

Leveraging Digital Technologies to Protect All Workers, including Gig and Platform Workers

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► Executive summary

This technical paper reviews international developments in the way how digital technologies can facilitate the access to social protection for workers, which contributes to the extension of social security to them, and also contributes to facilitating transitions to the formal economy. In this line, it should be read in conjunction with the technical paper on priority 1 “Advancing Social Security and the Formalisation of Labour Markets, Paper Prepared for the 2nd Meeting of the BRICS Employment”. The paper also considers the integration of digital services related to social protection with access to skills development and employment services.

With particular attention to the progress made by BRICS member States, this paper focuses on how digital technologies can be leveraged to improve the efficiency of core processes in social security systems, such as registration, contribution collection and benefits delivery, and on how they can be linked to other services, such as career guidance, skills development and employment services. It also analyses the capabilities required to implement those processes, notably technological, digital inclusion, resilience and governance capabilities.

Based on the country experiences, the paper outlines preliminary components of the BRICS Framework for digitalised services to protect all workers. By providing a common model, this framework can help governments develop digitalisation strategies in a modular way and leverage existing experience.

The paper concludes with policy options that can help achieve an inclusive, and cost-effective digitalisation of social security systems.

► 1. Introduction

Digital technologies are playing a key role in the implementation of social security systems¹ by improving the effectiveness and efficiency of registration, contribution collection and benefits delivery processes, as well as information management, decision making and enforcing compliance. In addition, digital technologies enable the development of international data exchange, which is required to put into practice international social security agreements.

Furthermore, digital technologies can support the extension of social security to workers in the informal economy and facilitate their transition to the formal economy by implementing systems that facilitate registration and contribution payments, applying customer-centric techniques, and sharing data between governmental agencies. Workers engaged in new digital and platform-based occupations may also benefit from these mechanisms. This can also contribute to reinforcing the larger goal of inclusive digital empowerment of the workforce.

In turn, for large-scale digitalisation projects to be successful, strong institutional and country capacities are required, such as in developing and reinforcing policy and regulatory frameworks, providing adequate infrastructure, data management, data sharing, interoperability technologies, customer-centric development and quality assurance, which are underpinned by institutions' good governance and skilled human resources. In addition, customer service should be adequate for the target population, and workers should be supported and empowered to benefit from a digitalised environment (or digital ecosystem).

As an example, India's initiatives—such as the e-Shram portal, the Skill India Digital Programme, and the National Career Service (NCS)—illustrate how technology can be leveraged to include and empower unorganised workers. Similar frameworks are developed in other BRICS countries, which highlight the potential for sharing lessons learned.

This technical paper reviews international developments in digitalisation to foster the formalisation, inclusion, and empowerment of unorganised workers, with particular attention to the progress made by BRICS member States. Concretely, it presents trends in the digitalisation of services, fostering workers' protection and describes key digital enablers and capabilities required to ensure adequate protection for all workers. It should be read in conjunction with the technical paper on priority 1.²

Chapter 2 presents key digital enablers and capabilities to ensure adequate protection for all workers. Complementing Chapter 2, Chapters 3 and 4 focus on specific aspects for the protection of platform and migrant workers, respectively. Based on the enablers and capabilities identified in country experiences, Chapter 5 presents the main components of the BRICS Framework for digitalised services to protect all workers, and concludes with a set of policy options that can contribute to achieving an inclusive, and cost-effective digitalisation of social security systems in BRICS countries.

► 2. Key digital enablers and capabilities to ensure adequate protection for all workers

As countries innovate to improve workers' access to social protection, as well as other services, with the support of digital technologies, there is a need for a systematic approach that allows to map and to assess

¹ The terms social protection systems and social security systems are used interchangeably, both encompassing contributory and non-contributory schemes and programmes, in particular social insurance and tax-financed benefits including social assistance.

² ILO and ISSA. *Advancing Social Security and the Formalisation of Labour Markets, Paper Prepared for the 2nd Meeting of the BRICS Employment Working Group*. 2026. See also ILO, ISSA, and OECD (2025). [Social Security and Digitalization for an Inclusive Future of Work](#) (Paper Prepared under South Africa's G20 Presidency).

different approaches and country examples. Furthermore, applying a modular approach that identifies the system's main building blocks can help address their complexity and define a digitalisation strategy.

Aiming at developing a BRICS framework on digitalized services, this paper systematically assesses key enablers (processes) for the digitalization of services (section 2.2), and the required capabilities for an inclusive digitalization of social protection systems (section 2.3). In order to ensure that the different enablers and capabilities do not operate in isolation within and beyond social protection systems, the national policy and legal framework has an essential role to play to set the overall boundaries and rules of the game, ensuring that each component supports the others (section 2.1).

Building on the discussion in this and the following chapters, Chapter 5 will provide a summary and visual representation of a tentative BRICS framework on digitalised services for the protection of all workers. This way, the paper can help governments define digitalisation strategies based on modular approaches and leveraging the experiences of other BRICS countries.

2.1 Policy and legal frameworks

The successful implementation of digitalised services for the protection of workers in line with international social security standards requires a coherent policy and legal framework³ that

- ensures coherence between national employment and social protection policies,
- establishes the necessary coordination between different institutions, benefits and services⁴;
- provides for the necessary safeguards with respect to data protection and privacy, and
- establishes the conditions for applying international coordination instruments, such as international social security agreements.

Such policy and legal frameworks are at the foundation of digitalisation strategies for social protection systems, and should be addressed prior to implementation projects. In addition, the evolution of the legal frameworks should be followed up on once the digital solutions are implemented to ensure consistency.

