sometimes, they mention co-creation or other forms of stakeholder involvement in service design);
- implementing a 'government as a platform' approach, enabling users to experience seamless pathways to social benefits, from application to communications to monitoring entitlements and payments (a similar approach calls for restructuring benefits around a 'life events' framework);
- promoting transparency and security in data collection, usage, storage and sharing;
- introducing forms of automation and data-driven and AI-driven processes to streamline and simplify the back-office processing of claims and applications, and fraud detection and risk management;
- developing an interoperable IT architecture that shares data, processes and repositories across public institutions;
- improving basic digital skills among both service users and the civil servants in charge of service delivery and developing in-house expertise in IT.

Challenges and obstacles are also acknowledged at a general level, including:

- the digital divide and the exclusion of people with lower levels of digital skills from access to social protection;
- in some countries, issues stemming from the fragmentation of processes across multiple providers, agencies or local governments;
- risks connected to AI use for prediction, decision-making and case management, risk management and/or fraud detection and prevention;
- cybersecurity risks.

Measures to address these challenges are also typically formulated in broad terms.

Operationalisation and management

Operationalisation, such as the definition of specific targets, key performance indicators and/or timelines, varies across national strategies. National roadmaps to the Digital Decade tend to be considerably more detailed than other national documents. National roadmaps use the following template:

- current state of play, strengths and challenges are analysed for each EU-level goal;
- goals are broken down into national targets;
- targets are further broken down into single measures;
- each measure is described, including goals, budgets (EU and/or national), the expected impact and timelines.

There are only a few specific measures related to the digitalisation of social protection.

In strategies other than national roadmaps, concrete operationalisation is rarer and sparser. The most commonly operationalised goals relate to online public services usage and availability, perhaps due to related data being relatively more available. For example, Slovenia sets out that, by 2030, all of its key public services will be accessible online to all users, at least 80 % of the key public services that are digitally accessible will be in use digitally and at least 80 % of users of public services will use their digital identity. Hungary has also set specific goals about usage and availability, including a 90 % usage rate of e-government services and that 60 % of administrative procedures are conducted electronically as self-service by 2030, and a DESI score of 95/100 for full-scale online public administration. Malta has set the goal of 100 % of users having access to their digital identity and digital signatures by 2030. Ireland is aiming to reach an online use rate of 90 % for applicable services and for 80 % of eligible users to have digital identity profiles by 2030.

Romania is aiming to digitalise three social protection or employment services by 2025. In some cases, usage or availability goals pertain only to specific benefits; for example, Czechia aims to digitalise benefits for workplace accidents or illness by 2026. Germany's goals for 2025 include 10 % of families that are expecting a child using the 'digital family assistant' online tool to access benefit information.

Other commonly operationalised targets relate to back-office processes, including processing times, the number of staff involved and/or costs; these normally refer to single processes or benefits. For example, Cyprus has set a target of reducing the time taken to process minimum-income benefit applications to 60 days by 2025. In its previous digitalisation strategy, Poland proposed to, by 2023, increase the percentage of official electronic documents issued by the public administration from 15 % to 65 % and the percentage of offices using electronic document management systems as their primary case management system from 29 % to 62 %. In France, institutions in charge of managing social protection set separate goals for the percentage of automated processes, including applications, settlements and payments; for example, the social insurance institution aims to automatically settle 38 % of disability benefits by 2027.

Less commonly, some countries adopt user satisfaction with online public services as a metric. For example, Estonia's digital agenda for 2030 sets a target of 90 % of users being satisfied with public digital services by 2030. In Norway, the 2024–2030 strategy's goals include a 20 % increase in people's confidence in the public sector's privacy protection efforts.

Strategies sometimes identify the specific bodies responsible for overseeing implementation and monitoring progress or for related mechanisms (e.g. Belgium and Slovenia), but not always. This may be due to the strategies' very broad nature. They typically identify actions and goals related to various independent bodies, agencies and services. In some countries, one or more explicitly designated authorities monitor the implementation and progress of some or all of the goals and processes. For example, in Croatia, Italy and Spain, there is a specially created authority for digitalisation, whereas, in France, several state bodies monitor specific sections or projects in line with their traditional areas of expertise. In other countries, such as Norway, single agencies (e.g. the social insurance institution) conduct self-assessments and publish self-reports.

Impacts

Not many strategies include provisions for progress reports or explicit assessments of what has been achieved (e.g. by past strategies). Assessments normally do not concern entire digitalisation strategies, but instead focus on single digitalisation projects or processes or the digitalisation of single agencies. Typically, they are *ex ante* assessments to identify possible issues, gaps and opportunities, rather than assessments evaluating implementation.

Despite this lack of assessments and conclusive data, some strategies and related documents include information on impacts, often focusing on efficiency gains, but also including negative or suboptimal impacts (see Chapter 5). In many cases, strategies and related documents acknowledge EU legislation and funding as the main drivers of digitalisation processes in public services, especially, but not exclusively, in countries that have commenced digitalisation relatively recently and/or are currently in the early stages of the process. For example, public service digitalisation strategies and processes have been adjusted to comply with GDPR data protection and storage provisions. Similarly, it is clear from many strategy documents that the national RRPs have hugely stimulated digitalisation efforts and initiatives in public services and in social protection specifically. Public service digitalisation processes in Poland, Romania and Spain, for example, have started and/or expanded due to RRP funds.

Common themes

Digital divide, inclusion and accessibility

The 'digital divide' is acknowledged by all strategies as one of the greatest challenges, if not the single greatest challenge, to the digitalisation of public services (this is a multifaceted concept; see 'Digital divide'). A lack of digital skills among the population is widely cited. For example, Bulgaria and Cyprus identify digital illiteracy as the main challenge to digitalisation. Importantly, strategies also acknowledge the stratification of the digital divide, which disproportionately affects older people and groups in disadvantaged/vulnerable situations. Finally, some strategies (e.g. in Italy, Malta and Romania) mention improving the digital skills of social protection workers, but this is rarer.

Solutions to mitigate the digital divide seem to be widely shared among countries. The most commonly proposed is multichannel services, i.e. offering the possibility of accessing services through multiple pathways, not only online but also in person, by post or on the phone (see also FRA, 2023). Belgium's strategy includes a specific commitment to always guaranteeing non-digital services. France is strengthening its system of 'one-stop shops' for administrative services, some of which are itinerant. One of the barriers identified is the

usability and accessibility of online portals and interfaces, which some documents (e.g. in Denmark and Luxembourg) address by discussing measures such as simple online language, the enhancement of apps and mobile versions and the integration of assistive technology. Some accessibility measures propose the enhanced use of chatbots for information and assistance (Cyprus), whereas others propose online human assistance, for example through secure delegation using digital identities (France and Slovenia). Education and training programmes focusing on digital skills are also widely mentioned. For example, Germany has proposed introducing basic digital training in all primary and secondary schools, whereas Hungary has proposed ensuring that every individual has access to free basic digital training within 30 km of their residence.

Finally, some strategies (in Estonia, Ireland and Lithuania) also mention introducing or enhancing proactive services, whereby the state identifies and initiates services on behalf of eligible users without requiring them to apply. This would reduce the need for users to navigate digital systems and make services more accessible. However, it also involves risks and challenges in terms of actual usage, data protection, data sharing and the automated calculation of benefits, and some strategies (in Finland and Sweden) note legal or ethical uncertainties around proactivity.

Artificial intelligence and related costs/risks

AI is a relatively new development in the digitalisation of public services. While all strategies mention AI, only some countries have a dedicated AI strategy (e.g. Czechia, Estonia, Luxembourg, Malta, Norway, Romania and Slovenia), and the term is used broadly to indicate use of algorithms and automation in general. Some strategies (Estonia, Malta and Portugal) explicitly include integrating AI into social protection in their goals, particularly in risk assessment and fraud detection. However, most are quite cautious about AI. Using AI in public services raises questions and risks that are discussed in most strategies, including:

- data ownership and data protection;
- compliance with national and EU legislation and the possible need to adapt legal frameworks;
- possible partnerships with private companies providing AI technology and related data management issues;
- increasing costs;
- possible AI bias in assessing risk and disproportionately targeting certain groups in fraud prevention or detection.

4 EU policy impact

The EU digital strategy has had an impact on the establishment and content of national strategies, which also confirm adherence to EU legislation relevant to digitalisation (see Chapter 3 and 'EU policy context' in the introduction). Generally, countries' digitalisation strategies and policies (including AI and cybersecurity policies, when they exist) explicitly refer to EU legislation, guidelines and goals as a starting point for informing national goals and policies. For instance, the structure of the 2030 Digital Slovenia Strategy is aligned with the Digital Compass that was presented by the European Commission in March 2021, the corresponding path to the Digital Decade policy programme up to 2030 and the European Declaration on Digital Rights and Principles for the Digital Decade. The strategy also follows the European strategy for information and the regulations governing data (e.g. the Directive on Open Data and the Reuse of Public Sector Information). The outlined pathways and target values are set with the aim of contributing to European digital goals.

In turn, national strategies provide the direction for RRP expenditure. In the following sections, concrete evidence of EU impacts on the digitalisation of social protection is discussed.

Funding

The digitalisation of social protection is prominent in the RRPs. RRP funds have often contributed to making broad digitalisation strategies more concrete, and frequently they are the main drivers of processes digitalising social protection (e.g. in Czechia, Romania and Slovakia). RRP funds have been used for various purposes, including hiring and training staff, building or improving ICT infrastructure and addressing the digital divide (Table 16; see Chapter 5).

Table 16: Examples of the use of RRP funding in the digitalisation of social protection

Country	Funded measures
Belgium	EUR 60 million for updating and improving the digital infrastructure of social security institutions; including EUR 10 million for digitalising social security for self-employed workers (e.g. for parental leave), to improve data quality, create a central digital database of self-employed workers and allow for the online consultation of information and the progressive automation of decisions.
France	Training of 4 000 new digital advisors working in 'France Services' one-stop shops. These advisors help residents to access online public services and train them on basic digital skills (see 'Digital divide' in Chapter 5).
Germany	Several digitalisation processes, including the digitalisation of parental benefits and the implementation of a single digital access point for all social benefits, which provides detailed information on all of the benefits and access to competent federal, state or local authorities.
Greece	Implementation of the central portal's chatbot and single digital gateway for several benefits, including minimum-income, maternity and child benefits.
Italy	Further digitalisation of the social security institution, with 108 digital services developed by 2024, over 13 000 employees trained and the development of an online pension simulator.
Latvia	Development of a digital system ('DigiSoc') to improve social services' efficiency and data exchange between local and national authorities, and of a forecasting tool for long-term projections to assess the sustainability of social security.
Lithuania	Update and enhancement of the public services interoperability portal, both at the national level and in selected municipalities.
Romania	A total of 4 reforms and 19 investments (budget: EUR 1 884.96 million) to be implemented by 2026. This includes digitalising employment services, workplace health and safety procedures, minimum-income benefits and social assistance benefits; introducing a new central portal for all public institutions; and upgrading the monitoring capabilities of the pension system's back-office infrastructure in the fields of labour relations, occupational health and safety, public pensions and the implementation of minimum-income benefits.
Slovakia	Proactive information provision about withdrawals from social insurance funds, registering with the employment service and applying for unemployment benefits is being implemented. The funding is also financing the development of dynamic e-services, the introduction of an interoperable platform for data spaces to enable data sharing and the establishment of next-generation information infrastructure.

Source: *Compiled by the authors based on information provided by the Network of Eurofound Correspondents, other experts and desk research.*

The Technical Support Instrument, which was designed to support reforms in Member States, has also funded several projects related to the digitalisation of social protection. For example, it has funded the development of a digital skills training plan for social security staff in Italy, ICT modernisation projects in public administrations in Germany and Spain and the creation of a state ICT system for the digitalisation of administrative processes in Latvia.

Other EU funding instruments have also played a role in digitalising social protection. For instance, the digitalisation of the social insurance institution in Estonia, which is funded by the European Regional Development Fund, includes the initial digitalisation of some benefits (e.g. pensions) and the creation of a centralised register of social services and benefits. Hungary's project for a reduced work capacity (Érték Vagy!) portal, on which jobseekers create a digital profile and employers upload advertisements, was also funded by the EU. The digitalisation of healthcare has, in particular, received a lot of attention in the EU's country-specific recommendations; accordingly, many projects aiming to implement the digitalisation of healthcare have been funded, for example in Bulgaria, France and Spain.

Funding is also likely to have been an additional incentive to follow the guidance set out in EU documents, as is the case for national digitalisation strategies.

EU-funded projects do not always have adequate results. For instance, a project in Romania is aiming to create a centralised national platform for collecting, storing and disseminating information related to people with disabilities and, while finalised in December 2023, at the time of writing (between January and July 2025), the platform is not functional.[2] The use of RRP funding for national digitalisation projects has been criticised for lacking effective monitoring frameworks (European Court of Auditors, 2025).

Legislation

Naturally, Member States must comply with binding EU legislation (see 'EU policy context' in the introduction). For instance, in 2024, Hungary introduced a two-step login interface based on the EU's 2023 updated Network and Information Security Directive and a digital personal identification app based on the European digital identity framework (amended in 2024). Similarly, in Luxembourg, a bill was tabled in August 2023 concerning an electronic wallet. In Finland, national legislation on automated decisions in social security was reformed in 2022 to supplement it with provisions and safeguards prescribed by the GDPR.

Member States can implement measures that go beyond mandatory legislation, sometimes triggered by forthcoming or expected EU legislation or applying non-mandatory guidelines.

- In Estonia, the national consumer protection authority regularly publishes reports on public service websites' compliance with EU digital accessibility standards (the EU Web Accessibility Directive).
- In Finland, websites and mobile apps of the public sector and parts of the private sector need to meet the requirements and the 49 criteria of the web content accessibility guidelines, version 2.1 (including requirements beyond those in the EU Web Accessibility Directive). Extended accessibility requirements based on the European Accessibility Act entered into force in June 2025. Before the act, the main benefit portal already cooperated with, for example, the main national institution for visually impaired people on the accessibility of their web services, actively carrying out usability testing and research.
- In France, a working group dedicated to GDPR compliance in social security information systems was created. Furthermore, data protection officers have been appointed in all social security institutions, and internal compliance procedures have been implemented.
- In Germany, electronically supported administrative processes with and within the administration had to be made accessible for people with disabilities by 2021. Requirements are based on the EU's harmonised standard, supporting the EU Web Accessibility Directive.

