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Framework of the European Union Social Security Coordination and Its Digitalisation

RESEARCH

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ABSTRACT

Social Security Coordination (SSC) within the European Union (EU) is a framework that ensures individuals retain their social security rights as they move across member states, particularly in terms of pensions, healthcare, and unemployment benefits. The EU has made significant strides in integrating and simplifying the coordination of these systems, ensuring that people are not disadvantaged by cross-border mobility. This article examines the core principles of SSC and its ongoing evolution, particularly in light of increasing digitalisation through tools like the Electronic Exchange of Social Security Information (EESSI), Social Security E-Document (SED), and the European Digital Identity (EUDI). While the digital transformation of SSC is transforming the efficiency and transparency of cross-border exchanges. This paper highlights the importance of both technological advancements and institutional cooperation in achieving seamless and equitable social security coordination. It also underscores the role of digitalisation in improving the overall functioning of SSC.

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Introduction

The original concept of social security co-ordination is part of international law. It is formed by international agreements and treaties. Social security co-ordination instruments – in a wide sense – fall into the following categories: 1. Supra-national law (EU social security coordination); 2. Multilateral conventions and 3. Bilateral agreements.¹ This article will focus exclusively on the EU supranational social security coordination system. The inevitable aim of the coordination mechanism is to protect the social security right of cross-border (migrant) persons who left behind his/her original social security protection when s/he left the territory of the state of origin. The aim of this article to introduce the logic and scope of the EU social security coordination system with special regard to the brief outline the fifth guiding principle of the social security coordination (good cooperation among social security institutions) and its manifestation in the EESSI system. The used method is mainly descriptive and based primarily on relevant EU legislations and literature review.

Before starting to introduce the coordination issue, some fundamental cornerstones shall be underlined. 1. There is no European-wide supranational social security² system.³ Hence social

security is essentially a creation of national law.⁴ These schemes are administered by national bodies governed by national rules and regulations. 2. The scope of social security schemes is therefore traditionally confined to the nationals or the territory of that particular EU Member State (hereinafter: MS). 3. Without the principle of free movement of persons in EU,^{5,6} and their cross border element, the social security coordination system is inapplicable. 4. The territorial nature and diversity of social security can cause problems when people migrate from one State to another (territorial scope of national social security system and discrimination based on original citizenship).⁷

The EU provides common rules to a person's social security rights when moving within Europe (EU 27, plus Iceland, Liechtenstein, Norway, Switzerland and under a special agreement with UK⁸). However, the EU regulations of social security coordination⁹ do not replace national systems with a single European one. All countries are free to decide who is to be insured under their legislation, which benefits are granted and under what conditions.¹⁰ The EU's coordination regulations governing social security deal with provisions offered within the framework of the statutory social security system. Coordination aims at eliminating disadvantageous situations that may arise from the differences of the systems operating in Member States as well as acknowledging and maintaining the rights obtained, and implementing cooperation among the

¹ As for curiosity, the first bilateral social security convention aimed at the protection of migrants was that between France and the Dukedom of Parma in 1827, this guaranteed the payment of pensions owed by one of these nations to subjects of the other. Source: N. Valticos, *Droit international du travail*, 2e ed., Paris, Dalloz, 1983, paragr. 153 and 219.

² In a simplified definition, social security schemes are those that protect people against one or more of the nine recognised social risks contained within the ILO Convention No. 102 in 1952 and the claimants have an absolute right to benefits.

³ For example, there are minimum 27 different statutory old-age pension systems in the 27 EU MSs.

⁴ It means that the amounts of benefit, conditions of entitlement and duration of payment within social security schemes, financing are determined by national law.

⁵ As EU citizens, all nationals of the Member States of the European Union have the right to move freely within the European Union and to enter, reside and work or being entrepreneur (self-employed) in any EU Member State. This right to freedom of movement is guaranteed by Article 21 of the Treaty on the Functioning of the EU (TFEU).

⁶ Free movement of persons (2021) <https://www.europarl.europa.eu/factsheets/en/sheet/147/free-movement-of-persons> (Retrieved 11.05.2025)

⁷ Jason NICKLESS and Helmut SIEDL (2004) Co-ordination of Social Security in the Council of Europe: Short Guide https://www.coe.int/t/dg3/sscssr/Source/SocSec%20coordination%20Short%20Guide_English.pdf (Retrieved 11.05.2025)

⁸ Guidance relating to the UK's operational implementation of the social security coordination provisions of Part 2 of the EU Withdrawal Agreement: Citizens' Rights (2021) <https://www.gov.uk/government/publications/social-security-arrangements-between-the-uk-and-the-eu-from-1-january-2021-staff-guide/guidance-relating-to-the-uks-operational-implementation-of-the-social-security-coordination-provisions-of-part-2-of-the-eu-withdrawal-agreement-citi> (Retrieved 11.05.2025)

⁹ The legislations in force are the Regulation 883/2004 (Basic Regulation, hereinafter: BR) and Regulation 987/2009 (Implementing Regulation, hereinafter: IR). Source: EU social security coordination, <https://ec.europa.eu/social/main.jsp?catId=849> (Retrieved 11.05.2025)

¹⁰ EU social security coordination (2016) <https://ec.europa.eu/social/main.jsp?catId=849> (Retrieved 11.05.2025)

Member States.