2.2 Key enablers/processes for digitalization in social security/protection systems

While the implementation of social security and protection systems is highly complex and varies across countries, some processes and services are key enablers of effective and inclusive digitalization, including registration and enrolment in social protection schemes, contribution collection, and benefits management and delivery (see section 2.2.1).

In addition, national crosscutting services, such as identification management, payment integration and multipurpose mobile applications, also play a key role in digitalisation of social protection systems (see section 2.2.2).

Such digitalized services can achieve broader inclusion and empowerment objectives if they are linked to services that support skills development and employment services, including capacity-building tools, skills-profiling and gap-analysis tools, and “Skill path” decision-support (section 2.2.3).

While the rest of this section further describes these key enablers and implementation approaches, Section 2.3 will address the required capabilities to implement them in an effective and inclusive way.

2.2.1 Social security enablers

Registration: Integrated and simplified enrolment mechanisms that ensure accurate identification, onboarding and lifecycle management of members and beneficiaries and even portability of benefits across schemes. The latter is particularly relevant in countries with fragmented systems, thereby facilitating continued coverage when workers change their jobs, status in employment, or move from one part of the

³ ILO (2024) [World Social Protection Report 2024-26: Universal Social Protection for Climate Action and a Just Transition](#).

⁴ ILO (2026) [Universal Social Protection in Changing Labour Markets: Protecting Workers in All Types of Employment](#).

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country to another. To be effective, registration requires interoperable digital systems, identity verification, mobile and web access, data sharing across programme administrations, and with employers and aggregators, and inclusive design so that workers in all types of employment can access benefits and services smoothly and continuously.

Examples include:

- China: National unified public employment and digital social security information system to provide one-stop online services for social insurance registration, rights inquiries, and benefit applications for workers in “new” forms of work.
- India: The eShram portal is a national database for unorganized workers using Aadhaar-based identification, and links to welfare, skilling, housing, pensions, insurance, and platform-worker registration through API integration.
- Brazil: Digital Work Card and eSocial systems, which integrate employment information and facilitate access to labour rights and public services.
- Russian Federation: Unified state services portal and the MyTax mobile app to register self-employed workers digitally, connect tax and social insurance data, and support entitlement portability.
- Egypt: Digital tools and databases to register workers and improve their access to government services and social protection programs.
- South Africa: Digital registration, interoperable systems, and integrated worker recognition as key foundations for targeting benefits, skilling, and labour market inclusion.
- UAE: Integrated digital labor market platforms that allow workers in across different work models to be registered, monitored, and regulated within a formal system.

Benefits management: Refers to the end-to-end digital processes used to receive applications, adjudicate, pay, monitor, and review benefits so that services are timely, accurate, and responsive to workers’ needs. This includes the broader ecosystem of systems and processes that manage individuals’ rights and entitlements, track benefit status, support payment delivery, and enable ongoing monitoring and service improvement. Effective benefit management depends not only on digital workflows, but also on interoperable databases, proactive service delivery models, and strong coordination across institutions to ensure continuity, quality, and accountability.

Examples include:

- Brazil: Integrated benefit management platform that supports the administration of individuals’ rights and benefits as part of a broader digital social protection ecosystem.
- India: Several examples of a strong focus on service quality and proactive benefit delivery, especially through interoperable worker platforms linked to welfare schemes, pensions, insurance, and other services.
- China: Online benefit applications and rights inquiries through its national unified public employment and digital social security service platform, improving timely access for workers in new forms of work.
- Russian Federation: Digital administration of benefits through the integration of labour market data with social insurance records and the merger of pension and social insurance functions, strengthening monitoring and portability.
- UAE: Facilitates access to benefits for workers across different types of employment by registering on integrated digital labor market platforms. These platforms help workers connect to formal protections and related services.
- Iran: Integrated Database for Contribution Payment Records, which helps connect contribution histories with benefit-related administration and service delivery.

Contribution collection: Refers to the set of digital and institutional mechanisms that ensure efficient assessment, billing, payment, and enforcement of contributions within social security systems. Effective systems rely on streamlined processes for calculating contributions, facilitating payments, and

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strengthening compliance through monitoring and enforcement tools. These mechanisms are often supported by digital platforms, data integration, and complementary strategies such as awareness campaigns and outreach to ensure that workers and employers understand and meet their obligations.

Examples include:

- Indonesia: BPJS Kesehatan has developed effective contribution collection systems, including the use of tele-collectors to strengthen compliance and follow up on payments.
- Saudi Arabia: Demonstrates similar approaches to improving contribution compliance through structured collection and enforcement mechanisms.
- Ethiopia: Highlights the importance of integrating contribution systems within broader digital and labor market frameworks to support inclusion and compliance.
- Iran: Supports contribution compliance through awareness campaigns, helping workers and enterprises understand obligations and encouraging participation in the system.
- India: Uses interoperable digital platforms (e.g., integration between worker registries and social security systems) to enable tracking of contributions and link them to benefits, improving compliance and transparency.

2.2.2 Crosscutting enablers

Identity verification and management: This cross-cutting enabler refers to secure digital identity systems that support authentication, beneficiary validation, and lifecycle identity management across social security programmes. Such systems enable accurate identification of individuals, reduce duplication and support fraud prevention, facilitate case management and referrals and peoples' access, update, and transfer their entitlements across different schemes and employment statuses. Digital identity, by enabling unique identification across databases, schemes and programmes are essential for interoperability. Effective identity management relies on interoperable digital infrastructure, integration with service delivery platforms, and secure data governance to support continuous and trusted interactions between individuals and institutions.

