



Digital
Convergence
USP 2030

Cross-Border Portability of Social Security Entitlements



Exploratory Research Report
with case studies from the
European Union, MERCOSUR
and ASEAN Region

April 2026

Digital Convergence Initiative (DCI)

DCI is the global initiative for the digital transformation of social protection systems. Established as part of the USP2030 partnership, the DCI is an open and collaborative platform for governments, development partners, civil society organizations and the private sector united by a shared vision: expanding the coverage of social protection and enhancing its delivery through inclusive, interoperable digital systems.

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List of acronyms

API	application programming interface
ASEAN	Association of Southeast Asian Nations
BSSA	bilateral social security agreement
CMC	Council of the Common Market
CMISS	Convenio Multilateral Iberoamericano de Seguridad Social (<i>Ibero-American Multilateral Agreement</i>)
DCI	Digital Convergence Initiative
EC	European Commission
EESSI	Electronic Exchange of Social Security Information
EFTA	European Free Trade Association
EIF	European Interoperability Framework
ETS	European Pension Tracking Service
EU	European Union
GDPR	General Data Protection Regulation
GIZ	Gesellschaft für Internationale Zusammenarbeit
GMC	Common Market Group
ICT	information and communication technology
ID	identification
ILO	International Labour Organization
ISSA	International Social Security Association
LAC	Latin America and Caribbean
MERCOSUR	Mercado Común del Sur (<i>Southern Common Market</i>)
MoC	memorandum of cooperation
OECD	Organisation for Economic Cooperation and Development
PDR	People's Democratic Republic
Red GEALC	Red de Gobierno Electrónico de América Latina y el Caribe
USP2030	Global Partnership for Universal Social Security

Glossary

Aggregation of periods (totalisation)	A mechanism by which contribution periods in different systems are added together to meet eligibility criteria for entitlements. This is critical for workers who move across borders or between schemes. (Holzmann et al., 2005)
Bilateral and multilateral agreements	These are formal arrangements between two or more countries that define the rules for social security coordination, including the portability of entitlements. They often cover the totalisation of periods, exportability, and administrative cooperation. (ISSA, 2022)
Emigration/ emigrant	<i>Emigration</i> is the act of leaving one's country to live in another. An <i>emigrant</i> is a person who leaves their country of origin to settle in a different country.
Equality of treatment/ non-discrimination	This principle ensures that migrant workers are treated equally to nationals with respect to social security rights and entitlements, a core element for ensuring portability. (ILO Convention No. 118 on Equality of Treatment [Social Security], 1962)
Exportability of entitlements	The principle that entitlements earned in one country or system can continue to be paid out even when the beneficiary resides in another country. Not all entitlements are fully exportable (e.g. social assistance may be residency-based). (Sabates-Wheeler & Feldman, 2011)
Immigration/ immigrant	<i>Immigration</i> is the process of entering and settling in a country other than one's country of origin. An <i>immigrant</i> is a person who moves into a new country to live there temporarily or permanently.
Interoperability	This term describes the capacity of different systems, organisations, or platforms to exchange data and use the information exchanged efficiently and securely. In social security, it enables coordinated service delivery, streamlined administration, and integrated beneficiary management. (Grunfeld & Ruggia-Frick, 2022)
Portability	This term has no internationally agreed definition. In this report, the term refers to the ability of individuals to preserve, maintain, and transfer acquired social security rights and entitlements when moving across jobs, sectors, or countries. This includes the aggregation of periods of contribution or residence and the continued access to entitlements across borders or employment types. (Holzmann et al., 2005)
Remittance	A remittance is a sum of money sent by a migrant worker to individuals, typically family members, in their home country. These transfers are often used to cover basic household needs such as food, housing, education, and healthcare, and play a significant role in the economies of many low- and middle-income countries.

- Social security** The term social security is sometimes used synonymously with social protection. In analytical frameworks, however, social protection is typically understood as a broader concept, with social security representing a core component focused on life-cycle risk protection through contributory and non-contributory mechanisms.
- Social security coordination** This refers to the activities leading to legal and institutional arrangements between countries or systems that allow for the aggregation of contribution periods, the export of entitlements, and the equal treatment of migrant workers. Social security coordination is essential for implementing portability. (Avato et al., 2009)



Executive summary

This report examines the barriers and enablers of digital interoperability aimed at enhancing the cross-border portability of social security entitlements across contributory schemes that address key life-cycle risks.¹ Conducted under the Digital Convergence Initiative (DCI), the study combines a desk-based review of the literature and policy frameworks with key informant interviews, complemented by comparative case studies from the European Union (EU), Southern Common Market (MERCOSUR), and Association of Southeast Asian Nations (ASEAN) to illustrate variations in legal coordination, system maturity, and digital integration. The analysis is motivated by the limited evidence base on portability beyond the EU and the growing potential of digital ecosystems to strengthen coordination, interoperability, and data governance, while acknowledging that the scarcity of documented experiences and practitioner insights constrain the breadth of available information (see section 2 for a conceptual discussion on portability).

Key findings

Pre-savings schemes, such as contributory pensions, are tied to individual contribution records that can be tracked and aggregated across borders and, hence, lend themselves more readily to portability. In the EU context, for example, statutory pension entitlements are not portable in the sense of transferable accumulated rights or capital. Instead, mobility is enabled through coordination mechanisms, notably the aggregation of insurance periods for entitlement determination and exportability across member states.

Despite global recognition of its importance, portability remains constrained by fragmented legal frameworks, weak institutional coordination and digitalisation, and limited interoperability across all regions. Many migrants move between countries without bilateral or multilateral agreements, or where existing arrangements cover only pensions. Gaps in data protection and governance further restrict information exchange, while those in informal or irregular employment remain excluded from contributory systems. Beyond legal and digital constraints, the inherent complexity of benefit structures poses additional operational and financial challenges: differing pension formulas, eligibility rules, vesting periods, and financing mechanisms are difficult to reconcile across

1 'Cross-border portability' is understood here as the ability of migrants to preserve and access accrued social security rights and entitlements when moving across countries (Holzmann et al., 2005).

systems. Even practical issues such as exchange rate management and the treatment of currency fluctuations can hinder seamless benefit transfers. While digitalisation can help streamline these processes, it cannot fully eliminate the underlying structural complexity.

Effective portability depends on the alignment of robust legal coordination, institutional collaboration, and digital innovation. The EU represents the most comprehensive model, combining comprehensive regulations (EC 883/2004 and 987/2009) with the Electronic Exchange of Social Security Information (EESSI) digital exchange platform, secure data frameworks under the General Data Protection Regulation (GDPR), and initiatives like the Digital Identity Wallet. MERCOSUR follows with a binding multilateral agreement complemented by bilateral treaties and digital interoperability initiatives such as the MERCOSUR Digital Citizen and Red GEALC (Red de Gobierno Electrónico de América Latina y el Caribe) projects. ASEAN has introduced non-binding Portability Guidelines (2018) and pilot cooperations (e.g. Thailand and the Philippines), emphasising incremental trust-building through memoranda of cooperation.

This study found that most countries are still at an early stage in using digital systems and interoperable processes to make social security rights portable across borders, with the EU as the most successful case. MERCOSUR illustrates this gap clearly: despite having solid political agreements and established legal and institutional frameworks, the practical work of exchanging information and assisting beneficiaries remains largely rooted in manual, paper-driven procedures.

Digitalisation presents a unique opportunity to enhance service delivery by enabling interoperable systems (whether designed for real-time synchronisation or for simpler asynchronous and request-response exchange), common data standards, and broader digital public infrastructure. Digital IDs, standardised application programming interfaces (APIs), and tools such as the EU's EESSI or blockchain-based solutions illustrate how technology can facilitate portability, increase transparency, and empower individuals to manage their entitlements. However, these opportunities are bounded by significant preconditions and limitations: uneven digital readiness, entrenched legacy systems, high implementation costs, and persistent data protection concerns continue to hinder adoption, particularly in middle-income countries. Crucially, digitalisation is not a panacea, as its effectiveness depends on robust legal frameworks and well-coordinated institutional arrangements, which remain decisive in addressing the core barriers to implementation.

Policy recommendations

Portability solutions should be tailored to each country's specific policy objectives, rather than designed as one-size-fits-all systems. Countries may pursue the portability of different types of entitlements – such as totalising pension contributions with some partners while enabling short-term benefit portability with others – requiring distinct legal, operational, and digital mechanisms. A successful portability arrangement is, therefore, one that aligns with the country's chosen goals, not necessarily the most feature-rich model.

Interoperability standards can strengthen portability in both bilateral and multilateral frameworks. Experiences from the EU and MERCOSUR illustrate a wide range of options, tailored to different objectives and capacities, through which interoperability can enhance the implementation of bilateral and multilateral agreements.

With this in mind, some overarching measures to improve cross-border portability would include:

- Modernising legal frameworks through updated bilateral and multilateral agreements to support the aggregation of contribution periods and ensure the portability of entitlements
- Strengthening institutional capacity and coordination through dedicated regional bodies and ongoing technical cooperation
- Investing in interoperable digital infrastructure and shared data for cross-border communication and record-keeping
- Ensuring robust data protection aligned with global standards
- Promoting inclusiveness by addressing disparities in digital and administrative capacity, so that all migrants can effectively access their entitlements

Conclusion

The cross-border preservation of social security entitlements is essential for protecting migrant workers' rights and ensuring equitable access to social security.

While the principle is widely recognised in international and regional frameworks, its implementation remains uneven across regions and benefit types.

Successful portability depends on an integrated set of political, legal, institutional, and digital enablers. Binding bilateral and multilateral agreements provide the legal foundation for aggregating contributions and exporting entitlements, although their effectiveness relies on robust coordination mechanisms and platforms that facilitate alignment and dispute resolution. Digital interoperability through secure identification, data exchange standards, and cross-border authentication emerges as a critical operational enabler that transforms legal commitments into functioning systems. However, **persistent barriers such as fragmented frameworks, the absence of effective institutional coordination, limited interoperability, and uneven administrative capacity hinder consistent implementation**, while complex benefit structures and inadequate data harmonisation create further inefficiencies.

This study found that most countries – particularly in South America and the ASEAN region – are still far from fully using interoperability and digital systems to support cross-border social-security portability. Ultimately, the feasibility and design of portability are shaped not only by innovation and progress in the adoption of new technologies, but also by the diversity of migration patterns, national policy choices, and broader capacity constraints.

A renewed commitment to harmonising global policies, procedures, and technical standards, aligned with each country's or region's policy objectives, digital investments, and institutional capacities, is essential to making portability a practical reality. Only through such coordinated efforts can social security systems keep pace with growing labour mobility and ensure that all workers can access and transfer their entitlements, regardless of where they live or work.

1 Introduction

In an increasingly mobile world, ensuring the preservation and transferability of social security entitlements, such as pensions and health insurance, across countries, also understood as cross-border portability, has become a critical policy and operational challenge (Holzmann et al., 2005). International migration is largely driven by the pursuit of employment opportunities and improved livelihoods, which underscores the importance of linking social security systems to the realities of labour mobility. Despite numerous bilateral and multilateral agreements aimed at coordinating social security systems, many migrant workers including retirees, face significant barriers in claiming and receiving their entitlements across countries.

These challenges become particularly evident when considering the lived experiences of mobile workers. For instance, a person may spend their career contributing to a pension scheme in Argentina, later to a company health insurance and pension scheme in New York, and finally to pension, unemployment, and health insurance schemes in Germany. Upon retirement, accessing these accrued entitlements requires navigating multiple institutions, fragmented contribution records, and differing eligibility rules. In practice, incomplete contribution histories, weak institutional coordination, and limited mechanisms for cross-border data exchange often mean that individuals can only access part of the entitlements they are legally entitled to. Such experiences illustrate that effective cross-border portability is not merely a legal issue, but also one of social protection delivery systems, equity, and trust in public institutions, particularly in today's digital age.