EU free movers may be at risk of being treated differently from the nationals of the state to which they move. This may be because that new state will not pay benefits to non-nationals. The territoriality of social security means that those who decide to make a long-term move to another country may lose some of the social security rights they have acquired in their home state. For example they may lose all credit for the periods of residence, employment or economic activity they have acquired in their home state as these periods may not be counted under the national social security law of their new state. This is particularly important in relation to pensions for old age or invalidity where entitlement to and the amount of pension depend upon periods of recognised residence, employment or economic activity.¹¹

Results

Legal Context of Social Security Coordination

1. The goals of the European Union

From the start of the European Economic Community (EEC) in 1957, the free movement of persons is considered to be one of the basic principles of the Treaty of Rome.¹² Together with the free movement of capital, goods and services, it still constitutes the cornerstone of the European Union.¹³

Free movement of persons implies that within an internal European market each citizen has the right to travel to another Member State of the EU to work, to look for work, to study or to go on holiday.

However, the free movement of persons faces some restrictions.¹⁴ Apart from some "natural" limitations, such as cultural problems, linguistic barriers or differences in standard of living, people can also be confronted with obstacles which are the result of differences in national legislations, in particular in the field of social security.¹⁵

The drafters of the Treaty of Rome were well aware not only that social security systems in the Member States of the EU differed to a large extent but also that the rules governing social security were applicable only on the territory of each Member State and that this situation was liable to create impediments for the free movement of persons. Mobility of persons would remain an unrealistic goal when workers leaving their country to work in another EU country would lose – completely or partly – their social security rights of the State they are leaving or when they would not be able to obtain benefits in the State where they go to.¹⁶

In addition, one has also to take into account the developments regarding EU citizenship, according to which every EU citizen has the right to move and reside freely, subject to certain conditions and limitations, on the territory of the Member States of the European Union.¹⁷

For the reasons set out above, the European Treaty provides since its origin in 1958 that the Council of Ministers, the legislative body of the Community (later joined by the European Parliament), with unanimity of votes, must take those measures that are necessary in the field of social security for improvements of the free movement of persons. The Council of Ministers did so as one of the first measures ever taken by the European Economic Community; already on 1 January 1959, Regulations Nrs. 3 and 4 on social security for migrant

¹¹ Stefano GIUBBONI - Feliciano IUDICONE - Manuelita MANCINI Michele FAIOLI: Coordination of Social Security Systems in Europe, Study for the EMPL Committee (2017) [https://www.europarl.europa.eu/thinktank/en/document/IPOL_BRI\(2017\)614192](https://www.europarl.europa.eu/thinktank/en/document/IPOL_BRI(2017)614192) (Retrieved 11.05.2025)

¹² Treaty establishing the European Economic Community (EEC) in Italy, in 25 March 1957. Source: treaty of Roma <https://www.europarl.europa.eu/about-parliament/en/in-the-past/the-parliament-and-the-treaties/treaty-of-rome> (Retrieved 11.05.2025)

¹³ Rob CORNELISSEN and Frederic DE WISPELAERE: Sixty years of European social security coordination: achievements, controversies and challenges https://www.etui.org/sites/default/files/Chapter%207_1_3.pdf (Retrieved 11.05.2025)

¹⁴ Björgvinsson, K. B. (2025). Social security coordination. In *Edward Elgar Publishing eBooks* (pp. 70–92).

<https://doi.org/10.4337/9781803922461.00015> (Retrieved 11.05.2025)

¹⁵ József HAJDÚ- Mengxuan CHEN (2022) EU Social Security Coordination of Old-age Pensions, *Scientific Journal of Humanities and Social Sciences* Volume 4 Issue 7, 2022. pp. 536-538.

¹⁶ 50 years of Social Security Coordination Past – Present – Future Report of the conference celebrating the 50th Anniversary of the European Coordination of Social Security ed. Yves JORENS (Prague, 2009) http://aei.pitt.edu/42168/1/social_security_coordination.pdf (Retrieved 11.05.2025)

¹⁷ EU social security coordination; <https://ec.europa.eu/social/main.jsp?catId=849> (Retrieved 11.05.2025)

workers entered into force.¹⁸

On 1 October 1972 these regulations were completely revised and replaced by Regulation Nrs. 1408/71 and its implementing Regulation 574/72. Since 1971 these Regulations were the subject of several amendments in order to accommodate trends in national legislation and progress resulting from the rulings of the Court of Justice. On 1 May 2010, a new set of regulations, Regulation 883/2004 (BR) and its implementing Regulation 987/2009 (IR) became applicable. Without changing it dramatically, the new regulations modernise and in some cases also simplified the EU supranational framework for social security coordination.¹⁹

The overall objective of these Regulations from the very beginning has been to install a coordination of the various social security systems in the European Union. Rather than to harmonise the different national regulations - which would mean creating a common European system of social security – these Regulations build bridges between the national social security schemes; the national schemes are linked together, so as to prevent people moving within Europe from losing out on social security rights on account of their moving.²⁰

These Regulations therefore leave intact the competences of the national Member States to determine the principles and rules of their own national social security systems. This means that the different national legislators remain competent to determine who is insured, which benefits are provided and under which conditions, how benefits are calculated and how long they are provided, as long as there is no discrimination between citizens of the European Union.