Examples include:

- India: The Aadhaar biometric identity system serves as a foundational enabler for social protection, allowing unique identification, de-duplication, and seamless access to services such as worker registration (eShram) and benefit delivery.
- Egypt: Uses the National ID system to support identification and access to government services, including social protection programmes for irregular workers.
- Indonesia: Implements e-KTP and Digital Population Identity (IKD) systems, which provide digital identity infrastructure for authentication and service access across public systems.
- Russian Federation: Integrates identity verification within its unified state services portal, enabling secure access to employment, tax, and social benefit services.
- China: Uses digital identity within its national employment and social security platforms to enable worker identification and access to one-stop online services.
- UAE: Embeds identity verification within its digital labor market ecosystem, ensuring that all workers—across different employment models—can be formally registered and authenticated within the system.

Integration with payment systems: This cross-cutting enabler refers to integrating social security systems with banking infrastructure, e-wallets, and digital payment platforms to ensure timely, traceable, and secure transactions for both contributions and benefits. This integration enables efficient payment flows, reduces delays and leakages, enhances transparency, and supports financial inclusion—especially for informal and platform workers. It also strengthens compliance and accountability by linking contribution collection and benefit disbursement directly to verified financial channels within an interoperable digital ecosystem.

Examples include:

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- India: Uses UPI and BHIM to enable seamless, real-time digital payments, supporting contribution collection and benefit transfers linked to social protection platforms.
- Brazil: The Pix instant payment system facilitates fast, low-cost, and traceable transactions integrated with banking systems, enhancing service delivery.
- China: Leverages digital yuan and e-wallet platforms to support digital payments within broader public service and social protection ecosystems.
- South Africa: Advances integration through payment systems such as NPS, PEM, and PayShap, enabling interoperable and instant payment solutions.
- UAE: Uses integrated digital labor market systems connected to financial channels to ensure regulated and efficient payment of wages and related benefits.

Mobile technology: This cross-cutting enabler refers to mobile-first platforms and applications that expand access to social security services while enabling personalized, real-time interaction for users anytime and anywhere. The mobile technologies enhance outreach, simplify registration, improve communication, and support continuous engagement with workers, especially those in informal, remote, or platform-based employment. They play a critical role in making systems more inclusive and user-centric by leveraging widespread mobile penetration and integrating with broader digital ecosystems.

Examples include:

- India: Mobile government platforms such as UMANG and Seva, along with applications like e-Shram, provide accessible, multilingual, and user-friendly interfaces for registration, service access, and benefit tracking.
- China: Mobile Gov initiatives enable citizens to access public and social security services through mobile applications, improving efficiency and service reach.
- Indonesia: Platforms like Lapor! and JMO (Jamsostek Mobile) support user engagement, service delivery, and access to social security services via mobile channels.
- Russian Federation: The Social Navigator mobile application facilitates access to social services, benefits information, and user interaction with public systems.
- Cross-country trend: Mobile technologies are increasingly embedded in social security delivery systems, enhancing accessibility, personalization, and responsiveness for diverse worker groups.

2.2.3 Skills and employability enablers

Skills and employability enablers refer to the mechanisms to equip workers and job seekers with the tools, information, and guidance necessary to navigate labour market transitions, strengthen their skills and employability, and support informed career outcomes. These enablers encompass the deployment of standalone tools or integrated career pathways decision-support systems that guide individuals through structured career progression and continuous skills development options and employment opportunities aligned with labour market demand and social protection.

Specific functions of these tools and systems are manifold and can include:

- skills assessment, profiling and gap analysis;
- career guidance and pathway planning;
- training access and initial and continuous skills development; and
- job matching and transition support.

The ways in which digitalization can be harnessed for these functions include a variety of tools, including online portals and AI-enabled chatbots that provide real-time information, training resources and personalized support throughout the learning and career mobility journey. Together, these functions, either as an integrated platform or as standalone tools, foster personalized learning and job search, informed choice and enhanced resilience, enabling workers and job seekers to actively steer professional trajectories

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within an inclusive and adaptive social security ecosystem. This can be part of a broader effort to better coordinate social protection policies with skills development and active labour market policies.⁵

Examples include:

- Brazil: The SENAI “NAI Ecosystem” provides integrated digital tools and learning platforms to support skills development and workforce training.
- China: Integrates digital registration systems with vocational training platforms, offering customized training and full-cycle skills upgrading for workers in new forms of work, as well as links to employment services.
- Egypt: Supports capacity building and awareness tools to inform workers about opportunities, rights, and training, strengthening employability in new labour market conditions.
- Ethiopia: Digital labour market information systems and digital training hubs to build skills and support employment in the digital economy.
- India: The National Career Service (NCS) platform provides skills profiling and skills matching, job recommendations, gap analysis, and AI-enabled tools (e.g., CV builder, interview coaching), as well as personalized course recommendations, guiding users through career pathways and training options.
- Indonesia: The “SIAPKerja” platform offers digital services for training, employment access, and workforce empowerment.
- Republic of Korea: The “Work24” platform delivers integrated employment and training services through a unified digital interface.
- Singapore: The “Career KaKi” platform uses AI-enabled tools to guide users with career planning, training options, and job pathways.
- UAE: Digital labour market platforms with embedded tools for job matching, skills alignment and workforce readiness, supporting continuous capacity development.

2.3 Required capabilities for an inclusive digitalisation of social protection systems

2.3.1 Core technological capabilities

Technological capabilities comprise the technological foundations of most social security institutions, enabling them to manage, protect, integrate, and use data and digital systems to enhance service delivery, data-driven decision-making, and institutional integrity. These capabilities are underpinned by strong digital governance, which provides the basis for data governance to manage social security data and ensure the accuracy, consistency, and reliability of information systems across the organization. This data quality capability provides the basis for inter- and extra-institutional coordination, implemented through strong data-sharing and exchange mechanisms. Technological capabilities depend on a robust Cybersecurity framework that safeguards digital assets to ensure operational resilience. These capabilities provide the basis for data and prospective analytics to transform data into actionable insights that not only support policy decision-making but are the foundations for risk management, actuarial capabilities, error evasion and fraud frameworks, and set the foundation for data-driven social security administration.