The **GDPR** merits particular attention for its implications for the digitalisation of social protection. For instance, in Norway, GDPR enforcement has directly shaped certain digital initiatives in social protection. For example, the social security institution required that people publish their CV on a job-seeking portal to be considered a jobseeker, a precondition for receiving benefits (Datatilsynet, 2022). In 2021, the Norwegian Data Protection Authority warned that 'the publication of CVs belonging to users in a follow-up process had no legal basis according to the GDPR'. The social security institution received a NOK 5 million fine for this breach (European Data Protection Board, 2022). This enforcement compelled it to change its data practices on the platform, so that personal data sharing (even in

(2) https://portal.snmd.gov.ro/home.

pursuit of positive labour market outcomes) must have explicit legal authorisation.

Guidelines, monitoring and other initiatives

Digitalisation in social protection is affected not only by EU legislation, but also by non-binding guidelines (see 'Facilitating access for digitally excluded groups' in Chapter 5). For instance, in Ireland, the government has stated that all AI tools used by the Irish Public Service should comply with seven requirements for ethical AI that have been developed by the European Commission's High-Level Expert Group on AI in its *Ethics Guidelines for Trustworthy AI*. The principles set forth in the European Pillar of Social Rights have also influenced Member States' policies and actions in digitalising social protection.

The EU-level monitoring of advances in digitalisation (importantly through DESI) also seems to have increased Member States' efforts to enhance digitalisation. For instance, Slovakia published a strategy and action plan to improve its position in the DESI by 2025, including a more proactive use of available user data, to prevent administrations from needing to repeatedly inquire and users from having to repeatedly fill in their data. Identified prerequisites for this included the data quality and interconnectivity of registers. Similarly, Cyprus, Germany and Hungary explicitly model their national digitalisation goals on DESI scores.

5 Challenges, opportunities, mitigation and success factors

The following discussion is centred on key themes that emerged from this research, clustered under broad headings. For each of these themes, challenges, opportunities, success factors and mitigation measures are discussed.

Access to social protection benefits

Access to social protection can be seen as encompassing the whole process, from identifying social protection needs to fulfilling them (Eurofound, 2020b). However, here, this broad heading is used to cluster various themes that emerged from this research.

Usage, dissatisfaction and non-usage

In several countries with digitalised benefit systems, usage of these systems has been remarkably low, indicating low accessibility (including low levels of trust in and user-friendliness of these systems) and the availability of better options (Pérez-Morote et al., 2020; Eurofound, 2024, 2025). Survey data also suggest that the usage of digital identity systems varies largely between Member States (Eurostat, 2025a). Authentication requires the use of extra digital systems to confirm identity, which can be complex to use, especially for people in vulnerable situations. Many also lack digital signatures.

In countries from which data were obtained, the usage rates of digital systems are generally rapidly increasing (Eurofound, 2024). Usage data do not always show an upward trend, however. For instance, in Slovakia, the proportion of internet users using digital public services decreased from 54 % in 2019 to 52 % in 2020. The percentage of government information systems that use standardised cloud services increased from 1.1 % in 2016 to 7 % in 2019, but decreased to 4 % in 2020, possibly due to changes in government priorities, including in the context of the COVID-19 pandemic. Usage data are not the focus of this report. However, some examples are given below.

- Registration for interfaces:
  - In Greece, the chatbot received, on average, around 6 000 questions a day from its establishment in December 2023 to July 2024. The five most popular topics are issuing a new identity card, making a solemn declaration, asking about holiday subsidies, requesting digital medical prescriptions or certificates, and requesting a family status certificate.
  - In Hungary, the central portal reached 24 222 registered users in 2005, the year it was launched, and the number of users had reached nearly 2 million by March 2015 (Bicskei, 2023).
  - In Slovenia, the central digital portal had 184 000 registered users in 2024 (Ministry of Digital Transformation, 2024). In 2021, 31.9 % of unemployed people used the portal to interact with the employment service.
- Online applications:
  - In Germany, since 2022, it has been possible to register for unemployment benefits online, so a legally compliant registration can take place without a personal visit to the unemployment service. Around two thirds of applicants use the online option.
  - In Finland, one can apply online for the benefits managed by the social security institution. In 2020, 28 % of applications were made on paper (down from 36 % in 2016) (Väänänen, 2021).
  - In France, in 2024, 59 % of jobseekers were unfamiliar with the online job search portal, and 81 % were not using the resources offered. Furthermore, 13 % encountered difficulties with online registration procedures. Most portal users received personalised job suggestions or offers either never or once or twice a year.
- Usage of simulators:
  - In Portugal, between the introduction of the central portal's pension simulator (8 May 2018) and 13 December 2018, 2 446 578 simulations were made: 66.4 % were automatic and 33.6 % were tailored simulations (República Portuguesa, 2018).

Usage data can reveal issues related to access, such as low user-friendliness, and to effectiveness. It is also important to monitor user satisfaction. For instance, in Hungary, of those who use electronic administration, 82 % are satisfied with the service (ASZ, 2022). In France, among people who received job offers or suggestions through the online employment portal 65% found them 'not at all relevant' or 'rather irrelevant' (Del Sol and Ginon, 2024).

However, it is also important to understand and act on:

- the reasons for dissatisfaction;
- why people do not use digitalised systems (for instance by surveys in benefit offices where people apply in person and by asking people who work in

these offices) or do not find their way to social protection at all (see the subsection 'Non-take-up');
- whether support was needed for those who used online options.

High usage rates may hide the fact that groups of people are able to apply digitally only with support. In Czechia, 40 % of the 27 900 people applying for unemployment benefits applied online (through the central portal) between 1 and 9 January 2025. However, about one third of these digital applications were supported by Labour Office staff. Many also rely on informal support (Eurofound, 2024). For instance, in France, 13 % of digital service users reported that they needed help. Most (83 %) of those who obtained help received it from family members (while 16 % received it from social protection workers) (Crédoc, 2019). People may also need to rely on paid support from, for instance, accountants or lawyers for digital pension applications in Greece.

Furthermore, groups of people may not apply at all for the benefits for which they would be entitled to (see 'Non-take-up'). Even if digital applications are accessible for almost all, the small group not applying digitally need to have access to social protection and may be in particularly vulnerable situations.

User-friendliness can be improved by using tools such as digital assistants that provide information and guidance to people applying online; however, their mere presence is not enough to guarantee improved accessibility. For digital assistants to be useful in improving access, it has been argued that they should be geared to users' life situations (not to the way in which responsibilities and tasks are distributed within the institution that provides the benefit), make the complex legal matter understandable, be transparent and manageable and use a step-by-step approach through the application process, generating applications directly from users' input (to be incorporated into the specialist back-office procedures) (Theißing and Andersen, 2024). There can be a trade-off between providing legally correct information and using easy-to-understand language.

Social protection websites often provide information in multiple languages and may contribute to overcoming language barriers which users could experience during face-to-face interactions with social protection workers, even when websites do not provide information in the user's language (as people can use online translation tools). However, people whose first language is not among the languages used face barriers. They may be from particularly vulnerable groups, and their problems with accessing social protection may be more easily spotted when an application is made in person.

Digital divide

The 'digital divide' refers to unequal access to digital technology and to (speedy and stable) internet connections among a population, as well as differing levels of digital skills. Lower general administrative and language skills can impede access for people 'left alone' in the digital environment. Complex administrative procedures and non-user-friendly portals fuel the divide. The concept of the digital divide is not rigid; it encompasses a variety of individual circumstances that may have an impact on people's ability to use digital tools and digital public services. For example, using digital public services requires more developed skills than performing other online activities; individuals with general digital skills may thus still have difficulties accessing and managing digital public services. Digital skills and digital access may also be gained or lost by the same individual due to changing circumstances, for example related to income, housing or health, or due to digital processes. The digital divide in a population of potential service users is one of the most pressing challenges facing the digitalisation of social protection. Digitalisation can simplify social protection and make it more accessible, including for people with disabilities, those in rural areas and older people, and also made social protection more accessible during the COVID-19 pandemic. However, it risks not improving or reducing access for some. Even if non-digital parallel systems remain as they would have without digitalisation, inequalities arise, as some people are unable to reap the benefits of digitalisation (Eurofound, 2024). For example, issues related to physically accessing offices from remote locations would be ameliorated by digitalisation but not for people who cannot access digital services.

The digital divide takes many forms and often reflects pre-existing inequalities. One of its dimensions concerns access to devices. For example, a survey of the Finnish population aged 16–89 found that 10 % did not own a computer and 17 % did not own a smartphone (THL, 2021). People with a lower socioeconomic status are more likely to be unable to afford laptops, tablets or smartphones (Eurofound, 2024). Another dimension concerns access to fast and reliable internet. In 2024, 2.1 % of the EU population could not afford an internet connection (Eurostat, 2025b). While there are differences between countries, people living in rural areas are more likely to experience slower internet connections and are less likely to use online services than those in urban areas (Perpiñá Castillo et al., 2021; Eurostat, 2024). Varying degrees of digital literacy and digital skills also affect the digital divide and are influenced by factors including age, gender, educational status, health/disability status, migration status and socioeconomic status. Younger, more educated and wealthier people tend to have better digital skills and more confidence in using digital tools (van Deursen and van Dijk, 2019; Buchert, 2024). In the EU, 55.6 % of people have at least basic digital skills (ranging from

83 % in the Netherlands to 28 % in Romania), which is below the Digital Decade target of at least 80 % (European Commission, 2024, 2025). National studies also shed light on the digital divide. In Hungary, 47 % of adults use only in-person public administration due to a lack of skills and a perceived lack of efficiency of online services (ASZ, 2022). In Luxembourg, 'weak' internet users are older and less educated than 'intermediate' or 'big' users. They also tend to experience more stress using the internet (Martin and Poussing, 2024).

Often, people with lower levels of digital skills or less access to digital technology are also those who are more likely to need access to social protection, for example older, low-income or homeless people, people with a disability or those experiencing poor mental health or sudden life changes (Eurofound, 2024; Papazu et al., 2024; European Commission, 2025). For example, in Ireland, service providers found that online services were unsuited to their target populations, especially low-income households (Norris et al., 2021). In Hungary, the digitalisation of family welfare procedures reportedly resulted in low-income and marginalised families being excluded from appealing their welfare cases because of a lack of access to their digital identity and/or a computer. Independent usage of e-government services is particularly low for people with educational attainment of primary school or less, and for those on low incomes (Budai et al, 2024). Across the EU, residents of rural areas, who have lower levels of access to devices and internet connections, also tend to have lower incomes, have lower levels of access to physical social protection offices and are at a greater risk of poverty and social exclusion (Eurostat, 2024).

Complicating digitalisation

The digital divide can complicate the digitalisation of social protection in the following ways.

- A lack of digital skills, suitable devices and/or a reliable internet connection may mean that people do not have access to online procedures.
  - ☞ In Sweden, the social insurance inspectorate focused on pensions / old-age benefits in one of their evaluations, as this is where problems are considered most frequent. Among people aged over 75, 51 % do not use the internet for this communication and 61 % of them do not use the digital identification tool, which most commonly requires a smartphone (Inspektionen för Socialförsäkringen, 2020).
  - ☞ Incarcerated people face restrictions in both device and internet access, preventing them from accessing online public services. Incarcerated people often do not have access to electronic devices, and newly released people face other difficulties in accessing online public services and electronic IDs, such as often lacking a permanent address (e.g. Finland, Norway).
- People may lack trust in the security and privacy of online public services, such as digital identities or electronic signatures, or in how their personal data will be managed, accessed and stored.
- People can be held back from, face difficulties in or make mistakes in accessing digitalised procedures because they find these procedures complex or time-consuming, for example due to the requirement for two-factor authentication, the need to fill out lengthy online forms or the need to scan and upload paper documents. Mistakes can be difficult to correct and can cause uncertainty and negative consequences.
  - ☞ In the Netherlands, 38 % of parents applying for child benefits reported finding the procedure complicated. A 2020 parliamentary child benefit inquiry judged that a complicated, market-based system of cash transfers to parents, sensitive to minor changes in the parents' employment and income situations, led to unfair fraud accusations. Digitalisation and unequal digital skills among users may have exacerbated the problem (see Box 5; Hummel et al., 2023).
  - ☞ In Hungary, two-factor authentication was introduced to access the public services portal, which required a separate app to be downloaded and a QR code to be scanned. This caused difficulties for some users. Without a smartphone or tablet, authentication options are limited, more complex and only available in English.
  - ☞ In Luxembourg, 19.7 % of respondents found it stressful to use the internet to engage with the public administration (Martin and Poussing, 2024).
  - ☞ In Norway, service users particularly struggled with attaching the right document formats to applications or instead ended up creating multiple applications (Proba Samfunnsanalyse, 2022).
  - ☞ In Germany, most benefit applications require providing extensive documentation, which needs to be updated when reapplying or when circumstances change. Some benefits depend on each other and can only be requested in a specific order (Theißing and Andersen, 2024).
- Difficulties can be compounded by a lack of accessible support options, for example when all support is online/digital. Users may then need to rely on informal support, for example from family, friends or civil-society organisations, or administrations may need to devote more resources to providing dedicated digital support. Relying on informal help can increase privacy violation risks, especially when sensitive data (e.g. health or financial) are shared, risks people being incorrectly advised and could even expose people to abuse. The need to rely on informal support creates new inequalities between those with and without access to it (Papazu et al., 2024; Eurofound, 2024; 'Usage, dissatisfaction and non-usage').

- There is increased potential for online scams, to which people with lower digital skills are more vulnerable.
- More generally, any type of online content risks posing accessibility issues, for example if it is written in a non-user-friendly font, inaccessible web colours are used or the content is incompatible with screen-reading software.

Facilitating access for digitally excluded groups

Risks and challenges arising from digital exclusion and the digital divide can be mitigated in various ways, some of which have been piloted or implemented. Solutions address different aspects of the digital divide and can focus on the user or the public administration side.

User-focused measures

Most user-focused initiatives seek to address the digital skill divide. Measures include free or subsidised digital training for the general population, including about accessing and using online public services but also internet safety and good practices in personal data management (Eurofound, 2024).

- Slovenia's 2023 'Mobile heroes' project aimed to improve digital literacy among people over 55. It included a mobile classroom unit that primarily travelled through rural areas, offering digital literacy workshops, including on using the digital social protection and e-health portal. Over 5 500 people attended 313 training sessions hosted by 80 % of municipalities (Žarkovič, 2024).
- Hungary's 'Bridging the digital divide' project provided financial grants to adults enrolling in municipal digital skills training.
- In Lithuania, grants were provided to municipalities and civil society to organise training for targeted groups, including people in remote areas, older people, unemployed people and people with disabilities.
- Malta delivered free digital training for older people through local senior centres.
- In Norway, almost 60 % of municipalities and 20 % of counties offer local digital training courses (Denisova, 2023).

