UNJSPF Blockchain-based Digital Identity Solution for Proof-of-Life

This paper presents the insights of a four-year journey of implementing a cutting-edge Digital Identity Solution for Proof-of-Life in the United Nations Joint Staff Pension Fund (UNJSPF)

THE CHALLENGE

1 Over 70,000 retirees — 190+ Countries

2 Legacy system — Paper-based Certificates of Entitlement (CE)

3 Issues: — Delays, Errors, Lost Mail, Fraud, High Admin Costs
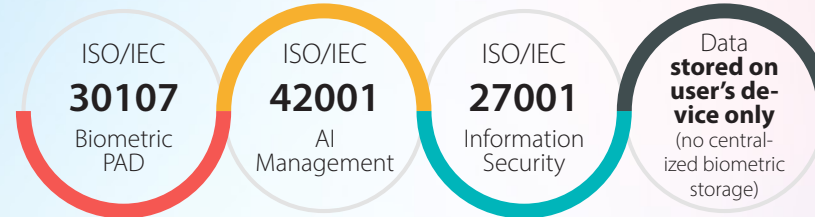
KEY TECHNOLOGIES

1 **Blockchain**
Tamper-proof ledger, transaction transparency.

2 **AI**
Liveness detection, anti-spoofing (deep fake prevention).

3 **Biometrics**
Facial recognition for secure ID.

4 **Geo-localization**
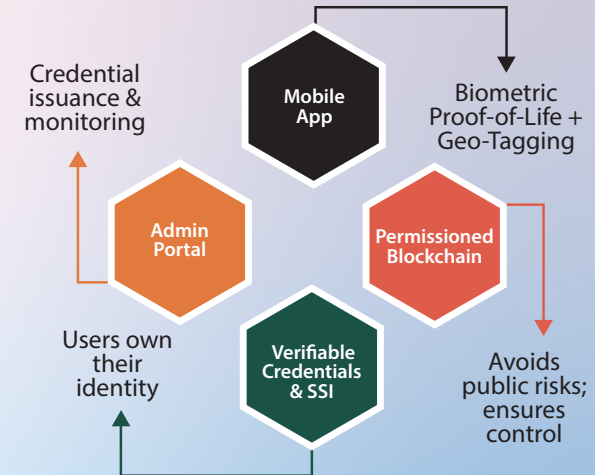Confirms beneficiary's location.

SECURITY & COMPLIANCE

- ISO/IEC **30107** Biometric PAD
- ISO/IEC **42001** AI Management
- ISO/IEC **27001** Information Security
- Data **stored on user's device only** (no centralized biometric storage)

BEYOND UNJSPF: GLOBAL INFLUENCE

Inspired the **UN Digital ID** initiative.

Supports **UN 2.0** & **SDG 16.9** (legal identity for all)

Model for secure, scalable digital ID systems across international agencies

IMPACT & BENEFITS

1 Reduced verification time from **weeks to minutes**

2 Eliminated paper waste & postal dependencies

3 Full auditability, enhanced fraud detection

4 Boosted user confidence and trust in the system

CORE FEATURES

- Credential issuance & monitoring
- Mobile App
- Biometric Proof-of-Life + Geo-Tagging
- Admin Portal
- Permissioned Blockchain
- Users own their identity
- Verifiable Credentials & SSI
- Avoids public risks; ensures control

Pilot in 2021: 250 testers across 40 countries

DEPLOYMENT & ADOPTION

Optional enrolment; **parallel paper-based** process still available

Kiosk mode: ensures accessibility in low-connectivity regions

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