Examples include:

- Brazil: Demonstrates a comprehensive data ecosystem, supporting integrated data management and analytics for social security administration.

⁵ ILO (2023) [Aligning Skills Development and National Social Protection Systems](#); McCord, Anna, Maikel Lieuw-Kie-Song, Christina Behrendt, and Mito Tsukamoto (2024) [Public Employment Programmes at the Intersection of Employment and Social Protection Policies](#).

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- Saudi Arabia: Highlighted for strong data governance practices, ensuring data quality, consistency, and institutional coordination.
- Russia: Integrates labour market and social insurance data systems, enabling data-driven monitoring, entitlement management, and portability of benefits.
- India: Uses interoperable digital platforms (e.g., eShram, EPFO-linked systems) that support data sharing, analytics, and integrated service delivery across schemes.
- China: Employs large-scale digital systems that enable data integration and service optimization across employment and social security platforms.

The cross-country trend shows an increase emphasis on cybersecurity, interoperability, and advanced analytics to support fraud prevention, risk management, and evidence-based policymaking in social security systems.

2.3.2 Digital inclusion capabilities

Digital inclusion capabilities refer to the competencies institutions should have to design, develop, and deliver digital social security services that are customer-centric, accessible, and contextually adapted, ensuring that all population groups, especially vulnerable and hard-to-reach groups, can effectively access the services and benefits. These capabilities require the systematic application of customer-centric approaches, supported by iterative processes, that, through data-driven analytics, provide the basis for continuous improvement in meeting users' needs while being sensitive to the behaviours and feedback of the groups being targeted. They also include the ability to build context-aware solutions that provide culturally aware, multilingual interfaces to overcome language and literacy barriers. Overall, digital inclusion requires embedding accessibility-by-design to meet the needs of people with diverse physical, cognitive, and linguistic needs.

Examples include:

- India: The eShram platform is available in 22 languages and designed for ease of use, reflecting strong multilingual and inclusive design for informal workers.
- China: Provides one-stop digital services tailored to workers in new forms of employment, improving accessibility and targeted service delivery.
- South Africa: Emphasizes worker-centric digital systems and inclusion through integrated registries linked to skills and employment services.
- Egypt: Uses digital tools to better reach irregular and vulnerable workers, improving their access to services and protection.
- Indonesia: Platforms like JMO and Lapor! enhance accessibility and user engagement across diverse population groups.

Cross-country trend: Increasing adoption of user-centered design, multilingual interfaces, and accessibility features to ensure equitable access to digital social security services.

It's important to highlight that digital inclusion capabilities should be complemented by effective communication practices to reach, raise awareness of and engage population groups by providing adequate information through different channels. Although these practices are not described in some references are provided.

2.3.3 Core resilience and continuity capabilities

Resilience capacities refer to the institutional capacity to anticipate, absorb, adapt, and recover from crises and shocks while maintaining essential social security functions and rapidly replying with enhanced responses tailored to the unforeseen event. These require a robust governance framework for crisis and incident management, supported by risk management structures, service continuity planning, and clearly defined roles and decision-making processes. They also depend on operational agility, including the ability to quickly articulate responses to unforeseen and unplanned shocks that require flexible creativity in deploying human resources and digital solutions to meet the needs of the shocks. Resilience capabilities encompass shock-responsive institutions capable of adapting their services to temporality, expanding their

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services and benefits, including the expansion of coverage and adjustments of benefits, and significant coordination with other public entities.

Examples include:

- China: Demonstrated adaptability by scaling protection mechanisms (e.g., expanding occupational injury programmes for platform workers), reflecting capacity to extend coverage in response to emerging risks.
- India: The flexible design of eShram and its integration with multiple schemes allows rapid expansion of services (e.g., insurance and pensions) and adaptation to new worker categories such as platform workers.
- Russia: Integrated digital systems and unified service portals support continuity of service delivery and rapid administrative adjustments, even during systemic changes like institutional mergers.
- Egypt: Strengthens resilience through evidence-based policymaking and adaptable legal frameworks that incorporate new forms of work and evolving labor market conditions.
- UAE: Maintains a flexible regulatory and digital ecosystem that accommodates multiple work arrangements, supporting continuity and adaptation in a changing labor market.

Cross-country trend: Increasing focus on crisis preparedness, operational agility, and coordinated institutional responses to ensure uninterrupted and adaptive social protection systems.

2.3.4 Core governance and institutional capabilities

These capabilities integrate the leadership, management, and oversight functions that enable social security institutions to operate effectively, transparently, and sustainably. They encompass strategic planning, performance and human resource management, and accountability systems that align institutional vision, workforce capacity, and public trust. Supported by data-driven monitoring, error and fraud control, and strong actuarial and investment governance, these capabilities ensure sound decision-making and institutional resilience. Together, they form the foundation for institutions to fulfill their mandates with integrity and maintain confidence in their ability to deliver social protection over time.

Examples include:

- Russian Federation: Institutional reforms such as the merger of pension and social insurance funds strengthen governance, improve oversight, and enhance coordinated service delivery.
- Brazil: Ongoing discussions on regulatory frameworks for platform work reflect efforts to align governance with emerging labor market realities while ensuring protection and accountability.
- UAE: A comprehensive modern labor regulatory framework integrates multiple work arrangements, supported by digital governance systems that enhance transparency and compliance.
- South Africa: Emphasizes data governance, privacy, and interoperable systems, alongside institutional accountability, as core to effective digital social protection.

