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Government Summit

The DPx chronicles

A graphic anthology of public infrastructure

December 2025

Leaders speak

CV Madhukar
Chief Executive Officer
Co-Develop Fund

For many years, “digital government” meant digitising forms, portals and processes. Helpful, but rarely transformative. What is emerging now is something fundamentally different: shared, trusted digital foundations that allow societies to deliver services at a population scale, while preserving inclusion, privacy and choice. DPI and DPG shift the focus from isolated solutions to societal capabilities.

At its core, DPI removes a quiet but persistent burden: the need for people to repeatedly prove who they are, what they are entitled to and why they need support. When the DPI Lego blocks - registries, payments, consent frameworks, discovery systems, and verifiable credentials work together, citizens no longer carry documents across life. Systems carry trust instead. This book brings that idea to life.

Rather than cataloguing technologies, it follows human journeys across health, education, agriculture, finance, mobility and social protection. In each case, the real breakthrough does not come from a single digital system, but from orchestration: multiple digital public goods combining across a single user journey to remove friction. That orchestration is where DPI and DPGs deliver the greatest value. Registries enable accuracy, credentials enable trust without exposure, consent enables control by the citizen, discovery enables collaboration and payments enable timely fulfilment. Together, they turn fragmented processes into coherent experiences for citizens and administrators alike.

This matters because governments globally face the same challenge: deliver more, with less, while strengthening trust. DPI offers a practical path forward, not as a one-time reform, but as a reusable public capability that compounds in value over time.

If we build these foundations well, digital transformation stops being about pilots and platforms. It becomes something foundational and more powerful: infrastructure that works in the background, so citizens can move forward with ease and dignity.

Leaders speak

Romal Shetty
Chief Executive Officer
Deloitte South Asia

We are entering a defining phase in how societies organise themselves in the digital age. Over the past two decades, governments worldwide have invested heavily in technology. Yet too often, progress has been incremental, new systems layered on top of old ones, digitising complexity rather than removing it. The result is familiar, producing fragmented experiences for citizens, operational pressure on institutions and a level of trust that remains fragile.

At its best, DPx is not about technology at all. It is about re-architecting how trust, access and collaboration work at a societal scale. It creates shared foundations that allow governments, markets and civil society to operate as part of a coherent system rather than a collection of working silos.

What makes this moment significant is not any single building block, but its intentional composition. When multiple components are designed to work together across a user journey, they enable outcomes that were previously difficult or impossible, including services that adapt to life events, rights that can be verified without exposure, benefits that flow automatically when conditions are met and accountability that is embedded by design.

The stories in this book illustrate that shift with clarity. They demonstrate how DPx enables public systems to transition from being reactive to anticipatory, from discretion-driven to rules-based and from opaque to transparent. They also show something equally important, that good infrastructure fades into the background, and when it works well, citizens hardly notice the systems themselves but simply experience continuity, fairness and reliability.

At Deloitte, we see DPx as central to the transformation here and now. It is how societies will scale service delivery without scaling complexity, embrace innovation without fragmenting systems and move fast without losing legitimacy.

This book will be a reminder in 2047 about what shaped and evolved our digital government, how we transitioned from focusing on apps or platforms to the quality of the foundations beneath them, and the wisdom with which we chose to build and steward them.

What this book is meant to do

NSN Murty
Partner and Leader
Government Industry, Technology & Transformation
Deloitte India

DPx is often discussed in the complex language of architecture, which includes building blocks, layers, standards, protocols and governance models. These conversations are necessary; however, on their own, they are incomplete. This book aims to close the gap between the idea of infrastructure and the reality people experience daily.

Across the world, governments, academia and think tanks are grappling with similar questions. How do we design systems that scale while maintaining a personal touch? How do we improve efficiency without eroding trust? How do we enable collaboration across agencies and markets, while preserving choice, privacy and dignity for citizens? These answers do not lie in any single platform or application. It lies in how multiple DPx building blocks are composed across real user journeys.

This book is therefore not a catalogue of solutions, nor a prescriptive blueprint. It is a sense-making tool. Each story translates abstractions into real human experiences by showing systems that activate services automatically, verify rights without exposure and respond to failures in a predictable rather than discretionary way.

Importantly, these stories are designed to reflect both sides of the G2C* system. They depict the citizen navigating complexity, along with government officials, frontline workers and service providers, as they strive to deliver outcomes within fragmented structures. In doing so, they highlight a central truth that good systems reduce friction for everyone, not just end users.

This format is intentional. Visual storytelling enables infrastructure to become legible to leaders, designers, implementers and learners encountering these concepts for the first time. It creates a shared language for conversations that are often trapped in diagrams or policy papers, and it invites a broader audience into what is otherwise a highly technical domain.

This book aims to leave readers with a clearer understanding of what “good” looks like, not as theory, but as lived experience, and with a deeper appreciation for the quiet, foundational role that DPx can play in building fairer, more resilient societies.

**G2C: Government to Citizen/Consumer*

Demystifying DPx

Deloitte uses DPx as a shorthand to describe the combined power of multiple Digital Public Infrastructure (DPI) and Digital Public Goods (DPGs) working together.

Digital Public Goods

Open-Source Software

Open data

Open AI models

Open content

Open or proprietary solutions

Open or proprietary solutions

Open or proprietary solutions

DPI building blocks

Identifiers and registries

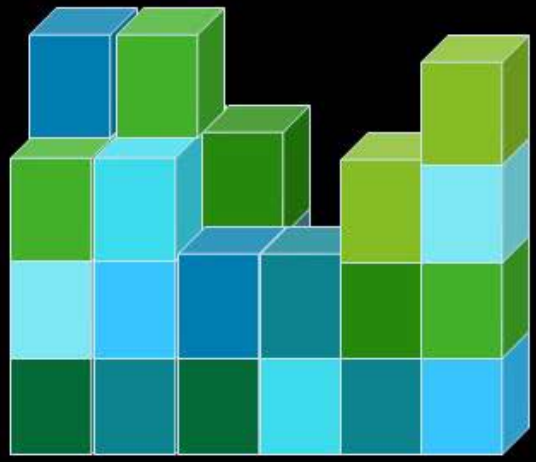
Data sharing, credentials and models

Signatures and consent

Discovery and fulfilment

Payments

Digital Public Infrastructure



Read more about DPx:

1. Digital Public Infrastructure Playbook for Nations
2. DPI + AI : Artificial Intelligence – The Next Frontier in Digital Public Infrastructure

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Chapter 1

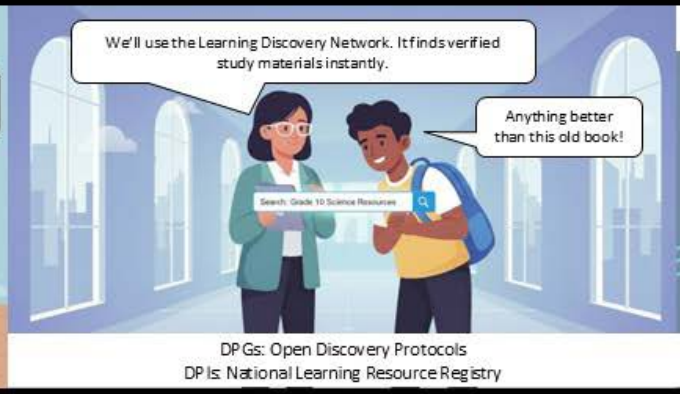
Education

The education universe

Education is a lifelong journey, and Digital Public Infrastructure (DPI) ensures no learner is left behind. When identity, credentials, registries, learning resources, discovery tools, consent systems and payments operate on open and trusted rails, learners move seamlessly across schools, states, jobs and stages of life. Welcome to the DPI education universe, where opportunity is open, guidance is personalised and where every learner holds a digital pathway to their future.

Use case 1: Equitable access to learning resources via discovery networks

Sometimes, the resources available at hand are not enough for holistic learning. Verified and trusted study material can be hard to discover or difficult to access due to physical and geographical barriers.



DPGs: Open Discovery Protocols
DPIs: National Learning Resource Registry

DPGs: Open Discovery Protocols
DPIs: National Learning Resource Registry

DPGs: DEPA Consent · LER Schemas
DPIs: Learner profile vault · Learning fulfilment API

DPGs: Open Discovery Protocols
DPIs: Learning Fulfilment API

DPGs: Open Discovery Protocols · LER Standards
DPIs: Learner Profile Vault · Learning Fulfilment API

Use case 2: Verifiable digital transcripts and learning credentials for seamless academic mobility

Students face weeks of delays and bureaucracy when applying to new institutions, jobs or scholarships, because transcripts are siloed, manually issued and prone to errors.

DPGs: DEPA Consent · W3C Verifiable Credentials
DPIs: Credential Exchange Gateway

His academic history: exams, projects, attendance and certificates are fetched from multiple schools and verified instantly.

DPGs: OpenAttestation · LER Standards
DPIs: **Credential Registry, Verification Gateway**

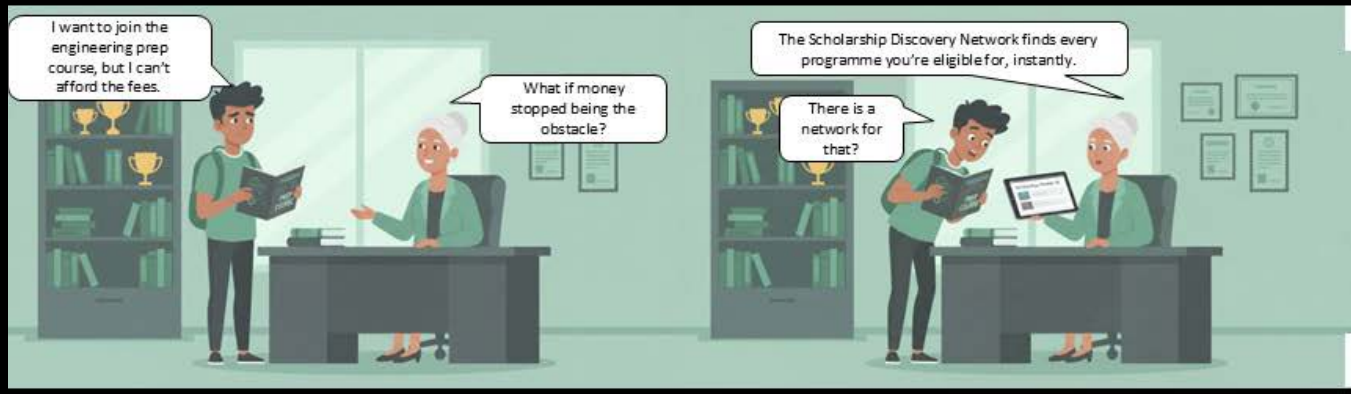
DPGs: W3C VCs · OpenAttestation
DPIs: **Credential Registry, Verification Gateway**

With verifiable learning records, students travel farther without the hassle of manual paperwork.