One of the critical barriers lies in the complex sequence of administrative, legal, and technical steps that determine whether a beneficiary can successfully aggregate, coordinate, and access entitlements accrued across multiple countries over the course of their work life. The barriers generally stem from (i) administrative inefficiencies (e.g. complex procedures, delays in processing, lack of coordination, errors and inconsistencies, and limited guidance and support for beneficiaries), (ii) systems that are disjointed, poorly coordinated, or divided across multiple schemes, agencies, or levels of government, (iii) poor interoperability between national registries, and (iv) gaps in digital infrastructure. With growing interest in the potential of digital solutions to streamline this process, there remains a need to better understand how digital tools are currently being applied in practice, what challenges persist, and where innovation or system strengthening is most needed.

For cross-border portability to function effectively, it is essential that the social security organisations of each country retain and share accurate continuous records of the social security contributions and entitlements within that country. Advances in the development of digital identification systems, digital social security systems, payment and information systems, as well as interoperability among these systems, has the potential to transform the portability of social security entitlements across jurisdictions. While previous work has examined social security coordination and benefit portability for selected programmes, focusing mainly on the legal coordination, there is limited analysis of how digital systems are being used in practice to support cross border portability, particularly beyond the European Union (Hahn, 2023; Holzmann, 2016; Holzmann & Koettl, 2011; ILO, 2021; ILO, 2011; Sabates-Wheeler & Feldmann, 2011). This report addresses this gap by combining a comparative regional lens, focusing on the European Union (EU), Southern Common Market (MERCOSUR), and Association of Southeast Asian Nations (ASEAN) region, with a specific emphasis on the role of digital identification, registries, and data exchange in enabling or constraining portability.

The study was commissioned by the Digital Convergence Initiative (DCI) to explore interoperable digital solutions that facilitate the cross-border portability of social security entitlements, enabling individuals to access entitlements regardless of where they reside or work. Drawing on an exploratory design that integrates a literature review with targeted key informant interviews, the study seeks to distil practical lessons on how political, legal, institutional, semantic, and technical enablers can be aligned to make portability operational in diverse contexts. The **findings of the study are presented in eight sections:** ► **section 2** presents the conceptual framework, defining key terms and the analytical lens, ► **section 3** outlines the methodology, ► **section 4** reviews the global and regional migration trends that shape demand for portability, ► **section 5** sets out the case for cross-border portability, highlighting the rationale, entitlements, and rights-based foundations, ► **section 6** examines global best practices through regional and bilateral initiatives, and ► **section 7** analyses key enablers and barriers, with overall conclusions drawn in ► **section 8.**

2 Scope and conceptual framework

This report examines how digital interoperability can support the portability of cross-border social security benefits and identifies the key enabling conditions and constraints. Accordingly, the study pursues the following objectives:

- **Develop a conceptual framework** that maps the key portability mechanisms alongside the dimensions of digital interoperability that enable or constrain them.
- **Summarise the rationale for, and entitlements involved in, the cross-border portability** of social security entitlements for migrants, administrations, and systems.
- **Examine current practices and experiences** with interoperable digital social security systems that facilitate the portability of entitlements across countries.
- **Identify the key barriers, risks, and good practices** related to data exchange, governance, and the digital systems essential for enabling portability across jurisdictions or regions.
- **Analyse the role of digital technologies and data exchange standards** in supporting effective and secure portability arrangements.

Social security here refers to schemes and entitlements aiming to protect individuals against life-cycle risks such as old age, unemployment, sickness, disability, and maternity/paternity, across both contributory and non-contributory schemes. However, the following should be noted:

- **The analysis focuses on the portability of contributory social security schemes, i.e. social insurance.** Social insurance refers to a mandatory contributory system through which workers, employers, and sometimes the state finance protection against income loss due to risks such as old age, disability, sickness, unemployment, or employment injury. It typically combines risk pooling, in which contributions are collectively used to support members facing contingencies, with pre-savings or capitalisation mechanisms, through which individuals accumulate entitlements through their own contribution records. The balance between pooling and pre-savings varies by scheme, but both aim to provide predictable, rule-based income security.
- **The portability of social assistance benefits is not examined, as relevant experiences are scarce.** Social assistance consists of non-contributory transfers funded through general taxation, and cross-border entitlement to or portability of these

benefits remains limited. Tax-financed benefits are rarely seen as cross-border entitlements and, hence, more difficult to make portable because of their ties to national solidarity and financing systems.

Definition of portability

Cross-border benefit portability is understood as “the migrant’s ability to preserve, maintain, and transfer both acquired social security rights and rights in the process of being acquired from one social security scheme to another, independent of nationality and country of residence” (Holzmann et al., 2005). Portability is, therefore, influenced by the characteristics of the social security systems in the host and origin countries. The nature and scope of social security provision varies significantly across countries, reflecting each nation’s political and economic context, social contract, and historical trajectory. As a result, migrants are inevitably situated within pre-existing social security systems that categorise and serve populations in different ways.

A key factor influencing a migrant’s access to social security is their legal status.

An irregular status almost always results in exclusion from public social security systems, as these individuals are barred from formal employment and, thus, cannot contribute to or draw from contributory schemes.²

Moreover, migrants carry their legal status into social security contexts that differ not only between countries, but also in how they interpret and apply eligibility rules.

Access to social security is shaped by institutional histories, values, and ideas about who deserves help. These eligibility frameworks are often rooted in national narratives of citizenship, solidarity, and shared responsibility. Consequently, social security systems do not merely distribute resources, they also reinforce socio-political boundaries that differentiate between migrants based on their status and perceived belonging (Sabates-Wheeler & Feldman, 2011).

2 An exception can be universal schemes, in particular national health systems, which tend to include all people living in the territory, sometimes regardless of their legal status. Examples can be found in Thailand, Spain, France, and Sweden, but access might be restricted to emergency care or because of administrative hurdles.

Whose portability? Migration types

The study of portability should take into consideration the migration type, the social security conditions in host and origin countries, as well as the different mechanisms used to guarantee portability, if any. Regarding migration type, this report focuses on **regular migrants**, and primarily on **medium-term** and **permanent migrants**. Medium-term contract workers reside in a host country for a fixed period (typically 2–5 years) under an employment contract and usually intend to return home afterward. Permanent migrants move with the intention of settling long-term, often acquiring legal residency or citizenship and integrating into formal systems. Information on the portability of entitlements for short-term or circular migrants remains scarce and is a key limitation of this study. These migrants move temporarily and repeatedly between countries, often for seasonal, agricultural, or construction work, spending short periods abroad (typically under a year) while maintaining strong ties to their home country. In principle, short-term or circular migrants often fall outside formal portability arrangements, as they may not accumulate enough contributions to qualify under contributory systems.

Mechanisms of portability

Portability can be supported through various mechanisms (Holzmann et al., 2005; Holzmann & Koettl, 2011). These mechanisms vary in complexity, coverage, and effectiveness (► see Figure 1).

Mechanism 1. **Exportability refers to a country's decision to allow the export of acquired social security entitlements by individuals residing abroad.** This mechanism typically applies to pensions and other long-term contributory entitlements. While exportability does not enable the aggregation of coverage periods across countries, limiting its usefulness for mobile workers with fragmented careers, it generally does not require interoperable systems to grant benefits. Interoperability may, however, be necessary during the payment phase, for example, to verify life status or facilitate cross-border transfers.

Examples:

- Philippines: Contributory pensions from the Social Security System (SSS) can be paid to beneficiaries residing abroad.
- European Union: Old-age, survivors', and disability pensions are exportable across member states under Regulation 883/2004, allowing pensioners to reside in one member state while receiving pension payments from another.

Mechanism 2. Bilateral social security agreements (BSSAs) are formal treaties between two countries that coordinate their social security systems, allowing for totalisation,³ the aggregation of contribution periods, and the mutual recognition of entitlements.

Examples:

- United State-Canada Totalization Agreement: Enables workers with split careers to qualify for pension entitlements through aggregated contribution periods
- France-Morocco Agreement: Coordinates pension rights and benefit payments for migrant workers

Mechanism 3. Multilateral agreements are regional or supranational frameworks involving three or more countries that harmonise and coordinate social security rules. Just like BSSAs, they typically establish rules based on applicable legislation, benefit exportability, and administrative cooperation.

Examples:

- European Union coordination system (Regulations 883/2004 and 987/2009): Covers all EU member states and provides aggregation of periods, exportability of entitlements, and administrative cooperation mechanisms
- MERCOSUR Multilateral Social Security Agreement: Coordinates pension rights across Argentina, Brazil, Paraguay, Uruguay, and associated states
- Caribbean Community (CARICOM) Agreement on Social Security: Facilitates portability of social security entitlements among CARICOM member states
- 2022 ASEAN Declaration on Portability of Social Security Entitlements for Migrant Workers in ASEAN: Articulates a regional commitment to enable migrant workers in the ASEAN region to transfer and access their social security entitlements upon returning to their home countries

Mechanism 4. Multinational providers are private or non-state actors, such as international insurers, pension funds, or multilateral institutions, that offer cross-border portable benefit schemes. This mechanism is typically used by globally mobile professionals and can complement public systems, especially in places where formal portability arrangements are lacking.⁴

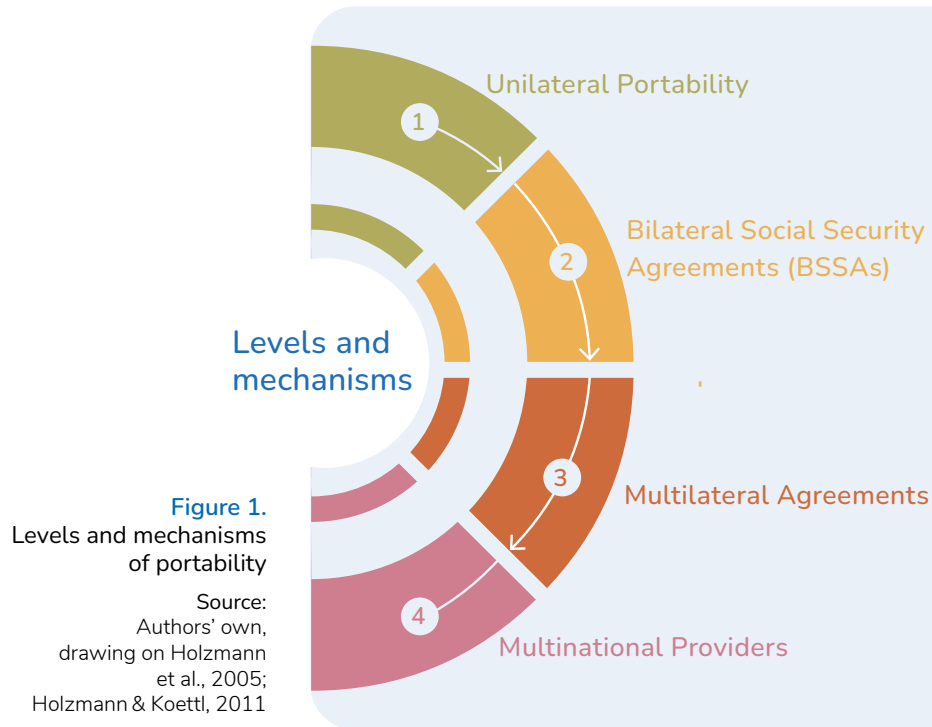
Examples:

- International civil service pension schemes, such as the UN Joint Staff Pension Fund, which provide portable pension entitlements across postings and countries

3 A mechanism by which contribution periods in different systems are added together to meet eligibility criteria for benefits. This is critical for workers who move across borders or between schemes.