To address unequal access to devices and internet connections, some countries have introduced programmes offering free or subsidised access to devices:

- in Luxembourg, local authorities and civil society offer free ICT loans and public spaces with free Wi-Fi connections;
- in Slovakia, students from low-income families have access to free laptops;
- general financial support schemes for low-income or vulnerable groups sometimes cover devices and/or connectivity costs, sometimes as supplement to social benefits (Eurofound, 2022b, 2024);
- access to devices and internet connections is also facilitated through public access points, often libraries (Eurofound, 2024). Hungary operates mobile government office services ('government buses') that regularly visit remote settlements, medical institutions and popular events such as town festivals. These mobile units bring certain (digital) public services closer to people who have limited ability to travel to government offices.

Administration-focused solutions

Other initiatives target administrations rather than service users and focus on providing more accessible and user-centric digital services and making digitalisation as inclusive and user-friendly as possible. The rationale behind this is that digitalisation should not place exclusively on the user the burden of improving digital literacy, familiarisation with digital procedures and navigating complex online environments. It should also not be assumed that all individuals will eventually be digitally competent: available opportunities for improving digital skills will not reach everyone or, even if they do, may be ineffective (Buchert, 2024).

In-person or paper options may be seen as holding systems back from reaping the full advantages of digitalisation for both users and administrations. There may thus be an emphasis on supporting people to use digital systems, rather than providing non-digital alternatives. For instance, Ireland's digital strategy states that people who cannot engage online will be better served through skills, infrastructure and assisted digital support.

It is vital to remain vigilant to guarantee rights, even when people gain experience with digitalisation and digitally excluded groups become smaller. Increasing proactivity and the automation of eligibility and payments might progressively reduce the need to maintain similar services in the future, as beneficiaries would not need to take any active steps (Eurofound, 2024). However, this report has demonstrated that automation and proactivity are still relatively rare. Access to social protection has been facilitated in the following ways though.

- Both the general public and specific groups of people who are more at risk of being digitally excluded, such as people with intellectual disabilities, can benefit from administrations using clear and simple communication in relation to front-office procedures, how personal data are used by administrations and entitlement decision processes.

- ☞ Polish social security has implemented a 'plain language' initiative to ensure the use of simple, concise and accessible language.
- ☞ The Estonian government maintains an open data tracker that is accessible via its portal, where citizens can monitor when and how public administrations use their personal data.

- It is important to implement accessibility measures to ensure that online services are easy to use for people with disabilities. Some benefits tend to have a relatively large share of people with disabilities among their possible beneficiaries, such as disability, workplace accident and minimum-income benefits. For instance, the Norwegian social security institution recognises that many of those entitled to disability benefits may need assistance in accessing the benefits. Such benefits may therefore require additional resources to improve their accessibility. Nonetheless, all benefits need to be accessible to all those who would qualify for them. This includes people with disabilities, regardless of whether they form a larger or smaller share of those entitled.
  - ☞ In Czechia, access to online application forms is adjusted for people with visual impairments, according to the web content accessibility guidelines.
  - ☞ In Denmark, all pages on the central portal include text-to-speech functionality and sign language interpretation. The Agency for Digital Government oversees compliance, requiring public bodies to publish accessibility statements via the web accessibility statement tool. Denmark has also established network meetings, conferences and collaboration with IT suppliers and civil society to improve accessibility across digital services.
  - ☞ In Estonia, the central portal has a screen reader.
  - ☞ In Germany, social protection websites provide information in plain language and explanatory videos in sign language; the pension portal also provides the option to contact the pension insurance service with the assistance of sign language interpreters.
  - ☞ In Lithuania, sign language consultations are available remotely in major offices, providing real-time assistance through mobile devices. The portal has been updated with sign language videos and subtitles.
  - ☞ In the Netherlands, the social security website uses B1-level language throughout, uses disability-friendly contrast settings and can be navigated without the use of a mouse.
  - ☞ In Slovenia, the central portal provides audio recordings and sign language videos.
- Maintaining and enhancing multichannel services, and keeping services available in person, via post or on the phone, is important for reaching all users (FRA, 2023). Access to assistance through various channels is particularly important for benefits with more complex procedures, requiring multiple steps or documents (this is often the case for minimum-income and disability benefits). Chapter 1 gave an overview of application channels, but some specificities with regard to other front-office functions include the following.
  - ☞ In Denmark, people with disabilities or language barriers can be exempted from mandatory digital self-service solutions, including digital institutional communications. Municipalities must assist them in accessing services otherwise. The municipal housing allowance can also cover home help for citizens who have difficulties accessing their official digital mailbox.
  - ☞ France has introduced one-stop shops that provide assistance for all digital public services and administrative tasks. Centres are less than 30 minutes away from most residents, and some are itinerant to reach more remote locations. They also provide digital training to residents.
  - ☞ Sweden's pension office can be accessed in person or contacted via post, phone, email, Facebook or even fax.
- Introducing and/or enhancing forms of online assistance can allow users to follow online procedures even when they experience difficulties. In Czechia, users can make an appointment with a social security employee online. At the time booked, they can make an online call through the e-portal. Support through a call centre and chat is also available, as are in-person appointments.
- Services should be streamlined and simplified as much as possible, for example by reducing the number of portals and the authentication requests that users receive or by enhancing data sharing between institutions so that users do not have to upload the same document or data more than once.
  - ☞ Ireland has introduced a single public service identity system for accessing all online public services. Among its users, 96 % reported that they were satisfied with the initial registration and authentication process (Judge and McGennis, 2021).
  - ☞ In the Netherlands, municipalities must exhaust available data sources before requesting information from applicants, according to the principle of 'asking less, doing more'.
  - ☞ In Bulgaria, the social security institution updated its processes so that individuals do not have to provide information or proof that is already held by another administration.

- Further developing mobile-friendly / app versions of portals ensures that services are accessible, even to people without a computer.
- Introducing co-design and stakeholder engagement initiatives allows users' perspectives and feedback to be incorporated into the design of digital portals and tools. In its digitalisation strategy, Ireland mentions conducting regular stakeholders focus groups and feedback meetings with public servants, employers and service users.
- Improving the general accessibility of content is important (e.g. using larger fonts and user-friendly colour palettes, introducing compatibility with text readers and providing translations in multiple languages).

Mandates to apply for someone else

The ability to formally and securely authorise someone to apply for benefits on one's behalf can facilitate access to social protection. This might apply, for example, to people with certain disabilities, people experiencing mental health issues or homeless people lacking an address. Such 'mandates' come with risks in terms of a loss of autonomy and the sharing of personal data. This may be less problematic for benefit applications than, for instance, for access to bank accounts (Eurofound, 2024). However, sometimes, social protection systems use bank codes for login (in Finland, Poland and Sweden). In Hungary, concerns were raised when it became clear that the new two-factor authentication system for accessing digital services could be linked to any device with just a username and password, and this could result in some individuals (e.g. accountants) linking several people's identities to their devices, possibly without them knowing (Mucsi, 2025).

Mandates may be riskier in a digital environment without personal contact between the mandated person and social protection workers. Solid checks are essential.

- In Czechia, online pension applications for other people require an online form to be filled in, with proof of the mandate attached (e.g. power of attorney or a court decision). After 3–5 days, a confirmation appears on the online portal, through which the application can be made.
- In the Netherlands, people cannot authorise another person by default, but need to request authorisation separately for each service.
- Luxembourg is conducting a feasibility study on allowing third parties to conduct digital administrative procedures on others' behalf.

The ability to authorise a trusted person with a recognised formal procedure can provide added safety against people seeking informal or external help being misguided or abused. However, not everybody has someone they trust to the extent needed. Mandates to support workers can sometimes be an option. For instance, in France, the 'Aidants connect' project enables authorised professionals, such as social workers, to carry out administrative procedures online on behalf of people experiencing difficulties with digital tools, via an authentication system. However, it can also be questioned if the inability to apply digitally is a sound reason for such mandates, with associated risks. If people cannot apply for benefits themselves because of digitalisation, providing good access via in-person alternatives may be a better solution.

It is important to monitor closely the use of such mandates, and the actions of trusted people should be monitored to identify abuse. High numbers of mandates can indicate abuse or need to improve access, preventing the need to rely on mandates. Some countries do monitor this. For instance, in Belgium, numbers have been monitored since the launch of the digital mandate system in November 2022 (with almost 3 500 mandates created since then).

Non-take-up

People who are entitled to benefits but did not apply and those who applied but do not receive the benefit although they are entitled to it experience 'non-take-up'. This term wrongly suggests that people actively decide not to take up the benefit. Rather, they may for instance be unaware of the benefit, their entitlement to it or how to apply (Eurofound, 2015, 2024).

Digitalisation can reduce non-take-up by improving access to information and facilitating applications, including by reducing the stigma attached to applying through local benefit offices (Chapter 1; Eurofound, 2015). However, when digitalisation leads to reduced or no options for paper or in-person applications, it can reduce access for certain groups, contributing to non-take-up (see 'Digital divide'). This is exacerbated if the digital processes are complex and non-user-friendly. For instance, in Belgium, the National Labour Council warned in March 2025 that the digitalisation of social protection should lead to simplification, using available information to actively inform workers and employers of their rights and obligations and, where possible and desirable, to automatically assign social rights, reducing non-take-up.

Digitalisation's greatest potential to address non-take-up lies in making applications redundant. It is straightforward that granting benefits automatically, abolishing the need to apply, reduces non-take-up. For example, the Estonian child benefit system is automated for 99.99 % of registered births, making non-take-up virtually impossible for them (Nortal, 2022). This research, however, has also demonstrated that there are groups of people left out by automated systems because of their atypical situations. It is key to reach out to them.

The impact of automation on non-take-up is rarely investigated and is complex to determine precisely, given the nature of the topic (if it were straightforward to identify people experiencing non-take-up, it could be solved easily). However, a sudden increase in take-up, in the absence of other major possible explanations of such increases (e.g. broader entitlement criteria), is a clear indication of prior non-take-up (see also Eurofound, 2024).

- In Estonia, the number of subsistence benefit recipients would increase by an estimated two thirds (approximately 36 000 households) if applications were made redundant (Arrak et al., 2024).
- In Malta, in 2021, benefits for working people with children under 23 years living with them were automated. Recipients were automatically selected based on their registered income, eliminating the need for a formal application process, increasing recipients from 7 246 in 2011 to 24 611 in 2022.

Many systems lack such proactivity, however, even when automatic triggers for entitlement may not be too difficult to implement, even if at least with default proposals to review and approve by those entitled. For instance, in Latvia, people must apply for a pension no earlier than one month before reaching the statutory retirement age. If the application is submitted later, pension rights are granted only for up to six months prior to the application. In Norway, when a death is registered, the system flags potential survivor benefit eligibility, but usually does not contact the person entitled automatically (survivor benefits are being abolished and will be replaced by temporary adjustment benefits, for which one needs to apply).

An argument for non-automation is that people need to be given options. In some places, this is solved by automating the default option, with action required to deviate from the default. Critics of automated benefit assignment further argue that people should not take benefit receipt for granted and, therefore, that effort needs to be invested in applying for them. In addition, through automation, a benefit could be forced upon someone who may not want to receive it (albeit this could be due to stigma). France, for instance, maintains a principle that aid can only be received if it has been requested. Others argue that the need to apply can lead to greater unfairness, as people who are unaware of the benefit, of their entitlement or of the application process, those who do not apply because they are particularly sensitive to the attached social stigma and those who are unable to manage the application process themselves will not receive the benefits, while others will. Furthermore, usually, benefits are there for a purpose, such as relieving poverty and deprivation. This is hampered by non-take-up.

Previous research has warned against designing entitlement criteria based on the possibility of automating them if that leads to excluding people with the greatest needs (Eurofound, 2015). However, if the monetary and non-monetary costs of non-take-up are taken into consideration, it can be worth broadening entitlement when that facilitates automation (Eurofound, 2024).

In the absence of automation, and when groups of people are not reached by automated systems, it is essential to put more effort into identifying and contacting potentially entitled, but excluded, people. Examples of this are rare. France, in 2021, analysed data to identify people who would be entitled to family benefits but had not applied. In total, 64 % of the people contacted were eligible, but only 11 % accessed the procedure (IGAS, 2023). Contacting people by phone seemed more effective than sending emails or text messages.

However, people in particularly vulnerable situations may not be reached by data-driven efforts to reduce non-take-up: some (e.g. homeless people) may be missed by data linking, for instance because of missing tax records or addresses (OECD, 2024b).

Digitalisation can also help in reducing non-take-up through less proactive approaches, namely by improving access to benefit information more generally, for instance through the use of digital ‘social benefits finders’ that point people to the benefits that they may be entitled to based on users’ data input (as envisaged in Germany, and the ‘Mes Aides’ simulators in France; Estevez et al, 2024).

Authorities’ proactive approach to chasing overpayments contrasts with their efforts to identify non-recipients who would be entitled to benefits if they were to apply (Eurofound, 2024). While not always specifically implemented to decrease non-take-up, digitalisation can alert people to entitlement, automate eligibility (Chapter 1) and reduce errors in rejecting applications (Chapter 2). However, the use of digitalisation is more widespread in tracing overpayments than in addressing non-take-up (Chapter 2), and inaccurately functioning digital systems can also contribute to non-take-up (see section ‘System security and fairness’). If governments decide to similarly proactively apply advanced digital tools to trace non-take-up, governments will face different barriers. The data on benefit recipients are generally more accessible than the data on people who do not receive benefits, which may be in databases of institutions other than social security and insurance institutions.

Resources and reforms

Financial and human resources

The effective and efficient digitalisation of social protection cannot be achieved without adequate investment in financial and human resources. Implementing new systems requires upfront investments, and social protection workers need to be trained so they can use the new technologies. For instance, in Austria, a chatbot is being piloted with the aim of strengthening social insurance workers' digital skills (Der Standard, 2024a).

Depending on the initial level of digitalisation and on the specific benefits being digitalised, preparing system environments for digitalisation can be complex, expensive and time-consuming. This can include manually digitalising existing paper-based documents; developing or harmonising data exchange, back-office and communication interfaces; implementing specific provisions, for example for document upload, atypical cases, interactions with other benefits and automation; and developing functional integrations between existing systems and new systems from which data are retrieved and linked (Arrak et al., 2024). In particular when administrations depend on external contractors, there may be unexpectedly high software maintenance or update costs (see 'In-house development or outsourcing'). While it would require a solid investigation to understand precise expenditure components, as an example, in Spain, the Ministry of Inclusion, Social Security and Migration and the Ministry of Labour and Social Economy, respectively, spent 47 % and 13 % of their 2022 budgets or EUR 418 788 000 and EUR 110 889 000, on digitalisation, together equalling about a quarter of all central government ministries' expenditure on digitalisation (SGAD, 2022). The Austrian social security institution ran a EUR 52.5 million framework contract tender in 2024 to apply AI, albeit largely focusing on healthcare (Der Standard, 2024a).

