



# sovrin

## Self-Sovereign Identity: The Breakthrough Opportunity

*A white paper by Evernym*

A new data-driven economy has opened massive opportunities for wealth creation, but has also created a crisis of trust. Consumers feel that they have lost control of their personal information; regulators feel that they need to protect those consumers and constrain the use of data.

In business, in government policy, and in the economy generally, casual wisdom says we are at an impasse. To accelerate growth, we need more data access, and that means ignoring many consumers' concerns. If we heed these concerns, we must curtail access to data, which starves innovation.

We reject this mindset. There's a way to turn today's privacy-or-growth impasse into an innovation engine enabled by privacy and data protection. It requires a paradigm shift, though: put individuals in control of their own data. This means:

- Empower them to know and control where their data resides;
- Provide the means to collect, store, manage and share that data;
- Make individuals the natural point of integration for their own data;
- Let users manage the consent that they have granted or rejected;
- Develop new services that help them use this data for their own purposes.

In essence, this gives individuals lifetime control of their digital identity.

The freedom and creativity unleashed by this change can power growth on multiple dimensions:

- It will help businesses reduce costs--in the UK alone it's costing organisations billions every year to manage customer identities#1;
- Fraud and account takeover can be dramatically reduced, disrupting a \$½ billion per year global fraud racket;
- By tackling consumer concerns and fears it will encourage data sharing, helping businesses access the information they need to provide existing services more efficiently, and to invent new ones;
- It opens up the opportunity to provide a whole range of new Personal Information Management Services (PIMS).

Many innovators and pioneers are working hard to make this vision a reality. One of the most exciting initiatives comes from Evernym, which is creating an open source global network engineered exclusively for "self-sovereign" identity, and they're giving it away to the world.

The Sovrin Identity Network, built on a public permissioned distributed ledger, creates a global identity layer for the internet. Evernym is making its core technology and platform available to everyone to use, for free, through the not-for-profit Sovrin Foundation. This White Paper explains and explores the opportunity, and why businesses should sit up and take note.

# The Identity Crisis

The current model of digital identity is broken and in crisis. We have too many usernames and passwords, our identities are stolen, and our cards and accounts defrauded for billions annually.

Also, in developing countries a lack of reliable and trusted identities creates huge challenges for society and restricts economic growth--whether that's difficulty tracking refugees and diseases, recording births and deaths, or simply helping people find jobs or prove who they are to businesses.

Regardless of region or sector, these issues share a common root cause: today's customer, consumer and citizen identities rely on fragmented, stale and often incorrect data held and issued by external authorities and private companies.

## A Breakthrough

The Sovrin Identity Network is the breakthrough we've needed to solve this problem in a fundamentally new way: by providing the long-missing identity layer of the internet.

Its new trusted infrastructure enables people to securely and privately share not only identity, but also trusted and verified attributes about people, organisations, and things with full permission and consent.

And here's the most important part: Sovrin is not owned by any single organisation. Nobody can take away a person's Sovrin identity. For the first time, our digital identities are owned and controlled by us - it is literally "self-sovereign".