4 This mechanism is included for completeness, although the study focuses on the other three mechanisms.

- International private pension funds and global mobility insurance schemes offered by multinational insurers (e.g. expatriate⁵ pension plans and international health insurance schemes)
- Occupational pension schemes of multinational corporations, allowing employees to maintain continuous pension coverage across international assignments



An important issue to highlight with regards to the aggregation of contribution periods (totalisation), is the role of cumulative contribution years in determining the true scale of portability needs. Focusing only on a snapshot of migrants in a given country at a given time underestimates the number of individuals whose social security rights are affected by mobility. Many people have complex migratory histories, having contributed to different systems across their working lives. For contributory entitlements such as pensions, entitlements depend on the cumulative record of contributions across multiple countries, rather than the individual's location at a given moment. In contrast, access to healthcare is generally tied to current residence or registration in a local system, meaning historical contributions across borders are less relevant.

International Labour Standards, most notably [ILO Conventions C118](#) and [C157](#) and [Recommendation R167](#), set out the core coordination principles for portability that underpin existing portability mechanisms (► see [Box 1](#)).

5 An expatriate is a person who is living and/or working outside their country of citizenship or long-term residence, typically on a temporary or medium-term basis, often for professional reasons (e.g. diplomats, international staff, corporate employees, development workers).

BOX 1. Principles of portability

- **Equality of treatment**, ensuring that migrant workers enjoy, as far as possible, the same social security rights and obligations as nationals
- **Determination of the applicable legislation**, which establishes clear rules so that a migrant is covered by only one country's system at a time (with exceptions for posted and self-employed workers)
- **Maintenance of acquired rights and payment of entitlements abroad**, guaranteeing that entitlements earned in one State can be exported without restriction to another
- **Maintenance of rights in the course of acquisition (totalisation)**, enabling the aggregation of insurance, employment, or residence periods across countries
- **Mutual administrative assistance**, which underpins the information exchange and institutional cooperation required to implement agreements

Source: ILO, 2023

Digital interoperability

Interoperability is increasingly recognised as a foundational enabler of effective, inclusive, and portable social security systems, particularly in cross-border contexts involving migrant workers and mobile populations. While the challenges of portability are shaped by the legal, administrative, and financial dimensions discussed above, digital interoperability provides a practical means to overcome coordination bottlenecks and information gaps across these dimensions. Both the International Social Security Association (ISSA) and the European Interoperability Framework (EIF) emphasise its importance for achieving coherence, efficiency, and collaboration among institutions.

According to the **ISSA Information and Communication Technology (ICT) Guidelines**, interoperability enables social security institutions to work together seamlessly by facilitating the flow of communication and information between different systems (ISSA, n.d.). It ensures that systems can exchange data, understand the structure and meaning of exchanged information, and use it effectively in an automated and coherent manner. The ISSA identifies five key dimensions of interoperability:

- **Political interoperability:** Alignment of visions and objectives across institutions
- **Legal interoperability:** Synchronisation and legal recognition of data shared between entities
- **Organisational interoperability:** Harmonisation of business processes and coordination among different agencies
- **Semantic interoperability:** Ensuring information exchanged carries the same meaning across systems
- **Technical interoperability:** Adoption of open interfaces, data formats, and secure communication protocols

Similarly, the **European Interoperability Framework** provides a commonly agreed set of principles, guidelines, and recommendations designed to support the seamless delivery of European public services through enhanced interoperability across the European Union. The EIF defines interoperability as the ability of organisations to interact for mutually beneficial goals, making use of shared information and knowledge via connected and compatible ICT systems (European Commission, 2017).

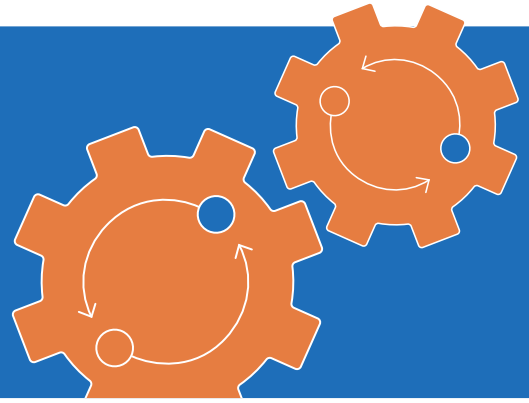
The EIF is structured around three pillars (European Commission, 2017):

- The first pillar sets out 12 guiding principles for policymakers, such as subsidiarity, proportionality, openness, transparency, reusability, and user-centricity, which help ensure that interoperability efforts are purposeful, effective, and aligned with European values.
- The second pillar addresses the different interoperability layers – legal, organisational, semantic, and technical – that need to be considered when designing European public services.
- The third pillar provides a conceptual model for integrated service delivery, promoting ‘interoperability by design’. This approach encourages public services to reuse existing internal and external information sources and components systematically, making service delivery more efficient, coherent, and sustainable.

In practical terms, the EIF aims to inspire the design of digital-by-default, cross-border public services, guide the harmonisation of national interoperability frameworks, and foster a unified digital single market by overcoming fragmentation across member states. It sets out common principles and models for legal, organisational, semantic, and technical interoperability, while establishing key benchmarks for digital service delivery, security, privacy, and user-centricity. The framework also supports initiatives such as the DCI and the Electronic Exchange of Social Security Information (EESSI), offering essential guidance for project funding, cross-border data exchange, and strategic public sector digital transformation.

While these interoperability layers enable smooth totalisation, accurate benefit calculation, and timely payments, experience shows that the first priority is ensuring secure and reliable data exchange. Interoperability is an important goal, but it typically comes after establishing robust mechanisms for sharing and verifying information across institutions. In this way, digital and institutional solutions act as enablers of portability, bridging the gap between legal entitlements and practical access. As a consequence, in practice interoperability can take many forms: secure digital platforms for exchanging data, aligned administrative processes for claims and payments, standardised definitions for contributions and entitlements, and legal and policy frameworks authorising cross-border recognition.

3 Methodology



This research adopted a comprehensive, two-pronged methodology combining an extensive desk-based review with remote key informant interviews. This approach is designed to ensure both breadth and depth of analysis on the topic of cross-border portability of social security entitlements.

Preliminary desk review

An initial desk-based review of secondary data sources was conducted to establish a broad understanding of existing frameworks, practices, and challenges related to portability. Based on the findings of this initial review, GIZ and the study team determined a shortlist of regional examples to be explored in greater detail.

The selection of the three case studies from the EU, MERCOSUR, and ASEAN regions was guided by the need to capture regional diversity, varying levels of system maturity, and the feasibility of data collection and expert engagement (► see [Table 1](#)). In collaboration with GIZ, the authors refined the selection of focus regions and identified key stakeholders to be consulted. This process drew on existing networks and partnerships, including those of GIZ, the International Labour Organization (ILO), and ISSA, to ensure access to high-quality insights and informed perspectives.

- The EU was selected as a benchmark case due to its well-established, legally binding regional coordination framework, which includes robust mechanisms for the portability of social security entitlements among member states.
- The Southern Common Market, represented primarily by MERCOSUR, was selected as a middle-ground example of a region with evolving arrangements. It has a legally binding multilateral social security agreement, although its practical application varies among member states⁶ and institutional capacities differ.
- The ASEAN region was chosen to illustrate a region where portability arrangements are still emerging, with increasing political attention, but limited binding commitments and operational mechanisms. This case offers insight into early-stage coordination efforts, particularly for migrant workers.

6 Portability remains partial for many, e.g. non contributory benefits, top ups, or benefits outside the scope of contributory pensions may not be exportable.

Table 1. Criteria and characteristics of selected case studies

Region	Key characteristics	Status of portability arrangements
EU	Legally binding coordination, institutionalised mechanisms, EU law	Mature and operational
MERCOSUR	Legally binding agreement, moderate institutionalisation, uneven execution	Evolving
ASEAN	Non-binding frameworks, political declarations, limited enforcement	Emerging and fragmented

In-depth desk review and key informant interviews

The second phase involved a more focused and detailed review of the selected regional cases, complemented by remote interviews with key informants. During this phase, the researchers delved into the practical implementation, institutional arrangements, and coordination mechanisms that enable or hinder the portability of social security entitlements in different contexts.

Limitations of the study

The study began with an extensive desk-based review of the literature, policy documents, and digital interoperability initiatives relevant to the portability of contributory social security entitlements. Sources included academic publications, multilateral and bilateral agreements, technical reports, and regulatory frameworks, with a focus on comparative information across regions. The study subsequently **focused on contributory entitlements**, which are more commonly portable than social assistance schemes, and **on regular migrants**, including refugees with legal status in host countries, while excluding irregular migrants who are almost invariably excluded from contributory schemes. However, more than 40 million people in refugee or refugee-like situations (e.g. asylum seekers) may have formal access to employment and social security depending on the specific regulations of host countries (UNHCR, 2024). In practice, refugees and asylum seekers often face significant obstacles in securing formal employment and, consequently, in accessing social security. While not a focus of this study, more research is needed on access to social security systems and the portability of entitlements, particularly regarding the transfer of entitlements from migrants' countries of origin to their host countries.

The review highlighted **gaps in documented experiences and practical insights**, particularly outside the EU, and informed the subsequent selection of case studies and interview topics. Case studies were selected to illustrate regional variations in legal coordination, system maturity, and digital integration, but the limited availability of practitioners and reliance on remote key informant interviews, particularly in the ASEAN region, limited access to certain stakeholders and reduced the richness of context-specific examples, which ultimately led to an overrepresentation of EU-based examples. Selection also accounted for the availability and comparability of secondary data, recognising that not all regions provided equivalent information. In particular, the limitations include:

- A notable absence of comprehensive or readily accessible statistics on the actual uptake of social security entitlements by migrants in host countries. This lack of crucial data significantly hampered the analysis of the effectiveness of social security design and implementation measures.
- A smaller number of key informant interviews than originally planned, with particular difficulties in securing participation from government representatives. This limitation represents an important constraint on the study's findings.

Finally, while the study draws on a diverse set of regional examples, it does not attempt to provide a globally exhaustive mapping, but rather a comparative analysis focused on selected regional experiences. Against this methodological backdrop, the next section summarises the migration and portability trends that inform the case study analysis.



4 Migration and portability trends

This section provides a brief overview of global migration trends and the approaches to portability in the regions of interest. It sets the stage for the subsequent analysis of the case studies and the role of interoperability.

Migrations trends

Over the past decades, international migration has grown in scale, complexity, and significance, with important implications for the design and delivery of social security systems. In 2020, an estimated 281 million people (about 3.6% of the global population) were international migrants, driven by economic, demographic, environmental, and political factors (McAuliffe & Oucho, 2024).⁷ Migration patterns today are diverse and include low-skilled labour, seasonal work, high-skilled professionals, forced displacement, and circular movement. Europe and Asia are the primary destinations, each hosting around 87 million and 86 million migrants respectively, together accounting for 61% of the global migrant population, followed by North America (59 million), Africa (around 23 million), Latin America and the Caribbean (LAC) (around 14 million), and Oceania (almost 9 million) (McAuliffe & Oucho, 2024).

Within the EU, free movement across 27 member states drives substantial intra-EU migration, including 1.5 million arrivals in 2024 from within the EU. Although the Schengen Area enables border-free mobility, access to social security remains governed by national laws coordinated under EU regulations. The right to reside for more than three months is conditional on being financially self-sufficient, having comprehensive healthcare coverage, and being a family member of an EU migrant worker.

Asia hosts over 40% of the world's migrants, with 69 million moving within the region (McAuliffe & Oucho, 2024). Key destinations include Thailand, Malaysia, Singapore, and the Gulf states. Migration is largely economically driven and shaped by extensive informal labour markets, vulnerable working conditions, and clear gender patterns – men in construction and agriculture, women in domestic and care work (McAdam, 2020). Thailand and Malaysia host the largest immigrant populations, while the Philippines and Indonesia are major countries of emigration (McAuliffe & Oucho, 2024). Environ-

⁷ The latest global estimate indicates that there were 304 million international migrants worldwide in 2024 (United Nations, 2025). For regional trend comparisons, this analysis relies on the 2020 estimates, as the most recent World Migration Report provides regionally disaggregated data only up to that year.

mental hazards cause significant internal displacement, but have limited relevance for cross-border portability. Persistent challenges include irregular migration, human trafficking, and the situation of stateless Rohingya refugees (McAuliffe & Oucho, 2024).