The digitalisation of social protection can reduce financial and human resource needs in the longer run. Cost–benefit analyses are frequently conducted or commissioned by institutions that have a direct interest in demonstrating effectiveness, and these analyses demonstrate savings.

- Slovakia, in 2020, spent EUR 9 750 000 on software and licences and saved EUR 79 705 216 using electronic communication (instead of letter delivery).
- In Ireland, a cost–benefit analysis of the digitalisation of the public services identification system argued that, from 2010 to 2019, gains (EUR 218 million) outweighed investment (EUR 98 million) (Judge and McGennis, 2021).
- In Italy, the social security institution's automated communication system, when fully operational, saves an estimated 30 000–40 000 working hours annually.
- In France, the unemployment service uses AI to determine incoming emails' priority levels and to automatically process requests, when applicable, freeing up to 20 % of employees' working time according to internal estimates. The automation of the registration process in the national employment agency allowed the number of advisors managing benefits to be reduced by 12 % between 2014 and 2018, whereas roles supporting businesses and jobseekers increased by 9.6 %. Automated prefilling of applications for the housing subsidy, introduced in 2021, saved an estimated EUR 1.1 billion.
- In Estonia, the proactive system applied for family benefits reduced direct customer contacts by 88 % (Nortal, 2022). The platform that facilitates data exchange between institutions saves about 3 million working hours annually across all e-services (e-Estonia, 2025). If minimum income benefits were to be automated (making applications redundant), this would lower administrative costs by an estimated EUR 0.8 million (and raise benefit expenditure by EUR 97 million due to reduced non-take-up) (Arrak et al., 2024).
- In Lithuania, the automation of a benefit for people living alone with limited resources eliminated 200 000 paper requests, saving over 40 000 working hours.
- In Poland, in 2022, national social insurance took over family support programmes, digitalising and automating benefits, arguably saving several billion PLN over the next few years. For instance, for the child benefit for families with more than one child, it was claimed to have reduced the annual handing costs per application from PLN 51 (EUR 12 as at 18 September 2025) to PLN 6 (EUR 1) (Rynekzdrowia, 2024).

However, while digitalisation may reduce costs overall, it can increase costs for certain stakeholders. For instance, there may be savings at the national level, but municipalities or local offices may need to allocate additional resources to assist citizens with digital communications (Altinget, 2024). The work to support digitalisation often remains invisible and adds to the workload, including compensating (scanning, IT support), connecting (software maintenance) and cleaning (validating data) work (Gräfe et al., 2024).

Implementing benefit reforms in digitalised systems can be complex. For instance, when Luxembourg reformed the family benefits system in 2022 so that these benefits were shared equally between the parents, there were challenges in digital implementation (although a solution was found).

Automated communication has sometimes been implemented to deal with surges in information requests and applications, for example by Belgium's

employment office in May 2020 during the COVID-19 pandemic (with citizens also given rapid access to tax certificates that they needed to submit alongside tax returns). Elsewhere, existing automated communication facilitated dealing with such shocks in volumes of information requests (Eurofound, 2024). For instance, between March and May 2020, the Norwegian Labour and Welfare Administration's conversation assistant responded to more than 8 000 daily requests, compared with 2 000 before the pandemic (ISSA, 2020; Ruggia-Frick, 2021).

Ensuring stakeholders are on board

To effectively implement the digitalisation of social protection, attention should be paid to seeking advantages for stakeholders, including not only current and potential beneficiaries of social protection, but also the workers who implement the processes and provide support (e.g. social protection workers, social partners, insurers and doctors). For instance, when Norway required employers to digitally report their income, this also benefited the employers. Reporting was simplified, requiring submission of only one form instead of the five previously required (including submissions to the tax authority, statistical offices and social security institution).

Effort can be further stepped up in terms of informing stakeholders and engaging them in the design and implementation of digitalisation. Such efforts are key for the effectiveness of reforms and can overcome stakeholders' possible resistance to changing processes, for instance due to a mistrust of digitalisation or the public administration, a lack of confidence in using digital tools or a fear of losing one's professional autonomy and integrity (Box 2). It can be beneficial to allow time for the transition. For instance, in Hungary, organisations asked the government to delay the transition to the new online public services login system, as people faced problems with two-step identification (HVG, 2025). As of 2025, email codes can be requested instead of using two-step identification.

As digitalisation can pose challenges not covered by existing laws, it is important to first take the time to develop a legislative framework (see 'System security and fairness'). For instance, in Lithuania, the social security institution initiated legislative changes to automate decision-making and to replace the electronic qualified signature with the institution's automated digital seal. Finally, possible disadvantages should be acknowledged and mitigation measures should be clarified as integral parts of stakeholder engagement. Involving stakeholders throughout the digitalisation process, including legal and ethics professionals and institutions, can not only increase user-friendliness and ethical compliance, but also help anticipate risks and improve alignment between technical design, legal compliance and data protection to reach the social protection goals.

Box 2: Digitalising sick leave processing in Poland, overcoming resistance and integrating systems

Poland had 240 million days of sick leave absence and 22 million medical certificates authorising such absence in 2024. By digitalising the system to create the electronic sick leave certificates, manual data input by the social security organisation has become redundant, the employer and employee are now instantly informed and data errors are prevented. Introducing the system also required its integration into the national social insurance's electronic services platform, and the development of office applications to be used by doctors to issue sick leave notes. This way, the information is introduced directly by doctors into the social insurance platform, where it can be seen and processed by both the employer and employee.

It was introduced in 2016. However, the requirement to enter sick leave confirmations into the system faced resistance by doctors. They feared that would lead to increased control over their decisions, argued part of the ageing medical workforce would struggle implementing it, and that there are difficulties with accessing computers and internet. They were also hesitant towards additional administrative burden. In response, the government postponed making digital sick leave notes mandatory (abolishing paper certificates) until December 2018, awaiting higher approval of the system by the doctors, and made amendments allowing for medical assistants to issue certificates. To increase endorsement of the system, social security employees visited hospitals and primary care centres, providing information and support. Workshops were organised with the Ministry of Health and the national health insurance institution.

By November 2018, 49% of certificates were electronic and 72% of doctors eligible to issue them had the necessary electronic profiles. Of doctors not issuing e-sick leave certificates, three quarters reported waiting until they became mandatory and 1/10 waited for the appointment of a medical assistant. Among employers with five or more staff (obliged to receive e-sick leave certificates), 77% had electronic profiles.

Fragmentation and databases

Fragmented systems can stimulate innovation and experimentation (see the example from Sweden in 'In-house development or outsourcing'). In Germany, digitalisation varies between municipal housing benefit offices. For example, the Düsseldorf office uses AI to assist in the processing of benefit applications, while most do not. The various sickness funds are also digitalised to different extents, and digitalisation is seen as an element that they compete on, attracting members by offering better digitalised services.

However, it can be difficult to implement effective digitalisation policies in highly fragmented institutional and legislative contexts.

- In Finland, the fragmentation of public e-services has been a challenge due to the large number of institutions involved (Korhonen, 2016).
- In France, regional disability offices have different ICT systems. To overcome this barrier, a central institution is steering harmonisation.
- In Germany, many municipalities that administer federal social benefits locally are not yet connected to central systems (Theißing and Andersen, 2024).
- In Hungary, systems developed at different times and for different platforms often cannot communicate effectively with each other. In addition, the inconsistent use of legal terminology across different domains leads to errors (Csatlós, 2024b).
- In Luxembourg, fragmentation – with front-office and back-office functions divided among various institutes, sometimes sharing management responsibilities – seems to have been a barrier to digitalisation. For instance, the Accident Insurance Association (AAA) oversees workplace accident benefits, in conjunction with the National Health Fund, the social security institution and the Ministry of Health. The AAA digitalised its back-office services and its online services for users under the aegis of the Ministry of Social Security. Management is carried out by the AAA using the state ICT centre.
- In Romania, challenges include the heterogeneity of ICT systems across public authorities; a lack of standardised workflows, connectivity between local and county/national agencies and data transfer security; and limited electronic interoperability between public service systems.

A robust, high-quality and time-sensitive data structure enables effective digitalisation. For example, a precondition for advancing the digitalisation of income-tested benefits is easy access to income data. Tax data may not be readily accessible and tend to refer to the previous year. In 2015, Norway established a digital system in which employers report workers' monthly income, employment details and other information to the social security, statistics and tax offices. This information is used to process cases in various social protection schemes (sick pay, parental allowance, disability insurance and unemployment benefits). Finland has required employers to record in an income register all salaries paid and other relevant income information (since 2019) and pensions and other benefits (since 2021), within five days of payment. Latvia's legislation permits access to bank account data for assessing household income.

Digitalisation has also contributed to reducing fragmentation. It has been argued that systems do not necessarily need to be centralised, but data should be easily accessible (Väänänen, 2021). This can increase efficiency and effectiveness, but can reduce subnational or subregional governments' organisational sovereignty (Gräfe, 2024). It also implies risks in terms of data protection and vulnerability to cyberattacks. Denmark and Hungary both use shared databases to transmit data from all municipalities to the central government and use a unified back-office interface for all municipalities to process payments and assist workflows. When different administrations are co-responsible for different steps of benefit management, data-sharing systems can be developed (e.g. in France for disability benefits and in Portugal for parental benefits).

Digitalisation can improve transparency in fragmented systems, for instance through central portals that link to various application websites and provide centralised information (see 'Central portals'). Digitalisation can also provide an opportunity to reduce the fragmentation of front-office aspects for employers (see the Norwegian example in 'Ensuring stakeholders are on board').

Digitalisation can also reduce the fragmentation of back-office functions, importantly by connecting data sources from multiple institutions or by providing an opportunity for setting up a uniform payment system.

- The Belgian Crossroads Bank for Social Security coordinates information exchanges between Belgium's 3 000 social security actors, facilitating, for example, the automatic granting of several benefits.
- In Czechia, the services responsible for several benefits (including unemployment, parental/family, housing and minimum-income benefits) share a back-office interface. This interface matches and aggregates data from different sources, facilitating the assessment and processing of applications.
- In Denmark, the national public payment institution was set up to centralise municipal benefit payment (including of housing, family, disability, maternity and old-age benefits). An intermunicipal pension support service facilitates tasks such as issuing health allowance cards, processing pension applications and handling intermunicipal

settlements and citizen self-service applications. Municipalities manage supplements, disability pensions and related services. From 2000, the e-platform has connected different data sources (e.g. employers' sick leave reports) with municipalities' benefit offices. Municipal data are sent to a national platform, available to users.

- In Hungary, in 2020, all municipalities had joined a central application provider, which facilitated office work through standardised internal processes and the provision of a unified platform for local governments' e-government services (aligned with the European interoperability framework), thus eliminating local administrative blocks (Soós, 2023). An important goal is to enforce the 'once only' principle. Municipal employees access applications with their eID. Since 2017, an interoperability platform has provided a standardised connection between national basic registers and various public administrative systems. In 2021, 570 institutions or services were connected in the live (175) and test (345) environments (some in both).
- In Slovenia, multiple institutions managing different social protection benefits (e.g. employment, housing, pensions and disability) exchange data but operate as separate systems (Box 3).
- In Sweden, where unemployment benefits are managed by 24 funds, a central institution aims to streamline digitalisation, for instance by submitting information from the largest wage payment systems to the employment service, a form of automatic eligibility testing, as a service for its members.

In addition to connecting decentralised structures, digitalisation has also allowed the centralisation of functions. For instance, in Lithuania, since 2024, Sodra's accounting has been centralised, reducing the administrative workload of regional offices, eliminating the need for multiple consolidated accounts and streamlining financial reporting. ICT and facility management services have also been centralised. The digitalisation of social protection implies that information on websites needs to be updated regularly. In centralised systems, with one core portal, this is straightforward. However, in more fragmented systems, this can be more complex. Again, digitalisation can facilitate processes. For instance, Denmark implemented an AI assistant in 2025 to help 40 responsible authorities improve the readability of 1 200 web pages, in compliance with 2023 writing instructions (Digitaliseringsstyrelsen, 2025).

Box 3: Back-office interoperability in Slovenia's e-sociala system

Slovenia's digitalisation of social protection focuses on the nationally deployed e-sociala (e-social services) system, which was launched in 2010 and has been continuously upgraded. It streamlines the adjudication and administration of benefits such as child/family allowances, minimum-income benefits, housing support, state scholarships and kindergarten subsidies. The system is an example of AI-based government-to-government back-office interoperability. It connects over 50 public registries using a dual architecture, reducing administrative burdens and improving adjudication accuracy. It includes two key components: 'Pladenj' ('Tray'), a data distribution platform managed by the Ministry of Public Administration, and ISCSD2, the core back-office system used by social work centres.

Pladenj enables real-time, standardised queries to legally authorised registries covering data on population, education, health, employment, taxation, property, banking, etc.

ISCSD2 processes these data streams into prefilled decisions, alerting social workers when registry changes (e.g. employment status or household composition) may affect benefits or indicate fraud. Once a decision is issued, other authorities can access information such as benefit amounts and durations for their own procedures, as can recipients and their family members.

Child/family benefits are automated, making applications redundant, except in atypical situations. Prefilled calculations are issued, which become binding unless appealed. Sectoral legislation requires social workers to evaluate, print, issue and send decisions, and they remain legally accountable. Until 2019, due to the lack of a unified approach to logging incoming documents, it was impossible to determine the number of unresolved applications, leading to potential delays. Now, all documents are standardised and accessible through a portal, which connects various databases to optimise the work process for social workers, monitor their work and prevent processing errors. The portal also informs employees about legislative changes and other updates. The system has been upgraded since its introduction, and it now includes automated decision-making and machine-learning capabilities. More complex benefits, such as minimum-income benefits or housing support, still require

postal or in-person applications. Social workers thus focus on vulnerable or atypical cases. The system retrieves data automatically from authorised registries, sparing both applicants and caseworkers from manual collection. Social workers retain discretion to assess individual circumstances, with the system offering multiple options for decision-making. Manual (human) intervention is recorded and analysed to improve the system and prevent errors.

It has been argued that e-sociala enhances data quality, speeds up procedures, reduces appeals and supports interagency coordination. However, around 20 % of recipients received incorrect benefit calculations when, in 2021, a data synchronisation failure between the financial administration and social work centres caused misclassified pandemic-related non-taxable bonuses. This highlighted the risks of partial automation without strong legal and technical alignment and the ongoing need for human oversight and cooperation. The case led to stronger safeguards and coordination.