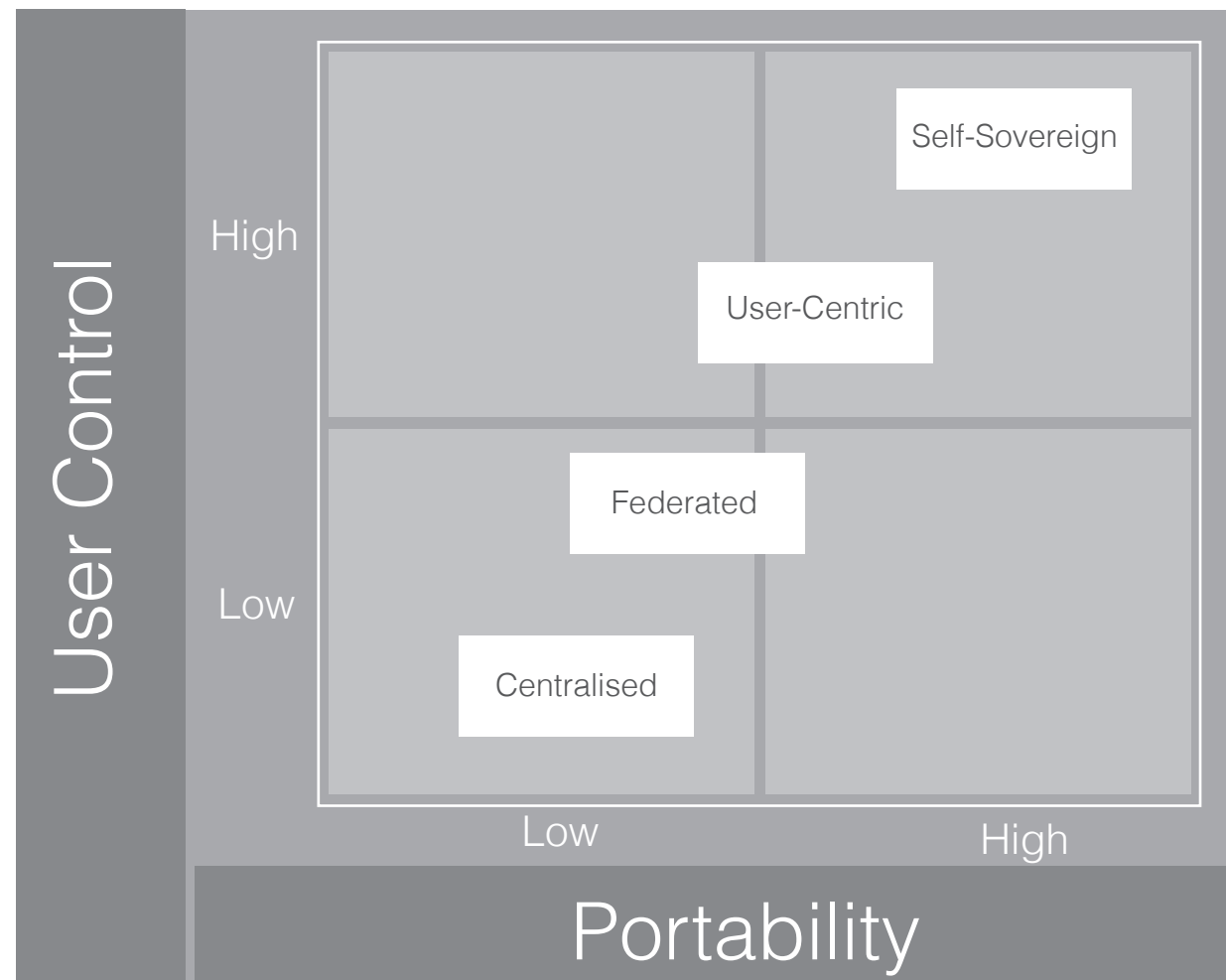


Fig 1: The four stages of online identity (after Christopher Allen #1)

## Why This is a HUGE Opportunity

*A secure, self-sovereign identity layer for the internet brings a wealth of new opportunities.*

### Transforming the customer experience

With truly portable digital identity, customer signup can be as simple as the individual just pointing the service at the relevant entries in their Sovrin identity and unlocking them.

Here, the customer stays in control while the service gets a new customer faster and more efficiently than ever before, but without the unintended leakage of personal data common in federated login systems. In addition, it also creates an auditable record of the customer's consent.

New customer services become possible, such as secure messaging between companies and individuals, all under the individual's control. Customer checkout can be transformed by enabling the separation of authentication from the payment transaction itself.

### Reducing costs

Huge saving of time and effort becomes possible when people can effortlessly and instantly prove things about themselves, such as employment and qualification credentials when applying for a job, renting a car or opening a new bank account.

Business Transformation

Now we can share data in controlled and consented ways and, with the cost of verifying who a person or organisation dropping to near zero, disruptive new business models and services can emerge.

Old-style data silos will be transformed. It will no longer make sense to amass databases full of the same customer information that is in everyone else’s vast customer databases. To reduce the ever-increasing regulatory burden and vicious cyber-attacks on these data honeypots, customer data management can be repatriated to the actual customers - freeing up cash to reinvest in compelling new services.

In a new, ‘post-silo’ age, individuals and businesses will be able to prove who they are to anyone anywhere in the world. Governments, companies and other people will be able to simply and immediately verify those claims.