Latin America and the Caribbean experience substantial migration to North America and Europe, with over 25 million migrants residing in Northern America, while intraregional mobility remains strong thanks to frameworks such as MERCOSUR (McAuliffe & Oucho, 2024). The Venezuelan crisis has generated one of the world's largest displacement flows, with millions seeking refuge mainly in Colombia, Argentina, and other neighbouring countries (McAuliffe & Oucho, 2024; R4V, n.d.).

In South America, migration is predominantly intraregional and labour-oriented, supported by MERCOSUR and the Andean Community, which facilitate free movement. Argentina, Colombia, and Chile are key destinations, while Paraguay, Bolivia, Venezuela, and Ecuador are major countries of origin (McAuliffe & Oucho, 2024). The region also serves as a transit corridor to North America, with dangerous routes such as the Darién Gap (Vera Espinoza, cited in Crawley & Teye, 2024). Recent policy shifts, such as Brazil's strengthened migrant rights framework and Chile's more restrictive reforms, continue to shape mobility, while environmental disasters increasingly drive displacement (McAuliffe & Oucho, 2024).

Based on these migration trends, a few clear patterns emerge:

- **First, there is strong intraregional migration.** In many parts of the world, particularly Asia and LAC, the majority of migrants move to countries within the same region.
- **Second, even when staying in the same region, migrants tend to move to wealthier economies or those with better employment opportunities.** In Asia, flows are often from poorer countries (e.g. Myanmar, Indonesia) to richer or more industrialised neighbours (e.g. Singapore, Malaysia, Thailand). In LAC, Venezuela's crisis has driven large flows to relatively more stable economies like Colombia, Chile, Brazil, and Peru.
- **Third, there is significant extra-regional migration to richer countries:** Large numbers still migrate to wealthier regions such as North America and Europe.

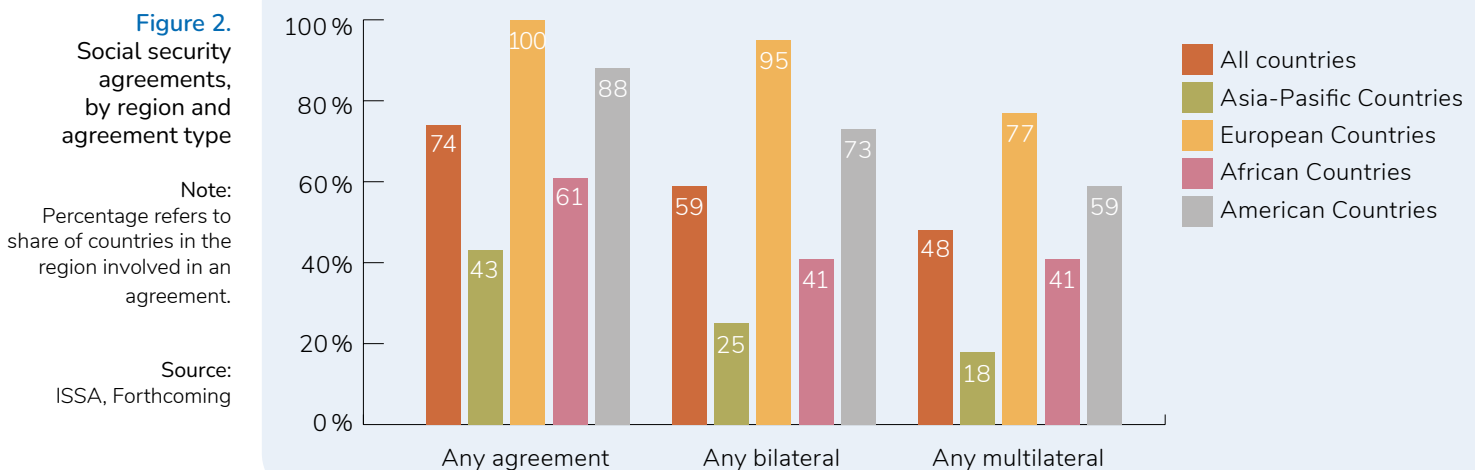
Given the strong intra-regional flows, there is a clear case for BSSAs or regional agreements on social security coordination to ensure that migrant workers maintain access to pensions, healthcare, and other entitlements when moving between neighbouring countries. Extra-regional migration to wealthier countries presents more complex challenges, as portability relies on bilateral or multilateral agreements, which are often absent. Moreover, differences in the maturity of social security systems and the structure of labour markets can further complicate coordination.

Portability trends

International experiences, mostly from the EU and MERCOSUR, show that countries tend to engage more in BSSAs than in multilateral frameworks and that, even when multilateral agreements are in place, often times they are complemented by BSSAs.

There are several reasons for this trend (Holzmann et al., 2005; ILO, 2021):

- Sovereignty and control:** BSSAs allow countries to negotiate terms directly with specific partners, tailoring arrangements to their unique economic, social, and legal contexts. This preserves more national control compared to broader multilateral frameworks.
- Political feasibility:** BSSAs are often easier and faster to negotiate and implement, as they involve only two parties. Multilateral agreements require consensus among multiple countries, which can be complex and time-consuming, especially when member states have diverse priorities.
- Targeted migration flows:** Many countries prioritise agreements with specific countries that have significant migrant flows or strong economic ties. BSSAs address these key relationships directly, making them more practical and immediately relevant.
- Legal and institutional differences:** Differences in legal systems, social security models, and administrative capacity make harmonising entitlements across many countries simultaneously challenging. BSSAs can better accommodate these differences through customised provisions.
- Incremental approach:** BSSAs often serve as the basis for broader multilateral co-operation. Countries may start with bilateral pacts and later build multilateral frameworks once trust, interoperability, and political alignment improve.



The ASEAN region does not have a binding regional social security agreement.

Instead, member states rely on BSSAs to manage cross-border coverage for migrant workers, including the portability of pensions, healthcare, and work-injury entitlements. However, these agreements differ widely in scope and implementation, reflecting national system variations and limiting seamless portability across the region.

Despite these trends, approaches to portability ultimately depend on each country's policy objectives, which can differ widely. A country may, for example, pursue pension portability through totalisation with some partners, while using other arrangements for short-term entitlements. Effective portability solutions should, therefore, be tailored – legally, operationally, and digitally – to these specific goals, rather than aiming for universal coverage across all entitlements and countries. Different types of agreements and data-exchange mechanisms serve distinct purposes and should not be seen as directly comparable.



5 The case for cross-border portability

The portability of social security entitlements is a cornerstone of equitable, inclusive, and efficient labour migration systems. It ensures that migrant workers can maintain and access their social security entitlements regardless of their movement across borders, thereby preserving social rights and reinforcing economic contributions across both origin and destination countries. Despite increased international mobility and economic reliance on migrant labour, most social security systems remain nationally anchored, creating gaps in protection as well as the risk of double contributions and unclaimed entitlements. Notably, the risk of double contributions does not apply in the case of the EU (see principles of EU Regulation 883/2004 and 987/2009).

International standards, including ILO Conventions No. 102 and No. 118 and the Universal Declaration of Human Rights recognise the right to social security as universal. Migrant workers should not lose entitlements due to cross-border movement, yet in practice, most do. Without portability, contributions made abroad may not translate into entitlements, particularly in relation to pensions and long-term insurance. This undermines equal treatment principles and disproportionately affects migrants from low- and middle-income countries, who already face barriers to formal labour markets (ILO, 2011; ILO, 2021). Other relevant instruments include ILO Convention No. 157 and Recommendation No. 167 on the maintenance of social security rights, ILO Conventions No. 97 and No. 143 on migrant workers' rights, the International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families (1990), and the ILO Social Security Floors Recommendation No. 202 (2012), which collectively reinforce the principle that migrants should retain and access social security rights across borders.

From an economic standpoint, lack of portability may create inefficiencies in labour markets. For example, migrants may under-participate in host country schemes if they anticipate losing entitlements when returning home, employers and governments may experience wasteful parallel systems or need to offer duplicative protections, and accumulated contributions may go unclaimed representing lost savings and reduced consumption in retirement years. Enabling portability supports labour mobility, incentivises formalisation, and strengthens the financial sustainability of social security systems by increasing voluntary participation and trust (Holzmann & Koettl, 2011).

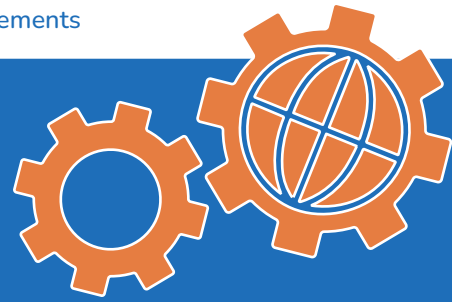
Portability mechanisms provide the legal basis for recognising and aggregating contributions across countries. Outside such frameworks, however, benefit fragmentation persists. The majority of social security agreements globally are still bilateral despite considerable multilateral efforts and often cover only pensions, leaving out critical components like health, unemployment, and family entitlements.

Portability also facilitates sustainable return and the reintegration of migrants. If workers can carry their accrued rights and entitlements back to their countries of origin, they are more likely to re-engage in formal systems, invest in productive activities, and maintain financial resilience in old age. This is particularly relevant in South-South migration corridors and for circular or seasonal migrants (ILO, 2021).

Ensuring portability contributes directly to achieving the Sustainable Development Goals (SDGs), including:

- SDG 1.3 on implementing nationally appropriate social security systems
- SDG 8.8 on protecting the labour rights of migrant workers
- SDG 10.7 on facilitating orderly, safe, regular, and responsible migration

It also aligns with the Global Compact on Migration, particularly Objective 22, which calls for the portability of social security entitlements and earned entitlements.



6 Global best practices

The secure exchange of social security data between institutions in different countries is the fundamental requirement for cross-border portability. Interoperable information systems and real-time synchronisation, while not strictly necessary, represent a major step forward by enabling more timely, accurate, and efficient data sharing. They ensure that contribution records, eligibility data, and life events such as employment changes or retirement are consistently updated and accessible across borders. This reduces administrative delays, prevents benefit fraud, and facilitates the continuity of entitlements for mobile workers. In order to achieve such interoperability, robust social security registries and integrated case management systems are necessary for tracking beneficiaries, aggregating contributory records, and coordinating service delivery.

This section presents the EU, MERCOSUR, and ASEAN regions as three self-contained case studies, analysing each region across the five interoperability layers – political, legal, organisational, semantic, and technical – with particular emphasis on the technical dimension. This structure enables a coherent narrative and facilitates cross-regional comparison.

EU case study

The European Union represents the most advanced form of regional integration in this study, characterised by high levels of intra EU labour mobility, long-term migration for work and in retirement, and well established binding EU coordination systems overseeing nationally competent institutions for social security coordination. Within this context, long-term contributory entitlements such as old age, survivors', and disability pensions are the most portable, while short-term cash benefits and some social assistance schemes remain more constrained by residence conditions. The analysis of the EU is structured along the political, legal, organisational, semantic, and technical layers to highlight how different elements of the interoperability framework interact to support or hinder portability.

Political layer

The EU is a political and economic union of 27 countries that collaborate to ensure peace, stability, and prosperity across the continent. It operates a single market allowing the free movement of goods, services, people, and capital, and has common policies on trade, agriculture, and regional development. The EU also coordinates on issues like climate change, security, and human rights, while member states retain their sovereignty.

