

Verified attendance at mandatory corporate trainings

Using the Cardano blockchain to deliver trusted proof for mandatory training and enterprise participation

Challenge

Enterprise training demands auditable proof

Petrobras conducts mandatory training programs essential to workforce safety, regulatory compliance, and eligibility for permanent employment. **These programs require attendance records that are accurate, auditable, and defensible.** Historically, attendance was tracked through manual processes such as paper sign-in sheets and disconnected digital tools. Unfortunately, these methods introduced risk. Records could be lost, altered, or disputed, and attendance was often captured only once, offering limited insight into actual participation.

As proof of attendance (PoA) needs expanded to include onboarding and internal events, these limitations became more visible. **Manual systems could not reliably aggregate attendance data or support independent verification.** For a publicly traded, state-owned enterprise, this lack of reliable proof created legal exposure and administrative inefficiencies.

Petrobras identified attendance verification as a practical opportunity to **modernize compliance processes, improve data integrity, and replace trust-based records** with verifiable, reusable attendance data.



Industry

- Corporate Training

Size

- USD 361.5 Billion (2023)¹
- USD 805.6 Billion (2035)
- CAGR 7% (2023-2035)

The challenge

- Manual, error-prone processes
- Attendance disputes and audit risk
- Incomplete participation data
- Limited transparency and verification



The solution

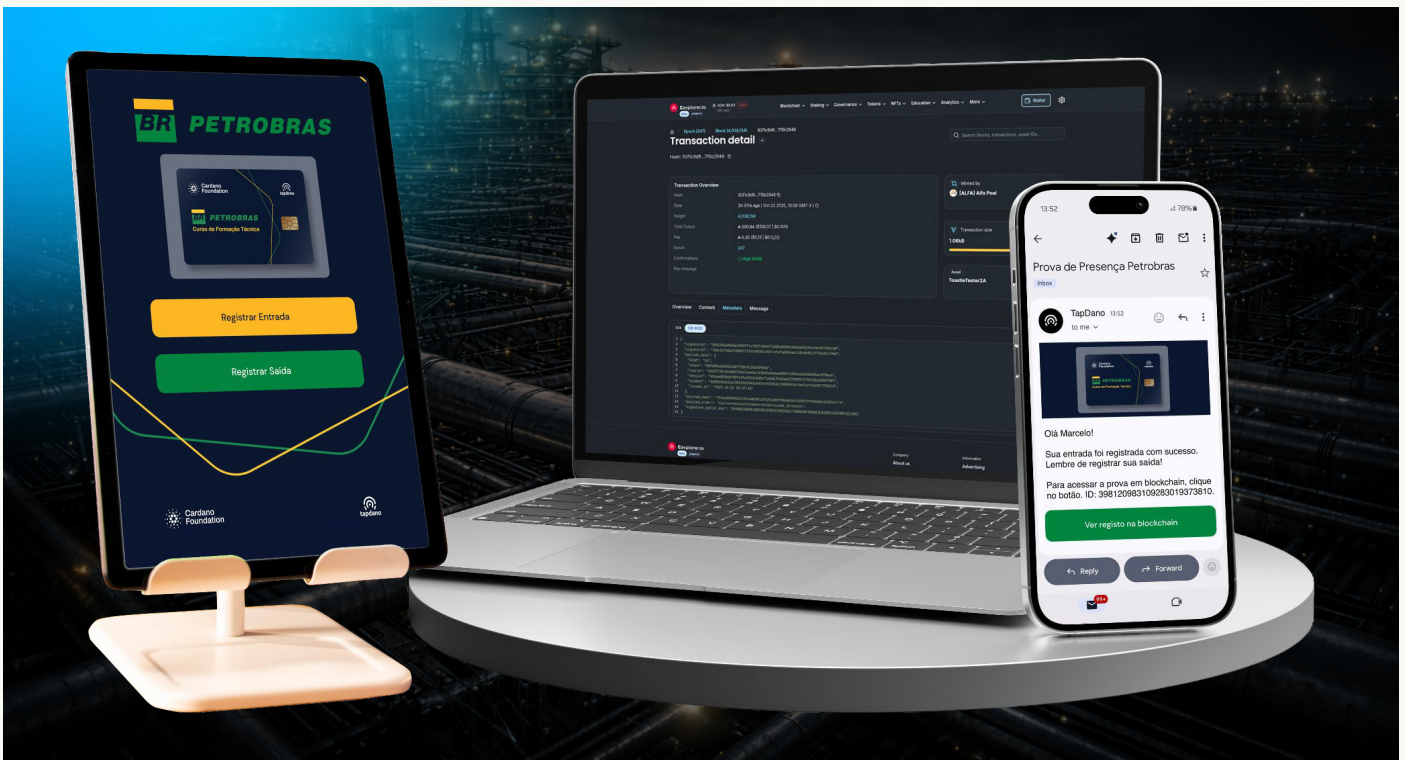
- NFC-based identity verification
- Cryptographic signatures and anonymization
- Immutable on-chain records
- Independent auditability

“There is no trustworthy compliance without verifiable data. Cardano’s public blockchain enabled us to establish a new standard of transparency and accountability through Proof of Attendance (PoA).”

Marcelo A. F. Curi
Blockchain Solution Architect, Petrobras

Solution

Blockchain-based proof of attendance



Petrobras, in collaboration with the Cardano Foundation and TapDano, **implemented a blockchain-based attendance system to deliver verifiable proof of participation for mandatory training programs.** The solution uses NFC-enabled identity cards, cryptographic signatures, and immutable timestamps recorded on Cardano's public blockchain.

Mandatory training remains the primary use case, while the same system supports onboarding processes and internal events. **Multiple attendance interactions, such as entry and exit, are captured to provide a clearer view of participation.**

Importantly, the complexity of blockchain is hidden from users. Employees and instructors follow familiar workflows while benefiting from independent verification, long-term auditability, and tamper-resistant records. Attendance data becomes a **trusted enterprise asset that supports compliance, governance, and reporting without reliance on centralized control.**

Solution Walkthrough



01. →



Employees are registered on the platform by linking their identity to a personalized NFC card that contains an anonymized public key.

02. →



A responsible instructor opens and closes training sessions using a secure card, defining the valid attendance window.

03. →



Participants tap their cards to record entry and exit events. Each interaction generates a signed metadata record.

04. ↘



Attendance metadata is validated, re-signed by the platform, and recorded on the Cardano blockchain with an immutable timestamp.

Results

Measurable operational and governance impact



Enhanced auditability

Attendance records are independently verifiable on a public blockchain, strengthening compliance and legal defensibility.



Improved data integrity

Cryptographic signatures and immutable timestamps eliminate disputes over attendance authenticity.



Increased transparency

Employees receive confirmation emails for each attendance event, with daily summaries delivered to instructors and Petrobras.



Richer participation insights

The system captures multiple attendance events per session, delivering up to 400% more verifiable data than manual methods.



Validated proof of concept

Demonstrated the feasibility of using Cardano as a low-cost, high-integrity ledger for enterprise operational processes.



CARDANO

Advantages



Proven resilience

Demonstrated security and reliability support continuous operation



Scalable network

Future-proof infrastructure supports platform growth without sacrificing performance



Secure data

Robust architecture protects sensitive data, minimizing the risk of breaches or fraud



Sustainable operations

Energy-efficient consensus and ethical governance align with sustainability efforts

Source

¹ Corporate Training Market Size, Share, Competitive Landscape and Trend Analysis Report



Cardano Foundation

The Cardano Foundation is an independent, Swiss-based not-for-profit advancing Cardano as a public digital infrastructure across a wide range of industries.

Contact us



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