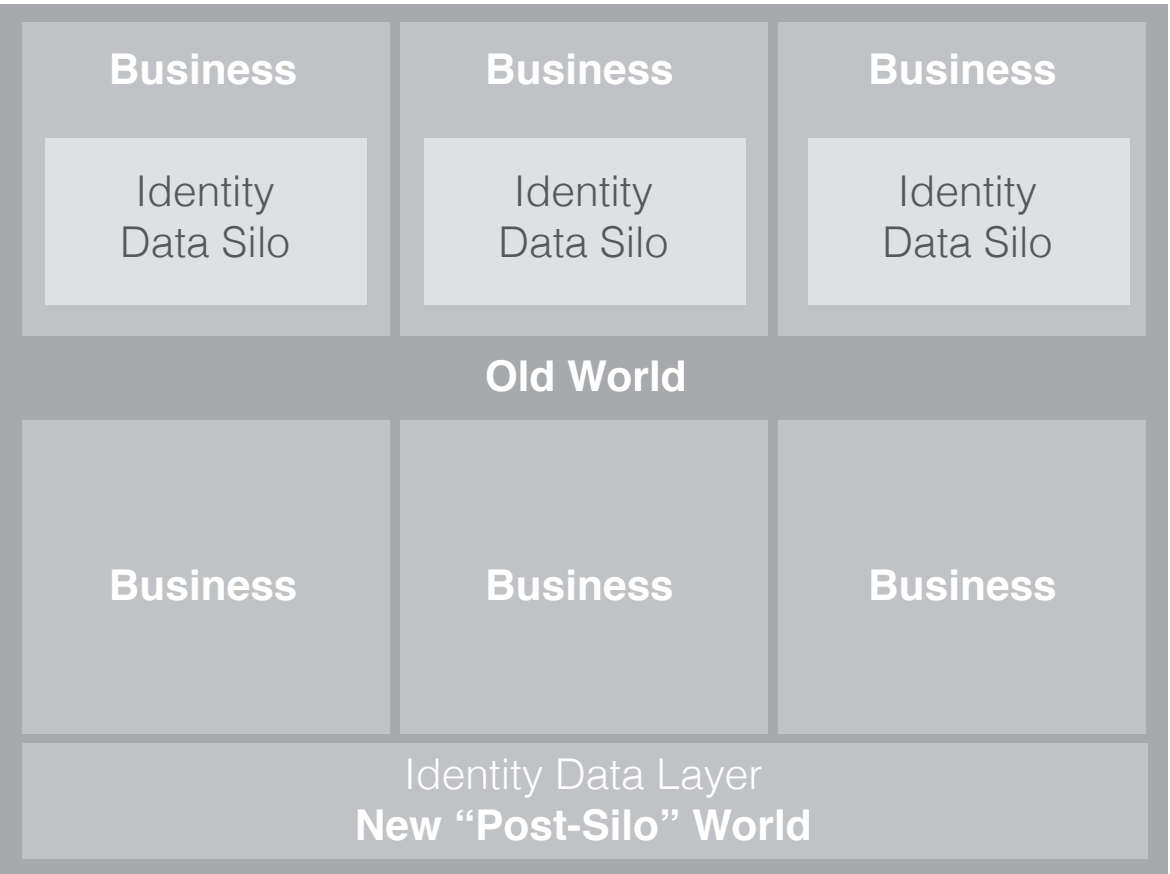


Fig 2: The Identity Layer

How it Works

Sovrin utilizes a “public permissioned” distributed ledger. The easiest comparison is the ATM network: anyone can approach an ATM and use it (public), but only those who’ve been given special permission can add an ATM to the ATM network (permissioned). With the Sovrin Identity Network, it is the Sovrin Foundation that grants or refuses permission for “nodes” (akin to ATMs in the metaphor) to join the network.

This is a very different approach to “permissionless” ledgers such as those underpinning Bitcoin and Ethereum. It is also distinguished from private ledgers such as Corda from R3 because Sovrin is intended to be publicly accessible, though the data on it (or referenced by it) is only visible with the consent of its owner.