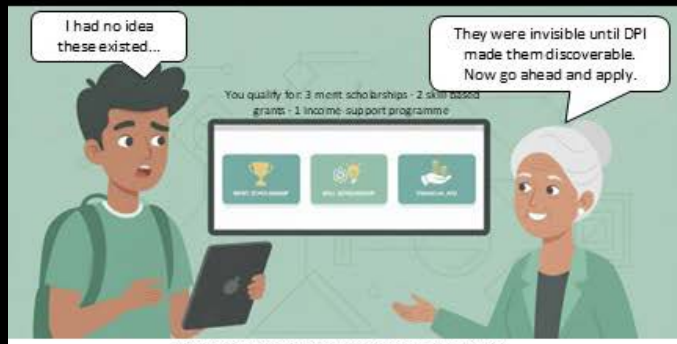
DPGs: W3C VCs · LER Standards
DPIs: Credential Registry · Verification Gateway

Use case 3: Scholarship discovery + Direct Benefit Transfer (DBT)

Scholarships exist, but students rarely find the right ones, apply in time or successfully claim benefits due to documentation and administrative barriers.



DEPA Consent · LER Standards · Verifiable Credentials
DPIs: Learner Profile Vault · Eligibility Engine



DPGs: Open Discovery Protocols · W3C VCs
DPIs: Scholarship Registry

DPGs: OpenG2P · Open Financial APIs
DPIs: Direct Benefit Transfer Rail

DPGs: Open Discovery Protocols · LER Standards · OpenG2P
DPIs: Scholarship Registry · DBT Infrastructure

Use case 4: Verifiable teacher credentials and staffing transparency

Schools and parents rarely know whether teachers are truly qualified. Degrees can be forged, certifications outdated or experience unverifiable.

His teaching degree, certifications and work history, all verified instantly against the national registry.

DPGs: W3C Verifiable Credentials · OpenAttestation · LER Standards
DPIs: Teacher Identity Registry · Digital Wallet

Parents can also see verified teacher profiles now

DPGs: W3C VCs
DPIs: Staffing Verification Gateway · Public Teacher Directory

When teachers are verified on open, trusted digital rails, schools hire confidently, parents feel reassured and students learn from the best.

DPGs: W3C VCs · LER Standards
DPIs: Teacher Registry · Credential Exchange Gateway

Use case 5: AI-powered career guidance through DPI and learner profiles

Students often make career decisions based on limited exposure, outdated advice or the expectations of others, despite having unique strengths and hidden potential.

DPGs: DEPA Consent · LER Standards
DPIs: Learner Profile Vault

His coursework, projects, skill badges and learning patterns, all assembled into a meaningful picture of who he is.

DPGs: Open Discovery Protocols
DPIs: Career Pathway Discovery Network · Skills Taxonomy Registry

DPGs: Open Discovery Protocols
DPIs: Career Pathway Discovery Network · Skills Taxonomy Registry

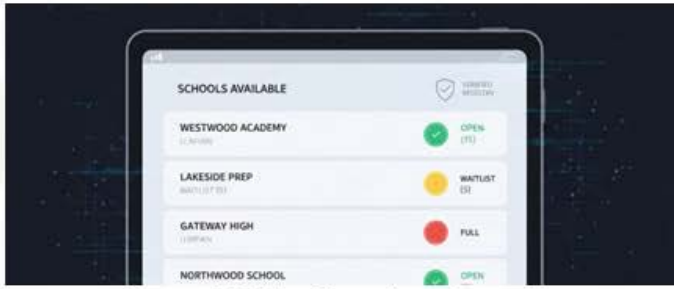
Powered by trusted data and open discovery, guidance becomes personal, transparent and empowering.

DPGs: LER Standards · Open Discovery Protocols
DPIs: Career Pathway Discovery Network, Learner Profile Vault

Use case 6: Unified school admissions across regions (or across borders)

Learners, especially international movers such as Sofia, face unclear seat availability, inconsistent admission criteria, document verification hassles and long waitlists across unfamiliar systems.

Verified institutions from the national registry, no misinformation.



DPGs: Open Discovery Protocols
DPIs: School Registry · Seat Availability API

Her prior transcripts, performance summaries and language scores were all verified cryptographically.

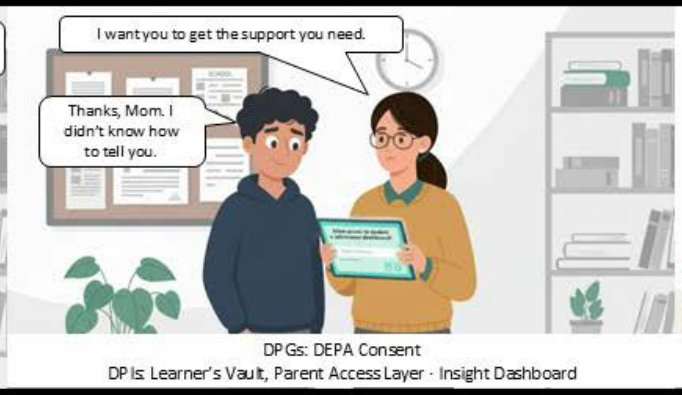
DPGs: DEPA Consent · W3C VCs · OpenAttestation
DPIs: Credential Verification Gateway

DPGs: LER Standards · W3C VCs
DPIs: Admissions Eligibility Engine

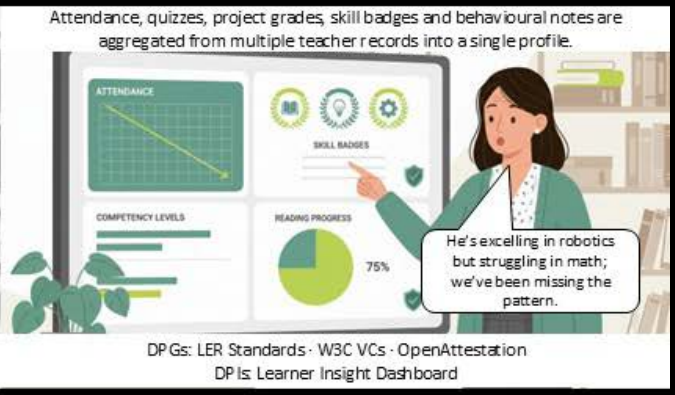
When identity, records, discovery and eligibility interconnect, borders disappear, and learners belong anywhere.

Use case 7: Unified attendance and performance insights

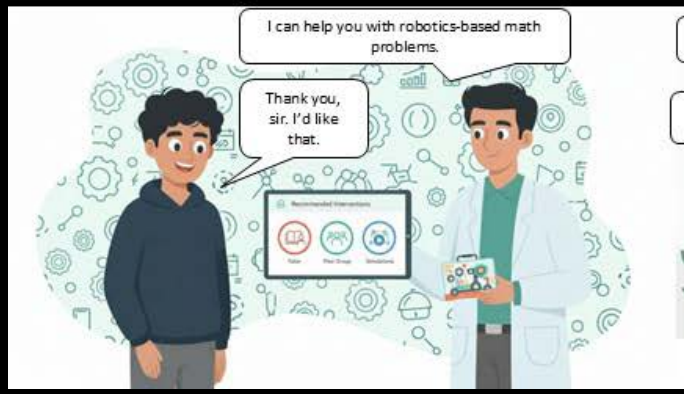
Schools waste enormous time reconciling attendance registers, marksheets, behavioural notes and parent communication logs. Parents often find out too late that their child is struggling. Students who miss classes due to illness, household responsibilities or learning gaps fall behind silently.



DPGs: DEPA Consent
DPIs: Learner's Vault, Parent Access Layer · Insight Dashboard



DPGs: LER Standards · W3C VCs · OpenAttestation
DPIs: Learner Insight Dashboard

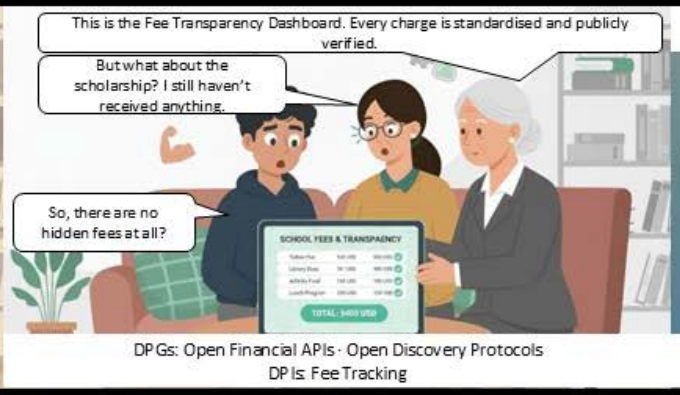


DPGs: W3C VCs · LER Standards
DPIs: Parent Access Dashboard

DPGs: LER Standards · DEPA Consent
DPIs: Learner Insight Dashboard · Parent Access Layer

Use case 8: Digital fee payments + Scholarship and subsidy integration

Families face confusing and unpredictable school fees, delayed scholarships, hidden charges and long queues often without any clarity or receipts. Schools, in turn, struggle with manual reconciliations, compliance burdens and frequent errors. The entire funding flow is opaque, stressful and inefficient for everyone involved.



DPGs: Open Financial APIs · Open Discovery Protocols
DPIs: Fee Tracking

His subsidy and scholarship entitlements are verified automatically using registries.

DPGs: W3C VCs · LER Standards
DPIs: Scholarship Registry · Subsidy Eligibility Engine

You stay in full control of your data. Nothing moves without your consent.

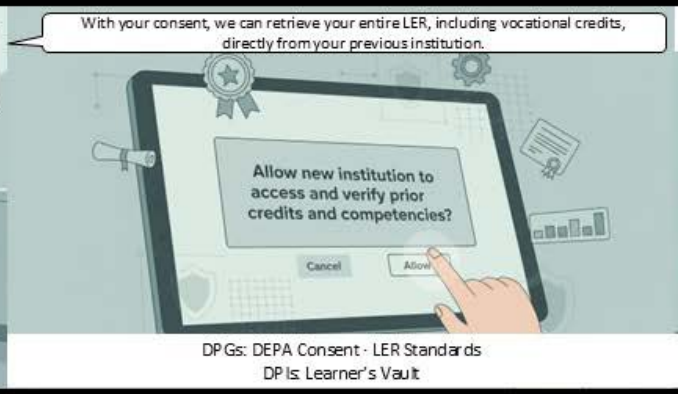
DPGs: DEPA Consent Artefact
DPIs: Parent Access Layer · Funding Flow Gateway

DPGs: W3C VCs · OpenAttestation
DPIs: Receipt Credential Issuance · Learner Wallet

A tamper-proof, verifiable fee receipt is issued instantly into the learner's digital wallet.

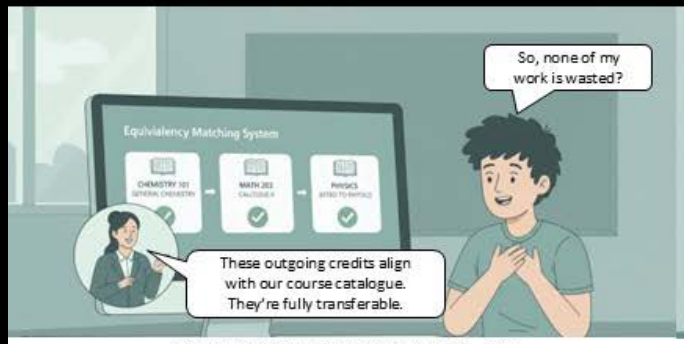
Use case 9: Cross-School/Cross-System Learning Credit Transfer

When learners switch schools, regions or countries, they often lose academic credits because institutions don't trust or recognise each other's assessments. Students repeat courses, lose confidence and waste time, all because verified, portable, interoperable learning credentials don't exist.