This means that national rules will, in principle, not be substituted by the European rules in these

domains. For example, the level of pensions, or pensionable age in a particular Member State remains within the competence of the national legislation.²¹

These coordinating instruments only apply in situations where there is any cross-border element. Coordination is aimed at guaranteeing that someone who wants to go to work in another Member State does not lose his/her social security rights due to provisions applying in other social security systems. In addition, its goal is to prevent migrant workers from being treated unfairly in the field of social security in comparison with persons who have worked all their lives in one and the same Member State.²² Conversely, coordination, and European internal market law in general, does not apply in situations which are wholly confined within a single Member State.²³

2. *Personal Scope in Nutshell*

The large majority of Europeans are covered by the Regulation. Regulation 883/2004 applies to persons who are either nationals of an EU Member State or who are stateless persons and refugees, if they reside in a Member State and if they are or have been subject to the social security legislation of one or more Member States. This means that, if a person is a Union citizen who resides in the EU and who is insured in a Member State, the regulation is applicable to him/her.

The family members and the survivors of the persons in the previous category are also covered, irrespective of their nationality, as well as certain other survivors.²⁴ Nationals from Iceland, Liechtenstein and Norway are covered via the European Economic Area (EEA) Agreement. On 1 June 2002, the Agreement between the European Community and its Member States, of the one part, and the Swiss Confederation, of the other, on the free movement of persons was signed,

¹⁸ Founding agreements (2024) https://european-union.europa.eu/principles-countries-history/principles-and-values/founding-agreements_en (Retrieved 11.05.2025)

¹⁹ Rob CORNELISSEN (2009) 50 Years of European Social Security Coordination European; Journal of Social Security, Volume 11 (2009), Nos. 1–2

²⁰ József HAJDÚ- Mengxuan CHEN (2022) EU Social Security Coordination of Old-age Pensions, Scientific Journal of Humanities and Social Sciences Volume 4 Issue 7, 2022. pp. 536-538.

²¹ Furåker, B., & Larsson, B. (2020). Trade Union cooperation in Europe. In *Springer eBooks*. <https://doi.org/10.1007/978-3-030-38770-9>(Retrieved 11.05.2025)

²² Ristuccia, F. (2023). The Status of Workers in EU Free Movement Law: A Difficult Balance Between Equality and Economic Integration. In: Amoroso, D., Marotti, L., Rossi, P., Spagnolo, A., Zarra, G. (eds) *More Equal than Others?*. T.M.C. Asser Press, The Hague. https://doi.org/10.1007/978-94-6265-539-3_7(Retrieved 11.05.2025)

²³ Nicolas RENNUIY The emergence of a parallel system of social security coordination *Common Market Law Review* Volume 50, Issue 5 (2013) pp. 1221 – 1266

²⁴ Holm, E. (2020). Coordination of classic and specific family benefits – challenges and proposed solutions. *European Journal of Social Security*. <https://doi.org/10.1177/1388262720927494>(Retrieved 11.05.2025)

so that the coordination rules also apply in relation to Switzerland.²⁵

Since May 2003 third-country nationals (TCN)²⁶,²⁷ as well as the members of their families and their survivors can rely on the EU provisions on coordination of social security, provided they are legally resident in the territory of a Member State and are in a situation which is not confined in all respects within a single Member State. Since 1 January 2011, Regulation (EU) No 1231/2010 extends modernised coordination to nationals of non-EU countries (third-country nationals) legally resident in the EU and in a cross-border situation. Their family members and survivors are also covered if they are in the EU.²⁸ However, it does not apply to Denmark.

3. Material Scope (Risks Covered)

Regulation 883/2004 lists the social security benefits covered by the Regulation. These largely correspond to the general traditional risks of social security: sickness benefits, maternity and equivalent paternity benefits, invalidity benefits, including those intended for the maintenance or improvement of earning capacity, old-age benefits (including early old-age benefits),²⁹ survivors' benefits, benefits in respect of accidents at work and

occupational diseases, death grant, unemployment benefits, family benefits and pre-retirement benefits.³⁰

There are some additional general considerations on the material scope of the Regulation 883/2004: first, it only covers statutory social security schemes (occupational social security schemes, established by collective agreement, basically are not covered); second, it applies regardless of whether the benefits are contributory or noncontributory and third it applies irrespective of whether the benefits are provided generally or only in certain sectors or for certain categories of persons.

In general, social assistance does not fall within the scope of Regulation 883/2004. A benefit is social assistance if: 1. it is discretionary; or 2. it is a benefit which is general in nature, which implies that it covers the risk of general need and grants a minimum income to all citizens.³¹

The Four Basic and Fifth Administrative Principles of Social Security Coordination

Four basic coordination principles are used in order to protect the social security rights of migrant persons and to remedy the problems created by the territoriality and diversity of national social security systems. These four basic principles are Determination of the applicable legislation. It means that a single legislation applicable for migrant persons in every case.³² In cross-border situations

²⁵ Frederic DE WISPELAERE, Lynn DE SMEDT & Jozef PACOLET: Social Europe Coordination of social security systems at a glance 2020 Statistical Report; <https://ec.europa.eu/social/BlobServlet?docId=23807&langId=en> (Retrieved 11.05.2025)

²⁶ Any person who is not a citizen of the European Union within the meaning of Art. 20(1) of TFEU and who is not a person enjoying the European Union right to free movement, as defined in Art. 2(5) of the Regulation (EU) 2016/399 (Schengen Borders Code), and not a citizen one of the countries associated with the European Union. Switzerland, Norway, Iceland and Liechtenstein. (Source: https://home-affairs.ec.europa.eu/networks/european-migration-network-emn/emn-asylum-and-migration-glossary/glossary/third-country-national_en) (Retrieved 11.05.2025)

²⁷ Nationals of Micro-States (Monaco, San Marino, Vatican City) are treated as third-country nationals since, although there are no border controls, there is no formal agreement for them to be 'beneficiaries of the free movement of persons' as defined in the EU acquis. When the Brexit transition period ended and UK officially left the EU, as a non-member without freedom

of movement, the country joins the rest of the world in its less privileged status.