Political interoperability in the EU is enabled by a shared vision of the **free movement of workers**, central to the single market. EU institutions and member states jointly commit to ensuring the equal treatment of mobile workers, removing barriers to labour mobility, and supporting the digitalisation of public administration.

Political consensus has enabled:

- The creation of the EESSI
- The development of a European Digital Identity (EUDI) framework
- The recent adoption of the Interoperable Europe Act
- Investments in digital public infrastructure under the Digital Europe Programme

This push reflects a long-standing political agenda to make mobility ‘as seamless as possible’ across the Union.

Legal layer

EU regulations follow **four main principles** for social security coordination that apply to nationals and their family members of the EU, Iceland, Liechtenstein, Norway, Switzerland, stateless persons or refugees, and nationals of non-EU countries who are legally residing in the EU and who have been insured in one of these countries:

- Individuals are **covered by the social security system of only one country at a time**. The competent country is determined based on rules that consider the nature of employment (e.g. posted worker, cross-border worker, multi-state employment).
- Individuals have the **same rights and obligations as nationals** of the country where they are insured, following the principle of non-discrimination.
- Previous periods of insurance, work, or residence in other countries are taken into account when claiming entitlements (totalisation).
- If entitled, individuals can generally receive cash entitlements, even if they live in a different country, in line with the principle of **exportability**.

The EU’s legal framework for social security portability is underpinned by broader EU data protection and data portability legislation, most notably the General Data Protection Regulation (GDPR), which harmonises rules across member states and strengthens individuals’ control over their personal data. Building on earlier international standards such as the 1980 Organisation for Economic Cooperation and Development (OECD) privacy guidelines (Guidelines Governing the Protection of Privacy and Trans-border Flows of Personal Data), these cross-cutting instruments provide the essential safeguards and rights that enable social security institutions to exchange personal information securely across borders while protecting the privacy of beneficiaries. Since 2025 the Interoperable Europe Act also underpins the EU’s efforts for closer coopera-

tion on making public sector data interoperable across the EU.⁸ The main legal frameworks for this are presented in ► **Annex 1. The EU is home to the most advanced multilateral portability framework.** The model combines binding regulations and directives, such as **Directive 2004/38/EC** on the Free Movement of EU Citizens and their Families, which provide for social security coordination, backed by jurisprudence from the European Court of Justice ensuring migrant rights. The EU Social Security Coordination Regulations, primarily **Regulation (EC) No 883/2004** and its implementing Regulation **(EC) No. 987/2009**, form the backbone of cross-border social security coordination within the region. These regulations ensure that individuals moving within the EU do not lose social security rights and that entitlements like pensions, healthcare, or unemployment insurance can be aggregated and claimed across borders.

Regulation (EC) No 883/2004 lays down the main rules for coordinating social security systems across the EU and European Free Trade Association (EFTA) countries. Its primary goal is to ensure that people who move within Europe do not lose their social security rights. It covers a wide range of entitlements, including pensions, healthcare, unemployment, sickness, maternity/paternity, and family entitlements.

Markedly, social assistance is outside the material scope of Regulations 883/2004 and 987/2009, although short-term cash entitlements might be coordinated by EU law if they fall within the scope of 883/2004 (i.e. unemployment entitlements, maternity/paternity entitlements).

Organisational layer

EU organisational interoperability relies on a dense network of coordinated roles:

- European Commission (Directorate-General for Employment, Social Affairs and Inclusion [DG EMPL]): legislative proposals, monitoring of implementation
- Administrative Commission for Social Security Coordination: dispute resolution, interpretation of regulations
- Technical Commission + Audit Board: technical coordination and financial clearing
- European Labour Authority (ELA): enforcement, inspections, information to workers
- National liaison bodies: operational contact points for claims

In the EU, the European Commission proposes legislation and monitors compliance, while the European Council and the European Parliament adopt EU legislation and national institutions administer entitlements. Bodies like the Administrative Commission, its supporting Technical and Audit Commissions, and the European Labour Authority coordinate, interpret, and enforce rules, highlighting that effective portability relies on a multi-layered organisational structure that balances EU-level guidance with national implementation.

8 Regulation (EU) 2024/903

Digital transformation is jointly governed through regular meetings and cooperation between national ICT units and the Commission, e.g. via the [EESSI Steering Committee](#) (described below in the subsection Technical Layer).

Semantic layer

In addition to EU Regulation (EC) No 883/2004, the implementing Regulation (EC) No 987/2009 lays out procedures and mechanisms for information exchange and coordination between institutions in different countries. It introduces and details:

- Standard forms and structured electronic documents (SEDs) for institutional communication as well as the legal basis for the EESSI system, which digitises and streamlines cross-border communication
- Rules for identifying the competent member state in multi-country cases, referring to situations or instances in which a person is subject to multiple social security systems across different countries
- The range of risks legally covered, including sickness and maternity/paternity, invalidity, old-age and survival, work injury and occupational disease, death, unemployment, and family entitlements

All social security agreements require standardised forms agreed by the parties and clear rules for identifying the competent institution in multi-country cases.

Technical layer

Data can be made available to users in different ways, with APIs offering the most effective and secure means of portability. In cross-border social security portability, data users include social security institutions, government agencies, migrants, and authorised third-party providers. Data can be shared through various interoperability models, but APIs are considered the most effective and secure, enabling real-time exchange, standardised communication, fine-grained access control, and robust security features, as they combine speed, security and decentralisation. This makes them particularly suitable in contexts with differing national systems and legal frameworks.

Unlike alternative methods, like for example ad hoc downloads, APIs enable continuous data portability, supporting seamless interoperability between actors, technologies, and services. They also allow data holders to implement safeguards, such as restricting access based on the identity of API users or controlling the volume and type of data accessed. Moreover, dedicated APIs can be used not only to share data, but also, in some cases, to perform transactions on behalf of third parties (Reimsbach-Kounatze & Molnar, 2024).

A best-practice example of an API-style mechanism is the EU's EESSI, which connects national institutions through fully automated, real-time, standardised, and secure electronic communication of social security data (► see Box 2). By replacing cumbersome paper-based procedures, it is argued that EESSI drastically accelerates

claim processing, reduces administrative errors, and enhances data accuracy. The platform ensures data privacy and security through encrypted transmissions and controlled access, while also providing a transparent audit trail that improves institutional coordination and accountability across multiple jurisdictions with differing legal frameworks. It thereby enables seamless communication and reduces the administrative burden for institutions and beneficiaries alike. Additionally, its multilingual and flexible design accommodates diverse legal and linguistic contexts within regional cooperation frameworks.

BOX 2. Electronic Exchange of Social Security Information (EESSI)

EESSI is a leading example of the cross-border interoperability of information systems. It connects 3,400 institutions across 32 EU and EFTA countries, as well as the United Kingdom,⁹ enabling the standardised, secure electronic exchange of information related to sickness, maternity and equivalent paternity entitlements, family entitlements, old-age pensions, pre-retirement and invalidity entitlements, unemployment



entitlements, survivors' entitlements, and death grants, as well as entitlements in respect of accidents at work and occupational diseases, with an average of more than 3.7 million requests per month.¹⁰ Until now, social data on citizens within these 32 states had been transmitted by post or only partially electronically. It also enables the collection of statistics on the messages exchanged between social security institutions.

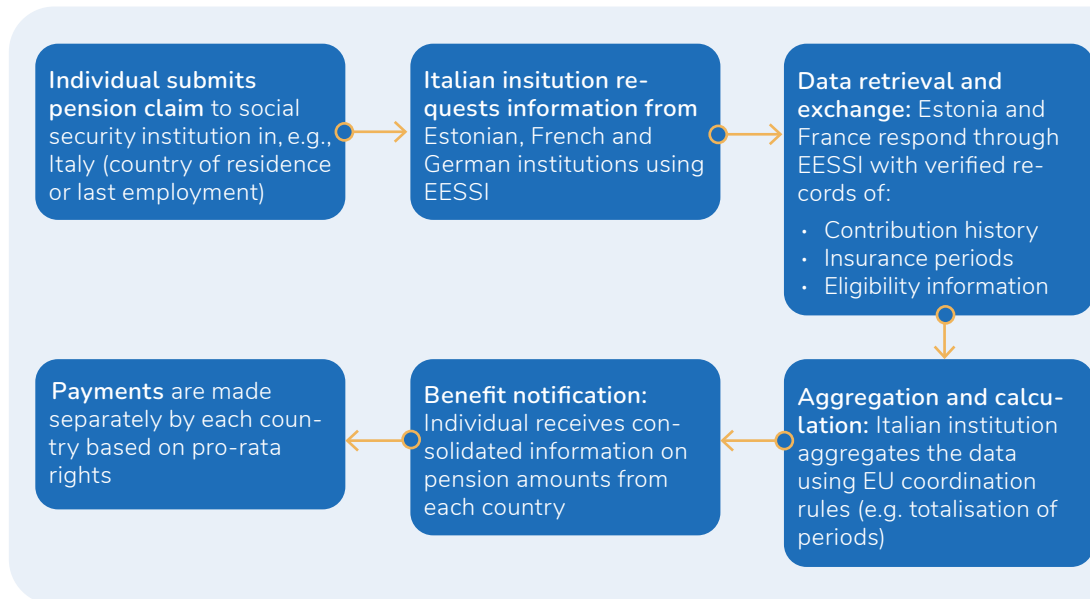
The success of EESSI, as perceived by national social insurance institutions like the German Pension Insurance and other stakeholders, highlights the critical importance of standardisation and interoperability in managing cross-border social security information. In Germany, since its inception, EESSI has been integrated with national management information systems, allowing incoming data to be processed automatically rather than manually.

9 Electronic Exchange of Social Security Information (EESSI) – European Commission

10 ITB in support of EESSI | Interoperable Europe Portal

Figure 3.
Example of process
for claiming pension
entitlements in the
EU using EESSI

Source:
Author's own, based on
key informant interviews



The main barriers to EESSI fall into technical, semantic, and organisational categories. Technically, high setup costs, complex integration with legacy systems, and limited real-time synchronisation pose challenges. Organisationally, uneven adoption, resistance to change, siloed administrations, staff rotation, and the ongoing need for training slow full implementation. Semantically, language differences, data entry errors, and the absence of a centralised beneficiary registry limit efficiency and interoperability.

While EESSI is an administrative system for institutions to exchange social security information across borders, the **European Pension Tracking Service (ETS) is introducing a user-facing online service that allows individuals to track their pension rights acquired in different countries.** The ETS demonstrates how digitalisation and regional coordination can improve pension information and awareness by giving mobile workers a single access point to view their accrued pension rights across the EU. By connecting national tracking systems through a shared interoperability framework, the ETS will overcome key semantic barriers such as misunderstandings caused by differences in the meaning or interpretation of words, terms, or symbols. Similarly, it will help overcome technical barriers such as inconsistent data formats and fragmented information systems. However, if an individual's pension data are themselves inconsistent or fragmented within a member state, the ETS cannot resolve the issue, as the data must first be provided by the member state to the ETS. Its user-friendly interface provides harmonised, secure information, while complying with EU data protection standards. Although still being expanded beyond its current public-private partners in Germany, the Netherlands, Belgium, Sweden and France,¹¹ the ETS shows how multilateral digital solutions, supported by common standards and sustained political commitment, can enhance transparency, reduce administrative burdens, and help ensure that pension rights remain accessible throughout increasingly mobile careers.