DPGs: DEPA Consent · LER Standards
DPIs: Learner's Vault

DPGs: W3C VCs · OpenAttestation · Open Skill Taxonomy
DPIs: Accreditation Registry · Credit Ledger



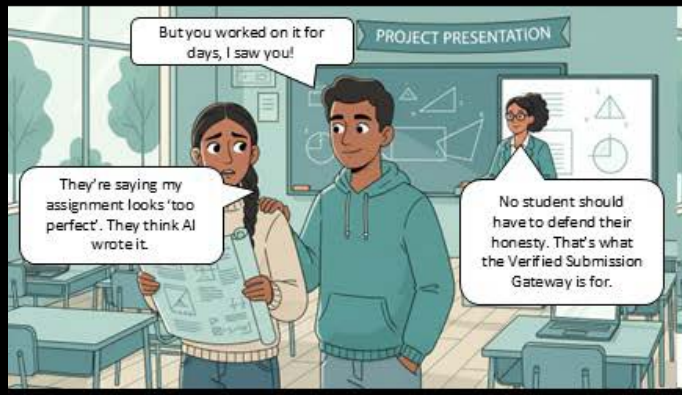
DPGs: Open Discovery Protocols · CTDL · LER
DPIs: Course Catalogue API · Transfer Evaluation Engine

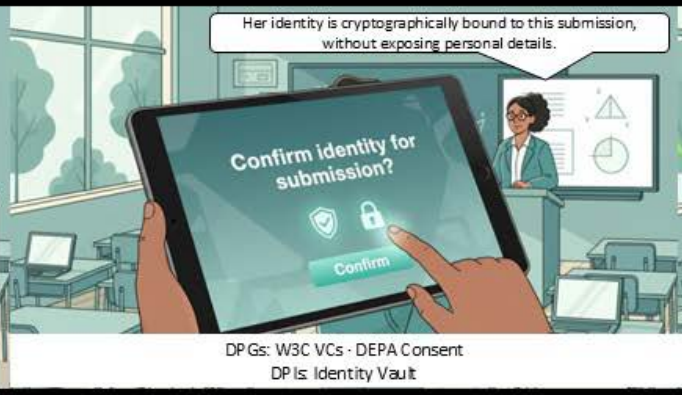
DPGs: W3C VCs · OpenAttestation
DPIs: Credit Registry · Programme Progress Engine

DPGs: LER Standards · W3C VCs · OpenAttestation · CTDL
DPIs: Unified Credit Mobility Gateway

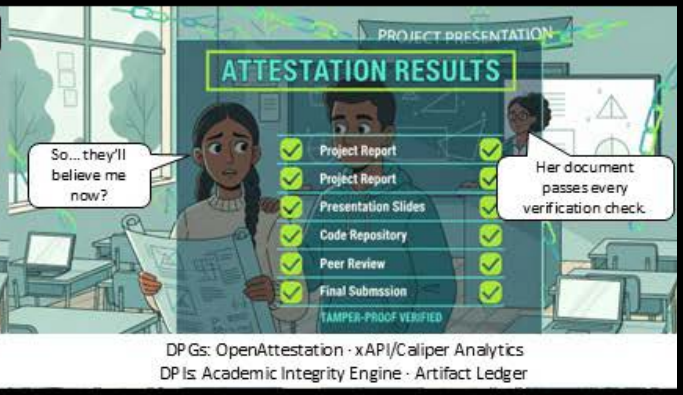
Use case 10: AI safety and academic integrity

Schools and universities struggle to ensure that assignments, exams and project submissions are genuinely authored by students, especially in remote or hybrid learning ecosystems. There is no universal, trusted way to verify authorship, track provenance or distinguish genuine learning work from AI misuse.





DPGs: W3C VCs · DEPA Consent
DPIs: Identity Vault



DPGs: OpenAttestation · xAPI/Caliper Analytics
DPIs: Academic Integrity Engine · Artifact Ledger

This is the kind of transparency that protects both teachers *and* students.

DPGs: C2PA-like AI Provenance Metadata · CTDL
DPIs: Integrity Metadata Gateway

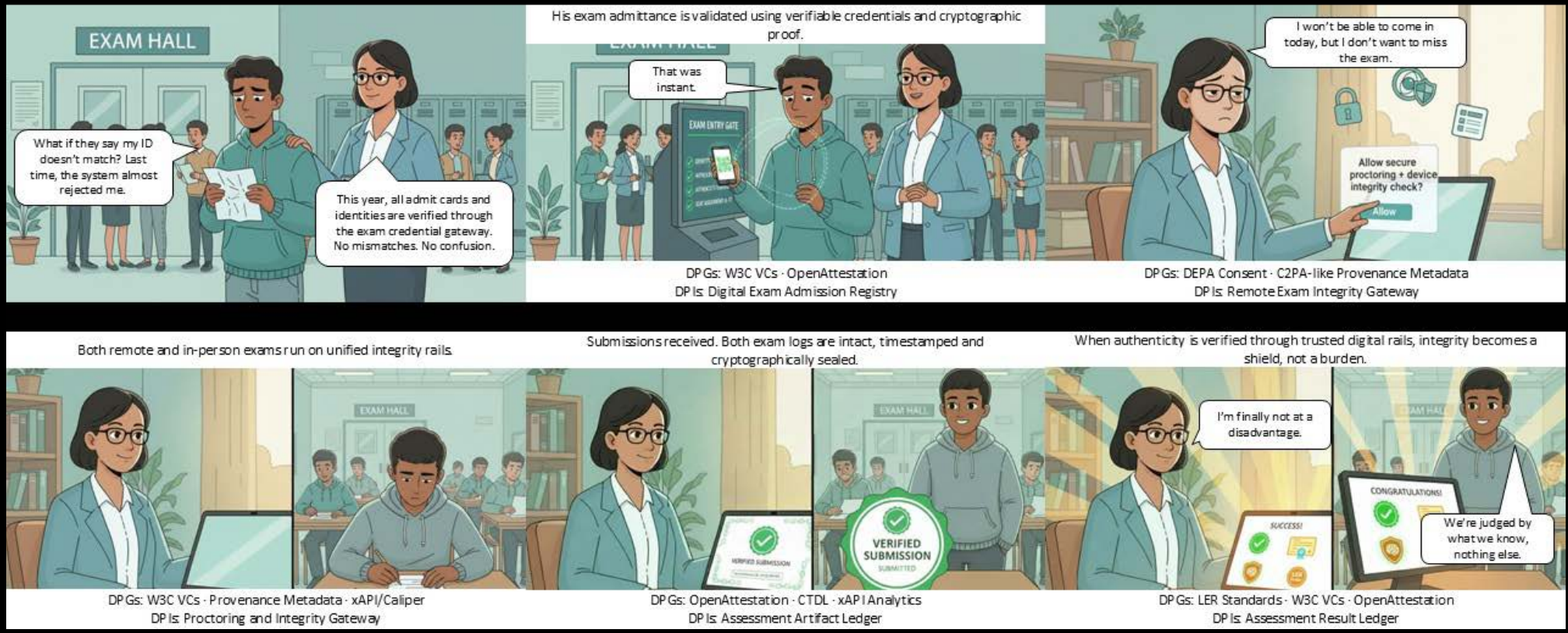
DPGs: Open Rubric Standards · LER Standards
DPIs: Verified Submission Gateway

When authenticity is verified through trusted digital rails, integrity becomes a shield, not a burden.

DPGs: W3C VCs · OpenAttestation · DEPA Consent · CTDL
DPIs: Academic Integrity Exchange Gateway

Use case 11: Secure exam administration and identity-proofed remote assessments

Exams, from school finals to professional licensure tests, suffer from identity fraud, impersonation, leaked question papers, unverified remote attempts and inconsistent proctoring. Institutions struggle to balance security with fairness and accessibility.



Use case 12: Teacher performance insights and school quality assurance

Teacher evaluations across the world rely on subjective observations, inconsistent paperwork and incomplete data, resulting in mistrust, demotivation and uneven school quality. Schools lack a unified, fair and transparent way to measure instructional effectiveness, student progress, classroom environment and systemic factors.

DPGs: DEPA Consent · W3C VCs
DPIs: Teacher Credential and Performance Registry

DPGs: LER Standards · CTDL · OpenAttestation · Open Rubric Standards
DPIs: Instructional Analytics Gateway

DPGs: Open Data Schemas · OpenAttestation
DPIs: School Quality Assurance Dashboard

DPGs: Open Discovery Protocols · CTDL
DPIs: Teacher Development Resource Network

DPGs: W3C VCs · OpenAttestation · LER Standards · Open Data Schemas
DPIs: Quality Assurance Gateway

Chapter 2

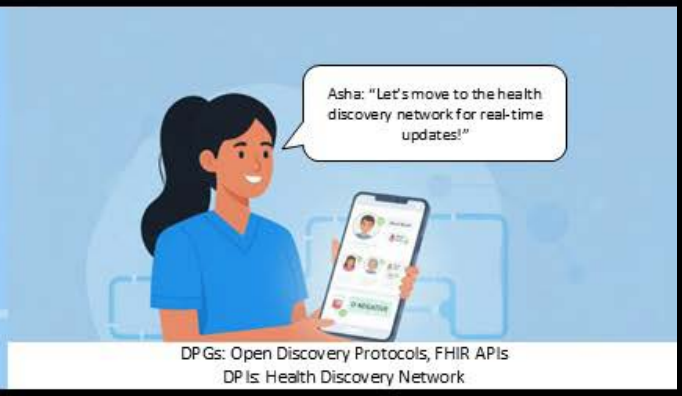
Healthcare

The healthcare universe

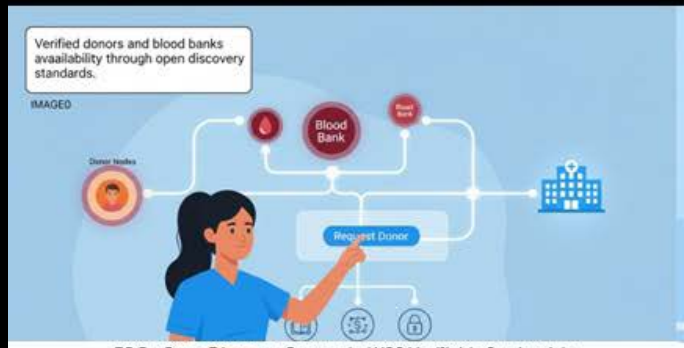
In modern health systems, care journeys are safe, fast and coordinated when built on open, interoperable digital public infrastructure. People control their data, providers trust registries, systems speak through standards and life-saving services become discoverable in real time. Welcome to the DPI Health Universe, where identity, registries, credentials, consent, payments and data exchange form the invisible rails powering better health outcomes for everyone.

Use case 1: Emergency blood discovery

Sometimes the medical supplies available on-site are not enough for critical emergency care. Verified blood donors and real-time inventory can be hard to discover or difficult to access due to siloed information systems.



DPGs: Open Discovery Protocols, FHIR APIs
DPIs: Health Discovery Network



DPGs: Open Discovery Protocols, W3C Verifiable Credentials
DPIs: Blood Bank Registry, Donor Registry

DPGs: W3C Verifiable Credentials (for the Donor ID shown)
DPIs: Donor Registry

Use case 2: Telemedicine fulfilment using open health exchange protocols

Local healthcare facilities sometimes lack the on-site specialised expertise needed for time-sensitive diagnoses such as strokes. Accessing critical interventions from experts such as neurologists is often hindered by geographical distance and the severe risks associated with transporting an unstable patient.