Cross-country trend: Strengthening institutional leadership, regulatory frameworks, accountability systems, and data-driven governance to ensure sustainable, transparent, and trusted social security systems.

► 3. Specific considerations for the social protection of platform workers

Leveraging digital technologies can facilitate social security coverage for platform workers, who often operate within a fragmented ecosystem, often with high levels of labour market mobility and various degrees of informality. Ensuring the inclusion of these workers in social security requires deliberate design of a digitally enabled ecosystem that integrates operations between institutions driven by strategic use of

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technology and grounded in a solid legal and regulatory framework with effective governance mechanisms anchored in social dialogue. Within this ecosystem, different capabilities and enablers act in congruence to provide continuity of rights and benefits, providing the basis for seamless interactions between workers, platforms and the social security institutions.

Social security of platform workers can be facilitated by a coherent architecture of enablers and institutional capabilities that leverage both front-end and back-end interconnections between digital labour platforms and public administrations. On the front-end, interoperable mobile-first interfaces and simplified registration enablers can facilitate seamless onboarding, identity verification, and user interaction, while on the back-end, integrated data infrastructures and technological capabilities enable secure data exchange, contribution collection, and benefits management across systems. These rely on significant data analytics capabilities to identify workers and manage the mobility between formal work and platform work which are supported by robust data governance and cybersecurity frameworks.

Strong coordination and data-sharing mechanisms between social security institutions and other governmental and local authorities, such as licensing bodies, tax administrations, and transport regulators, are essential to ensure compliance, establish linkages with other public services (e.g. driver licenses), and maintain accurate lifecycle records. The design of the linkages between workers and platforms on one side, and social security institutions and other public services on the other requires coordination and compliance mechanisms that provide seamless interaction between the different stakeholders and avoid unnecessary administrative burden on workers and platforms. The coordination and mechanism design is grounded on a robust national policy and legal framework that regulates and establishes the legal basis and mandate for the cooperation and linkages to be established.

These interconnections can be streamlined through shared digital building blocks and capabilities, including digital identity, payment systems, and interoperable registries, streamlining administrative processes and the interaction between workers, platforms, and social security institutions. At the same time, digital inclusion capabilities must ensure that platform workers can effectively access and use these systems through inclusive design, multilingual interfaces, and mobile technologies.

Platform workers often operate within fragmented platform ecosystems and often combine, or fluctuate between, different types of employment as employees or self-employed workers. This highlights the importance of complementary empowerment enablers that strengthen skills development and capacity building, delivered through AI-based and/or traditional online capacity-building tools and portals, to support workers in building careers and navigating career transitions.

Finally, ensuring social security for platform-based work requires a coherent governance framework that ensures transparency and accountability in how data and algorithmic management are handled. This framework must be supported by interoperable systems that enable coordination across institutions so that workers can maintain continuity of coverage, portability of benefits and rights throughout their working lives and career transitions.

Examples include:

- China: Piloted and expanded occupational injury protection schemes specifically for platform workers, closing coverage gaps.
- India: The eShram platform integrates platform workers through API connections with aggregators, enabling real-time verification, eligibility assessment, and linkage to benefits such as insurance and pensions.
- Indonesia: Introduced an initiative to provide tailored social security services and benefits to platform workers by interconnecting governmental and digital platforms' systems. The initiative also included specific communication campaigns to build awareness and expand reach.
- Russian Federation: Introduced a simplified tax and registration regime (MyTax app) for self-employed and platform workers, enabling formalization, income tracking, and voluntary social contributions.
- UAE: Established a flexible labour framework recognizing multiple work arrangements (e.g., part-time, remote, platform work), allowing platform workers to be formally registered and protected.

At an international level, a trend is seen in the increasing emphasis on data integration with platforms, adaptations to social protection schemes, flexible regulatory approaches, and portability of benefits to address the specific risks and needs of platform workers.

The enablers, capabilities and examples presented provide a coherent approach grounded on experiences across the BRICS member countries. The successful implementation to cover platform workers in social security hinges on the ability of governments to establish an ecosystem in alignment with an institutional mandate. It leverages technology and coordination across public and private entities that systematically tackle challenges around inclusion and fragmentation based on solid governance principles supported by legal and regulatory framework. Streamlining institutional strengths and administrative processes through technology provides the foundations to positions social security institutions to lead and become proactive to face continuous evolving labour markets.

► 4. Specific considerations for the protection of migrant workers

Ensuring effective social protection for migrant workers requires management and information systems that can operate seamlessly across national boundaries, reflecting the transnational nature of their lives, work and contribution histories.⁶ As social security schemes are anchored in national contexts, ensuring social security coverage of migrant workers requires additional efforts to manage the complexities of cross-border mobility, avoiding gaps in coverage, fragmented entitlements, and administrative inefficiencies. Addressing these challenges calls for a coherent, digitally enabled architecture that integrates institutional coordination, interoperable data systems, and robust governance frameworks to support the portability and continuity of rights.⁷ Within this context, the following considerations outline the key enablers and capabilities necessary to operationalize secure, and efficient cross-border social security systems for migrant workers.

The case of migrant workers requires initiatives to be grounded in a coherent architecture of enablers and institutional capabilities that enable secure, efficient, and interoperable cross-border coordination, especially between social security institutions. The establishment of robust data exchange mechanisms to support the implementation of social security agreements and facilitate international mobility are central to the digital platform for migrant workers. These mechanisms are underpinned by the core social security enablers, such as benefits management and compliance enforcement (e.g. life-status validation, work history verification, etc.), and can be operationalized through two main approaches: the exchange of structured data files between institutions and the interconnection of systems through request-response processes. While file-based exchanges may support periodic data synchronization, system interconnection enables more dynamic, real-time interactions aligned with integrated registration enablers and lifecycle management processes.