²⁸ EU legislation, Modernised coordination; <https://ec.europa.eu/social/main.jsp?catId=867&langId=en> (Retrieved 11.05.2025)

²⁹ According to the Article 1 (x) of the BR, the *early old-age benefit* means a benefit provided before the normal pension entitlement age is reached and which either continues to be provided once the said age is reached or is replaced by another old-age benefit;

³⁰ According to the Article 1(x) of the BR, *pre-retirement benefit* means: all cash benefits, other than an unemployment benefit or an early old-age benefit, provided from a specified age to workers who have reduced, ceased or suspended their remunerative activities until the age at which they qualify for an old-age pension or an early retirement pension, the receipt of which is not conditional upon the person concerned being available to the employment services of the competent State;

³¹ A-Z on social security coordination (2025) https://employment-social-affairs.ec.europa.eu/policies-and-activities/moving-working-europe/network-legal-experts-moves/z-social-security-coordination-faqs/z-social-security-coordination-faqs-introduction_en?prefLang=fi (Retrieved 11.05.2025)

³² Under EU rules, someone can be subject to only 1 country's social security laws at a time - so they must pay their social

it could happen that a migrant person is either simultaneously subject to two legislations, or that s/he is not subject to any legislation at all. This is a consequence of the fact that the national legislators remain competent to determine the conditions under which someone is insured or not. In some countries one has e.g. to reside in order to be subject to the social security legislation. In other countries one has to work. Without coordination the application of these different criteria would lead to legal conflicts (collision).³³ These legal conflicts are impeding the free movement of persons and can be avoided by stating that the law of only one State should apply at the same time and by establishing a rule or set of rules to decide which law it should be. That is the reason why the BR contains conflict rules, determining the applicable legislation. A migrant person will therefore only be insured under the legislation of one Member State, to the exclusion of other national legislations. In general, an employed or self-employed person is subject to the country of employment, even if s/he lives in another country. It is in this country that s/he has to pay contributions, and it will be this country's institutions that in principle will pay the benefits. As to any rule, some exceptions are provided for.³⁴

Second principle is Equal treatment or non-discrimination. As a basic human rights the Regulations of the EU social security prohibit any kind of 'traditional' discrimination, such as origin, sex, minority, religion, etc. However, this principle of European social security law is the prohibition of every discrimination between persons on the basis of nationality of an EU or EFTA (Switzerland/Liechtenstein/Norway/Iceland and in a certain sense UK) state. Migrant persons might in the new country of employment or residence be confronted with legislations that contain discriminatory provisions on the basis of nationality. National legislation might provide for stricter

conditions of application for foreigners. The principle of equal treatment prevents States from treating foreign nationals less favourably than their own nationals. The Regulation provides that all persons to whom it applies enjoy the same rights and have the same obligations under the social security legislation of any EU Member State as the nationals thereof.³⁵

Third principle is aggregation of periods. It is the right to preserve social security rights in the course of acquisition. In many legislations, the right to obtain a benefit is dependent on the condition of having fulfilled a certain period of insurance, (self-) employment or residence under the legislation concerned. If someone wants to obtain a benefit, s/he should have paid contributions during a certain period in that country or have been working or residing for a certain period. Such qualifying periods can be very detrimental for migrant workers. The danger is that when persons move from one State to another they will lose the credit they have gained for periods completed in their former State. This could be very harsh indeed for those who wish to move to another country after they have already been employed in their home State for a long time. Without the principle of aggregation, it could happen that someone who has worked in several Member States during his/her career would not fulfil the qualifying period in any of these States, and as such would be left without entitlement. The insurance period, which s/he has fulfilled in one of these countries, would only give right to benefits if s/he would have been insured there for the whole of the qualifying period. This is especially the case for the acquisition of the right to a pension. To counter the negative consequences of such rules, the Regulation provides for the aggregation of periods. For obtaining a right to a benefit, the institution of a Member State has to take into account periods of insurance, work or residence fulfilled in (an)other Member State(s). The periods completed in (an)other Member States are considered by the institution from which a benefit or affiliation is claimed, as if those periods had been completed under its legislation. Through this principle migrant workers can

security contributions in that country only. As a general rule, the laws of the country where the person actually works (as an employee or self-employed) apply, and contributions must be paid there.

³³ Take an example: if somebody lives in Hungary, where working is a criterion for being insured, but who works in the Netherlands, where residing is the criterion. This person would be subject to no social security legislation at all and would therefore have no entitlement to benefits. In Hungary, s/he is not insured, because s/he is not working there and in the Netherlands s/he is not insured, because s/he is not living there. This is referred to as a negative legal conflict. Conversely, if that person works in

Hungary and resides in the Netherlands, s/he would fulfil the conditions of both legislations and s/he would be simultaneously insured in both countries, which implies having to pay contributions twice. This is referred to as a positive legal conflict.