DPGs: FHIR, OpenHIE
DPIs: Health Provider Registry, Telemedicine Discovery Network

Specialist data retrieved using open registries and standard health exchange protocols.
DPGs: FHIR APIs, OpenHIE
DPIs: Provider Registry, Telemedicine Fulfilment Network

DPIs: Live Teleconsultation Service

DPGs: FHIR APIs, OpenHIE
DPIs: Telemedicine Fulfilment Network

Use case 3: Portable health records via global interoperable standards

Effective continuity of care is disrupted when a patient visits a new clinic without their past medical history. Obtaining these critical records is often difficult due to administrative silos, where transferring files via email can take days or weeks.

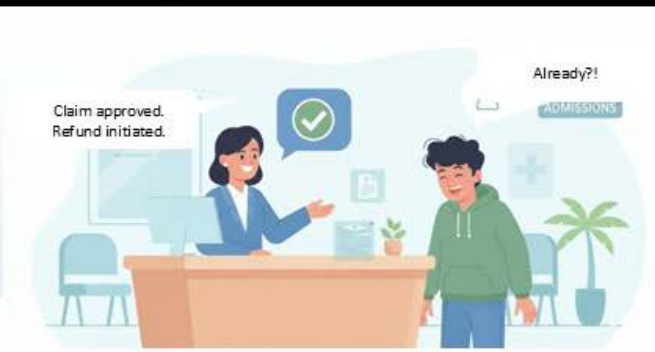
Use case 4: Instant health insurance claim settlement

Hospital discharges are frequently bottlenecked by the tedious processing of insurance claims, leading to long waits and financial anxiety for patients. The traditional exchange of paper documents and manual approvals creates unnecessary friction and stress during what should be a recovery period.

Submitting a claim using FHIR data bundles.

DPGs: FHIR, OpenHIE
DPIs: Claims Exchange, Provider Registry

Payer receives structured data instantly via interoperable rails.
DPGs: FHIR
DPIs: Claims Adjudication Engine



DPIs: Real-time Payments Rail

DPGs: FHIRDPIs: Claims Exchange

Use case 5: Consent-based lab report sharing

Timely diagnosis is stalled when essential test results are siloed with external private laboratories. Accessing these reports often depends on slow, manual email exchanges that waste valuable time during a consultation.

DPGs: DEPA Consent Artefacts, FHIR
DPIs: Lab Registry

Lab shares report using consent-bound FHIR payload.

DPGs: FHIR, DEPA
DPIs: Health Data Exchange

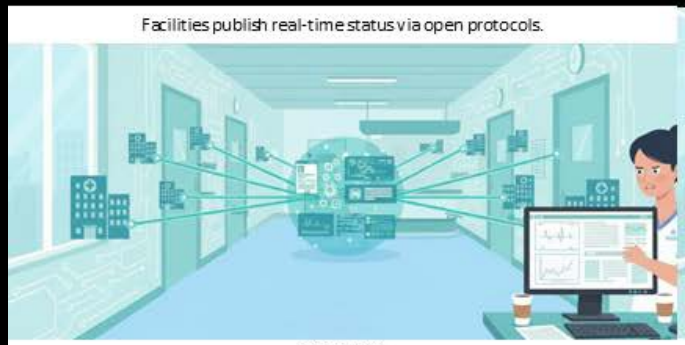
DPGs: FHIR
DPIs: Lab Exchange

DPGs: DEPA, FHIR
DPIs: Health Data Exchange

Use case 6: ICU bed availability discovery

In life-critical situations, finding an available ICU bed is often a chaotic race against time. The standard process involves frantically calling hospitals one by one to check occupancy, wasting precious minutes while the patient's condition deteriorates.

DPGs: FHIR
DPIs: Facility Registry, Bed Availability API



DPGs: FHIR
DPIs: Facility Registry

DPGs: FHIR
DPIs: Discovery Network

DPGs: FHIR
DPIs: Facility Registry

Use case 7: Verified doctor identity registry

Collaborative healthcare is often hindered by the inability to instantly verify the credentials of visiting specialists or locum doctors. Relying on manual background checks or paper certificates creates dangerous security gaps and delays the commencement of critical duties.

DPGs: W3C Verifiable Credentials, OpenAttestation
DPIs: National Doctor Registry

DPGs: W3C VCs, OpenAttestation
DPIs: Doctor Registry

DPGs: W3C VCs, OpenAttestation
DPIs: Doctor Registry

DPGs: W3C VCs, OpenAttestation
DPIs: Doctor Registry

Use case 8: Drug authenticity via supply chain integrity

Patient safety is constantly threatened by the infiltration of counterfeit drugs into the pharmaceutical supply chain. Identifying these fake medications manually is difficult due to sophisticated packaging that mimics legitimate products, often bypassing visual checks.

Use case 9: Longitudinal health record

Comprehensive care is compromised when a patient visits multiple clinics over time, leaving doctors with a fragmented view of the medical history. Patients often struggle to bridge these gaps, and critical details are easily missed when records are scattered across disconnected systems.

Use case 10: Hospital billing and real-time payments

The relief of hospital discharge is often overshadowed by the administrative bottleneck of processing insurance claims. Patients face long, stressful waits while hospitals manually compile and submit paper documents for adjudication, delaying their return home.

DPGs: FHIR · OpenHIE · W3C VCs
DPIs: Health Claims Exchange Layer

DPGs: FHIR
DPIs: National Insurance Adjudication Gateway

DPGs: ISO 20022 Open Financial APIs
DPIs: Real-Time Payments Switch · Standardised Billing System

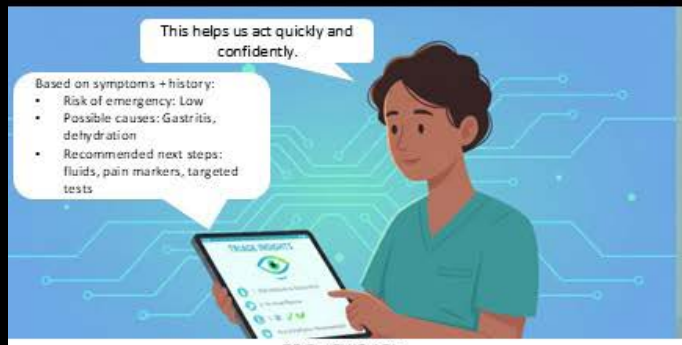
DPGs: FHIR · W3C VCs · ISO 20022
DPIs: Claims Exchange Layer · Real-Time Payment Infrastructure

Use case 11: AI triage with consent-based data access

Sometimes patients present with symptoms but lack accessible historical health data. Without a clear picture of past conditions, medical staff may struggle to quickly determine the severity of the issue or rule out potential risks.

DPGs: DEPA Consent Artefact
DPIs: Consent Management Gateway

DPGs: FHIR APIs · OpenHIE · W3C Verifiable Credentials
DPIs: Health Data Exchange Layer



DPGs: FHIR APIs
DPIs: AI Clinical Decision Support System

DPGs: ISO 20022 Open Financial APIs
DPIs: Real-Time Payments Switch · Standardised Billing System

DPGs: DEPA · FHIR · OpenHIE
DPIs: AI Triage System · Health Data Exchange

Chapter 3

Agriculture

The agriculture universe

Agriculture is a world of uncertainty, crop failures, unpredictable markets, counterfeit seeds, land disputes, climate shocks, rising input costs and inaccessible subsidies. Yet it is also a world of deep resilience, generational knowledge and quiet innovation. Digital Public Infrastructure transforms this landscape not by replacing farmers, but by empowering them with trust, transparency and timely support. Through registries, verifiable credentials, discovery networks, consent-driven data sharing and trusted digital rails, farmers gain clear land rights, better prices, safer inputs, climate resilience and faster payouts.

Use case 1: Land ownership and farm plot registry + dispute resolution

Across the world, farmers lose land, time and money due to unclear boundaries, missing paper records, forged titles and slow dispute resolution. Land determines identity, inheritance and livelihood, yet land data is fragmented and unverifiable.

DPGs: DEPA Consent · W3C VCs
DPIs: Digital Land Registry

DPGs: W3C VCs · OpenAttestation · Open Geospatial Standards
DPIs: Identity and Ownership Ledger

DPGs: Open Data Schemas · DEPA · Geospatial Standards
DPIs: Record Verification API

DPGs: OpenAttestation · LER-like Land Framework
DPIs: Dispute Resolution Gateway

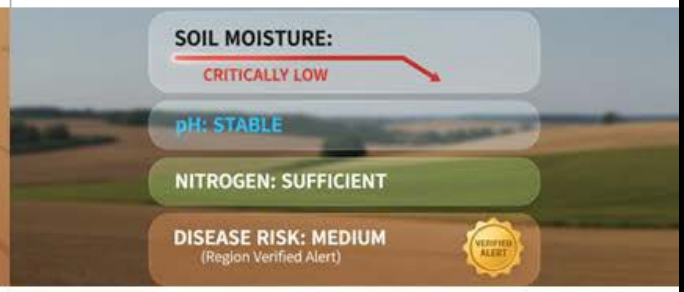
Use case 2: Crop advisory using verified soil, weather and disease data

Farmers often rely on unverified advice, hearsay or outdated local knowledge to make decisions about seeds, irrigation, fertilisation and pest control. With climate variability, unpredictable rainfall and rapidly changing soil conditions, such guesswork leads to losses.

With her consent, verified soil data and climate information flow securely into the advisory engine.

DPGs: DEPA Consent · W3C VCs
DPIs: Soil and Crop Data Registry

These results are certified, no guesswork. Soil moisture is the real issue.



DPGs: OpenAttestation · Geospatial Standards · W3C VCs
DPIs: Pest and Disease Early Warning System

DPGs: Open Weather APIs · Geospatial Standards
DPIs: Agriculture Advisory Hub

DPGs: Open Discovery Protocols · W3C VCs
DPIs: Agriculture Advisory Hub

With verified soil data, authenticated weather feeds and trusted local resources, Sudha farms with confidence, not fear.

DPGs: W3C VCs · OpenAttestation · DEPA · Open Discovery Protocols
DPIs: Soil and Crop Registry · Agriculture Advisory Hub

Use case 3: Subsidy eligibility and Direct Benefit Transfer (DBT) for farmers

Farmers often miss out on subsidies due to missing paperwork, unclear eligibility, long queues, delays in verification or intermediaries absorbing the benefits. Complex application workflows, inconsistent records and manual approvals make support unpredictable.

DPGs: DEPA Consent · W3C VCs
DPIs: Farmer Identity Registry · Land Registry

DPGs: OpenAttestation · OpenG2P · Geospatial Standards
DPIs: Subsidy Eligibility Engine

DPGs: xAPI Logs · Open Financial APIs
DPIs: G2P Workflow Engine

DPGs: Open Financial APIs · OpenG2P · OpenAttestation
DPIs: G2P Disbursement Platform

When support arrives with dignity and transparency, trust returns.

DPGs: W3C VCs · DEPA · OpenG2P
DPIs: Subsidy Eligibility Engine · G2P Disbursement Gateway

Use case 4: Seed and input traceability using verifiable credentials

Farmers lose entire seasons to counterfeit seeds, diluted fertilisers or fake pesticides that look identical to the real ones. Supply chains are opaque, packaging can be forged and accountability is scattered.