Building on these foundations, international interoperable solutions are critical to enabling systematic and scalable data exchange between governments and various institutions between governments. These solutions rely on technological capabilities such as web-service architectures, standardized data models, and agreed interoperability frameworks that define protocols for secure and consistent information exchange. Different implementation models, centralized or decentralized, shape how data flows across jurisdictions and determine the level of coordination required among participating institutions. Regardless of the model, strong core governance and institutional capabilities are essential to provide the legal, operational, and accountability frameworks that underpin cross-border cooperation, while technological capabilities ensure data quality, consistency, and reliability between institutions and jurisdictions.

⁶ See also ILO and ISSA (2026) Advancing Social Security and the Formalisation of Labour Markets, Paper Prepared for the 2nd Meeting of the BRICS Employment Working Group (Priority 1).

⁷ ILO, ISSA, and ITCILO (2021) [Extending Social Protection to Migrant Workers, Refugees and Their Families: A Guide for Policymakers and Practitioners](#).

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To address operational challenges linked to cross-border verification, mobile and web-based applications play a key role in enabling remote life-status validation, reducing reliance on in-person procedures. Leveraging mobile technologies, biometric authentication, and AI-enabled verification tools, and grounded in identity verification and management enablers, these applications enhance the efficiency and integrity of benefits delivery while improving accessibility for migrant workers residing abroad. Such tools must be embedded within broader digital inclusion capabilities to ensure usability across diverse populations, including those facing language, literacy, or connectivity barriers.

Finally, the effectiveness and trustworthiness of these management and information systems depend on technological capabilities that provide comprehensive data protection, security, and authentication frameworks. Interoperable infrastructures must be safeguarded through advanced cybersecurity frameworks, encryption protocols, and secure identity verification systems to protect sensitive personal data and prevent fraud. Identity verification and management enablers are particularly critical in ensuring the accuracy, validity, and reliability of cross-border transactions, which are based on core governance and institutional capabilities to ensure accountability, transparency, and compliance with legal standards. Together, these enablers and capabilities provide the foundation for transparent, accountable, and resilient cross-border social security systems that ensure continuity of coverage, portability of rights, and effective service delivery for migrant workers.

Examples include:

- India: Implemented digital identity-enabled verification systems (Aadhaar and Jeevan Pramaan) to support remote life-status validation for pensioners, including those residing abroad, strengthening cross-border identity authentication and continuity of benefit payments.
- Brazil: Operationalized international social security agreements through coordinated data exchange mechanisms to validate contribution histories and determine benefit eligibility across jurisdictions, supporting portability of pensions for migrant workers.
- China: Established bilateral social security agreements with multiple countries (e.g. Germany, Republic of Korea) to coordinate pension contributions and entitlements, enabling portability of rights and reducing double contributions for cross-border workers.
- South Africa: Engaged in regional coordination frameworks within the Southern African Development Community (SADC) to address social protection gaps for migrant workers, focusing on portability of benefits and institutional collaboration across borders.

Countries are advancing interoperable, data-driven approaches to protect migrant workers, combining international agreements, digital identity, and data exchange mechanisms. Emerging trends include mobile and biometric life-status validation, coordinated cross-border governance frameworks, and scalable interoperability models, strengthening portability of benefits, reducing fraud, and improving efficiency in cross-border social security administration (ISSA 2024).

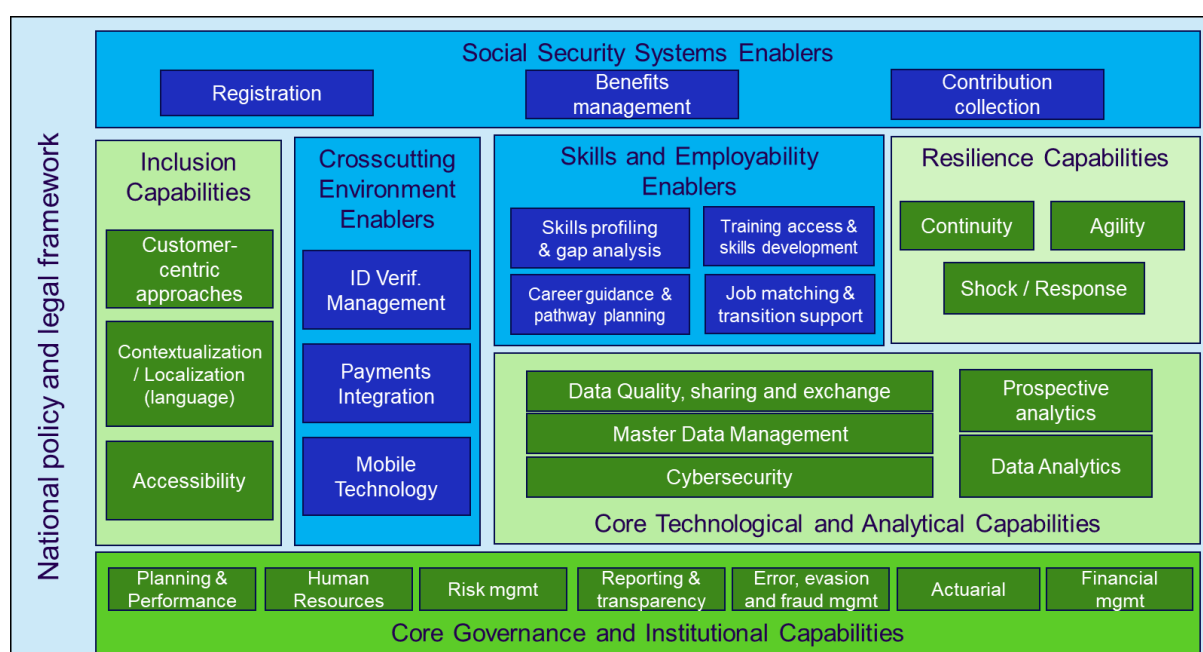
The enablers, capabilities and approaches outlined provide a coherent framework grounded in country experiences to address the specific challenges of migrant workers. Their effective implementation depends on governments' ability to establish interoperable, cross-border ecosystems aligned with institutional mandates and supported by robust policy, legal and governance frameworks in line with international social security standards. By leveraging technology, strengthening coordination between institutions across jurisdictions through secure and reliable data exchange, social security systems can overcome administrative barriers that in turn address barriers faced by migrant workers. The implementation of these enablers and capabilities provide the foundation for ensuring continuity of coverage, portability of rights, and allow social security institutions to become proactive in adapting to an increasingly mobile and globalized labour market.

