Sellafield Ltd Nuclear Staff Passport

Optimising staff movement for Sellafield Ltd – a verifiable credentials case study

The Highlights

> Decentralized identity technology used to enhance Sellafield's capabilities in managing employee credentials.

> Using verifiable credentials to enable highly skilled staff to quickly move between Sellafield's 200 nuclear facilities.

> 'Nuclear Passport' allows staff across the nuclear estate to securely and efficiently share identity.

> From securely tracking and monitoring high-value assets to ensuring the safety of the workforce on site.

The Client

Sellafield has been nearly 80 years in the making. They are a pioneer for the UK's nuclear industry, supporting national defence, generating electricity, and developing the ability to manage nuclear waste safely.

Sellafield is home to more than 200 nuclear facilities and has the most extensive inventory of untreated nuclear waste globally.

Their mission is nationally important, from cleaning up the country's highest nuclear risks and hazards to safeguarding nuclear fuel, materials, and waste.

Our client's purpose is to keep Sellafield safe and secure.

The Challenge

Managing and verifying personnel identity across nuclear estate involves multiple partners, numerous reporting and issuing authorities, and a complex regulatory environment.

A key area of interest was finding out how Sellafield could use distributed systems technologies to create a 'Nuclear Passport' allowing staff across the estate to securely and efficiently share identity credentials.

The verifiable credentials passport needed to:
·Track information such as radiological exposure and competencies, training, and facilities access.
·Give Sellafield's workforce control over their identity data.
·Give staff the ability to self-serve and move between facilities.

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The Solution

Condatis built a bespoke verifiable credentials Nuclear Staff Passport platform for Sellafield over three configurations. The focus of the main objectives of the platform were to:

• Optimise Staff On-Boarding and Movement: offering opportunitiesto optimise staff on-boarding and minimise friction caused by staff moving between nuclear estate sites.

• Secure Credentials: cryptographically securing verifiable credentials helps establish a trust framework, which can be used between the 17 NDA (Nuclear Decommissioning Authority) sites and other organisations.

The PoV successfully demonstrated how verifiable credentials can be used within the nuclear industry to improve and enhance existing processes and drive digitisation.

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The Benefits

From securely tracking and monitoring high-value assets to ensuring the safety of the workforce on site, the range of benefits that distributed ledger technologies can bring to the nuclear industry is vast.

The Nuclear Staff Passport provides Sellafield with:

• The ability to issue employee credentials.
• The ability to integrate with Microsoft Authenticator digital wallet.
• An irrefutable record of security clearance and training credentials.
• A simpler and effective way to verify Suitably Qualified and Experienced Persons (SQEP).

The Proof of Value highlighted the following key benefits:

- **Staff movement and ID** – decentralised identity allows employees to present their identity credentials easily and securely.
- **Security** – decentralised technology offers an approximate 90% reduction in potential risk for a data breach. Sensitive personal data is cryptographically stored on the blockchain.
- **Process Streamlining** – issuing credentials can take anywhere between 3 weeks to 3 minutes. It is estimated that by implementing a verifiable credentials solution, Sellafield reduces time to on-board and offboard staff by approximately 80%. Enabling verification of SQEP status to happen instantly, ensuring the employee is sufficiently qualified.
- **Traceability** – A history of all issued credentials is maintained.
- **Ease of access** – A decentralised system empowers the right people in organisations to set, enforce and execute complex data sharing policies across enterprise boundaries. The system offers a reduction in the need for paper-based systems, reducing costs across the estate.

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