

FIDES Community Awards 2026 — Innovation Award submission

Use case: Verified machine safety access at Koning Willem I College (KW1C)

Submitted by: Sphereon, with KW1C, SURF/npuls, and Simac Access Solutions

Category: Innovation Award

Stage: Operational pilot, running over several months



Machine safety

One credential.
Checked online.
Then checked in person.
The machine unlocks.

A student is trained on a high-risk workshop machine and receives a digital machine safety certificate. That same certificate lets the student book the machine online. Later, at the machine itself, the student holds their credential against the machine's reader. The same certificate is checked again, and only then does the physical lock release.

Most digital identity projects stay online: a credential is shown, a screen confirms it, done. This case bridges the online world and the physical world with the same credential and the same EUDI and ISO standards. Only the physical check of the certificate at the machine decides whether it runs at all. The machine either starts, or it stays locked.

The problem

KW1C runs workshops with machines that can cause serious injury. Students must be trained and certified before they are allowed to operate them. Until now, that certification lived on paper and in the Student Information System, and staff checked it by hand. This is slow and it depends on someone remembering to check. But the cost of a missed check and a person getting hurt is high.

Constant human supervision of every machine is not realistic for an organization this size. The gap this case closes is the gap between who is certified and who is actually standing at the machine right now, and it gives the student direct ownership of the proof of what they have learned.

There is a second gap. The proof of what a student had learned lived inside the institution's systems, not with the student. It was visible to KW1C, but not something the student could hold and present as their own verifiable evidence.

What makes this case exceptional

A single credential, in a single format, works in two completely different situations. The student presents the machine safety certificate online to reserve a machine. Later, the student presents that exact same certificate again, this time by holding it against the machine itself. No person checks it. The machine does. Both times, the same business wallet checks the same fact: this student is certified to operate this machine.

Only the second presentation, in person, carries a consequence you cannot undo. A successful check unlocks the machine. An unsuccessful one does not.

One governed system behind both checks

Behind both checks is a single system: KW1C's Sphereon VDX business wallet. It defines what the machine safety certificate means, issues it after training, and enforces the check at every step.

A reservation is never possible without a valid certificate, and a machine never unlocks without one either. The student experiences two simple moments, online and in person, but both rest on the same governed definition of the credential and the same enforced policy behind them.

The technology behind it

The machine safety certificate is issued as an ISO 18013-5 mdoc, the international standard also used for digital driving licences. This format was chosen because it supports proximity verification over NFC and Bluetooth, so the credential can be checked by simply holding a phone or a card near the machine, without the student needing an internet connection at that moment.

Alongside the machine safety certificate, students hold their SURF eduID, the digital student identity issued to every student in the Netherlands, in the same wallet. Together, the two credentials let a student show who they are, that they are currently enrolled at KW1C, and which machine they are authorized to operate. Identity and authorization are established in one place, before a booking is made.

Ecosystem innovation

The system works with an existing physical access platform, Pronto, from Simac Access Solutions, instead of a separate, custom-built controller. This shows that EUDI credentials can plug into physical access equipment that colleges and companies already use.

Sphereon deliberately connected to the existing controller rather than replacing it with a custom device. This makes the pattern usable outside a single pilot, and it means an organization does not have to replace the access infrastructure it already has.

What was demonstrated

The pilot has been going on for several months, using different types of high-risk machines and different groups of users with different access rights. It shows:

- A machine safety certificate issued in under two seconds after safety training.
- An online check of that certificate in under one second, before a reservation is allowed.
- A successful proximity check at the machine itself, unlocking it through the Pronto controller.
- One certificate working end to end: issued once, checked online to book, checked again in person to operate.
- The learning result held directly by the student, as verifiable evidence in their own wallet, rather than only in institutional records.

Why this opens the door to new use cases

The pattern here, register a credential, then check it online to book, then check it again in person before something happens, is not specific to machines. The same pattern fits secure rooms, shared equipment, location access and appointments.

We already see this: organizations are exploring the same approach for room access and appointment booking.

The machine safety case is the first proof that this pattern works. It was chosen because the high stakes there, physical safety, make the proof convincing. More broadly, it shows how a learning result can stay connected to the learner and become verifiable and usable across different settings, not just recorded once inside one institution's systems.

Roles

Student: holds the machine safety certificate and the SURF eduID in a personal wallet, and presents them when reserving or operating a machine. This gives the student direct access to concrete, verifiable evidence of their learning, rather than leaving that evidence only in institutional systems.

KW1C: defines the requirements for the machine safety certificate, provides the training, issues the certificate, and verifies it at both the booking step and the machine, using the Sphereon VDX business wallet.

Simac Access Solutions: provides the Pronto physical access platform through which a successful verification is translated into physical machine access.

SURF/npuls: provides the eduID identity used to confirm enrollment, and supports the wider development of trusted credentials and personal wallets in education.

Sphereon: provides the personal and business wallet technology, credential orchestration, and technical integration needed to issue, hold, present and verify the credential across digital and physical environments.