Sources: *Court of Audit, 2021; EU Public Sector Tech Watch.*

Quality of social protection services

Responsiveness

Digitalisation can reduce the time it takes to reply to queries, assess benefit applications and process payments. Benefits can more quickly reach people who need them. For instance, in Estonia, digitalisation decreased the processing time of family benefit applications from 2 working hours to 30 seconds (OECD OPSI, 2019b). For unemployment benefits, people are informed of the entitlement decision within a minute of applying. In Cyprus, the assessment time of minimum-income benefit applications was reduced from about 120 days in 2023 to 90 days in 2024. In Malta, the processing time of unemployment benefit and pension claims was reduced by 40 %. The digitalisation of sickness benefits also reduced their processing time. In Norway, sick leave applicants now receive faster feedback and can track their case online instead of waiting for letters. The automation of unemployment benefit decisions during the COVID-19 pandemic resulted in payments being received within a few days. Chatbots answer general information requests more speedily for some citizens and reduce the workload for social protection workers, functioning as a supplementary information channel (Grøndahl Larsen and Følstad, 2024).

However, this advantage of digitalisation can create inequalities when people who apply in person (including those who are digitally excluded and those who need to apply in person due to their atypical situations) face longer waits than those who apply online. In Ireland, for instance, paternity benefit applicants who apply by post rather than online face additional delays. In France, processing times for paper-based disability benefit applications often exceed six months.

Digitalisation can also make social protection systems more responsive in detecting overpayments. This prevents accumulated overpayments, which otherwise can result in an increased risk of financial difficulties for recipients who need to pay them back and of non-repayment. For instance, Belgium seeks to increase basic social security data delivery for the identification of overpayments from every three months to monthly (or weekly).

Shifting roles of social protection workers and users

The digitalisation of social protection is not just a technical issue: it changes people's interaction with social protection services (Ranerup and Henriksen, 2022). Impacts have been noted for both workers and applicants/recipients.

Risking to dehumanise social protection work

Generally, the challenges and opportunities that come with the digitalisation of work practices are likely to resemble those faced by other workers experiencing the digitalisation of the workplace. However, there are specificities relating, for instance, to social protection's function of supporting people in vulnerable situations. For instance, in Denmark, the increasing reliance on digital infrastructure has altered professional roles in welfare services, shifting the focus from direct assistance of users to technological mediation. This has increased moral stress among welfare professionals, who must balance institutional expectations with the needs of users who cannot fully engage in digital self-service (Papazu et al., 2024). This can also make work less meaningful for social protection workers. Municipal service centres, which are traditionally focused on assisting people with administrative needs, have increasingly become sites for digital guidance. These centres' workers report uncertainty regarding the extent of the support they should provide, with few formal guidelines regulating their role in digital assistance. Overall, (potential) benefits, burdens and job perspectives are distributed unevenly across job profiles (Gräfe et al., 2024).

Digitalised interactions can decrease the opportunities for identifying support needs (especially more complex and uncommon ones) but can also help people find their way through support systems (Eurofound, 2024). Digitalisation risks 'dehumanising care' (Codina i Filbà, 2022). It can widen the distances between social protection workers and users in an area where human interaction between them can influence decisions (with challenges for fairness – see 'Equal treatment'). Human interaction can counterbalance the rigid application of rules and mitigate the risks of exclusion (Ranchordas, 2021). Replacing face-to-face interactions with digital interactions may reduce mutual empathy, trust and accountability between administrations and users.

Even when support and in-person alternatives are available, digitalisation has an impact on interactions with social protection workers. For instance, in Denmark, access to digital assistance differs between social protection offices, as it depends on local interpretations of assistance rather than clear institutional policies. Institutional pressure to implement full digitalisation creates normative expectations that people must manage their interactions with the state digitally. This has reinforced an implicit coercion, where opting out of digital solutions is not considered a viable alternative. Although exemptions exist, the administrative process to secure them is often complex and requires justification, further disadvantaging people who struggle with digital systems.

Increased liability of users

Applicants are usually legally responsible for their digital applications' accuracy (even when someone else applies on their behalf). When visiting social protection services in person, people can discuss their life situation with a professional and get personalised information on certain benefits. In digitalised environments, information is often general and people are expected to personalise it themselves. The digitalisation of social protection increasingly expects people to be their own caseworkers, capable of searching for, locating, applying for and managing their benefits independently or with minimal (and possibly still digital) support (Buchert, 2024). The digital skills needed to complete applications for and maintain benefits are more than operational and informational skills. While people with lower educational attainment are more likely to lack digital skills, groups of higher-educated people do as well (Hummel et al., 2023). For instance, in the Netherlands, in relation to childcare benefits, parents find it particularly difficult to estimate household income. They can feel largely left on their own, and younger people can find dealing with government and social protection particularly new and intimidating (Eurofound, 2024). The concept and classification of digital native (being born or brought up during the age of digital technology and assumed familiar with it from an early age) does not apply to a considerable group of young people (Hummel et al., 2023). In an in-person environment, they could receive feedback and guidance. France, in 2023, introduced the 'right to make mistakes', such as failing to report changes in one's work situation, without risking penalties if the mistake is in good faith and made for the first time and the user reports it or corrects it at the administration's request. This is not restricted to digital applications but may ease the fear of making mistakes in a digital environment.

System security and fairness

Data protection

As is clear from examples throughout this report, appropriate automated data exchange, data sharing and communication protocols between different institutions and registries are key to digitalising social protection. Especially in this context, data protection is fundamental, including for ensuring people's security during cyberattacks or hacks. Data protection imperatives set boundaries for digitalisation, including for implementing the once-only principle (see Chapter 4).

- In Denmark, a pilot project by the institution providing and managing the municipal back-office platform is investigating how to overcome challenges posed by existing data and health policies, which prohibit information sharing between sectors, particularly posing limitations for social and healthcare professionals. The Danish public welfare payment agency was criticised because its fraud control algorithms can access the personal data of millions of citizens, not all of whom receive welfare payments.
- In Finland, a 2024 experiment used a machine learning model to predict work disability risks among unemployed individuals. However, regulatory uncertainty remained around data sharing between authorities and the use of AI in public services, requiring further clarification before full implementation.
- France is developing an automated system for the retirement of disability benefit recipients, but data transfer of the bank details required hit legal limitations (CNAM, 2023).

Mitigation measures include complex ways of data sharing. For example, Belgian tax authorities were not allowed to share data with non-public institutions such as health insurance institutions; however, the sickness and disability fund could process tax authorities' income data and then provide health insurance funds with a code that indicated whether the income was likely to lie below a benefit's entitlement threshold, which health insurance institutions could then combine with their own data (Eurofound, 2015). Regarding AI,

sensitive data can be inadvertently revealed unless great care is taken to remove personal data from all datasets (ISSA, 2020). In addition, in Hungary, when the e-health system was implemented, people had one month to make advance arrangements for sharing their data beyond the basic settings before they were made available on the system. Service users can also change the access settings at any time (Szabó and Heiling-Koltai, 2017). However, 99.8 % of people retained the default settings, whereby any doctor can access their data. The system has been criticised due to an unawareness among the public, an inability to deny access to public authorities (access can be denied only to medical workers) and doctors having access to confidential information anyway by pressing an 'urgent' button and entering the reason for the urgent request. The system has been further developed in recent years, but risks regarding patient rights, data protection and abuse remain (Pákozdyné Bőcz, 2024).

Cybersecurity

Security breaches have hit digital social protection systems. For instance, in Lithuania, in 2024, due to a technical failure of the family social assistance institution's information system, information may have been accessible to people other than those for whom it was intended (Socmin, 2024). In Malta, a 2023 cyberattack targeting a government database raised concerns about whether the safeguards in place were sufficient, prompting calls for increased investment in cybersecurity resilience. However, large-scale security breaches of social protection systems have been avoided so far. For instance, Ireland's e-identification system was argued to have been 'built from the start to be highly scalable and highly secure'. It has been widely used since 2012, for a range of services, without the data underlying the framework being hacked (Judge and McGennis, 2021).

This can change. Data transfer and storage security need to continue to meet the highest standards. Measures are being taken accordingly. For instance, the Danish government has launched a national cybersecurity and information security strategy for 2022–2024, investing DKK 270 million (approximatively EUR 36 million) in 34 new initiatives. Additionally, DKK 500 million (approximately EUR 67 million) has been allocated to strengthen Denmark's cyberdefence (Finansministeriet, 2022). The EU plays a key role in setting cybersecurity standards, such as the Electronic Identification, Authentication and Trust Services Regulation, which has been in effect since 2016. This also enhances cross-border operability, as countries recognise and can trust each other's login methods. Educating employees and users about the safe use of digital services and personal data protection is also an element of risk reduction, for instance to reduce successful phishing attempts.

In-house development or outsourcing

One dilemma is whether to develop digitalisation in-house or outsource it. In-house development (e.g. the first fully automated decision regarding sickness benefits, implemented in 2020 in Norway) decreases reliance on external actors. It also ensures knowledge of administrative processes and bottlenecks, integration with other agency processes, and complaints related to service delivery (Estevez et al, 2024). However, in-house expertise may be lacking. Contractors may be national companies (e.g. Nortal, which automates child benefits in Estonia, and boost.ai, which provides the social security chatbot in Norway), but may also come from other countries, in the EU or elsewhere. Combinations of in-house and contractor input may also be applied. In Luxembourg, a central organisation digitalises services in cooperation with the government administrations' ICT centres, including the development of, updates to and security of the central portal. However, the administrations concerned (housing, labour, health and family) process the data and are responsible for securing their own exchanges and storing its data (see 'Fragmentation and databases'). The central government institution also assists local authorities with developing their online services. Depending on technical complexity, subcontractors may be involved. In Sweden, where municipalities are responsible for certain welfare services, Sundsvall has been designated as the top digitalised municipality. Unlike other municipalities, it has developed digital systems in-house rather than by issuing tenders. According to the municipality, developing and testing new systems in-house allowed it to test and implement new approaches quicker and at lower cost. Mistakes could be learned from and used to improve proprietary systems, rather than paying for the issues to be fixed externally. Systems have been shared with other municipalities, which pool resources and systems. Similarly, the systems used by social protection agencies are created and managed in-house, which is argued to have improved security and adaptability (Fjaestad and Vinge, 2024).

Equal treatment

Automated benefits or decisions usually enhance consistency in applying the rules and judging similar cases equally. The automatic assessment of benefit eligibility and the digitalisation of adjustments to changes in circumstances can reduce the frequency of over- and underpayments (OECD, 2025b). In Sweden, it was noticed that automated decisions seemed to have had a positive impact on civil servants' discretionary practices, mainly in terms of their ethical, democratic and professional values. Human interaction can contribute to workers perpetuating prejudices and stereotypes or making negative judgements about users, with negative consequences for their applications and/or their access to services (Thomann et al., 2024).

For example, people with specific characteristics (e.g. those with a migrant background or scarce fluency in the commonly used language) are more likely to be perceived as 'hostile' or 'uncooperative'. This can result in them being unfairly denied access to social protection. Workers' own personal characteristics (e.g. gender and ethnicity) can have an impact on their decisions. In these cases, digitalisation may improve the fairness and transparency of access to social protection removing potentially biased human interactions.

However, structural biases may also be built into digital tools. For instance, in Austria, in 2024, a ChatGPT-based chatbot was used by the employment office to provide information about careers. It was criticised for expressing biases regarding gender, nationality, ethnic origin, sexual orientation and gender identity, religious affiliation and disability, such as recommending IT jobs for men and gender studies for women (Der Standard, 2024a, 2024b). In Norway, an evaluation of an AI project concluded that methods for detecting and counteracting discrimination require extensive processing of special categories of personal data, which comes with risks (Box 4). To mitigate such negative consequences, Germany's 2022 voluntary guidelines for AI use in social protection provide checklists to ensure human-centered planning, data quality, risk assessment and transparency (BMAS, 2022). These experiences warn of the possible discriminatory biases of AI-based administration processes and social security. If, for example, the datasets used to train the AI are distorted, for instance because certain groups are over- or under-represented, the AI will reproduce existing imbalances.

Biases can have particularly serious consequences when concerning fraud detection, and these have received particular attention.

- In Denmark, it was argued that AI that was used to detect fraud unfairly targeted groups in vulnerable situations (e.g. people with low incomes, migrant backgrounds or disabilities), creating a system that risked targeting, rather than supporting, the very people it was meant to protect (Amnesty International, 2024).

Box 4: Norwegian project to clarify the use of AI

Norway ran a project to clarify the legality of using machine learning to predict which users on sick leave would need a follow-up from the social security organisation two months later to coordinate with the employer and introduce adjustments in the workplace (e.g. mobility aids or a modified workload). The goal was to help advisors make more accurate assessments and eliminate unnecessary follow-up measures, reducing burdens for social security workers, employers and people on sick leave. The project also explored how the profiling of sickness benefit recipients can be done in a fair and transparent manner.

The project was evaluated in accordance with the Ethics guidelines for trustworthy AI of the EU High-Level Expert Group on AI. It concluded that a legal basis:

- was present for using AI to support decisions regarding individual needs for follow-up and in-person meetings;
- was uncertain for using personal data to feed the algorithm;
- that authorises personal data processing is rarely designed to allow personal data to be used for machine learning in AI development;
- needs to facilitate the development of AI in the public sector within responsible frameworks.

The project did not find that the AI model violated anti-discrimination laws. However, it recognised that a tension arises between privacy and fairness when the method for detecting and counteracting discrimination included in the AI model requires the processing of personal data not already included in the model. From a privacy standpoint, there is a difference between using information already included in the model and using information that is not initially used in the model but is added to the analysis to check for discriminatory outcomes. Such a tension arises when the method for detecting and counteracting discrimination requires extensive processing of special categories of personal data. For such a model to provide the desired value, it is crucial that the advisors using it trust the algorithm. Insight into and understanding of how the model works are important for assessing the prediction independently and confidently, regardless of whether the final decision is to follow the prediction's recommendation or not.

Source: *Datatilsynet, 2022.*

- In France, the family benefits fund uses AI to assign overpayment risk scores to benefit recipients. In October 2024, civil society organisations (which, in 2023, got access to the algorithm) submitted a complaint to the court, demanding that this system be stopped. They argued that the system was discriminatory, for instance by assigning a higher risk score to those who had a low income, were unemployed, were living in a disadvantaged neighbourhood, were spending a significant portion of income on rent and were working while having a disability. There were also concerns about the system's effectiveness in identifying fraud or errors.
- In the Netherlands, a system to identify possible fraud in social benefits disproportionately targeted non-nationals and lower-income households, causing longer waits, rejections, financial insecurity, violation of privacy and social stigma. Nearly 26 000 families were falsely accused of child benefit fraud between 2005 and 2019 by the Dutch tax authorities due to discriminative algorithms (e.g. foreign-sounding names and dual nationality were considered risk factors). Consequently, many went into debt, with some ending up in poverty, losing their homes and jobs and seeing their children put in custody (OECD, 2025a). The system is no longer used, and the state is in the process of compensating the people affected (Box 5). Furthermore, municipalities have been using another system, using various risk indicators from governmental systems (e.g. taxes, health insurance, residence and education) to detect addresses at a higher risk of benefit fraud. This tool was developed in 2014 after municipalities had created their own systems. The system provided recommendations for civil servants to conduct investigations. Civil society argued that it caused too many privacy infringements and discriminated against people in vulnerable situations. The system's lack of transparency and information on how people's data were used were also criticised. The system was discontinued after a court ruled in early 2020 that it violated the European Convention on Human Rights.