DPGs: W3C VCs · C2PA-like Provenance Metadata
DPIs: Input and Seed Traceability Registry

DPGs: OpenAttestation · W3C VCs · Distributor Registry
DPIs: Supply Chain Ledger

DPGs: OpenAttestation · W3C VCs · Distributor Registry
DPIs: Supply Chain Ledger

The counterfeit batch is instantly reported to the authorities.

DPGs: Supply Chain Ledger · OpenAttestation
DPIs: Input Traceability Registry, Reporting Gateway

When inputs are verifiable, farmers sow with certainty.

Use case 5: Market discovery and transparent pricing for crops

Farmers often sell uninformed, without knowing real market prices, demand trends or logistics options restricted by geography. Intermediaries may offer low rates, local mandis might lack competition and price lists are often outdated.

DPGs: Open Discovery Protocols
DPIs: Market Discovery Network

DPGs: W3C VCs · Open Data Schemas · C2PA provenance
DPIs: Market Discovery Network, Buyer Credential Registry

DPGs: Open Discovery · OpenAttestation · W3C VCs
DPIs: Market Discovery Network · Settlement Gateway

DPGs: OpenAttestation · Open Financial APIs · xAPI logs
DPIs: Agri Exchange Settlement Platform

When markets become open, transparent and trusted, farmers gain choices, not compromises.

Use case 6: Farm equipment sharing

Small farmers often lack access to tractors, harvesters and sprayers. Informal rentals are unpredictable with unclear pricing, unreliable operators, delayed service and no accountability when equipment breaks.

DPGs: Open Discovery Protocols · W3C VCs
DPIs: Equipment Discovery Network

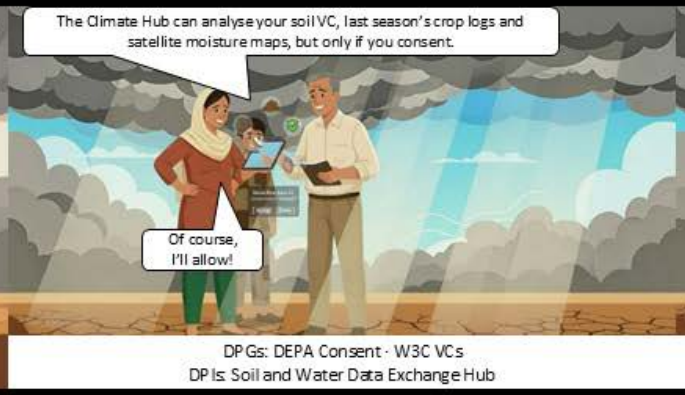
DPGs: W3C VCs · OpenAttestation · CTDL-like Operator Credentials
DPIs: Operator Credential Registry

DPGs: Open Financial APIs · xAPI Usage Logs
DPIs: Digital Escrow and Payment Ledger

DPGs: OpenAttestation · C2PA · xAPI Logs
DPIs: Usage Log and Dispute Ledger

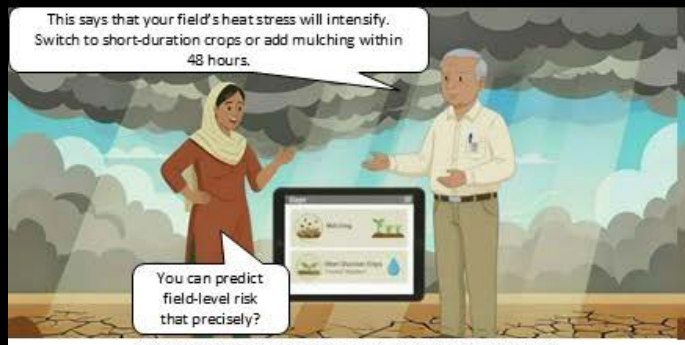
Use case 7: Climate-resilience scorecard using DPI data exchange

Farmers experience climate shocks firsthand but lack access to verified climate warnings, soil health trends, water stress indicators and risk assessments. Local advice is fragmented; global models don't reach the last mile; and data sits in disconnected silos.



DPGs: DEPA Consent · W3C VCs
DPIs: Soil and Water Data Exchange Hub

DPGs: OpenAttestation · Geospatial Standards
DPIs: Satellite Observation Gateway



DPGs: Open Weather APIs · CTDL-like advisory schema
DPIs: Climate Resilience Intelligence Hub

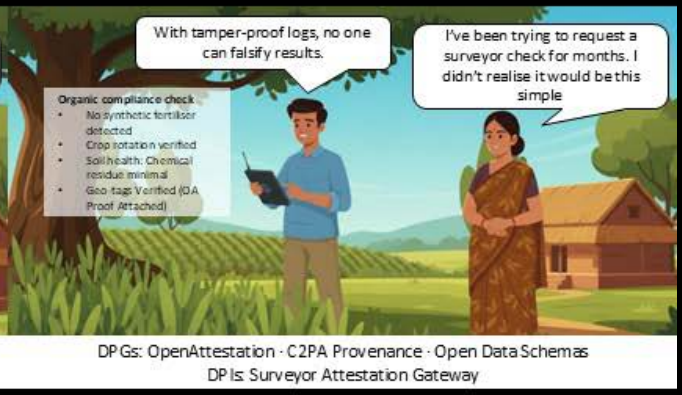
DPGs: Open Data Schemas · W3C VCs (crop history)
DPIs: Resilience Score Ledger

When farmers receive verified, personalised climate intelligence, they adapt, plan and thrive.

Use case 8: Organic certification and farm practice verification

Organic farming often promises higher prices, but small farmers rarely access those markets because certification is slow, costly, paper-based and prone to fraud. Importers and retailers distrust unverified claims, and farmers cannot prove their practices.

DPGs: DEPA Consent · W3C VCs
DPIs: Organic Certification DPI



DPGs: OpenAttestation · C2PA Provenance · Open Data Schemas
DPIs: Surveyor Attestation Gateway

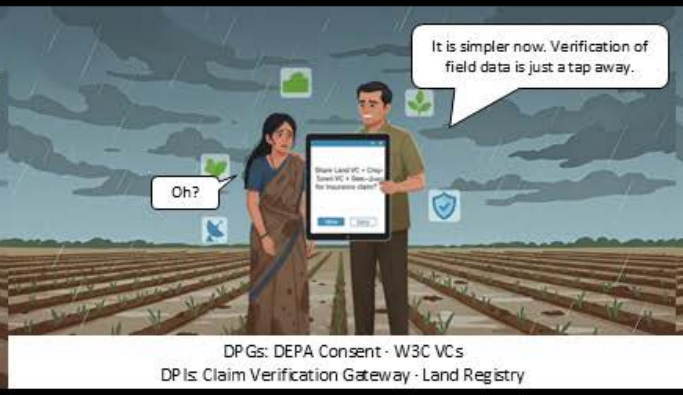
DPGs: W3C VCs · OpenAttestation
DPIs: Farm Practice Registry

DPGs: Open Discovery Protocols · W3C VCs (buyer credentials)
DPIs: Buyer Discovery Marketplace

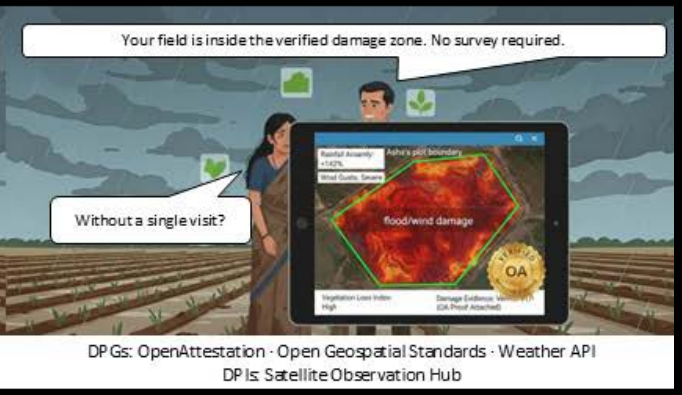
With verifiable practices, transparent certification and direct access to trusted markets, small farmers unlock global opportunities.

Use case 9: Agricultural insurance with instant and satellite-verified claim settlement

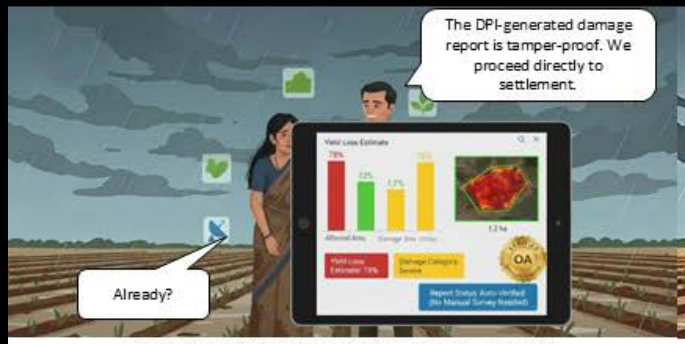
Farmers lose crops overnight to floods, heatwaves, storms or pest attacks, but compensation takes months because claims require manual surveys, conflicting reports and piles of paperwork. Many farmers simply give up or distrust insurance entirely.



DPGs: DEPA Consent · W3C VCs
DPIs: Claim Verification Gateway · Land Registry



DPGs: OpenAttestation · Open Geospatial Standards · Weather API
DPIs: Satellite Observation Hub



DPGs: Open Data Schemas · OpenAttestation · W3C VCs
DPIs: Claim Verification Gateway

DPGs: Open Financial APIs · OpenAttestation · xAPI Logs
DPIs: G2P Insurance Settlement Rail

When claims are verified instantly, farmers don't just recover, they continue.

Use case 10: Rural youth skilling and employment pathways

Rural youth often acquire real skills such as operating farm equipment, repairing pumps and using digital advisory tools, but none of it is formally recognised. Without verifiable credentials, they struggle to secure jobs, access training or build dignified livelihoods beyond the farm.