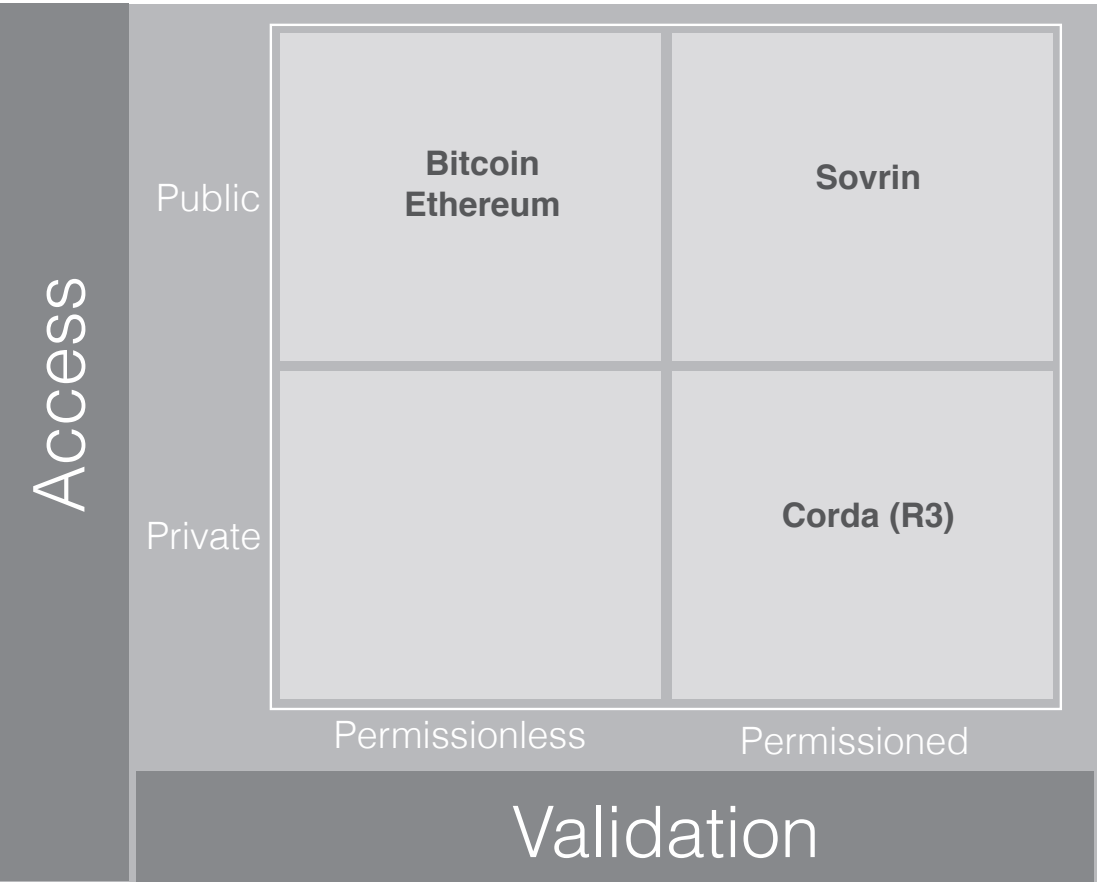


Fig 3. Positioning Sovrin in the Distributed Ledger World

## Who runs the network?

To be truly “self-sovereign”, the Sovrin network cannot be owned or controlled by any single company, organization, or government. Instead it must be operated by trusted institutions around the world, forming a decentralized network much like the Internet itself.

To accomplish this, the Sovrin Identity Network will be overseen by the Sovrin Foundation, a not-for-profit global consortium of trusted institutions such as universities, financial organisations and hospitals, as well as issuers of public-sector verifiable attributes such as driving licences, passports and birth certificates.

This independent foundation which consists of an international Board of Trustees representing the members and a Technical Governance Board representing technical experts, sets the legal, technical, and operational policies followed by all the institutions operated Sovrin nodes. This governance layer should be “as thin as possible but no thinner”, i.e., it should establish only the policies needed for the cooperating nodes of the Sovrin Identity Network to securely store and serve self-sovereign identity records which respect the privacy of each identity owner. All other policies for using Sovrin identity records should be established by communities of participants operating under their own higher level trust frameworks.

## Who pays?

Sovrin identities are free for everyone who wants one, and the Sovrin code itself is completely open source. The Sovrin Foundation will work with the trusted institutions operating Sovrin nodes to ensure that the network remains sustainable as it grows.

Sovrin’s source code has been developed by Evernym, who is gifting it to the Sovrin Foundation.



## We need you

Self-sovereign identity is the logical culmination of the long evolution of digital identity. And this transformation is already happening: the combined forces of people, cost, fraud, regulation and new revenue opportunities are now too powerful for there to be any other outcome.

The Sovrin Foundation has already begun to onboard the first group of ‘Stewards’ who will work with the Sovrin Foundation to create the governance layer and initial use cases. These founding Stewards will be responsible for approving the onboarding of the next wave of Stewards to further expand the network and increase its reach and utility.

This is a special moment in time: the opportunity to be at the forefront of the transformation of digital identity which will empower people and power businesses.

So join us by helping test and deliver the first products and opportunities, developing a world-class user experience, implementing proofs of concept, and identifying and overcoming any unforeseen obstacles.

Together we can make the world a better place, a world where everyone has an identity of their own which no one can take away.

To take part, please email

**interested@evernym.com.**

## References

- #1 The Economics of Identity - <http://oixuk.org/wp-content/uploads/2014/05/Economics-of-Identity-White-Paper.pdf>
- #2 Christopher Allen - The Path To Self Sovereign Identity
- #3 Bryan Pon, Chris Locke, Tom Steinberg - Private Sector Digital Identity
- #4 Doc Searls - The Intention Economy ISBN-13: 978-1422158524