³⁴ Stefano GIUBBONI - Feliciano IUDICONE - Manuelita MANCINI Michele FAIOLI: Coordination of Social Security Systems in Europe, Study for the EMPL Committee (2017) [https://www.europarl.europa.eu/thinktank/en/document/IPOL_BRI\(2017\)614192](https://www.europarl.europa.eu/thinktank/en/document/IPOL_BRI(2017)614192) (Retrieved 11.05.2025)

³⁵ Research Handbook on European Social Security Law (2015) Edited by Frans Pennings and Gijsbert Vonk; Elgaronline <https://www.elgaronline.com/edcollbook/book/9781782547334/9781782547334.xml> (Retrieved 11.05.2025)

obtain certain benefits (e.g. old-age pensions), regardless of changes or even interruptions in their international career.³⁶

The fourth principle is the exportability of benefits. It is the right to preserve social security rights that one has acquired within the European Union. Another way to describe this principle is the possibility to export social security benefits. Many national legislations require as a condition for the payment of benefits that the person resides in the territory of the State concerned. Such national provisions can be very detrimental, in particular for migrant workers. Consider the case of a migrant worker, who has worked all of his/her life abroad, who acquired the right to a pension and decides at the end of his/her active life to return to his/her country of origin. In that case s/he might lose his/her acquired rights. This would imply that citizens of the European Union would, as a matter of fact, be compelled to stay all their life in one and the same country if they want to get social security benefits. This is clearly an impediment to the free movement of persons. For this reason, the Regulation provides that “cash benefits payable under the legislation of one or more Member States or under this Regulation shall not be subject to any reduction, amendment, suspension, withdrawal or confiscation on account of the fact that the beneficiary or the members of his/her family reside in a Member State other than that in which the institution responsible for providing benefits is situated”. However, EU law contains some exceptions to the principle of exportability of benefits.³⁷

The fifth principle is good Administrative Cooperation. It is promoting good administrative cooperation among Member States' social security

institutions with the aim of smoothing the effective exercise of rights (and duties) conferred upon individuals by the regulations.³⁸ In accordance with the principle of good administration, the institutions must respond to all queries within a reasonable period of time and shall also provide the persons concerned with any information necessary for them to exercise their rights.

The objective of ‘good administration’ will be supported by the electronic exchange of data between institutions. The Commission is working to establish and manage a database through the Electronic Exchange of Social Security Information (EESSI) system which will network more than 50,000 branches of national institutions. Former paper E-forms will be no longer used, though some will be replaced by new portable documents (SED). Citizens will also have access to the EESSI system through a directory, listing all of the national and local institutions involved with social security coordination.³⁹

Digitalisation in social security coordination

This follows the objectives of Europe's Digital Decade⁴⁰ that sets out the objectives and measures to support the digital transformation of public administrations, achieve cross-border interoperability and facilitate the interaction with citizens.⁴¹ Within this subchapter the Electronic Exchange of Social Security Information (EESSI), the Structured Electronic Documents (SEDs), EU Digital Identity (EUDI) and European Social Security Pass (ESSPASS) will be discussed.

1. The Electronic Exchange of Social Security Information (EESSI)

Within this strategy the EU rules on social security coordination call on the Member States to use digital

³⁶ Yves JORENS, Filip van OVERNMEIREN (2009) General Principles of Coordination in Regulation 883/2004 European Journal of Social Security <https://journals.sagepub.com/doi/abs/10.1177/138826270901100103> (Retrieved 11.05.2025)

³⁷ József HAJDÚ Social Protection of (Im)migrants by the EU Social Security Coordination Scheme (2017) <https://www.ceeol.com/search/article-detail?id=607644> (Retrieved 11.05.2025)

³⁸ Stefano GIUBBONI - Feliciano IUDICONE - Manuelita MANCINI Michele FAIOLI: Coordination of Social Security Systems in Europe, Study for the EMPL Committee (2017) [https://www.europarl.europa.eu/thinktank/en/document/t/IPOL_BRI\(2017\)614192](https://www.europarl.europa.eu/thinktank/en/document/t/IPOL_BRI(2017)614192) (Retrieved 11.05.2025)

³⁹ Coordination of Social Security Systems in the European Union. An explanatory report on EC Regulation No. 883/2004 and its Implementing Regulation No. 987/2009;

International Labour Office, ILO Decent Work Technical Support Team and Country Office for Central and Eastern Europe. - Budapest: ILO, 2010; https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---sro-budapest/documents/publication/wcms_166995.pdf (Retrieved 11.05.2025)

⁴⁰ According to the strategy of the Europe's Digital Decade, the EU is pursuing a human-centric, sustainable vision for digital society throughout the digital decade to empower citizens and businesses. Source: <https://digital-strategy.ec.europa.eu/en/policies/europes-digital-decade> (Retrieved 11.05.2025)

⁴¹ Social Security Coordination Digital Information Exchange System <https://ec.europa.eu/social/BlobServlet?docId=17938&langId=en> (Retrieved 11.05.2025)

technologies for the exchange, access and processing of the data required for the application of these rules as well as to offer user-friendly services to citizens enjoying their right to free movement across Europe.