DPGs: W3C VCs · CTDL · xAPI Logs
DPIs: Skills Credential Registry · LER DPI

DPGs: W3C VCs · CTDL · xAPI Logs
DPIs: Skills Credential Registry · LER DPI

DPGs: Open Discovery Protocols · W3C VCs
DPIs: Training and Employment Discovery Network

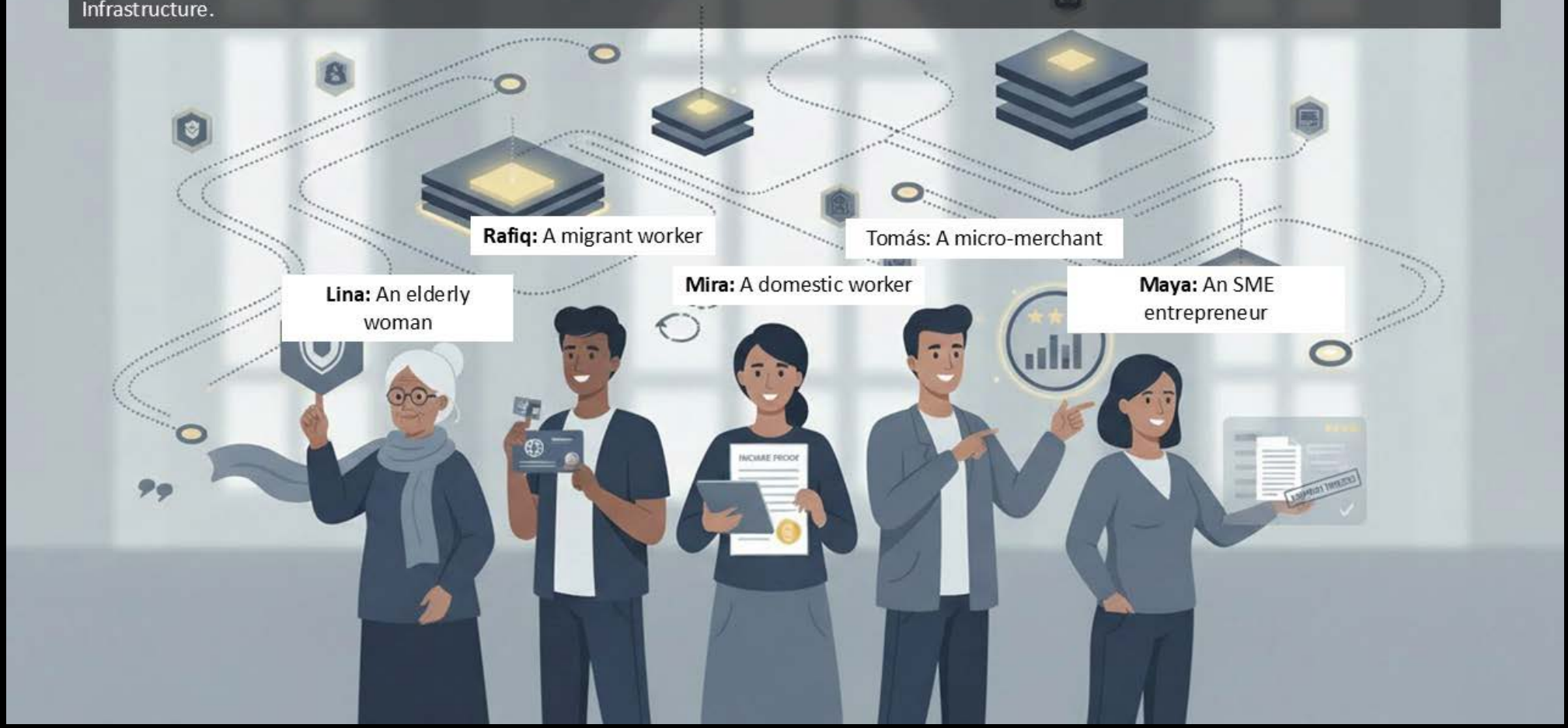
DPGs: W3C VCs · OpenAttestation · DEPA Consent
DPIs: Employer Verification Gateway

Chapter 4

Banking

The banking and financial inclusion universe

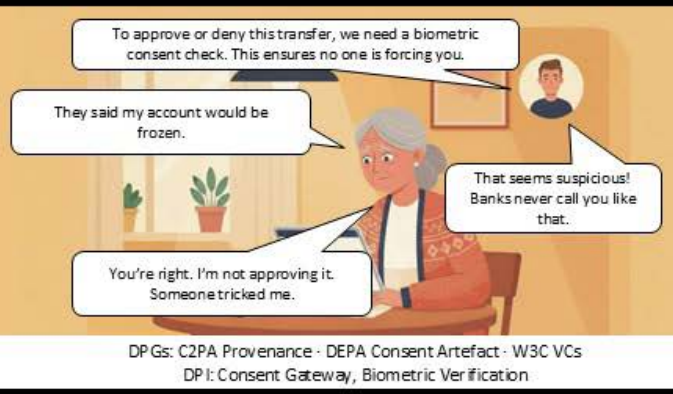
Around the world, millions remain invisible to the financial system, not by choice, but by design. When trust, identity, security and payments move on open digital rails, people don't just access finance, they access opportunity. This is the promise of Financial Inclusion powered by Digital Public Infrastructure.



Use case 1: Fraud-proof digital identity and consent for elderly customers

Elderly customers are disproportionately targeted by scammers, coerced transfers, forged signatures and identity theft. Banks feel helpless because intent is hard to verify, and families can't intervene in time.

DPGs: W3C VCs · Open Risk Scoring Schema, OpenID4VC
DPI: Risk Engine, Digital Identity and Authentication



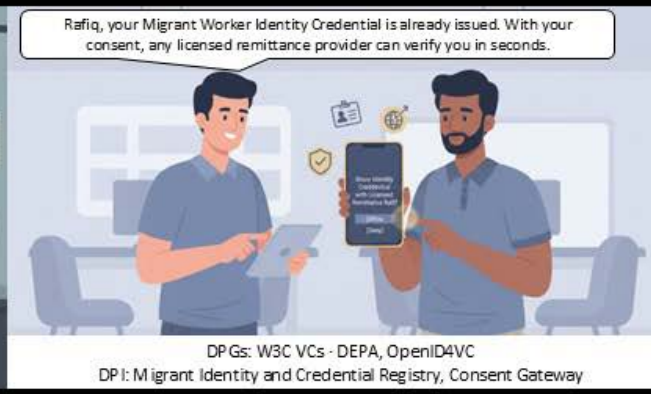
DPGs: C2PA Provenance · DEPA Consent Artefact · W3C VCs
DPI: Consent Gateway, Biometric Verification

DPGs: Open Alerts Schema, Delegated Authorisation VC, DEPA
DPIs: Delegated Access and Guardianship

DPGs: W3C VCs · Open Risk Scoring Schema, OpenID4VC
DPIs: Fraud Investigation, Block/Unblock Rail

Use case 2: Migrant worker remittances with zero documentation

Migrant workers often lack stable addresses, up-to-date IDs or formal documents in the city where they work. They stand in queues, pay high remittance fees and depend on agents they barely trust, sometimes losing money completely.



DPGs: W3C VCs - DEPA, OpenID4VC
DPI: Migrant Identity and Credential Registry, Consent Gateway

DPGs: Open Risk Evaluation Schema, VC Status List, W3C VCs
DPI: KYC, Risk and Sanctions Screening, Remittance Provider Onboarding

DPGs: ISO 20022-aligned Payments Schema, Relationship VC, OpenG2P
DPIs: Cross-Border Remittance Rail, Household and Beneficiary Registry

DPGs: ISO 20022-aligned Payments Schema, Relationship VC, OpenG2P
DPIs: Cross-Border Remittance Rail, Household and Beneficiary Registry

DPGs: W3C VC, Open Financial History Schema, CTDL
DPIs: Household Financial History, Micro-Credit Product Discovery

Use case 3: Micro-merchant reputation scorecard

Micro-merchants such as street vendors earn daily but leave no digital trace of reliability, no invoices, no receipts, no credit history. Banks hesitate to lend, buyers hesitate to trust and merchants lose opportunities.

DPGs: W3C VCs · C2PA Provenance Metadata
DPI: Micro-Merchant Ledger, Merchant Identity and Registration

DPGs: Open Risk Evaluation Schema, VC Status List, W3C VCs
DPI: KYC, Risk and Sanctions Screening, Remittance Provider Onboarding

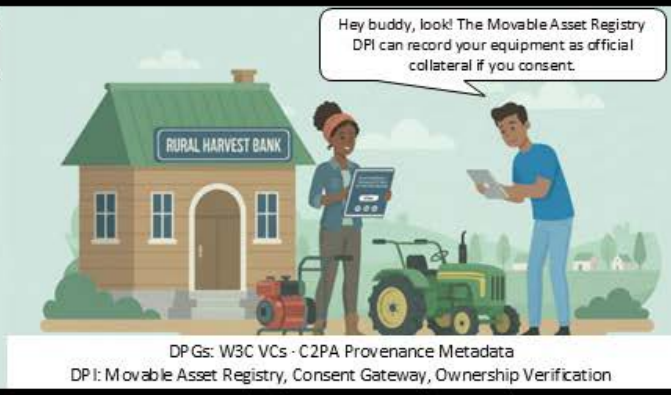
DPGs: Open Reputation Schema, W3C VC
DPIs: Merchant Data Exchange, Credit Pre-Eligibility

With this verified history, he was offered micro-credit at a fair interest rate. No collateral

DPGs: W3C VC, Open Risk Model Schema
DPIs: Micro-Credit Product Discovery, Consent Gateway

Use case 4: Smallholder collateral registry for movable assets

Smallholder farmers, artisans, street vendors and rural entrepreneurs own valuable tools such as a motor pump, a sewing machine, a refrigerator cart, a two-wheeler, but banks don't recognise them as collateral. Without land titles or formal assets, they remain credit-invisible.



DPGs: W3C VCs - C2PA Provenance Metadata
DPI: Movable Asset Registry, Consent Gateway, Ownership Verification

DPGs: OpenAttestation, W3C VC, Open Geospatial Standards
DPI: Accredited Valuation, Asset Attestation, Movable Collateral Registry

With this, the assets now count as recognised collateral.

DPGs: W3C VC, Open Data Schema for Collateral Classification
DPIs: Movable Collateral Registry, Collateral Status, Bank Collateral API

DPGs: W3C VC, Open Underwriting Risk Schema
DPIs: Underwriting Verification, Collateral-Based Lending

When movable assets become verifiable collateral, credit finally reaches the people who work the hardest, not the ones who own the most land.

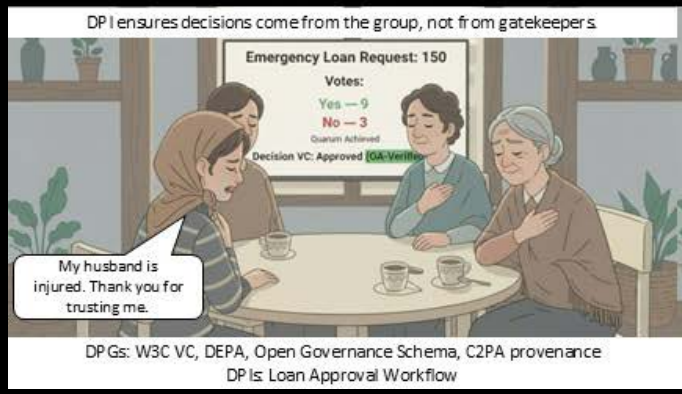
Use case 5: Community-owned savings groups with tamper-proof shared records

Millions participate in community savings groups where every deposit, vote or loan depends on trust, and handwritten records often cause disputes, misreporting and loss of funds. Groups collapse when one person controls the ledger or when members feel cheated.

DPGs: W3C VCs · C2PA Provenance, DEPA, Open Governance Schema
DPI: Group Identity Registry, Consent Gateway, Finance Ledger

DPGs: OpenAttestation, W3C VC, xAPI Event Logging Schema
DPI: Shared Ledger, Event Attestation, Governance Protocols

DPI ensures decisions come from the group, not from gatekeepers.



DPGs: W3C VC, DEPA, Open Governance Schema, C2PA provenance
DPIs: Loan Approval Workflow

We have 11 months of verified savings history, transparent decisions and on-time contributions. This makes us eligible for a formal group credit line.

DPGs: VC Presentation Exchange, Open Financial History Schema
DPIs: Group Credit Assessment

With shared verifiable records, communities aren't just saving money, they're building power.

Use case 6: Community-owned savings groups with tamper-proof shared records

Small and medium enterprises deliver goods on credit, but buyers delay payments for 45–120 days. Banks don't trust paper invoices; they are easily disputed, manipulated or unverifiable, so SMEs can't access working capital when they need it most.