The European Blockchain Services Infrastructure (EBSI)-VECTOR Business Blueprint for Social Security, produced under the EU's Digital Europe Programme, lays the ground for a more integrated and secure approach to managing social security rights across borders. Building on the EBSI and the concept of Verifiable Credentials, the blueprint defines the overarching system architecture, the core business processes, and the interactions required between institutions to make digital portability a reality. It provides detailed onboarding workflows for the social security institutions that would issue and verify portable digital credentials, such as proof of contributions or entitlement to health or pensions. By setting these common standards, the blueprint seeks to ensure that social security data can be exchanged seamlessly, securely, and transparently among member states. The initiative is designed not only to reduce administrative burdens and fraud, but also to empower citizens by giving them greater control and visibility over their accumulated rights. Ultimately, the blueprint represents a strategic step towards modernising social security coordination in Europe, supporting mobility within the single market, and strengthening the protection of workers in an increasingly mobile and digital society.¹²

Digital identification systems like the European Digital Identity Wallets (EUDI eWallets) allow for the consistent authentication of individuals across programmes and borders, reducing duplication, preventing fraud, and enabling the secure, seamless exchange of individual records across institutions and countries. This consistency is essential for tracking contributions and entitlements over time, especially for mobile populations whose social security history spans multiple systems. Typical barriers include:

- Absence of a common, national, and/or region-wide digital identification system that limits seamless integration
- Variation in member countries' level of digital infrastructure and system modernisation resulting in the inconsistent digitisation of social security records and posing challenges in aggregating contribution histories and tracking benefit entitlements over time, especially for migrants with complex cross-border work trajectories
- Differences in legal and administrative systems across jurisdictions hindering real-time data sharing and synchronisation, which are crucial for efficient benefit delivery (semantically, even legal definitions may carry different meanings in different countries)

Efforts to enhance digital interoperability, such as advancements in national digital ID systems and the digitalisation of national social security records, are ongoing in all three case study regions, but progress is uneven and constrained by technical, regulatory, and institutional barriers, as well as by the digital ecosystems.

12 <https://www.ebsi-vector.eu/en/news/business-blueprint-for-social-security/>

Another example is the EU's Single Digital Gateway (SDG), anchored in Regulation (EU) 2018/1724, and its public-facing portal Your Europe. This gateway plays a pivotal role in improving the portability of social security rights within the EU. Designed as a multilingual, user-centric access point, the Single Digital Gateway simplifies access to key administrative procedures across borders, such as claiming pensions, applying for unemployment entitlements, or requesting a European Health Insurance Card. Through a life-events-based structure and the 'once-only' principle, the Single Digital Gateway seeks to reduce fragmentation and bureaucracy for mobile EU citizens and businesses.

MERCOSUR case study

MERCOSUR (Southern Common Market) constitutes a medium-level integration arrangement with significant intra-regional migration flows driven by labour mobility, family reunification, and, in some instances, displacement, but with less institutional consolidation than the EU. In this setting, contributory pensions and long-term social insurance entitlements covered by the Multilateral Social Security Agreement and bilateral treaties are the most portable, while access to healthcare and short-term entitlements across borders is limited and often ad hoc.

MERCOSUR is a regional trade and integration bloc established in 1991 by the Treaty of Asunción, comprising Argentina, Brazil, Paraguay, and Uruguay, with Bolivia in the process of becoming a full member. Several other Latin American countries participate as associate members, including Chile, Colombia, Ecuador, Guyana, Peru, and Suriname.¹³ MERCOSUR's primary objective is to promote free trade, the free movement of goods, services, and people, and economic cooperation among member states. Beyond trade, the bloc has developed social, labour, and migration initiatives, including agreements on social security portability that facilitate the recognition of contributions across member countries.

MERCOSUR full member countries are also members of the Ibero-American Multilateral Agreement, the Convenio Multilateral Iberoamericano de Seguridad Social (CMISS). The CMISS was created to coordinate national social-security systems so that workers migrating among those countries maintain continuity of social-security rights (e.g. pensions, disability, survivors), and so that benefit entitlements are portable across borders. As of 2025, the Convention is in force among a broad group of Ibero-American countries, including Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, El Salvador, Honduras, Paraguay, Peru, Portugal, the Dominican Republic, Spain, Uruguay, and Venezuela.

13 Note: Venezuela never signed the MERCOSUR agreement and has been suspended since December 2016 for failure to meet the bloc's obligations. Venezuela does not participate in, vote, or apply MERCOSUR rules as a full member.

Political layer

MERCOSUR's political coordination is built on the ambition of deep regional integration, allowing for the free movement of people, goods, and services. Political commitments include:

- Recognition of social security rights across borders
- Gradual harmonisation of labour and migration policies
- Growing support for digital government integration

Regional political will is strong, but implementation is uneven due to capacity differences between member states.

Legal layer

The **MERCOSUR Multilateral Agreement on Social Security** was signed in 1997 (and came into force in 2005) to ensure that workers who have contributed to social security systems in more than one MERCOSUR member country can have their contributions recognised and combined for the purposes of pensions and other entitlements. The agreement applies to the full members, Argentina, Brazil, Paraguay, and Uruguay, and also extends to associated states that have signed bilateral agreements with MERCOSUR members under similar terms. The main features of the multilateral agreement are:

- Structural components: Covers old-age, disability, and survivors' entitlements, as well as occupational injury and disease entitlements, depending on the national legislation of each member state.
- Principle of totalisation: Contribution periods completed in any MERCOSUR country are added together ('totalised') to determine eligibility.
- Proportional entitlements: Each country pays a portion of the benefit corresponding to the time the worker contributed within its system.
- Equal treatment: Nationals of one member state are entitled to the same social security rights and obligations as nationals of the country where they work.
- Export of entitlements: Entitlements can be paid to beneficiaries residing in any MERCOSUR member country without restriction.

BSSAs in MERCOSUR countries are designed to complement the MERCOSUR Multilateral Agreement on Social Security and extend coordination to non-member or associated states. While the MERCOSUR multilateral framework streamlines social security coordination within the bloc, bilateral agreements remain relevant for countries outside MERCOSUR in situations where the bilateral treaty offers broader coverage than the multilateral agreement, and where there are historical arrangements predating the multilateral accord.

The CMISS was signed 10 November 2007 in Santiago, Chile. For each country, it comes into force only after ratification and after the Agreement of Application is signed. For example, for Argentina the Convention became effective from 1 August 2016. The main objectives of the agreement are to:

- Ensure equality of treatment and protection for workers who move between member states
- Allow the accumulation (totalisation) and portability of social-security entitlements under different national systems
- Establish coordination and administrative cooperation between institutions of different countries to process social-security entitlements for migrants

As a result, the region has developed a wide array of bilateral and multilateral social security agreements that operate alongside one another. While the MERCOSUR Multilateral Agreement supersedes existing bilateral accords, the Ibero-American Multilateral Agreement follows a different approach: in cases of overlap, the provisions that offer the most favourable norms and entitlements to the beneficiary take precedence.

Organisational layer

MERCOSUR's governance is structured around:

- Council of the Common Market (CMC): high-level decision-making
- Common Market Group (GMC): operational oversight
- Subgroup No. 10 on Social Security: technical harmonisation
- Administrative Commission of the Agreement: interpretation, dispute resolution
- National liaison bodies: day-to-day operations

The Council of the Common Market is MERCOSUR's highest decision-making body and has the authority to approve and modify the Social Security Agreement. All decisions are taken by consensus and require ratification in each member state. The Common Market Group acts as the executive body, ensuring the implementation of Council decisions and coordinating with national authorities. Technical matters are addressed by the Specialised Working Group on Social Security (Subgrupo de Trabajo N° 10 – Seguridad Social), which brings together representatives from social security institutions and relevant ministries. This group drafts regulations, harmonises procedures, facilitates the exchange of information, and monitors the functioning of portability mechanisms. At the same time, a group called COMPASS follows the implementation of the agreement. Moreover, operational oversight is provided by the Administrative Commission of the Agreement, composed of technical delegates from each State's competent institutions, which interprets the agreement, resolves administrative disputes, and coordinates the work of national liaison bodies. These liaison bodies serve as contact points for process-

ing cross-border claims, exchanging contribution histories, and ensuring the transfer of entitlements abroad. Disputes that cannot be resolved at the technical level are escalated to the GMC and, if necessary, to MERCOSUR's Permanent Review Tribunal. Associate States – Bolivia, Chile, Colombia, Ecuador, Guyana, Peru, and Suriname – can participate in the agreement through specific protocols, complementing or expanding bilateral arrangements with MERCOSUR members.

Red GEALC, the network of e-government leaders of LAC, has emerged as a key regional platform for sharing digital government practices and promoting interoperability across countries. Its initiatives, such as cross-border digital signatures and regional digital identity frameworks, highlight the value of cooperation in advancing digital public infrastructure. It demonstrates the importance of political will and regional collaboration, although challenges persist around uneven national capacities, the digital divide, and ensuring the sustainability of initiatives beyond external donor support.

BOX 3. LAC's Red GEALC

The Red de Gobierno Electrónico de América Latina y el Caribe (Red GEALC) is a regional cooperation network for national authorities responsible for digital government across LAC countries. Established in 2003, it is jointly coordinated by the Organization of American States (OAS) and Inter-American Development Bank (IADB), with strategic and technical contributions from the World Bank. Red GEALC supports cross-border digital signature frameworks, enabling secure and recognised electronic authentication across countries.

Institutional structure:

- General Assembly: Highest decision-making body with representatives from all member states; meets annually to set priorities, approve work plans, and review progress
- Coordinating Committee: Provides subregional guidance between assemblies to ensure responsiveness to country needs
- Technical Secretariat: Managed by OAS and IADB; facilitates coordination, delivers technical assistance, and oversees daily operations

Services and activities:

- Capacity building, peer learning, policy dialogue, and technical cooperation
- Ministerial and technical meetings, thematic workshops, and study visits to disseminate good practices
- Peer-to-peer technical assistance programme, deploying experts from advanced administrations to support others

Flagship initiatives:

- Developing a Regional Digital Identity Broker, a secure federated system allowing individuals to authenticate their national digital identity across borders
- Facilitates access to public utilities, simplifies trade procedures (customs, procurement), and promotes legal recognition of digital documents

Impact:

- Bridges capacity gaps and promotes policy alignment
- Advances interoperability across digital government systems
- Supports the e-Government Charter of the Americas and the 2030 Agenda for Sustainable Development
- Strengthens governments' ability to deliver transparent, efficient, and inclusive public services

The governance of CMISS is built around a coordinated institutional framework that ensures that the agreement is consistently applied across member countries. At the centre of this system is the Organización Iberoamericana de Seguridad Social (OISS), which serves as the Permanent Technical Secretariat. The OISS provides technical assistance, facilitates information exchange, maintains official records, convenes meetings, and supports the uniform interpretation and application of the Convention.

Oversight and political direction are provided by the Intergovernmental Commission, composed of representatives from all member states. This body is responsible for monitoring implementation, adopting interpretative guidelines, resolving disputes, and approving updates to operational rules. Within each member country, 'competent authorities' (usually ministries responsible for labour or social security) oversee national compliance and designate the institutions that will carry out the Convention.

Operational coordination happens through 'liaison bodies', specialised national units that communicate with their counterparts in other countries. These bodies manage the exchange of records, verify contribution histories, and ensure that claims are processed efficiently across borders. Finally, day-to-day administration is carried out by the national social-security institutions themselves, which apply the rules of the Convention when calculating entitlements, aggregating contribution periods, and determining entitlements for workers who have moved among participating countries.

Semantic layer

The semantic layer in MERCOSUR focuses on ensuring that information exchanged across member states is consistently understood and correctly interpreted, which is essential for the portability of social security entitlements. By enabling interoperable communication and clear definitions of pension and contribution data, the semantic layer supports reliable cross-border coordination and lays the foundation for future expansion to include benefit payments.

Systems like SIACI–MERCOSUR’s International Agreement System–have significantly improved the efficiency and quality of data exchange, which until 2008 relied on paper forms and conventional postal services. The system uses secure communication channels with digital certificates, stores the requested and transmitted information from each country, and enables the tracking and verification of operations under the multilateral agreements.