The Electronic Exchange of Social Security Information (EESSI)⁴² is an IT system helping social security institutions exchange social security information across Europe.⁴³ Its aim to coordinate all Social Security Institutions involved in order to ensure a fast and reliable exchange of information and an optimization of the citizens' claims handling process.⁴⁴ Using this system, national institutions are able to process citizens' claims for social security benefits (such as unemployment benefits, reimbursement of healthcare costs, family benefits, and old-age pension) in a faster and more efficient way. In the meantime, the citizens of the EU member-states, third countries' citizens that reside in the member-states and are subject to the legislation of one or more member-states, as well as their family members.⁴⁵

EESSI (Electronic Exchange of Social Security Information) is already functional, with the central system made available in July 2017 and the first exchanges starting in January 2019. While it was expected to be fully implemented by 2021, with all participating countries operational by June 2022, the implementation is ongoing and involves significant national integration efforts. As of Q4 2024, 98% of the 99 EESSI business use cases are implemented by participating countries.⁴⁶

As for the operation of it, all communication between national institutions on social security files

are to take place through EESSI. The national social security institutions exchange structured electronic documents (SED) and follow commonly agreed procedures to process them. These documents are routed through EESSI to the correct destination in the right institutions in another Member State. Staff in social security institutions are able to find the correct destination in participating countries by consulting a repository of national institutions.⁴⁷

It is worthwhile to highlight some important advantages of the EESSI: a) speeds up and simplifies in a secure way the information exchange between social security institutions; b) provides more correct and complete data thanks to standard electronic forms and procedures; c) might help to combat with fraud and error; d) more efficient implementation of social security coordination rules e) secure handling of personal data; f) collect statistics about social security coordination and verification of social security rights.

2. Structured Electronic Documents (SEDs)

The existence of the SED is the inevitable precondition to operate EESSI system. In other words, modernised coordination regulations require data to be exchanged electronically between institutions across the EU. The Structured Electronic Documents (SED) have been designed and will be exchanged following electronic procedures (so-called Business Use Cases). This will make communication of data between institutions easier and more efficient. Around 320 structured electronic documents have been designed for 120 defined use cases – life situations (BUC – Business Use Cases) in various areas of social security.⁴⁸

⁴² The Electronic Exchange of Social Security Information system (EESSI) connects electronically around 15.000 social security institutions of the 27 EU Member States plus Iceland, Liechtenstein, Norway and Switzerland and the United Kingdom. It replaces the paper-based exchanges to the benefit of citizens who have lived and worked in several of these countries.

⁴³ Precisely, social security institutions across the EU and Euroean Economic Area (EEA) countries plus Switzerland and the United Kingdom are able to exchange information digitally through EESSI.

⁴⁴ Electronic Exchange of Social Security Information (EESSI) <https://www.efka.gov.gr/el/eessi-en> (Retrieved 11.05.2025)

⁴⁵ Electronic Exchange of Social Security Information (EESSI) (2025) <https://employment-social-affairs.ec.europa.eu/policies-and-activities/moving-working-europe/eu-social-security->

[coordination/digitalisation-social-security-coordination/electronic-exchange-social-security-information-eessi_en](https://employment-social-affairs.ec.europa.eu/policies-and-activities/moving-working-europe/eu-social-security-coordination/digitalisation-social-security-coordination/electronic-exchange-social-security-information-eessi_en) (Retrieved 11.05.2025)

⁴⁶ Electronic Exchange of Social Security Information (EESSI) (2025) https://employment-social-affairs.ec.europa.eu/policies-and-activities/moving-working-europe/eu-social-security-coordination/digitalisation-social-security-coordination/electronic-exchange-social-security-information-eessi_en (Retrieved 11.05.2025)

⁴⁷ Since May 1, 2010, the legal basis for this project has been laid down in the following consolidated European regulations: Regulation (EC) No 883/2004 (Title V – Article 78) and Implementing Regulation (EC) No 987/2009. (Title V – Article 95). Accordingly, all social security institutions in all Member States have to adapt for the implementation of the project at their own level.

⁴⁸ Structured electronic documents; <https://www.employment.gov.sk/en/coordination-social->

The legal basis for the issuance of Structured Electronic Document is the IR. Article 4 of Regulation 987/2009, foresees an electronic information exchange system in the field of social security under which '[t]he transmission of data between the institutions or the liaison bodies shall be carried out by electronic means' and '[t]he Administrative Commission shall lay down the structure, content, format and detailed arrangements for exchange of documents and structured electronic documents'.⁴⁹

The legal value of a Structured Electronic Document is the following: Article 5 of Regulation 987/2009 provides that documents issued by the relevant authorities in a Member State must be accepted in other Member States: "1. Documents issued by the institution of a Member State and showing the position of a person for the purposes of the application of the basic Regulation [883/2004] and of the implementing Regulation [987/2009], and supporting evidence on the basis of which the documents have been issued, shall be accepted by the institutions of the other Member States for as long as they have not been withdrawn or declared to be invalid by the Member State in which they were issued." If there is doubt about the validity of SED or the accuracy of the facts contained in the document, Article 5(2) of Regulation 987/2009 requires the involved authority to contact the issuing institution in order to obtain the necessary clarification and, where appropriate, the withdrawal of that document.⁵⁰ This provision gives effect to rulings of the EU Court of Justice regarding the compulsory nature of documents issued under the EU social security rules.⁵¹