DPGs: W3C VCs - C2PA Provenance, Open Supply Chain Invoice Schema
DPI: SME Registry, Invoice Issuance, Supply Chain Document Linking

DPGs: OpenAttestation, W3C VC, Open Geospatial Standards
DPI: Delivery Attestation, Buyer Confirmation

DPGs: W3C VC, DEPA, Open Supply Chain Attestation Schema
DPIs: Invoice Verification

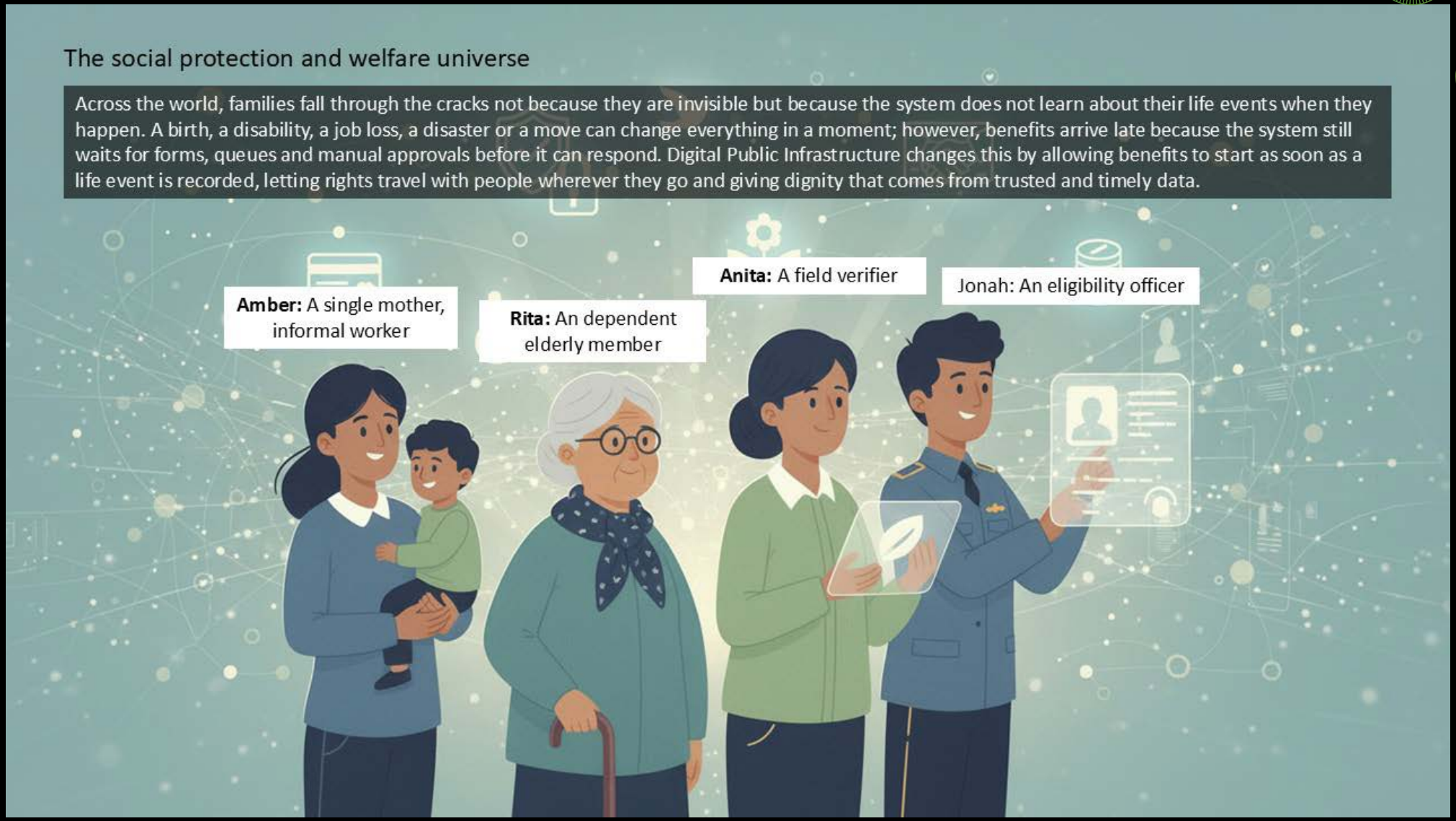
DPGs: VC Presentation Exchange, Open Risk Model Schema
DPIs: Financing Marketplace, Risk and Underwriting, SME Wallet

Chapter 5

Welfare

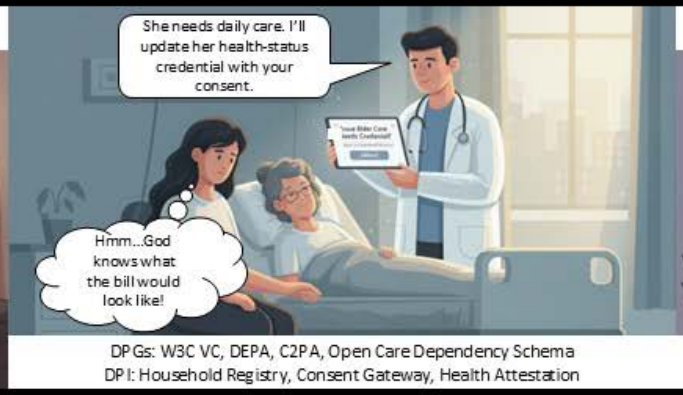
The social protection and welfare universe

Across the world, families fall through the cracks not because they are invisible but because the system does not learn about their life events when they happen. A birth, a disability, a job loss, a disaster or a move can change everything in a moment; however, benefits arrive late because the system still waits for forms, queues and manual approvals before it can respond. Digital Public Infrastructure changes this by allowing benefits to start as soon as a life event is recorded, letting rights travel with people wherever they go and giving dignity that comes from trusted and timely data.



Use case 1: Dynamic household eligibility registry

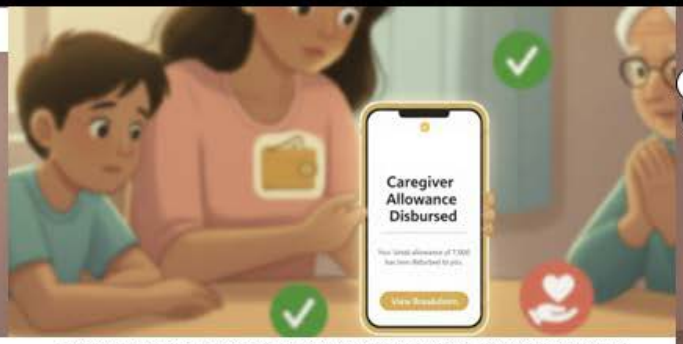
Families experience sudden life events, illness, disability, migration, loss of income, that radically shift their needs, but social protection systems often depend on outdated records, manual reapplications and long queues. Most benefits arrive late because the system doesn't see household changes in real time, forcing people to repeatedly prove their hardship.



DPGs: W3C VC, DEPA, C2PA, Open Care Dependency Schema
DPI: Household Registry, Consent Gateway, Health Attestation

DPGs: Open Household Data Schema, W3C VC, DEPA
DPI: Household Registry, Eligibility Rules,

DPGs: Open Benefits Data Schema, W3C VC, DEPA
DPI: Household Registry, Eligibility Rules, Open Payments



DPGs: Open Payments Schema, W3C VC, Portable Social Protection Wallet
DPI: Household Registry, Eligibility Rules, Open Payments

Use case 2: Disability certification

People with disabilities are forced to repeatedly "prove" their condition across agencies, often through paper certificates, travel, queues and invasive data sharing. This creates delays, denial of benefits and deep indignity.

DPGs: ICF functional assessment framework (WHO)
DPI: Accredited Assessment Network, Disability Determination Workflow

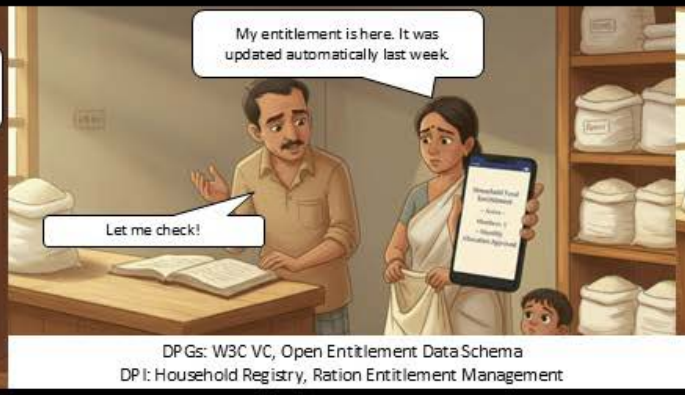
DPGs: OpenID4VC issuance flow, W3C VC
DPI: OpenID4VC issuance flow, Consent and Permissions

DPGs: OpenID4VC, VC status check (revocation/status)
DPI: Eligibility Verification, Benefits Enrollment, Credential Status Registry

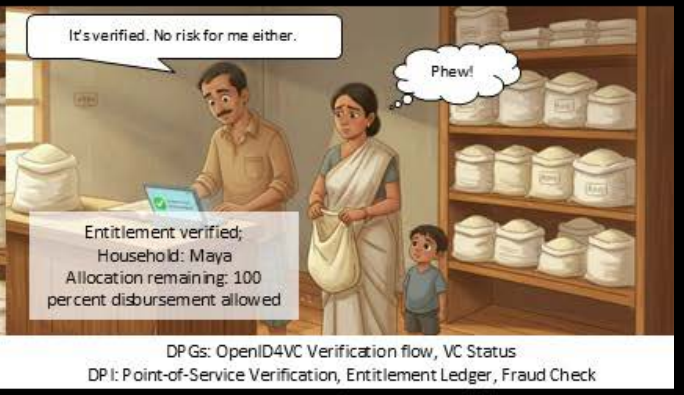
DPGs: C2PA provenance for document integrity, Cryptographic VC proofs
DPI: Fraud and Duplicate Detection

Use case 3: Digitally verifiable ration entitlements

Food ration systems often fail the people they are meant to serve, entitlements are unclear, records are outdated, shops deny claims and families are forced to prove eligibility repeatedly. Leakage, duplication and discretion erode trust on both sides of the counter.



DPGs: W3C VC, Open Entitlement Data Schema
DPI: Household Registry, Ration Entitlement Management



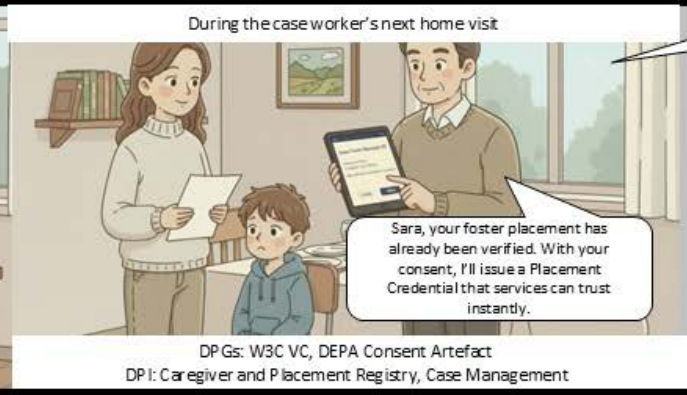
DPGs: OpenID4VC Verification flow, VC Status
DPI: Point-of-Service Verification, Entitlement Ledger, Fraud Check

DPGs: OpenID4VC Verification flow, VC Status
DPI: Transaction Logging, Audit and Reconciliation

DPGs: Aggregated Entitlement Analytics Schema
DPI: Supply Chain Monitoring, Anomaly Detection

Use case 4: Foster care/child support verification

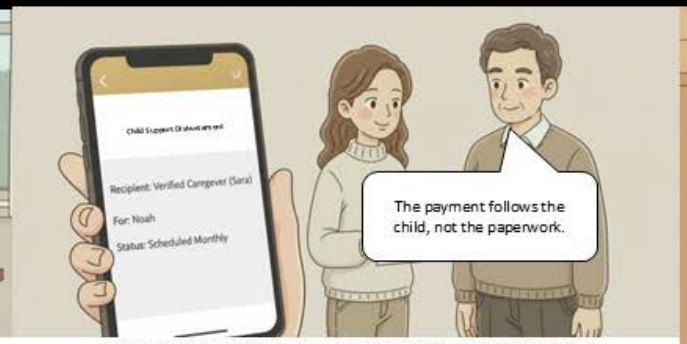
Children in foster care or shared custody often fall through gaps because placements, court orders and support payments are fragmented across agencies. Paper records often get delayed, altered or ignored, which can harm the child the most.