Box 5: Lessons learned and mitigation measures implemented after the Dutch childcare benefit scandal

In the aftermath of the childcare benefit scandal and in connection with the general increase in the attention on the risks connected to the use of AI in social protection, a range of institutional reforms have been initiated, which can be grouped into three key areas of intervention.

Algorithm regulation

The scandal sparked reforms in risk governance and public sector AI oversight. A prominent example is the 'algorithm framework', a guidance platform for government agencies. It is supported by a national algorithm register (launched in December 2022) and early steps being made towards human rights supervision over AI use. The algorithm framework includes a set of requirements for AI use in public administration, for example 'high-risk AI systems are used under human supervision' and 'organisations can clearly explain when and how algorithms led to a decision'. Each of these requirements is linked to a list of recommended actions and risks.

The Dutch social security institution paused the introduction of a new algorithm and introduced new guidelines to mix algorithm-selected data with randomised data selected with traditional statistical techniques; employees will not know which or how many cases they assess were selected by AI. The institution is also developing internal ethical standards for randomised fraud investigations and guidelines to avoid excessive bias in workers evaluating algorithm-selected cases.

Social security rigidity

The scandal pushed the government to prioritise the 'human dimension' in state–citizen relations, defined as 'doing justice to the interests of citizens in the development and implementation of policies, laws and regulations'. This includes legislative proposals to soften enforcement regimes, reduce administrative burdens and enhance flexibility through reforms of the General Administrative Law Act.

Constitutional checks and balances

Courts have begun placing greater emphasis on the real-life impact of administrative decisions, applying stricter proportionality review and expanding hardship clauses. The scandal also accelerated proposals for a constitutional review of legislation by the courts. However, critics warn that the exclusion of socioeconomic rights, such as the right to social security (Article 20 of the Dutch constitution), from these plans may hinder progress towards stronger legal protections and a more inclusive rule-of-law culture.

Overall, algorithms are biased towards specific types of data, and the bias depends on how they are designed, deployed and used; much depends on how the algorithm's task is framed. Multidisciplinary teams can enhance awareness of the specific social protection environment among the engineers developing algorithms to mitigate this risk (ISSA, 2020). Ideally, biases are prevented or swiftly detected by social protection authorities themselves. However, frequently, a strong civil society sector, research community and judicial system have contributed to detecting biases. Such external action can, for instance, be enabled by increasing transparency of ICT in social protection, for example about the algorithms used. In Sweden, transparency regarding algorithms has been withheld based on the argument that this could reveal how systems can be manipulated or circumvented, while the argument that the financial interests of developers needed to be protected was rejected by the court (Reichel, 2023).

Accurately functioning systems

Digitalisation can reduce error. However, systems may also have built-in errors, for instance causing non-take-up, for example, by denying people access to benefits, or granting them lower benefits than they are entitled to (e.g. Box 3). In digitalised systems, it can be easier for people to make mistakes when navigating digital procedures on their own, and it can be hard to undo errors affecting them (e.g. through appeal processes) and to assign responsibilities for these errors. Digitalisation in social protection requires implementing institutional innovation strategies that combine the adoption of technologies that are not yet fully tested with the required stability of critical operational processes (Ruggia-Frick, 2021).

Digitalisation can also make it more difficult to discover mistakes, by organisations and people involved, and to correct them. For instance, in Sweden, although the employment services found out (and reported) that it had made 15 000 incorrect automatic decisions (including sanctioning recipients for insufficiently active searching for work), few complaints had been received. Furthermore, an error in the legal interpretation of rules (not in the algorithm) regarding public pension amounts had to be corrected following a 2022 court decision. Reassessments were delayed due to the technical complexity of the automated procedure (Reichel, 2023).

Examples of accuracy issues include the following.

- In France (Vendée and Loire-Atlantique departments), a tool was tested to speed up and automate sick leave benefit payments. In December 2024, over 15 000 people were denied payments due to the system's malfunctioning. A 2021 housing subsidy reform, which included the introduction of the automatic determination of entitlements, is reported to have resulted in increased calculation errors during the first year of its implementation (12 % of benefits paid versus 8 % in 2020) and 136 500 people's subsidies may have been reduced.
- In Germany, in 2012, an error-prone (contracted-out) system for calculating unemployment benefits was replaced by software developed in-house at the Federal Employment Agency.
- In Spain, since November 2017, electricity providers have had access to software determining financial electricity support eligibility. After receiving reports that the software was malfunctioning, the NGO Civio discovered that the software systematically denied aid to eligible applicants. Its request for the government to release the source code. This was only granted after the Supreme Court ruled in 2025 it could not be withheld for the public authority's intellectual property or security reasons.

Conclusions and policy pointers: Making the most of the digitalisation of social protection

Social protection systems are being digitalised rapidly. 'Digital-only' application procedures, automatic decision-making and benefit automation, which abolish the need to apply, are becoming more common, as are central information portals, chatbots and connected databases. This change comes with great opportunities and challenges, including in terms of access to social protection benefits, service quality, system security and fairness, and human and financial resources. Overall, the priorities of social protection and the diverse circumstances and needs of users should shape digitalisation processes, and not the other way around. The following policy pointers summarise the key conditions for harnessing digitalisation in support of inclusive, resilient and effective social protection systems.

Consider benefit specificities but guarantee access universally

The impact of digitalisation on access to social protection depends on the type of benefit. Policymakers need to consider such differences in their national contexts when further digitalising social protection. For instance, for sick leave benefits, the impact for workers is largely positive. Often the only thing they need to do is consult a GP, access to which remains fundamental. Digitalisation reduces paperwork and the actions (e.g. bringing or sending documents to the social insurance institutions or employers) that they need to take while sick, and it speeds up payment. In contrast, the digitalisation of minimum-income benefits can be particularly problematic if alternative access options are not maintained, as those entitled are usually in particularly vulnerable situations, including being digitally excluded. Automating benefits, thus making applications redundant, could overcome this. However, doing so is harder for minimum-income benefits, which have more complex entitlement criteria than, in particular, non-means-tested child benefits, and one should ensure further support needs can be identified. Among people entitled to old-age or disability benefits, the number of people with access problems can be particularly large. It may thus be appealing to focus on these benefits when implementing mitigation measures. However, some people may face the same problems for other benefits as well. Measures to improve access for people with disabilities across the board, while acknowledging that more supporting resources may be needed for certain benefits, can address this.

Crisis readiness and resilience: have a backup plan and ensure flexibility

Readiness and resilience depend on the institutional (including digital) capacity to ensure the continuity of services during crises and to deploy responses to support the population through specific benefits (ILO et al., 2025). Digital systems can greatly help administrations respond to surges in benefit applications and information requests, as demonstrated during the COVID-19 pandemic. Systems need to be ready for such surges and for implementing ad hoc benefits or changes to entitlement criteria, when crises call for it.

While paper-based systems fail to reap digitalisation's back-office and front-office advantages and have other vulnerabilities, they are resilient against cyberattacks, system breakdowns and electricity outages. Systems with low levels of digitalisation (e.g. unconnected databases and human assessments) also lack certain vulnerabilities in these respects. Cybersecurity, system continuity and energy security measures are key, as are systems to quickly identify and mitigate consequences when they fail. Alertness should not decrease after periods without such problems, as even the best-protected systems can be hit. Highly digitalised systems need to have a backup plan, anticipating the most important functions that must be maintained when everything else collapses (e.g. payment of benefits).

Cater for atypical situations

People who do not fit typical profiles, such as people with irregular work histories, disabilities or complex household structures, are often excluded from digital systems, potentially exacerbating existing inequalities. These exclusions not only are logistical shortcomings but also highlight deeper design challenges, mirroring systemic inequalities and risking turning digitalisation into a mechanism of reinforcement rather than alleviation. In front-office functions, people whose situations are less common find that their situations cannot be captured by online application forms or are not covered by the information provided. From a back-office perspective, non-standard applications more often need human attention. These cases may face higher non-take-up rates and longer processing times.

Equal access needs to be ensured for atypical cases, and people should not be left getting stuck trying to complete digital forms without being made aware that they cannot apply online or without clear guidance on how to obtain alternative access and support. Atypical situations must be considered when designing digitalised procedures, making sure that they cover comprehensive options, provide personalised online pathways for cases beyond the most common ones and do not contain stumbling blocks or dead ends that prevent people from completing applications or accessing information if they do not meet all of the requirements. It is important to keep working to overcome obstacles in digitalising these final areas and to allocate freed-up resources to these cases. One can learn from user queries and from cases where interventions by social security workers were needed. Inclusion audits should be standard in system development.

Consider digitally excluded groups

Groups at risk of being left behind in digitalised social protection systems include digitally excluded groups, such as groups of older people and people with disabilities for whom online environments are not adjusted. They may be at a higher risk of non-take-up as 'digital only' options become more common, and improvements that are driven by digitalisation (e.g. shorter waiting times) may not reach them. Digital exclusion also affects groups in particularly vulnerable situations, those whose situations are not mainstream and those who are not effectively captured by databases (e.g. homeless people, freelancers; see 'Cater for atypical situations'). Furthermore, there are groups that feel lost in digital environments in which they are held responsible for correctly following digital procedures and providing information, including young people dealing with social protection for the first time and people with lower educational attainment. People facing multiple vulnerabilities may face additional barriers (e.g. people with disabilities who have not mastered the national language may struggle if accessible web information is provided only in the national language).

To avoid a system that is technically efficient but socially unbalanced, digitalisation processes should place emphasis on improving accessibility and user support for these groups. Dependence on informal support leaves people without access to such support behind. Mandates to digitally engage with social protection on someone else's behalf purely based on their inability to apply digitally should be avoided if possible (by providing good in-person access and support), subject to sound, rigorous procedures and monitored carefully.

Gain and maintain trust in administration

Trust in social protection is a desirable outcome of digitalisation (Pérez-Morote et al., 2020). However, trust also enables the implementation of digitalisation (Väänänen, 2021). People effectively engage with the digitalisation of social protection only if they have trust in the process of sharing their data. Stakeholders trusting the system are more likely to buy into it. Several scandals related to the digitalisation of social benefits, with biased and erroneous systems being applied, have contributed to the need to build trust. A considerable part of the population distrusts the use of AI in social services (OECD, 2025a). Overall, gaining and maintaining trust in the administration, including through stakeholder engagement, is fundamental. Digitalisation's key objective is usually to improve performance, more narrowly, rather than to enhance openness and inclusion (Misuraca and van Noordt, 2020). It is important for digitalisation to primarily aim to enhance not only efficiency but also effectiveness, to achieve the broader purpose of social protection. There could be a role for forward-looking tools (e.g. scenario testing) to track inclusion, trust and digital rights over time and to future-proof the digitalisation of social protection. Administrations should communicate with users in a clear and timely manner to tell them what their data will be used for and why, the exact role of automation in decisions that concern them and what their options are for contesting decisions.

Continuously assess data and algorithm use

Being transparent about the data and algorithms used is fundamental and should be better enforced. However, transparency alone is not enough, given the complexity and novelty of this topic. Organisations can start by assessing whether the bases are there to implement certain digitalisation processes, including by conducting an AI-readiness assessment (ISSA and UNU, 2024). It is important to run *ex ante* evaluations before implementing further advancements of digitalisation, but also to run regular evaluations after implementation to identify negative impacts, in terms of built-in institutional stigmatisation (e.g. when predicting future behaviour based on past data), biases, error and data protection violations and other negative impacts for groups in vulnerable situations (see 'Cater for atypical situations'). In some cases, data protection and administrative laws are unclear regarding the application of digital processes (e.g. the automated assessment of benefit applications). It is important for legislation to keep up with digitalisation, clarifying legal boundaries. Furthermore, it is essential to acknowledge the important role of civil society, the judiciary system, research organisations and the media in spotting built-in biases and data protection infringements, and act upon them.

Improve user-friendliness

Soon, all Member States will have digitalised most of their social protection systems. It has almost become redundant to map whether they have done so or not. From a front-office perspective, differences will lie in the accessibility of the systems. High user rates of digital applications mask that many may have needed informal or formal support to apply digitally. Online information should be understandable, use plain language, ideally provide examples of benefit calculations for specific cases, be available in multiple languages and be accessible through central e-portals. Improving proactivity, for instance through prefilled forms, helps.

To improve the user-friendliness of digital application procedures and the transparency of information, user satisfaction and queries should be regularly monitored and investigated. However, user experiences only concern people who find their way to the systems and actively use them. The views of people who are applying for benefits on paper (where this is still possible) and/or in person should also be sought, importantly, to map the barriers that they face in accessing digital options. Furthermore, benefit office workers dealing with these users should also be consulted. It is harder, but essential, to seek the views of people who do not apply for the benefits to which they would be entitled. They could be reached through telephone outreach or surveys. Again, for digitalised options to be used, stakeholders need to be involved when digitalising processes.

Use automation for fairness, effectiveness and efficiency

Policymakers interested in ensuring that all people who would qualify for benefits receive them should strive for increasing automation, making applications redundant. If the financial and non-financial costs of non-take-up (including lower trust in institutions), and the administrative costs of application procedures are considered, policymakers may decide to broaden entitlement criteria if this facilitates automation or makes the criteria easier to understand and communicate (Eurofound, 2024). As child benefits are generally among the easiest to automate, this also has great potential to reduce deprivation among children. However, non-standard situations are frequently excluded from such automation. This may affect people in particularly vulnerable situations. Overall, more effort should go into proactively seeking to reach people who would qualify for benefits, ideally by investing in automated systems that capture these groups but also by using alternative modes.

Ensure automated decisions come with information and can be easily queried

Article 22 of the EU's GDPR enshrines a person's right not to be subject to decisions 'based solely on automated processing' with a legal, or similarly significant, effect on that person. This report provides multiple examples of social protection processes and decisions that have become largely, but rarely solely, based on automated processing. Meaningful human involvement is particularly important when decisions can have a negative impact on people (e.g. in the case of rejections). Misunderstandings may arise when automated (positive and negative) decisions are made without adequate information. Rejections or discontinuations can, for instance, be seen as punishments if not explained, and people may feel left alone if they come without information on alternative help. For effectiveness of social protection and trust in institutions, decisions should come with adequate information. Furthermore, providing low-barrier options to appeal or query the decision, and communicating the contact details of the person responsible clearly with the decision notice, can mitigate the risk of errors. The use of such follow-up strategies, along with queries, should be monitored. The non-use of appeals may indicate accuracy, but it may also indicate practical problems with access to appeal processes.