However, there is limited evidence of full semantic interoperability within the region, both for MERCOSUR as well as for CMISS. In particular, there appear to be no shared, region-wide standards for benefit classifications, eligibility criteria, or contribution definitions. While data can now be transmitted electronically, differences in how member states interpret and structure social security information may hinder accurate aggregation, totalisation of periods, and the calculation of entitlements. In practice, this means that while technical interoperability is developing, semantic alignment remains a key gap in the effective operationalisation of cross-border social security in the region.

Technical layer

The four MERCOSUR countries–Argentina, Brazil, Paraguay, and Uruguay–have established a Mercosur Digital Citizen initiative. As of late 2024, citizens from these countries can use their national digital IDs to carry out certain government procedures in any of these countries. Presently, Brazil and Uruguay have already integrated about 39 digital services under this framework, allowing cross-border access using respective national digital IDs (IDB, 2024).

The Regional Digital Identity Broker is one of Red GEALC’s main initiatives. It consists of a platform enabling secure cross-border digital authentication across LAC. This allows citizens to use their national digital IDs to access public services in other participating countries.

However, information exchange and beneficiary interaction within social security systems still largely rely on manual procedures. Individuals seeking to claim an entitlement abroad–whether under a BSSA or MERCOSUR or CMISS multilateral agreements–must apply in person at a liaison body. This initiates a lengthy process of information sharing between the liaison body and the relevant social-security institutions in the host country (where applicable), and subsequently with the country of origin or any country in which contributions were previously made.

ASEAN case study

ASEAN is a regional organisation of ten Southeast Asian countries¹⁴ that promotes economic, political, and social cooperation while respecting national sovereignty and consensus-based decision-making. Its legal foundation, the ASEAN Charter (in force since 15 December 2008), provides a formal institutional framework, codifies norms and values, and sets mechanisms for accountability and compliance. The region is characterised by relatively loose economic and political integration, but intense migration corridors, especially for temporary and circular labour migration, with a high share of migrant workers in low-wage and informal employment (McAuliffe & Oucho, 2024; McAdam, 2020). ASEAN also works to boost trade, investment, and collaboration on security, environmental, and human development issues across the region. Against this backdrop, **portability is predominantly limited to selected contributory pension and employment-based schemes, and to a small number of bilateral or pilot arrangements**, with most social and health entitlements remaining tied to residence and nationality.

Political layer

Political interoperability is influenced by ASEAN's guiding principles of sovereignty, non-interference, and consensus-based decision-making.

Consequently:

- Binding regional agreements remain unlikely
- Political commitments rely on soft-law instruments
- Progress in portability tends to be incremental and bilateral

Still, ASEAN's political agenda strongly emphasises digital transformation through the **ASEAN Digital Masterplan 2025** and the **Digital Economy Framework Agreement**, offering windows for embedding social security interoperability.

Legal layer

ASEAN currently lacks a binding regional social security agreement, so member states rely on BSSAs to govern the portability of pensions, healthcare, and work injury entitlements, although these vary widely in scope and implementation.

The non-binding 2018 ASEAN Guidelines on Portability provide a shared framework to support coherent legal, institutional, and administrative mechanisms, promoting continuity of acquired rights, recognition of contributions, and the export of entitle-

14 The ASEAN member states are Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam

ments, particularly for pensions, work injury entitlements, and health coverage.

While notable as a regional milestone, the impact of the Guidelines has been constrained by the voluntary nature of their adoption and the considerable heterogeneity among ASEAN member states in terms of legal frameworks, institutional capacities, and digital infrastructure.

The Guidelines have served as a basis for further technical cooperation and dialogue among social security institutions, supported by international partners such as the ILO and ISSA. Pilot initiatives between countries such as Thailand and the Philippines are gradually exploring the operationalisation of portability mechanisms, pointing to a pragmatic phased approach to implementation. These efforts focus on developing interoperable systems for the transfer and recognition of social insurance contributions, particularly in relation to old-age pension schemes. Preliminary steps include aligning administrative procedures, identifying legal gaps, and enhancing institutional coordination between the Social Security Office (SSO) of Thailand and the Social Security System (SSS) of the Philippines.

The Guidelines articulate several key principles and objectives, most notably a commitment to promote equitable access to social security for migrant workers and ensure the continuity of acquired rights across borders. The framework advocates for the recognition and totalisation of contribution periods, as well as the export of accrued entitlements, particularly in relation to compulsory social insurance schemes such as pensions, work injury insurance, and health coverage.

In the absence of formal agreements, memoranda of cooperation (MoCs) offer a flexible, again, non-binding approach to improve migrant access to social security, build administrative capacity, and pave the way for the eventual formalisation of portability arrangements across the region. MoCs are being explored by countries such as Cambodia, Lao PDR, Myanmar, the Philippines, and Thailand, particularly for managing complex entitlements like healthcare. While MoCs can help align benefit structures and gradually enable portability, they remain politically dependent, legally weak, and limited in enforceability, making them a cautious first step, rather than a reliable long-term solution.

Organisational layer

ASEAN, through the ASEAN Social Security Association (ASSA) and technical working groups, has laid the initial foundations for regional coordination on social security, facilitating dialogue, knowledge exchange, and capacity building among its ten member states. Political commitment is reflected in initiatives such as the 2013 ASEAN Declaration on Strengthening Social Security and its 2015 Roadmap. However, progress is slow due to wide disparities in administrative capacity, resources, and system maturity—Singapore and Malaysia have advanced systems, while Lao PDR and Myanmar face significant constraints. Efforts to address these gaps include exploring interoperable platforms and partnerships with the ILO and ISSA to standardise procedures, yet coordination remains largely bilateral and stronger mandates with sustained investment are needed for effective cross-border implementation.

The ASEAN Guidelines emphasise the need for stronger inter-agency coordination among national social security institutions, capacity-building efforts, and the gradual harmonisation of legal and administrative procedures. Importantly, they also encourage the use of digital technologies to facilitate interoperable databases and secure cross-border data sharing, alongside measures to ensure the protection of personal data in compliance with domestic legal standards.

Semantic layer

ASEAN lacks harmonised definitions, classifications, and benefit categories. Barriers, consequently, include inconsistent social security terminology, divergent digital ID architectures, and the uneven digitisation of social security records.

Promising developments include:

- Regional discussions on a **common minimum dataset** for portability claims
- **ICT integration initiatives** under the ASEAN Digital Masterplan

Technical layer

Technical interoperability is currently among the weakest layers in ASEAN. Challenges include legacy systems, low digitalisation of records in lower-income ASEAN member states, limited cybersecurity capacity, and the absence of regional standards. However, digital cooperation initiatives under the ASEAN Digital Masterplan offer opportunities to interconnect social security ICT systems in the future. Some promising innovations include:

- **MoCs for data exchange:** Used for secure information sharing in the absence of binding agreements.
- **Pilot interoperable platforms:** Thailand and the Philippines are testing secure digital channels for exchanging contribution records and verifying identity.
- **Digital ID systems:** Many ASEAN member states are expanding e-ID frameworks (e.g. SingPass, MyKad, PhilSys), but cross-border interoperability is minimal at this point in time.



7 Key enablers and barriers

This section synthesises the main insights from the regional case studies and broader analysis, highlighting the critical ways in which interoperability can enable the cross-border portability of social security entitlements. While legal agreements, institutional coordination, and political commitment provide the foundational framework, practical implementation depends on operational, semantic, and technical interoperability. Digital tools and platforms can facilitate data exchange and improve efficiency, but they are effective only when embedded in robust legal, organisational, and policy frameworks. By examining the successes and persistent gaps presented in this section, the next section draws overall conclusions on what drives effective portability, the lessons for scaling across regions, and the priorities for future action.

Insights from the case studies

The EU demonstrates the most advanced framework for social security portability globally. Its binding regulations and strong institutional structures provide comprehensive coverage for mobile citizens, ensuring rights to pensions, healthcare, unemployment, and family entitlements. Key insights include:

- **Clear and binding legal frameworks** provide predictable rules for contribution totalisation and benefit export, which are essential for both beneficiaries and administering institutions.
- Robust systems based on **standardised electronic data exchange** on request and a **strong common semantic understanding** are already in place and enable effective portability in the meantime.
- Interoperable digital systems and user-centric platforms enable secure, real-time access to data and entitlements, although many of them are still in the pilot stage.
- Even with advanced regulations and technology, **high integration costs, legacy systems, and uneven adoption can slow full implementation.**

MERCOSUR represents an intermediate level of development in regional portability, although the semantic and technical layer are largely underdeveloped. Its multilateral agreement, complemented by bilateral treaties and the Ibero-American agreement, establishes a legal and institutional framework for benefit recognition, contribution totalisation, and equal treatment.

Key insights include:

- **Multilateral and bilateral agreements** provide a practical legal foundation for cross-border portability, enabling coordination across member states.
- **Digital cooperation initiatives and national platforms** enhance operational efficiency, traceability, and secure data exchange, facilitating the management of pensions and other entitlements.
- **Interoperability and digital access in the social security sector remain at a nascent stage**, lagging behind other public sectors where digital transformation has advanced more rapidly.
- **Fragmented legal frameworks, uneven digital adoption, and reliance on external support** can constrain sustainability and the scaling up of portability arrangements.

ASEAN illustrates an early-stage regional approach to social security portability. Its non-binding guidelines, bilateral pilots, and flexible cooperation mechanisms provide the foundation for gradual harmonisation. Key insights include:

- **Shared principles** on totalisation, benefit exportability, and migrant workers' rights guide national implementation and bilateral initiatives, even in the absence of formal treaties.
- **Incremental approaches**, supported by flexible instruments like MoCs and regional dialogue platforms, enable countries to advance portability while accommodating diverse institutional capacities.
- **Voluntary frameworks, uneven digital interoperability, and consensus-based decision-making can limit the speed and uniformity of implementation** across the region.

This study confirms that while the principle of cross-border portability of social security entitlements is widely recognised in international and regional frameworks, its effective implementation remains uneven across regions and benefit types. While the EU has developed sophisticated legal and digital mechanisms to guarantee portability, challenges persist around administrative complexity and unequal adoption by member states. In contrast, the ASEAN case study highlights the challenges of early-stage regional cooperation. While the ASEAN Guidelines provide an important normative step, they remain non-binding and portability depends largely on bilateral agreements and pilot initiatives. MERCOSUR stands at an intermediate level of development compared to the other two regions: it benefits from a strong organisational structure and a combination of multilateral and bilateral agreements, yet fragmented legal frameworks, institutional weaknesses, and sustainability concerns continue to constrain its progress.

Enablers

The effective portability of social security entitlements depends on the alignment of political, legal, organisational, semantic, and technical factors, supported by strong regional cooperation and interoperable digital systems (► see Table 2). Regions with high intra-regional mobility like LAC and Asia particularly benefit from coordinated frameworks that allow migrants to maintain access to pensions, health insurance, and other contributory entitlements. Multilateral systems like the EU's coordination regulations or MERCOSUR's Multilateral Agreement illustrate the potential of region-wide approaches, while extra-regional migration often relies on bilateral or tailored multinational arrangements. Crucially, portability solutions must be adapted to the policy objectives and administrative realities of each country and region to be effective.

Across the layers, several enablers consistently emerge. At the **political level**, regional economic communities and cooperative agreements provide platforms for coordination, while strong bilateral relations help fill gaps where regional frameworks are absent or misaligned. The **legal foundation** rests on binding agreements that enable the totalisation of contributions, benefit exportability, and equal treatment, complemented by robust data protection regimes that build trust in cross-border information exchange.

From an **organisational perspective**, dedicated regional bodies and coordination platforms guide implementation, harmonise procedures, and support dispute resolution and knowledge-sharing. **Semantic interoperability** is strengthened by secure digital identification systems and by adopting shared standards, classifications, and definitions that ensure data consistency and reliability across borders. Strong privacy and data protection frameworks further facilitate the exchange of sensitive information.