DPGs: W3C VC, DEPA Consent Artefact
DPI: Caregiver and Placement Registry, Case Management

DPGs: Open Attestation, W3C VC
DPI: Judicial Attestation, Legal Status Registry

DPGs: OpenID4VC Verification flow, VC Status
DPI: Service Eligibility Verification, Education and Child Services Access



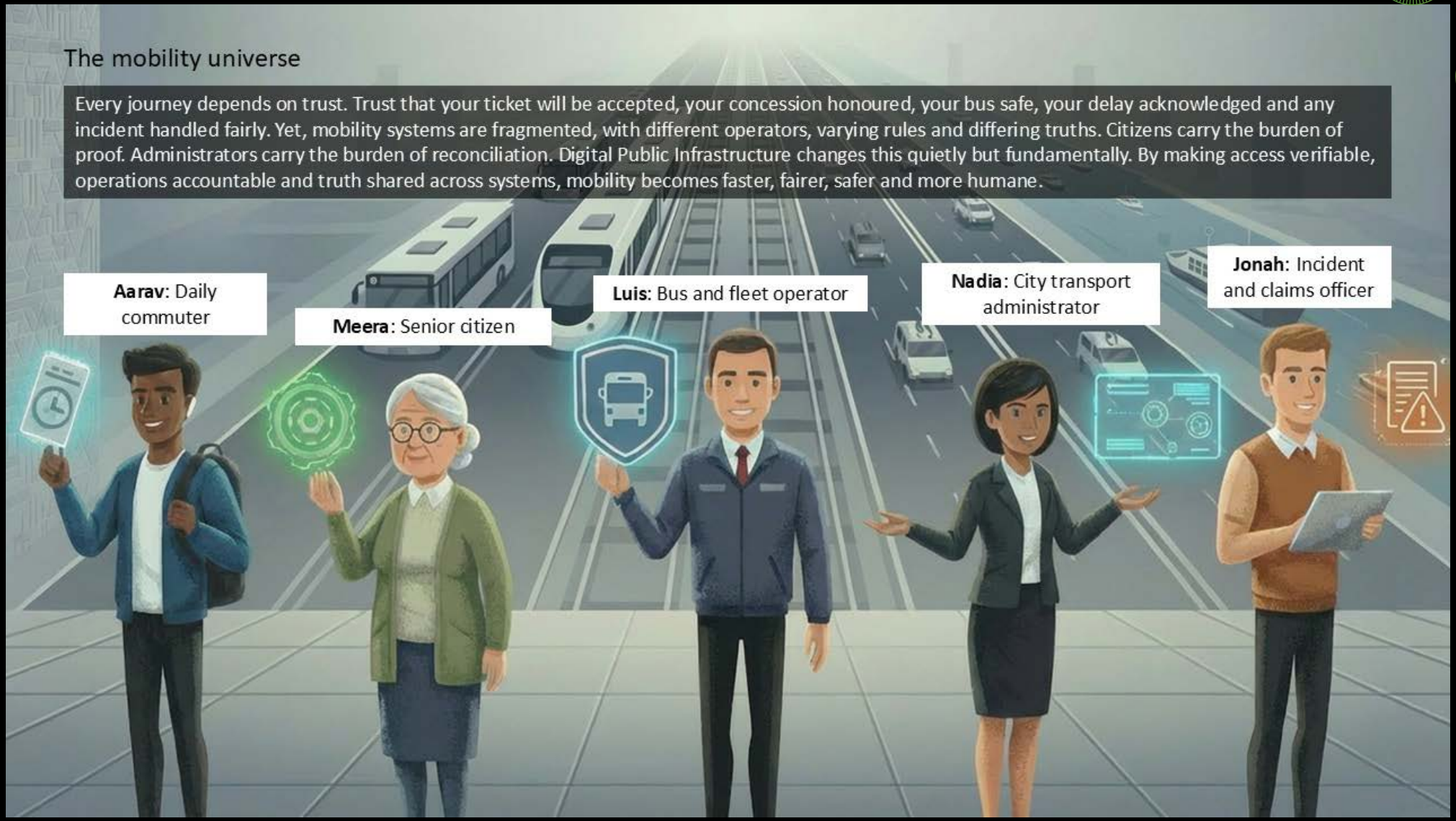
DPGs: Verifiable Beneficiary Credential, Open Payments Schema
DPI: Role-Linked Payments, Audit and Reconciliation

Chapter 6

Mobility

The mobility universe

Every journey depends on trust. Trust that your ticket will be accepted, your concession honoured, your bus safe, your delay acknowledged and any incident handled fairly. Yet, mobility systems are fragmented, with different operators, varying rules and differing truths. Citizens carry the burden of proof. Administrators carry the burden of reconciliation. Digital Public Infrastructure changes this quietly but fundamentally. By making access verifiable, operations accountable and truth shared across systems, mobility becomes faster, fairer, safer and more humane.



Use case 1: Universal concession and entitlement-based mobility access

Concessions for seniors, students and persons with disabilities are fragmented across operators, requiring repeated proof and manual checks. Citizens are embarrassed, operators fear misuse and administrators constantly reconcile exceptions.

DPGs: W3C VC, OpenID4VC
DPI: Eligibility Rules, Transit Concession Verification

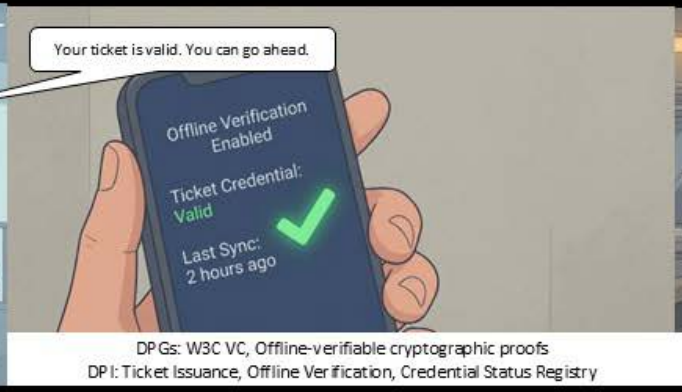
DPGs: Open Attestation, W3C VC
DPI: Point-of-Service Verification, Cross-Operator Concession

DPGs: Open Entitlement Rule Schema
DPI: Central Eligibility Registry, Operator Registry

DPGs: Offline-verifiable VC proofs, VC status caching
DPI: Offline Verification

Use case 2: Mobility wallet and cross-operator refunds

When mobility systems fail, apps crash, networks go down, services are delayed, citizens lose tickets, inspectors can't verify access and refunds become exhausting disputes across operators. Administrators face fragmented evidence, manual reconciliations and public frustration.



DPGs: W3C VC, Offline-verifiable cryptographic proofs
DPI: Ticket Issuance, Offline Verification, Credential Status Registry

DPGs: OpenAttestation, Standardised service disruption schema
DPI: Operations Event Registry, Service Reliability Ledger

DPGs: Open Payments Schema, Verifiable Delay Proof
DPI: Refund Orchestration, Cross-Operator Settlement, Payment Rail

DPGs: Aggregated service performance analytics schema
DPI: Mobility Operations Analytics

When systems absorb failure, movement feels effortless again.

Use case 3: Verified fleet, driver and trip authorisation

In commercial and public transport, many safety failures often occur before an incident, when unverified vehicles, uncertified drivers or expired inspections slip into daily operations. Paper certificates are forged, substitutions go unnoticed and accountability is established only after harm occurs.

DPGs: W3C VC
DPI: Fleet Registry, Driver Registry, Trip Authorisation

DPGs: Credential status and validity check
DPI: Credential Status Registry

DPGs: VC Presentation and Verification
DPI: Pre-Trip Compliance, Operator Authorisation

DPGs: Open verification protocol
DPI: Enforcement Verification, Real-Time Compliance Check

Use case 4: Accessibility and road truth layer

Road closures, construction works, elevator outages and accessibility disruptions are published inconsistently across agencies and operators. This leaves citizens, especially those with mobility needs, without reliable journey-planning information, making coordination and accountability challenging for administrators.

At a City Operations Centre.

DPGs: OpenAttestation, Standardised infrastructure status schema
DPI: City Works Registry, Accessibility Status Registry

When truth is shared once, it works everywhere.

DPGs: Open Discovery APIs
DPI: Public Information Distribution, Transit Discovery

DPGs: Accessibility metadata standard
DPI: Journey Planning, Accessibility-Aware Routing

DPGs: Aggregated infrastructure performance schema
DPI: Urban Mobility Analytics, Service Reliability Oversight

When the city tells the truth, movement becomes humane again.

Use case 5: Incident and claim handling

After road accidents, victims face fragmented systems. Police reports, medical records, insurance claims and legal processes all operate in silos. Evidence is disputed, timelines stretch for months and citizens must repeatedly narrate trauma to prove legitimacy.

Nearest traffic officer is alerted.

DPGs: C2PA Provenance, Standardised Road Incident Data Schema
DPI: Road Incident Evidence

Healthcare moves faster when context is trusted.

DPGs: Verifiable Event Reference
DPI: Health–Mobility Context Exchange

DPGs: OpenAttestation
DPI: Insurance Claims Initiation, Mobility-Insurance-Health Evidence Linking

DPGs: Verifiable telemetry and event correlation
DPI: Claims Adjudication, Road Safety Analytics

When systems talk to each other, insights emerge with every closure.

Beyond solutions, towards stewardship

The stories in this book do not offer a checklist, a blueprint or a finished answer. They offer a way of seeing.

Across every chapter, a clear pattern repeats. When systems recognise people, events and rights once, and apply that trust consistently, friction disappears. Services become predictable. Decisions become fairer. And dignity becomes the default, not the exception.

DPx makes this possible. Not because it is complex, but because it is composed carefully into journeys that reflect how life actually unfolds. The question, then, is not whether DPx works. The question is **what we choose to build with it**.

Will we digitise today's silos, or design foundations that endure?
Will we optimise for convenience alone, or for trust at scale?
Will we build systems people must navigate, or systems that quietly support them?

This book is an invitation to policymakers, technologists and innovators to move beyond isolated solutions and begin thinking in journeys, foundations and long-term stewardship. Because when infrastructure is designed well, it does not demand attention. It earns trust. And then, it simply lets life move forward.

Connect with us

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Notes

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Together makes progress