Even though the main target is the full digitalisation of social security coordination in EU, there are some traditional *portable documents* (PDs). Former paper 'E-forms' disappear under modernised coordination, but in some cases the information required by a citizen will be issued in the form of a portable document. There are ten portable documents altogether, including the European Health Insurance Card. Apart from the card, the others are paper forms. They will be issued from 1 May 2010 and even after the transitional period.⁵²

3. EU Digital Identity (EUDI)

The EU Digital Identity⁵³ will be available⁵⁴ to EU citizens, residents, and businesses who want to identify themselves or provide confirmation of certain personal information. It can be used for both online and offline public and private services across the EU. Every EU citizen and resident in the Union will be able to use a personal digital wallet. It will allow EU citizens to carry digital versions of entitlement documents such as A1 certificates and the European Health Insurance Card by making them instantly verifiable by the relevant local authorities such as health-care providers and labour inspectorates.⁵⁵ The EU Digital Identity Wallet will simplify access to e-government services like social security management. It will allow citizens to securely verify their identities and interact with government portals, potentially reducing administrative burdens and improving service efficiency.⁵⁶

Prior to its roll-out in Member States, the EU Digital Identity Wallet is piloted in four large scale projects, that launched on 1 April 2023. The objective of these projects is to test digital identity wallets in real-life scenarios spanning different sectors.⁵⁷

[security-systems/official-documents/structured-electronic-documents.html](https://www.employment.gov.sk/en/coordination-social-security-systems/official-documents/structured-electronic-documents.html) (Retrieved 11.05.2025)

⁴⁹ Structured electronic documents (2024) <https://www.employment.gov.sk/en/coordination-social-security-systems/official-documents/structured-electronic-documents.html> (Retrieved 11.05.2025)

⁵⁰ Specialised information (2025) https://employment-social-affairs.ec.europa.eu/policies-and-activities/moving-working-europe/eu-social-security-coordination/specialised-information_en (Retrieved 11.05.2025)

⁵¹ Case C-178/97 Banks [2000] EU:C:2000:169; Case C-620/15 A-Rosa Flussschiff [2017] EU:C:2017:309

⁵² Official documents, <https://ec.europa.eu/social/main.jsp?catId=868&langId=en> (Retrieved 11.05.2025)

⁵³ The aim of the European Digital Identity (EUDI) Regulation is to revolutionise digital identity in the EU by

enabling the creation of a universal, trustworthy, and secure European digital identity wallet.

⁵⁴ The Regulation (EU) 2024/1183 establishing the European Digital Identity Framework has entered into force. The framework mandates Member States to provide EU Digital Identity Wallets to citizens within 24 months of Implementing Acts adoption, outlining technical specifications and certification. The new Regulation establishing a framework for a European Digital Identity builds on the 2014 Regulation on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation).

⁵⁵ European Union – New Steps towards Digital Social Security (2023) <https://kpmg.com/xx/en/home/insights/2023/09/flash-alert-2023-174.html> (Retrieved 11.05.2025)

⁵⁶ European Digital Identity Wallet (2024) <https://digital-strategy.ec.europa.eu/en/factpages/european-digital-identity-wallet> (Retrieved 11.05.2025)

⁵⁷ European Digital Identity; <https://commission.europa.eu/strategy-and-policy/priorities->

There are many advantages to introduce EU Digital Identity Wallet, but in the same time there are some risks. The most significant possible drawbacks will be mentioned here. First, the implementation challenges and fragmentation. The national eID systems vary widely, causing interoperability and coordination issues, and the public-private collaboration remains unclear, potentially slowing rollout and reducing uptake.⁵⁸ Second, digital exclusion. It means that individuals with low digital literacy or without smartphones (e.g. elderly, marginalized groups) may be left behind. Third, the privacy and surveillance concerns. Namely, centralized issuance and government control raise fears of mass surveillance. Persistent identifiers may erode anonymity.⁵⁹ Moreover, mandatory browser recognition of certificates (QWACs) poses security risks, including the potential for man-in-the-middle attacks.⁶⁰ Fourth, security vulnerabilities. The eWallet breaches or phishing attacks could expose sensitive credentials; strong lifecycle and encryption protocols are essential. Fifth, the deepfakes and biometric fraud remain emerging threats, and it is lack of clear business models for private providers and wallet operators threatens commercial viability.⁶¹

The European Digital Identity Framework entered into force in May 2024. Each Member State will offer

at least one version of the EU Digital Identity Wallet, built to the same common specifications, by 2026.⁶²

4. European Social Security Pass (ESSPASS)

There is a relating legislative project on the feasibility of an European Social Security Pass⁶³ to simplify citizens' interactions with social security institutions, healthcare providers and labour inspectorates. Such a solution will be developed by leveraging the European Blockchain Services Infrastructure (EBSI) platform, the first EU-wide blockchain infrastructure supporting the delivery of cross-border services, for instance for citizens to manage their own identity, educational credentials and register documents.⁶⁴

The ESSPASS pilot project, which started in March 2021, involved around a dozen of interested countries and remains open to participation from other interested Member States. It will address the most relevant technical, organisational and legal issues of the envisaged solution, also in view of a possible large-scale deployment. In a first phase, the pilot focused on the digitalisation of the procedures related to the Portable Document (PD),⁶⁵ which certifies the legislation applicable to the holder, and is used for example when a person is temporarily posted by her/his employer to another Member State. An extension to implement further social security coordination procedures (e.g. the European Health Insurance Card⁶⁶)