► 5. Towards a BRICS Framework on digitalised services for the protection of all workers

5.1 BRICS' Framework components.

The BRICS Framework on digitalised services conceptualizes the enablers and capabilities presented in the previous sections aiming at facilitating the implementation of large-scale systems based on a modular approach. While the enablers constitute the main BRICS' Framework modules, the capabilities provide orientations on what is needed to achieve an effective implementation. These different enablers and capabilities within social security systems do not operate in isolation; rather, they form an interdependent and layered ecosystem in which each component supports the others, governed by the national policy and legal framework. Figure 1 presents an overview of the main elements of the BRICS framework. Nevertheless, the framework can be tailored and extended to respond to evolving needs.

► Figure 1: A framework on digitalized services for the protection of all workers and their families



5.1.1 Capabilities supporting enablers

Capabilities play a key role in the effective implementation of enablers. While enablers such as registration, benefits management, contribution collection, identity verification, payment integration, and mobile technology constitute functional building blocks of digital systems, their implementation, performance and scalability depend on a complementary set of institutional capabilities. These capabilities, including inclusion, resilience, technological and analytical strength, and governance, provide a support layer that ensures enablers can be developed efficiently, adapt to evolving needs, and deliver intended outcomes.

For instance, social security operational enablers, such as registration, benefits management, and contribution collection, which are core functions of social security institutions, strongly depend on various capabilities to successfully implement social protection systems covering all workers. Implementing systems accessible to all workers requires capabilities related to inclusive-by-design development, including customer-centric approaches, understanding their needs and how to communicate with them. To understand customers' needs, institutions rely on core technological and analytical capabilities, especially in data analytics, which in turn require significant data management and cybersecurity to manage social security records. Finally, these capabilities rely on core governance and institutional capabilities.

Table 1 provides an overview of how the capabilities support the different enablers described in section 2.2.

► Leveraging digital technologies to protect all workers

► Table 1: Capabilities and enablers

Enablers	Capabilities that support the enabler
Registration: provide simplified enrolment, accurate identification and continuous portable access to benefits possible across diverse work contexts	► Inclusion: provide discipline to establish customer-centric approaches, with accessible and adaptive registration for all population groups ► Resilience: provide adaptive, shock-responsive registration mechanisms during crises, providing the means to quickly register those in need under crisis scenarios ► Technological: provides the core of data-driven systems support through streamlined delivery mechanisms for registration through data exchange or interoperability. ► Governance and institutional: Provides accountable and strategic framing to registration processes, ensuring effectiveness and transparency with broader social security objectives
Benefits management: provide timely, accurate and coordinated delivery, monitoring and review of benefits	► Inclusion: ensure that benefits fit the needs and are accessible to all population groups ► Resilience: ensure that benefits can continue to be provided regardless of the type of shock. Provide benefits and adjust them in response to crises to reach and support affected populations quickly. ► Technological: provide the technological foundations for end-to-end benefit management through integrated digital workflows for adjudication, payment, monitoring, and review. ► Governance and institutional: provide the strategic objectives of the benefits while ensuring accountability and oversight ensuring transparent benefit management.
Contribution collection: efficient assessment, payment and enforcement of contributions, ensuring compliance and coordinated collection across systems	► Inclusion: provide flexible mechanisms to collect contributions based on different customer needs. ► Resilience: ensures the continuity of operations of the contribution collection mechanisms, as well as have the flexibility to adjust rates/periods depending on the crisis ► Technological: Support efficient contribution collection through integrated digital platforms, automated billing linked to payment systems with data analytics to support error, evasion and fraud activities. ► Governance and institutional: Accountability and transparency mechanisms for effective contribution collection and compliance across various stakeholders supporting error evasion and fraud. Integrates with financial management.
ID Verification: secure authentication, validation, and lifecycle management of individuals across systems to ensure accurate identification and prevent duplication	► Inclusion: Ensure identity systems are accessible to all population groups, including low digital literacy, by facilitating streamlined enrolment. ► Resilience: Provide continuity of services for identifying individuals by providing offline and remote location identity verification especially through shocks and extreme events. ► Technological: provides secure technology solution to exchange identity verification, including digital and biometric technologies, allows for de-duplication of individuals. ► Governance and institutional: establishes identity governance including data protection, privacy and accountability that support grievance management mechanisms to handle identity exception management.
Payment Integration: seamless, secure, and traceable financial transactions for contributions and benefit payments across payment channels	► Inclusion: provides the mechanisms to support multiple payment channels and low to no-cost transactions for beneficiaries making contributions or receiving payments. ► Resilience: ensures continuity of contribution and especially benefits payment during disruptions and unexpected shocks. ► Technological: supports payment integration to social security backoffice processes ensuring contributions and benefit payments are reflected. ► Governance and institutional: Ensures accountability and transparency of transactions, anti-fraud control and data protection. Integrates with financial management.
Mobile Technology: accessible service delivery enabling anytime, anywhere interaction	► Inclusion: provides the means to ensure solutions are accessible, user friendly, context aware with multi-lingual interfaces. It also provides alternatives for low-connectivity in remote areas to provide social security to underserved areas. ► Resilience: maintains continuity of mobile platforms during disruption, ensuring communication with the population in the event of a crisis or a shock. ► Technological: provides mobile technology backbone for multichannel service delivery, and integrates with broader digital social security ecosystem. ► Governance and institutional: ensures alignment of mobile delivery with broader institutional mandate and vision, and establishes the standards, policy and oversight mechanisms to quality of service delivery.