Train social protection workers

Training social protection workers can enable them to work with the digital tools implemented to provide consistent and efficient user support. Training should include technical ICT skills, but also risk management, data management and awareness raising regarding biases and errors that may be present in automated processes. Social protection workers' discretion and accountability continue to play a role, especially when it comes to people who are in atypical situations and/or digitally excluded; therefore, highly digitalised and automated processes should not negate workers' professionalism or accountability. Careful consideration should be given to the changing roles of staff, including considering additional ICT tasks that do not involve human resources devoted to user support. Engaging with staff before and after implementing changes can help to pre-empt and address issues.

Understand what freed-up resources are used for

Policy documents and strategies highlight the potential of digitalisation to free up human resources for human interaction and the management of more complex cases. Digitalisation can help significantly depressurise resources to focus on specific segments of the population, help gain insights into previously undetected or underexplored patterns and in general improve service delivery (ISSA and UNU, 2024).

However, while assessments frequently highlight human and financial resource savings due to digitalisation, there seems to be little documented evidence of how those freed-up human and financial resources are reinvested. This poses critical challenges to transparency, strategic planning and accountability. It fuels suspicions that there has been a greater emphasis on reducing staff and funding than on reallocating resources. Information on the development of the available human resources to provide support and on the accessibility of non-digital contact points is very important for assessing country efforts in mitigating the negative impacts that digitalisation may have on access to social benefits for certain population groups. If there are savings, and if they are intended to be reinvested to enhance service capacity, governments should define and communicate whether they are used for strengthening for instance frontline support, person-centred service, outreach, system accessibility or complex case handling.

Remember that digitalisation is not an objective in itself

When digitalisation is implemented to improve access to social protection, access to digitalised services must first be guaranteed. Digitalisation should not be an added difficulty or a way to shift responsibility for ensuring access to social protection onto individuals. Digitalisation of existing application and benefit processes can also cement current systems along with their dysfunctions, creating technical path dependencies that are difficult and expensive to reverse later (Theißing and Andersen, 2024). Benefits with rules with adverse incentives (such as disincentives to engage in employment) or overly complex application procedures may be digitalised, without addressing this complexity or disincentives.

Digitalisation is not a goal in itself but a means to improve services (ESIP, 2023). Entitlement criteria should not be designed according to how easily they can be automated if this deprives groups in need of the benefits to which they are entitled (Eurofound, 2015). It is essential to prioritise the overall short- and long-term objectives of social protection benefits and to use digitalisation as an instrument to achieve them. The priorities of social protection and the diverse circumstances and needs of users should shape digitalisation processes, and not the other way around.

References

All Eurofound publications are available at www.eurofound.europa.eu

Altinget (2024), 'Forskere: Digitalisering af det offentlige flytter ansvaret for velfærden over på den enkelte borger', Altinget website, 2 January 2024, accessed 16 July 2025, https://www.altinget.dk/digital/artikel/forskere-naar-den-offentlige-sektor-digitaliseres-hviler-velfaerden-paa-den-enkelte-borger.

Amnesty International (2024), 'Denmark: AI-powered welfare system fuels mass surveillance and risks discrimination against marginalized groups – Report', Amnesty International website, 12 November 2024, accessed 16 July 2025, https://www.amnesty.org/en/latest/news/2024/11/denmark-ai-powered-welfare-system-fuels-mass-surveillance-and-risks-discriminating-against-marginalized-groups-report.

Arrak, K., Koppel, K., Toim, K., Laurimäe, M., Pall, K. et al. (2024), *Andmepõhise personaliseerituse potentsiaal ja mõju sotsiaal- ja haridusvaldkonna avalikes teenustes ja toetustes* [*The potential and effects of data-based personalization in social and educational public services and benefits*], Civitta Eesti AS and Sihtasutus Mõttekoda Praxis.

ASZ (State Audit Office of Hungary) (2022), *Elemzés az e-közigazgatás helye a digitális állam stratégiai pillérben*, Budapest.

Bicskei, T. (2023), 'A mesterséges intelligencia közigazgatásban való felhasználásával okozott kár' ['Harm caused by the use of AI in public administration'], *Közigazgatás Tudomány*, Vol. 3, Issue 1, pp. 99–114.

BMAS (Bundesministerium für Arbeit und Soziales) (2022), *Selbstverpflichtende Leitlinien für den KI-Einsatz in der behördlichen Praxis der Arbeits- und Sozialverwaltung* [*Voluntary guidelines for the use of AI in the official practice of labour and social administration*], Berlin.

Buchert, U. (2024), 'A Sisyphean task of qualifying for digital citizenship? The precarious learning processes of disadvantaged migrant women in the context of inordinate expectations', *Citizenship Studies*, Vol. 28, Issue 4-5, pp. 532–548.

Budai, B.B., Bozsó, G., Csuhai, S. and Tózsa, I. (2024), 'Digital literacy and the capability to manage e-government in today's Hungary', *Regional Statistics*, Vol. 14. Issue 6, pp. 1222–1248.

CNAM (National Fund for Health Insurance) (2023), *Convention d'objectif et de gestion entre l'État et la CNAM 2023–2027* [*Goals and management agreement between the state and CNAM 2023–2027*], Paris.

Codina i Filbà, T. (2022), 'El reto de la transformación digital de los servicios sociales para unas metrópolis inclusivas y equitativas' ['The challenge of the digital transformation of social services for inclusive and equitable metropolises'], Metrosolutions, 17–18 October, https://isocial.cat/es/el-reto-de-la-transformacion-digital-de-los-servicios-sociales-para-unas-metropolis-inclusivas-y-equitativas/.

Court of Audit (2021), *Revizijsko poročilo: Zagotavljanje informacijske podpore delovanju centrov za socialno delo* [*Audit report: Ensuring information support for the operation of social work centres*], Ljubljana.

Crédoc (Centre for Research on the Study and Observation of Living Conditions) (2019), *Améliorer la connaissance et le suivi de la pauvreté et de l'exclusion sociale* [*Improving knowledge and monitoring of poverty and social exclusion*], Paris.

Csatlós, E. (2024a), 'Hungarian administrative processes in the digital age: An attempt to a comprehensive examination', *Intersections – East European Journal of Society and Politics*, Vol. 10, Issue 1, pp. 189–209.

Csatlós, E. (2024b), 'Tényleg egyszerűbb? Gyorsjelentés az automatikus döntéshozatali eljárásban született egyes hatósági határozatok felülvizsgálata tárgyában megmutatkozó tapasztalatokról' 'Is it truly simpler? Report on the experience of reviewing automated authority decisions', *Közjogi Szemle*, Vol. 17, Issue 4, pp. 27–40.

Datatilsynet (2022), *NAV – Exit report from sandbox project with NAV: Themes – Legal basis, fairness and explainability*, Oslo.

Del Sol, M. and Ginon, A-S. (2024), *Digitalisation, emploi et protection sociale – Les droits des demandeurs d'emploi confrontés à la digitalisation de la mission d'accompagnement et des services de Pôle emploi*, https://hal.science/hal-04779822.

Denisova, E. (2023), 'Kommuner ligger foran i arbeidet med å fremme digital kompetanse' ['Municipalities are at the forefront of the work to promote digital competence'], Statistics Norway, 4 July 2023, accessed 16 July 2025, https://www.ssb.no/teknologi-og-innovasjon/informasjons-og-kommunikasjonsteknologi-ikt/statistikk/digitalisering-og-ikt-i-offentlig-sektor/artikler/kommuner-ligger-foran-i-arbeidet-med-a-fremme-digital-kompetanse.

Der Standard (2024a), 'Warum die Sozialversicherung über 50 Millionen Euro in KI-Projekte stecken will' ['Why social security wants to invest over 50 million euro in AI projects'], Der Standard website, 29 April 2024, accessed 16 July 2025, https://www.derstandard.at/story/3000000217343/sozialversicherung-kuenstliche-intelligenz.

Der Standard (2024b), 'Vorurteile und zweifelhafte Umsetzung: AMS-KI-Chatbot trifft auf Spott und Hohn' ['Prejudices and dubious implementation: AMS AI chatbot meets ridicule and scorn'], Der Standard website, 4 January 2024, accessed 16 July 2025, https://www.derstandard.at/story/3000000201774/vorurteile-und-zweifelhafte-umsetzung-der-ams-ki-chatbot-trifft-auf-spott-und-hohn.

Digitaliseringsstyrelsen (2025), 'Kommunikation på Borger.dk med generativ AI-assistent' ['Communications on Borger.dk with a generative AI assistant'], Digitaliseringsstyrelsen website, accessed 16 July 2025, https://digst.dk/kunstig-intelligens/digitaliseringsstyrelsen-understoetter-kommunikation-paa-borgerdk-med-generativ-ai-assistent/#accordion-formalet-med-ai-assistenten.

e-Estonia (2025), 'e-Estonia: Beyond digital', presentation, accessed 16 July 2025, https://e-estonia.com/wp-content/uploads/e-estonia_presentation_en_14-04-25.pdf.

ESIP (European Social Insurance Platform) (2023), 'Recommendations on digitalisation of social security coordination', ESIP website, 6 November 2023, accessed 16 July 2025, https://esip.eu/news/esip-recommendations-on-digitalisation.

Estevez, E., Janowski, T. and Roseth, B. (2024), *When does automation in government thrive or flounder?* Inter-American Development Bank, New York.

Eurofound (2015), *Access to social benefits: Reducing non-take-up*, Publications Office of the European Union, Luxembourg.

Eurofound (2020a), *Impact of digitalisation on social services*, Publications Office of the European Union, Luxembourg.

Eurofound (2020b), *Access to care services: Early childhood education and care, healthcare and long-term care*, Publications Office of the European Union, Luxembourg.

Eurofound (2022a), *COVID-19 and older people: Impact on their lives, support and care*, Publications Office of the European Union, Luxembourg.

Eurofound (2022b), *Access to essential services for people on low incomes: Energy, public transport and digital communications*, Publications Office of the European Union, Luxembourg.

Eurofound (2023), *Unaffordable and inadequate housing in Europe*, Publications Office of the European Union, Luxembourg.

Eurofound (2024), *Social protection 2.0: Unemployment and minimum income benefits*, Publications Office of the European Union, Luxembourg.

Eurofound (2025), *Narrowing the digital divide: Economic and social convergence in Europe's digital transformation*, Publications Office of the European Union, Luxembourg.

European Commission (2024), 'DESI dashboard for the Digital Decade (2023 onwards)', European Commission website, accessed 16 July 2025, https://digital-decade-desi.digital-strategy.ec.europa.eu/datasets/desi/charts.

European Commission (2025), *State of the Digital Decade 2025 report*, Publications Office of the European Union, Luxembourg.

European Court of Auditors (2025), *Special report 13/2025: Support from the Recovery and Resilience Facility for the digital transition in EU Member States*, Publications Office of the European Union, Luxembourg.

European Data Protection Board (2022), 'Norwegian supervisory authority with final decision to fine Nav', European Data Protection Board website, 21 June 2022, accessed 18 July 2025, https://www.edpb.europa.eu/news/national-news/2022/norwegian-supervisory-authority-final-decision-fine-nav_en.

Eurostat (2024), *Rural Europe*, Statistics Explained, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Rural_Europe.

Eurostat (2025a), 'E-government and electronic identification', Statistics Explained, accessed 16 July 2025, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=E-government_and_electronic_identification.

Eurostat (2025b), 'Persons who cannot afford internet connection for personal use at home by age, sex and income group', ilc_mddu07a, Eurostat website, 16 June 2025, accessed 16 July 2025, https://ec.europa.eu/eurostat/databrowser/view/ILC_MDDU07A__custom_17163749/default/table?lang=en.

Finansministeriet (2022), *Danmarks digitaliseringsstrategi – Sammen om den digitale udvikling* [*Denmark's digitalisation strategy – Summary of digital development*], Copenhagen.

Fjaestad, M. and Vinge, S. (2024), *AI & makten över besluten – Vad alla borde veta om algoritmer i offentlig sektor* [*AI & the power of decisions – What everyone should know about algorithms in the public sector*], Volante, Stockholm.

FRA (European Union Agency for Fundamental Rights) (2023), *Fundamental rights of older people: Ensuring access to public services in digital societies*, Publications Office of the European Union, Luxembourg.

Gräfe, P. (2024), 'Die Kommune im Geflecht der Verwaltungsportale: A tale of too many portals', *dms – der moderne staat*, Vol. 17, Issue 1, pp. 125–147.

Gräfe, P., Marienfeldt, J., Wehmeier, L. M. and Kuhlmann, S. (2024), 'Changing tasks and changing public servants? The digitalisation and automation of public administrative work', *Information Polity*, Vol. 29, No. 4, pp. 451–470.

Grøndahl Larsen, A. and Følstad, A. (2024), 'The impact of chatbots on public service provision: A qualitative interview study with citizens and public service providers', *Government Information Quarterly*, Vol. 41, Issue 2, 101927.

Hummel, B., Yerkes, M. A. and Bal, M. (2023), '"Unprecedented injustice": Digitalisation and the perceived accessibility of childcare benefits', *Journal of Social Policy*, Vol. 54, No. 4, pp. 1320–1339.

HVG (2025), 'Hét követelést tett közzé az Ügyfélkapu+ és a DÁP ügyében a PDSZ' ['PDSZ published seven claims in the case of the Client Gate+ and the DÁP'], HVG website, 11 January 2025, accessed 16 July 2025, https://hvg.hu/itthon/20250111_pdsz-ugyfelkapu-dap-atallas-kovetelesek.

IGAS (2023), *Evaluation de la convention d'objectifs et de gestion 2018–2022 entre l'Etat et la Caisse nationale des allocations familiales* [*Evaluation of the 2018–2022 objectives and management agreement between the State and the National Family Allowances Fund*], Paris.

ILO (International Labour Organization), ISSA (International Social Security Association) and OECD (Organisation for Economic Co-operation and Development) (2025), *Social security and digitalization for an inclusive future of work*, https://www.ilo.org/publications/social-security-and-digitalization-inclusive-future-work.

Inspektionen för Socialförsäkringen (2020), *Digitala myndigheter och odigitala medborgare* [*Digital authorities and non-digital citizens*], Gothenburg.

ISSA (2020), 'Artificial intelligence in social security: Background and experiences', ISSA website, 28 October 2020, accessed 17 July 2025, https://www.issa.int/analysis/artificial-intelligence-social-security-background-and-experiences.