Finally, **technical enablers**—including interoperable IT systems, real-time or on-demand data exchange, digital wallets, contribution-tracking tools, and user-centric platforms built on 'once-only' principles—improve efficiency and make portability accessible to beneficiaries. Systems such as EESSI demonstrate how digital tools can streamline administrative processes across countries.

Overall, guaranteeing that workers' and pensioners' contribution and benefit records can be accessed across borders requires coordinated investments and capacity across all layers, underpinned by political commitment and sustained regional cooperation.

Barriers

Despite progress in legal, institutional, and digital infrastructure, the portability of social security entitlements continues to be limited by interconnected political, legal, organisational, semantic, and technical barriers (► see Table 2). These challenges collectively restrict efficient and secure cross-border payments and data exchange. Addressing these barriers is critical to ensure that cross-border social security payments and data access are efficient, reliable, and secure.

Political hesitation, often stemming from sovereignty concerns and fiscal implications, can slow the adoption and harmonisation of portability measures across countries. This political unevenness is mirrored in the **legal sphere**, where fragmented frameworks, reliance on bilateral agreements, and divergent eligibility rules hinder comprehensive coordination and leave mobile workers at risk of experiencing benefit gaps. Challenges related to the lack of social protection coverage and high levels of informality may also limit portability in certain contexts, for example, in parts of the ASEAN region, where a large share of the workforce is informal and many workers are excluded from contributory systems. Although beyond the scope of this paper, it is acknowledged that encouraging participation in contributory schemes and addressing informality are critical steps to enable meaningful cross-border portability.

At the **organisational level**, inconsistent uptake of portability mechanisms, siloed administrative structures, staff turnover, and limited institutional capacity, especially in less-resourced countries, impede the smooth implementation of cross-border processes. These institutional challenges are compounded by **semantic barriers**, such as inconsistent definitions, languages, classifications, and incomplete administrative registries, all of which reduce data reliability and interoperability.

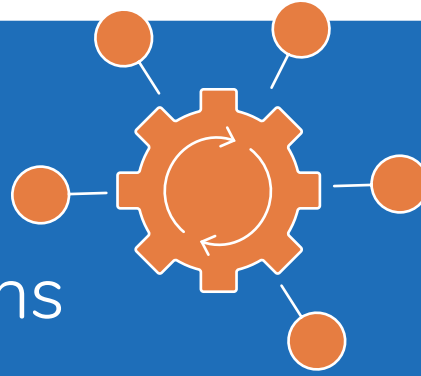
Finally, **technical limitations** remain a significant bottleneck. Legacy systems, limited real-time synchronisation, and weak interoperability reduce efficiency and slow claim processing. Even when digital solutions exist, such as SIACI in MERCOSUR, their success depends on sustained investment, coordination, and standardised procedures across countries.

In essence, effective cross-border portability requires overcoming political reluctance, legal fragmentation, organisational inconsistencies, semantic misalignment, and technical inefficiencies. Strengthening capacity and aligning systems across all these layers is essential to build on existing frameworks and achieve reliable, scalable portability.

Table 2. Key enablers and barriers: Summary table

Layer	Enablers	Barriers
Political	Regional cooperation and economic bodies and agreements (EU, MERCOSUR, ASEAN) Strong bi- and/or multilateral relations in line with policy objectives	Inconsistent political will across countries or regions, leading to absence of or weak bodies and agreements Limited engagement with countries that have significant migrant flows
Legal	Existence of (ideally binding) multi-lateral and bilateral agreements supporting portability Recognition of data protection and privacy policies (e.g. EU GDPR)	Fragmented frameworks and reliance on voluntary arrangements Weak legal harmonisation (e.g. eligibility criteria, benefit structures) and inconsistent enforcement schemes
Organisational	Dedicated regional bodies overseeing and guiding operationalisation (e.g. Red GEALC) Institutional coordination platforms	Absence or weakness of regional institutions for governance and enforcement Siloed administrations, resistance to change, and ongoing staff rotation
Semantic	Digital identification and cross-border digital authentication Adoption of common standards, classifications, and definitions (e.g. data dictionaries) Strong data protection/privacy rules (e.g. GDPR) to enable trust and security	Lack of harmonised definitions, variations in data standards and classifications, and uneven digital readiness Low institutional IT/tech capacity, leading to increased vulnerability to cyber risks
Technical	Development of interoperable IT systems and digital tools, preferably based on API platforms Digital wallets, digital contributions tracking mechanisms and claim processing	Legacy systems, lack of standardised processes, and uneven infrastructure across countries Lack of sustained investment and coordination Operational inefficiencies (e.g. limited real-time synchronisation and insufficient interoperability, lengthy delivery chains) Low institutional IT/tech capacity

8 Conclusions



The cross-border portability of social security entitlements is essential for protecting migrant workers' rights and ensuring equitable access to social security. While the principle is widely recognised in international and regional frameworks, its implementation remains uneven across regions and benefit types.

Successful portability depends on an integrated set of political, legal, institutional, and digital enablers. Binding bilateral and multilateral agreements provide the legal foundation for aggregating contributions and exporting entitlements, while their effectiveness relies on robust coordination mechanisms and platforms that facilitate alignment and dispute resolution. Digital interoperability through secure identification, data exchange standards, and cross-border authentication emerges as a critical operational enabler that transforms legal commitments into functioning systems.

Most countries, particularly in the MERCOSUR and ASEAN regions, are still far from fully using interoperability and digital systems to support cross-border social security portability. Ultimately, the feasibility and design of portability are shaped not only by innovation and progress in the adoption of new technologies, but also by the diversity of migration patterns, national policy choices, and broader capacity constraints.

Pre-savings contributory entitlements – primarily pensions – are the most portable. Their portability is facilitated by the ability to track, verify, and aggregate contribution histories across countries, enabling totalisation and proportional benefit calculation. In contrast, portability for health, unemployment, and family entitlements remains far more limited due to structural differences in financing models, eligibility rules, and national administrative arrangements.

This study confirms that BSSAs remain the dominant global mechanism for portability, even in regions with multilateral frameworks. Their prevalence reflects practical considerations: they allow countries to tailor arrangements to specific migration corridors, institutional capacities, and policy priorities. Multilateral agreements – such as those in the EU and MERCOSUR – offer broader and more coherent frameworks, but require high levels of political alignment, legal harmonisation, and administrative capacity, which are not always feasible or desired. The findings, therefore, do not support a hierarchy of mechanisms, but rather underscore that the effectiveness of any approach depends on alignment with a country's objectives and capacities, not on the breadth of the framework.

Digital interoperability provides significant opportunities to streamline processes, reduce administrative burdens, and enhance access to entitlements for mobile workers – but it is most effective when applied to frameworks that are policy-aligned, legally grounded, and institutionally supported. As labour mobility continues to rise, sustained investment in these foundations will be essential to ensure that social security systems keep pace with global mobility and uphold the rights and entitlements of all workers across borders.

A renewed commitment to harmonising global policies, procedures, and technical standards, aligned with each country or region's policy objectives, digital investments, and institutional capacities, is essential to making portability a practical reality. This requires coordinated legal frameworks, interoperable information systems, shared data governance standards, and sustained political and financial commitment across institutions and borders to translate high-level alignment into operational delivery.

Finally, the study also highlights several areas for which further research is essential to deepen understanding and inform future policy and system design. These include:

- Expanding portability analysis beyond pensions to short-term entitlements like healthcare and unemployment insurance, and family entitlements
- Addressing the needs of short-term, circular, and informal migrants, who represent the majority of regional labour flows
- Evaluating the administrative and fiscal implications of interoperability models, including cost structures, institutional readiness, and long-term sustainability
- Developing comparative studies on emerging digital solutions, such as verifiable credentials, cross-border digital identity, and API-based data exchange, to assess their real-world performance and their potential to support portability in diverse legal and institutional contexts

Addressing these gaps will be critical to designing future portability arrangements that are both effective and inclusive.

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Annex 1.

Overview of legal frameworks for data portability and protection in the EU

Table A1. Key data portability and protection legal frameworks in the EU

Feature	OECD Guidelines	GDPR	Digital Markets Act (DMA)	EU Data Act	Interoperable Europe Act
Adoption	1980 (revised 2013)	In force since May 2018	Adopted 2022, in force from 2023	Adopted December 2023, gradual application	Adopted, December 2024, gradual application
Scope	International guidelines on privacy and cross-border data flows	Personal data protection across the EU	Ensures fair and competitive digital markets	Regulates access, sharing, and use of industrial and non-personal data	Cross-border interoperability: seamless data flows and co-operation among EU institutions and public sector bodies
Legal nature	Non-binding soft law (guidelines)	Binding EU regulation	Binding EU regulation	Binding EU regulation	Binding EU regulation
Applicable to	OECD and non-OECD countries adopting guidelines	Any entity processing personal data of EU residents	Large online platforms and services designated as 'gatekeepers'	Businesses, public sector, data holders and users (industrial/non-personal data)	Public sector
Key rights/obligations	Rights to access, correction, transparency, accountability of controllers	Rights to access, rectification, erasure, portability, restriction, objection	Gatekeepers must ensure interoperability, data portability, fair treatment of business users	Clarifies rights to access/use data, mandates data sharing under fair terms, requires interoperability	Mandatory interoperability assessments, Interoperable Europe label, Interoperable Europe governance

Annex 2.

Background documents and key informants

Background documents

- Playbook on digital social security delivery systems – Towards dynamic inclusion and interoperability, ► <https://documents1.worldbank.org/curated/en/099050824133015472/pdf/P1650391577ac30ef19fda1beb3c0deebec.pdf>
- International social security agreements in Asia-Pacific, ► [International Social Security Association \(ISSA\)](#)
- A thematic paper based on the Migration Governance Indicators (MGI) and the Objectives of the Global Compact for Safe, Orderly and Regular Migration, ► <https://www.migrationdataportal.org/sites/g/files/tmzbdl251/files/2024-03/social-protection-of-migrants.pdf>
- ASEAN Guidelines on Portability of Social Security Benefits for Migrant Workers in ASEAN, ► [ASEAN Main Portal](#)
- Extending social security to migrant workers, refugees and their families: A guide for policymakers and practitioners, ► [International Labour Organisation \(2021\)](#).
- The cross-border portability of social benefits, ► https://health.bmz.de/wp-content/uploads/studies/ODI_COVID_Refugees_final.pdf

Key informants:

- Robert Holzmann, Governor of Austria's Central Bank
- Raul Ruggia-Frick, Director, Social Security Development Branch at ISSA
- Tsion Tadesse Abebe, Migration Programme of the Institute for Security Studies
- Truman Packard, Lead Labor Economist, World Bank
- Experts from IOM

Annex 3. List of key informants

Table A2. Key informants

Note:
Despite efforts to ensure regional representation, interviews with key informants from the ASEAN region could not be conducted within the study timeframe.

Region	Organisation	Interviewee	Rationale/role
EU	Transwel	Jana Fingarova	Dissertation on Cross-Border Portability of Social Security Benefits (case study Germany – Bulgaria)
EU	DSV DRV Bund	Volker Schmitt Markus Bourauel	Working with/on EESSI, Digital Credentials for Europe (DC4EU), Electronic Health Insurance Card (EHIC)
EU	European Citizen Action Service (ECAS)	Claire Damilano	Processing portability claims as part of European Commission initiative Your Europe Advice
MERCOSUR	World Bank	Yolanda Martinez	Practice Manager for Digital Development in LAC
MERCOSUR	World Bank	Truman Packard	Lead Economist, focused on impact of social insurance in LAC
MERCOSUR	Ministry of Social Security Brazil	Silvia Maria de Pinho Ferreira	Coordinator of International Social Security Agreements
MERCOSUR	Administración Nacional de la Seguridad Social (ANSES) in Argentina	Christian Mikkelsen Loth; Vanina Sa	Handling international agreements

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