[2019-2024/europe-fit-digital-age/european-digital-identity_en](https://ec.europa.eu/digital-building-blocks/sites/display/EUDIGITALIDENTITYWALLET/European+Commission+adopts+new+round+of+EU+Digital+Identity+Wallet+implementing+regulations) (Retrieved 11.05.2025)

⁵⁸ Isadora DULLAERT, Keren WEITZBERG, Emrys SCHOEMAKER, and Aaron MARTIN (2024) "The European Digital Identity Wallet: Why It Matters and to Whom." Farnham, Surrey, United Kingdom: Caribou Digital Publishing, June 2024. www.cariboudigital.net/wp-content/uploads/2024/06/European-Digital-Identity-Wallet-Brief.pdf (Retrieved 11.05.2025)

⁵⁹ Lips, S., Vinogradova, N., Krimmer, R., & Draheim, D. (2022, June). Re-Shaping the EU digital identity framework. In *Proceedings of the 23rd Annual International Conference on Digital Government Research* (pp. 13-21).

⁶⁰ European Commission adopts new round of EU Digital Identity Wallet implementing regulations (2025) <https://ec.europa.eu/digital-building-blocks/sites/display/EUDIGITALIDENTITYWALLET/European+Commission+adopts+new+round+of+EU+Digital+Identity+Wallet+implementing+regulations> (Retrieved 11.05.2025)

⁶¹ Pietro RUIU, Salvatora SAIU and Enrico GROSSO (2024) Digital Identity in the EU: Promoting eIDAS Solutions Based on Biometrics, *Future Internet* 2024, 16(7), 228; <https://doi.org/10.3390/fi16070228>

⁶² Regulation (EU) 2024/1183 of the European Parliament and of the Council of 11 April 2024 amending Regulation (EU) No 910/2014 as regards establishing the European Digital Identity Framework.

⁶³ A European Social Security Pass helps to improve the portability of social security rights across borders through the digital verification of citizens' social security coverage and entitlements by competent actors and institutions. It was announced in the European Pillar of Social Rights Action Plan in March 2021. This is a direct digital experience between a citizen and an institution in an EU MSs.

⁶⁴ Kärcher, A., & Walser, M. (2023). *Social security data for posting of workers: Reform of cross-border coordination of social security* (No. 293). Working Paper Forschungsförderung.

⁶⁵ Portable documents replace the old E-forms. They are issued by the competent social security institutions where you are insured. Each document is about an individual person (possibly including family members) and contains your name and other identifiers. The social security office that issues the document also duly signs and stamps it.

⁶⁶ A free card that gives you access to medically necessary, state-provided healthcare during a temporary stay in any of the 27 EU countries, Iceland, Liechtenstein, Norway and Switzerland under the same conditions and at the same cost (free in some countries) as people insured in that country. The benefits covered include, for example, benefits provided in conjunction with chronic or

would take place in a second phase.

The ESSPASS is exploring how to simplify social security coordination procedures, but it does not have the aim to change the material or personal scope of the EU social security coordination rules. The former paper-based exchanges between mobile persons/businesses and administrations, healthcare providers or labour inspectors would be replaced as much as possible by electronic means.

There is a relevant question why is ESSPASS necessary beside the EESSI system. The EESSI is a message exchange system that allows for secure and fast exchange of information between institutions (e.g. to calculate the pension entitlements of someone who worked in several Member States over their career). Only social security institutions have access to the EESSI system. The ESSPASS explores way to complement EESSI by facilitating the interactions between mobile citizens and relevant public authorities and other actors for social security purposes (e.g. labour inspectors or health care providers), making real-time verification of social security coverage and entitlements possible, including by those actors that do not have access to the EESSI system.⁶⁷

In sum, living or working in or between different EU Member States will be made considerably easier with the help of the European Social Security Pass (ESSPASS). The ESSPASS should specifically include social security cards.

Conclusion

The EU social security coordination legislation and practice is a difficult and technical matter and it will remain so in the future. The basic reason is in particular the important number of differences between national legislations and the complexity of these national rules to be taken in account each time there is an international situation. However, the Regulations (BR and IR) managed to take away the most important impediments for migrant persons in the field of social security and, in so doing, to help guaranteeing the free movement of persons and their rights to social security. As such, these Regulations improve those aspects of national legislation that could impede cross-border movement. In this sense they guarantee for migrant

workers a continuous social protection coverage while moving in EU and EEA states. As a wider perspective the goal of digitalising social security coordination also aligns with the objectives Europe's 'Digital Decade' policy programme, which aims to transform public services, promote cross-border information exchange and simplify interactions with the public. In line with the above discussed principle 5 of the SSC (Good Administrative Cooperation) digitalisation can further improve the coordination of social security systems and support fair labour mobility. Using more digital tools for social security coordination has many advantages. They might reduce the administrative burden and costs for people who move to another country or run a business there. They improve the quality of public services and makes social security coordination processes faster. They also help institutions share information and work together better through improved data sharing and automation. They may minimise risk of errors and social security fraud, including the use of forged documents, thus reinforcing the protection of workers and fair labour mobility.

COMPETING INTERESTS

The author has no competing interests to declare.

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existing illnesses as well as in conjunction with pregnancy and childbirth. Cards are issued by your national health insurance provider.

⁶⁷ European Social Security Pass; <https://ec.europa.eu/social/main.jsp?catId=1545&intPageId=5540&langId=en> (Retrieved 11.05.2025)

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