ISSA and UNU (United Nations University) (2024), *Artificial intelligence in social security organizations*, Geneva.

Judge, C. and McGennis, I. (2021), *The SAFE-PSC-MyGovID framework for public service identity management: A cost–benefit analysis*, Department of Social Protection, Dublin.

Kommunernes Landsforening and Kombit (2025), 'Digitalisering på beskæftigelse og integration', ['Digitalisation in employment and integration'], Kommunernes Landsforening website, accessed 17 July 2025, https://www.kl.dk/videncenter/fagomraader/beskaeftigelse-og-integration/digitalisering-paa-beskaeftigelse-og-integration.

Korhonen, J. (2016), 'e-Government in Finland – Success stories and lessons from Finland', in: Temmes, A. (ed.), *E-democracy, e-governance and public sector reform revisited – Experiences of the main themes of the PADOS project in Finland and Estonia*, Painotalo Casper, Kurikka, pp. 31–39.

La Moncloa (2025), 'Pensioners living abroad can prove that they are alive from 1 January to 31 March', La Moncloa website, 1 February 2025, accessed 17 July 2025, https://www.lamoncloa.gob.es/lang/en/gobierno/news/paginas/2025/20250102-pensioners-living-abroad.aspx.

Martin, L. and Poussing, N. (2024), *Inclusion numérique: une analyse de la situation en 2023* [*Digital inclusion: An analysis of the situation in 2023*], Luxembourg Institute of Socio-Economic Research, Esch-sur-Alzette.

Mergel, I., Edelmann, N. and Haug, N. (2019), 'Defining digital transformation: Results from expert interviews', *Government Information Quarterly*, Vol. 36, Issue 4, 101385.

Ministry of Digital Transformation (2024), *Poročilo eUprava* [*eUprava report*], Ljubljana, https://e-uprava.gov.si/si/o-e-upravi/o-e-upravi/letna-porocila.html.

Misuraca, G. and van Noordt, C. (2020), *Overview of the use and impact of AI in public services in the EU*, Publications Office of the European Union, Luxembourg.

Mucsi, V. (2025), 'Folyamatosak a problémák az Ügyfélkapu+-szal és a DÁP-pal, pedig egyszerű lenne a megoldás' ['Problems with the Client Gate+ and the DÁP are continuous, even though the solution would be simple'], Index, 4 January 2025, accessed 17 July 2025, https://index.hu/gazdasag/2025/01/04/ugyfelkapu-digitalis-allampolgarsag-program-dap-atallas-problema-adoszakerto/.

Nav (2025), 'Uføretrygd' ['Disability benefit'], Nav website, 28 January 2025, accessed 17 July 2025, https://www.nav.no/samarbeidspartner/uforetrygd.

Norris, M., Kelleher, J. and Bwalya, J. (2021), *Digital exclusion and e-government in Ireland: A citizens information perspective*, Citizens Information Board, Dublin.

Nortal (2022), 'Estonia moves towards a seamless society with proactive public services', Nortal website, 3 October 2022, accessed 17 July 2025, https://nortal.com/insights/estonia-moves-towards-a-seamless-society-with-proactive-public-services/.

NOU (Norges offentlige utredninger) (2023), *Raskt og riktig – En helhetlig gjennomgang av klage- og ankesystemet i Arbeids- og velferdsetaten og Trygderetten* [*Fast and correct – A comprehensive review of the complaints and appeals system in the Norwegian Labour and Welfare Administration and the National Insurance Court*], Ministry of Labour and Social Inclusion, Oslo.

OECD (Organisation for Economic Co-operation and Development) (2024a), *A new dawn for public employment services: Service delivery in the age of artificial intelligence*, OECD Publishing, Paris.

OECD (2024b), *Modernising access to social protection: Strategies, technologies and data advances in OECD countries*, OECD Publishing, Paris.

OECD (2025a), 'AI and the future of social protection in OECD countries', presentation (item 8), OECD Working Party on Social Policy.

OECD (2025b), *Meeting of the Employment, Labour and Social Affairs Committee at ministerial level: Issues notes*, DELSA/ELSA/MIN(2025)2, 14 February 2025, OECD Conference Centre, Paris.

OECD OPSI (2019a), *Embracing innovation in government – Global trends 2019*.

OECD OPSI (Observatory of Public Sector Innovation) (2019b), 'Proactive family benefits: Estonia', OECD OPSI website, accessed 17 July 2025, https://oecd-opsi.org/innovations/proactive-family-benefits/.

Pákozdyné Bőcz, I. (2024), 'Digitális közszolgáltatások, E-egészségügy Magyarországon: Az EESZT bevezetése és fejlesztései, Az E-egészségügy digitális jövője' ['Digital public services, e-health in Hungary: Introduction and developments of the EESZT, the digital future of e-health'], *Közigazgatási és Infokommunikációs Jogi PhD Tanulmányok*, Vol. 5, Issue 1, pp. 57–73.

Papazu, I., Svejgaard Pors, A. Skaarup, S. and Ross Winthereik, B. (2024), 'Digitalt hjælpearbejde – fordringer og udfordringer i borgernes adgang til velfærd' ['Digital aid work – Demands and challenges in citizens' access to welfare'], Magtudredningen 2.0, https://backend.orbit.dtu.dk/ws/portalfiles/portal/361546027/Essay_af_Papazu_et_al..pdf.

Pérez-Morote, R., Pontones-Rosa, C. and Núñez-Chicharro, M. (2020), 'The effects of e-government evaluation, trust and the digital divide in the levels of e-government use in European countries', *Technological Forecasting and Social Change*, Vol. 154, 119973.

Perpiñá Castillo, C., Sulis, P., Velasco Leon, J. M. and Lavalle, C. (2021), *Broadband accessibility and quality connection in Europe by urban–rural typology including remoteness*, European Commission: Joint Research Centre, JRC124456.

Proba Samfunnsanalyse (2022), *Digisos – muligheter og begrensninger ved digitalisering av sosiale tjenester,* [*Digisos – opportunities and limitations of the digitalization of social services*], Oslo.

Ramboll (2021), 'Evaluering af forsøg med mere ansvar til arbejdsløshedskasser' ['Evaluation of experiments with more liability to unemployment funds'], 14 September 2021, https://www.a-kasser.dk/materiale/a-kasse/evaluering-af-forsoeg-med-mere-ansvar-til-arbejdsloeshedskasser.pdf.

Ranchordas, S. (2021), 'Empathy in the digital administrative state', *University of Groningen Faculty of Law Research Papers*, No 13/2021.

Ranerup, A. and Zinner Henriksen, H. (2022), 'Digital discretion. Unpacking human and technological agency in automated decision making in Sweden's social services', *Social Science Computer Review*, Vol. 40, Issue 2, pp. 445–461.

Reichel, J. (2023), 'Regulating automation of Swedish public administration', file 1/2023, Ceridap, 27 February 2023, https://ceridap.eu/regulating-automation-of-swedish-public-administration/?lng=en.

República Portuguesa (2018), *Segurança social consigo – estratégia de modernização: balanço, 13 de dezembro de 2018* [*Social security with you – Modernisation strategy: Report, 13 December 2018*], https://consigo.seg-social.pt/consigo/SegurancaSocialConsigo.pdf.

Ruggia-Frick, R. (2021), 'Applying emerging data-driven technologies in social security – Country experiences and ISSA guidelines', *Ubezpieczenia Społeczne – Teoria i praktyka*, Vol. 150, Issue 4, pp. 31–49.

Rynekzdrowia (2024), https://www.rynekzdrowia.pl/Finanse-i-zarzadzanie/Swiadczenia-dla-rodzin-przeniesione-do-ZUS-1-mld-zl-oszczednosci,262814,1.html.

SGAD (Secretaría General de Administración Digital) (2022), *Las Tecnologías de la Información y las Comunicaciones en la Administración del Estado – Informe REINA*, [*Information and communication technologies in state administration – REINA report – REINA Report*], Ministerio de Economía, Comercio y Empresa and Ministerio para la Transformación Digital y de la Función Pública, Madrid.

Socmin (Ministry of Social Security and Labour) (2024), 'Dėl laikinų trikdžių SPIS sistemoje' ['Temporary malfunctions in the SPIS system'], Socmin website, 14 August 2024, accessed 17 July 2025, https://socmin.lrv.lt/lt/naujienos/del-laikinu-trikdziu-spis-sistemoje/.

Soós, E. (2023), 'Customer-oriented public administration in Hungary (2010–2020)', *Acta Juridica et Politica*, Vol. 13, Issue 1, pp. 229–248.

Spasova, S., Atanasova, A., Sabato, S. and Moja, F. (2023), *Making access to social protection for workers and the self-employed more transparent through information and simplification – An analysis of policies in 35 countries*, Publications Office of the European Union, Luxembourg.

Szabó, B. and Heiling-Koltai, B. (2017), 'Startol az EESZT' ['EESZT starts'], *IME – Interdiszciplináris Magyar Egészségügy*, Vol. 16, Issue 2, pp. 48–50.

Theißing, F. and Andersen, J. S. (2024), *Den digitalen Sozialstaat nutzendenorientiert gestalten* [*Designing the digital welfare state in a user-oriented way*], Agora Digitale Transformation, Berlin.

THL (Finnish Institute for Health and Welfare) (2021), *Haavoittuvat ryhmät etäpalvelujen käyttäjinä – kokemuksia COVID-19-epidemian ajalta* [*Vulnerable groups as users of remote services – experiences during the COVID-19 epidemic*], Helsinki.

Thomann, E., James, O. and Deruelle, T. (2024), 'Interventions to reduce bureaucratic discrimination: a systematic review of empirical behavioural research', *Public Management Review*, pp. 1–28.

Trædal, T. J. and Lærum, N. B. (2024), 'Interne Nav-notater: Mener prestisje-system kan betale ut for mye sykepenger' ['Internal NAV memos: We believe the prestige system can overpay sickness benefits'], Aftenposten, 16 December 2024, accessed 17 July 2025, https://www.aftenposten.no/norge/i/MnEgRM/nav-organ-mener-automatisk-saksbehandling-kan-betale-ut-for-mye-sykepenger.

UN (2024), *e-Government Survey 2024 – Accelerating digital transformation for sustainable development*, New York.

Väänänen, N. (2021), 'The digital transition of social security in Finland – Frontrunner experiencing headwinds?', *Ubezpieczenia Społeczne – Teoria i praktyka*, Vol. 4, Issue 151, pp. 71–86.

van Deursen, A. J. A. M. and van Dijk, J. A. G. M. (2019), 'The first-level digital divide shifts from inequalities in physical access to inequalities in material access', *New Media & Society*, Vol. 21, Issue 2, pp. 354–375.

van Noordt, C. and Misuraca, G. (2022), 'Artificial intelligence for the public sector: Results of landscaping the use of AI in government across the EU', *Government Information Quarterly*, Vol. 39, Issue 3, 101714.

Weber, A. (2025), Personal communication with Anders Weber, A-Kasser, 24 April 2025, https://www.a-kasser.dk/.

Žarkovič, V. (2024), '5533 older people have better digital skills thanks to Mobile Heroes', I Feel Slovenia website, 4 January 2024, accessed 17 July 2025, https://slovenia.si/inside-view/5533-older-people-have-better-digital-skills-thanks-to-mobile-heroes.

Annex: Network of Eurofound Correspondents

Table A1: National correspondents or experts who contributed to the report

Country	National correspondent	Organisation
Austria	Bernadette Allinger	FORBA – Working Life Research Centre
Belgium	Dirk Gillis	KU Leuven
Bulgaria	Vassil Kirov	Bulgarian Academy of Sciences
Croatia	Predrag Bejaković	University of Split
	Irena Klemenčić	University of Zagreb
Cyprus	Loucas Antoniou	Cyprus Labour Institute (INEK-PEO)
Czechia	Renata Kyzlinková and Jana Váňová	Research Institute for Labour and Social Affairs
Denmark	Christoffer Madsen	MBC A/S
Estonia	Katre Pall and Hede Sinisaar	Praxis Think Tank
Finland	Elina Härmä	Oxford Research
France	Iris Turlan and Frédéric Turlan	IR Share
Germany	Thilo Janssen and Timo Hanke	Hans-Böckler-Stiftung
Greece	Elena Kousta	Labour Institute of the Greek General Confederation of Labour (INE-GSEE)
Hungary	Szandra Kramarics	ELTE Centre for Social Sciences
	Nóra Krokovay	Kopint-Tárki
Ireland	Rosanna Angel	Industrial Relations News (IRN)
Italy	Michele Faioli, Barbara De Micheli and Alessandro Smilari	Fondazione Giacomo Brodolini
Latvia	Krišs Karnītis and Raita Karnite	EPC Ltd
Lithuania	Julija Moskvina and Inga Blažienė	Lithuanian Centre for Social Sciences
Luxembourg	Gaetan de Lanchy	Luxembourg Institute of Socio-Economic Research (LISER)
Malta	Christine Garzia	University of Malta
Netherlands	Paul Vroonhof	Panteia
Norway	Åsmund Arup Seip	Fafo Institute for Labour and Social Research
Poland	Anna Chowaniec and Agnieszka Kulesa	Ecorys Polska
Portugal	Pedro Perista and Heloísa Perista	Centre for Studies for Social Intervention (CESIS)
Romania	Stefan Guga and Marcel Spatari	Syndex Romania
Slovakia	Zuzana Turkovič, Rastislav Bednárik and Martina Mičicová Ľuptáková	Institute for Labour and Family Research
Slovenia	Ana Marija Mustafai	University of Ljubljana
Spain	Iñigo Isusi	IKEI Research and Consultancy
Sweden	Nils Brandsma and Sydney McLoughlin Laewen	Oxford Research

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TJ-01-25-026-EN-N

This report focuses on the digitalisation of front- and back-office processes in monetary social benefits. In 10 EU Member States and Norway, a digital application is possible for all, or all but one, of the nine benefits investigated. In at least five Member States, paper applications have been discontinued for some of the benefits. The automation of benefits, which removes the need to apply and prevents non-take-up, is most common for child benefits. Digitalisation is often applied to identify overpayments, but rarely to detect cases of non-take-up. It also plays a role in assessing applications and processing documents. People in atypical situations are often excluded from digital processes. Trust can be enhanced by engaging stakeholders in system development and strengthening the roles of research, civil society and the judiciary. The resource savings made possible by digitalisation are often envisaged as being used to provide additional support for people who need it, but evidence for this is lacking.

The European Foundation for the Improvement of Living and Working Conditions (Eurofound) is a tripartite European Union Agency established in 1975. Its role is to provide knowledge in the area of social, employment and work-related policies according to Regulation (EU) 2019/127.

Publications Office
of the European Union

ISBN 978-92-897-2516-3
doi:10.2806/3139468