5.1.2 Linking enablers

Enablers do not function independently; their effectiveness is contingent on how institutions can design inclusive, user-centered systems, leverage data and digital infrastructure, maintain continuity under shocks, and ensure accountability through robust governance frameworks. This is particularly critical in extending social protection to platform and migrant workers, whose needs require adaptable, data-driven, and interoperable systems. Capabilities such as advanced data analytics, secure data management, and cybersecurity underpin the ability to understand user needs, streamline processes, and safeguard system integrity, while governance and institutional arrangements ensure alignment with policy objectives.

In the case of platform workers, the interaction between enablers is centered on creating a seamless, end-to-end digital journey that reflects the dynamic and fragmented nature of platform-based work. Registration is often enabled through simplified, digital onboarding processes that rely on ID verification to ensure accurate identification and avoid duplication, sometimes integrated directly with platform systems. Once registered, contribution collection mechanisms are linked to platform transactions, allowing for automated or flexible payments aligned with irregular income streams. These contributions feed directly into benefits management, where entitlements are calculated, monitored, and adjusted in real time, ensuring portability across multiple jobs and platforms. Payment integration connects these processes by enabling secure, traceable financial flows for both contributions and benefit disbursement. Throughout this lifecycle, mobile technology acts as the primary access point, allowing workers to register, contribute, track benefits, and receive updates, thereby ensuring accessibility and continuous engagement.

Migrant workers, on the other hand, use a different set of enablers that need to operate across jurisdictions, requiring interoperability and coordination between national systems. ID verification is foundational, enabling consistent authentication across borders and supporting registration in different countries while maintaining a unified identity. This facilitates the linking of records while ensuring compliance and accurate tracking of entitlements. These records are critical for benefits management, which must coordinate eligibility, continuity of benefits, and portability of benefits across countries. Payment integration ensures that benefits can be delivered securely and efficiently across borders, often requiring alignment between financial systems. Meanwhile, mobile technology enables remote access to services, including registration updates, contribution tracking, and life-status validation, which is essential for workers residing abroad. Together, these enablers form a coordinated systems that exchange data to support continuity of coverage and effective service delivery in the context of international mobility.

5.2 Policy options that can contribute to achieving an inclusive and cost-effective digitalisation of social security systems

Building on developments in BRICS countries and on interest in sharing experiences and solutions, this section outlines key policy options to achieve an inclusive and cost-effective digitalisation of social security systems.

- **Ensuring informed decisions about leveraging digital technologies for the protection of workers** to achieve the objectives set out in national social protection policy and legal frameworks in line with international labour standards. The background paper on priority 1 (“Advancing Social Security and Formalisation of Labour Markets”) presents relevant social policy developments to consider.⁸
- **Establishing digitalisation strategies of social security systems aligned with national social protection policies and implementation priorities in line with international labour standards.** Meeting social security coverage and adequacy needs requires digital solutions to ensure accessibility for diverse population groups, which can be achieved using digital inclusion techniques such as customer-centric development. To address the complexity of implementing large-scale management and information systems, governments can adopt modular approaches based on components, such as those presented in this paper. Social dialogue is essential for ensuring that

⁸ ILO and ISSA (2026). *Advancing Social Security and the Formalisation of Labour Markets, Paper Prepared for the 2nd Meeting of the BRICS Employment Working Group* (Priority 1).

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the digitalisation strategies meet the needs and circumstances of workers, employers and other stakeholders.

- **Strengthening government's capacity to apply advanced technology, notably in the technological, digital inclusion, resilience and governance areas.** Experiences in BRICS countries show that data management, analytics, and data exchange are key technological capabilities, while human resource management is crucial for developing large-scale, long-term digitalisation initiatives. At the same time, it is essential to ensure that data protection, especially with regard to sensitive data, and privacy are effectively protected through legal frameworks and enforcement mechanisms. In this line, it's crucial to strengthen the capacity of social security agencies, together with other public authorities involved in social security systems.
- **Improving national and international coordination by interconnecting systems and exchanging data between BRICS countries.** While international data exchange is required to put international social security agreements into practice, sharing data and interconnecting systems are crucial to implement large-scale systems involving public and private actors.
- **Exchanging experiences and deepening collaboration between BRICS countries** by leveraging the BRICS Framework on digitalised services and an extended collaborative environment based on the BRICS Social Security Virtual Liaison Office. This enhanced environment would contribute to:
 - Harnessing digital technologies for social protection systems, taking advantage of implementation strategies and lessons learned from other BRICS countries, thereby reducing development and implementation time and cost. Complementing the description of specific experiences, the BRICS Framework would provide a common model to characterise systems and the capabilities involved in their implementation.
 - Exploring the premises of an environment for sharing components among BRICS countries to support the digitalisation of social security systems. While developing such an environment constitutes a long-term objective, short-term objectives can be established based on specific countries' proposals to share and to use others' solutions.
 - Supporting the development of South-South cooperation initiatives, notably leveraging developments in BRICS countries and material produced in the context of the Employment Working group.

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