

Decentralised digital IDs as a solution to the challenges of the current state of the internet



IDENTITY DAY NORWAY – PRESENTATION IN OSLO, 19. APRIL

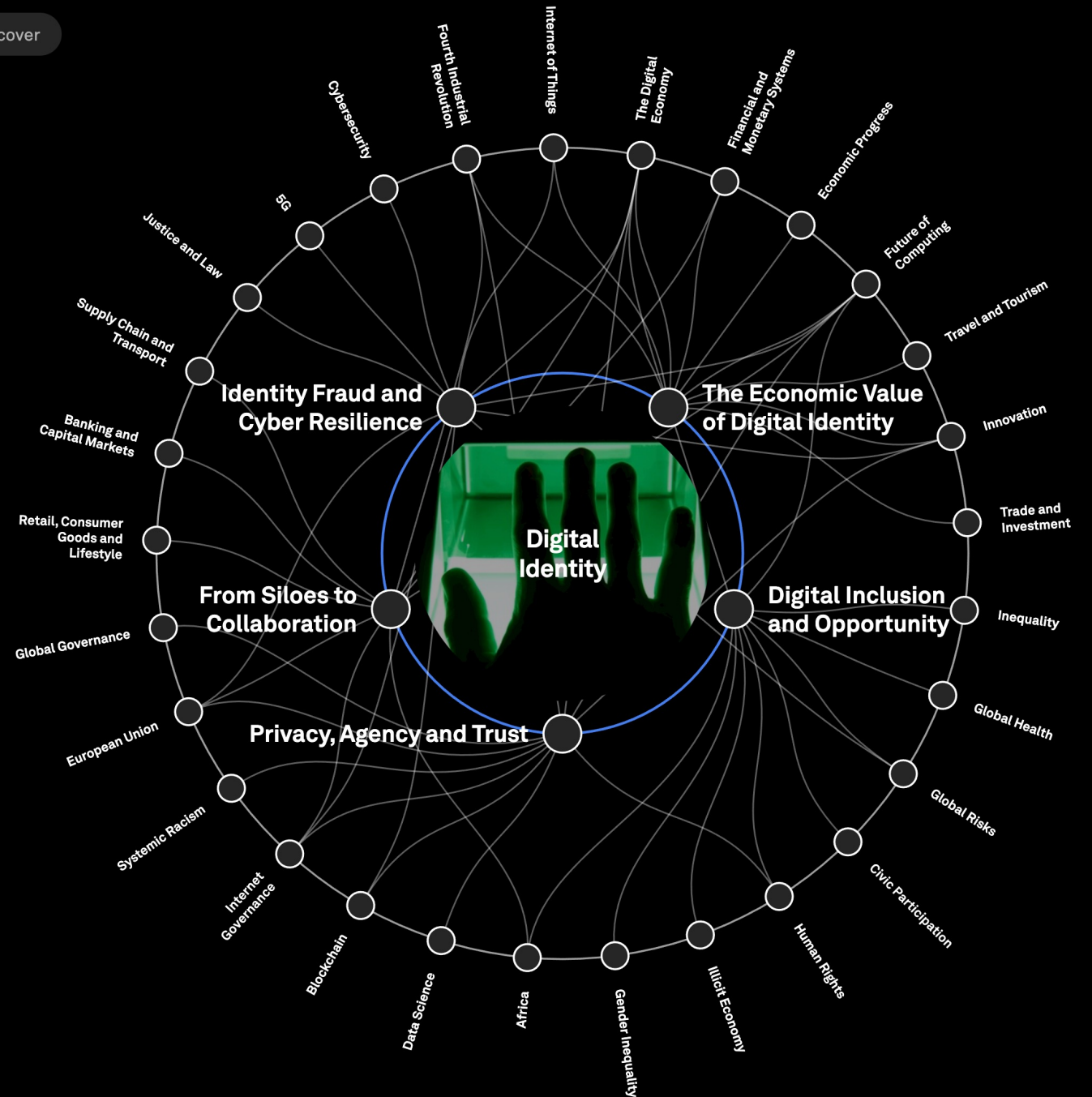
ERIK RIVAL STORELV, CFO, PROTECTORIA VENTURE



Introduction

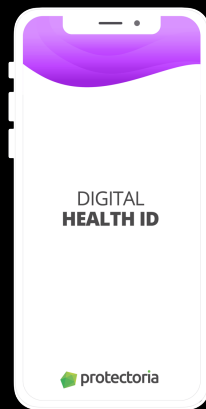
Identity at the core of a modern society

PROBABLY MORE IMPORTANT THAN ARTIFICIAL INTELLIGENCE



Protectoria vision and proposed ID services

*is to secure transactions and protect privacy by offering, developing and operating a world class **Decentralised** Digital Identity Infrastructure **as a Service** to public entities, private firms and citizens globally allowing digital identification, authentication and signing services including a portable digital wallet.*



PUBLIC ENTITIES

PRIVATE SECTOR

Offering best Nordic and European Digital Identity Technology and Services to the ASEAN Region – here is explosive growth potential

Sales to Asean - Philippines and Indonesia, Bangladesh next

We are well positioned with contracts , partners/subsidiaries, sales and marketing.



Nordic Digital Experience / Entrepreneurship

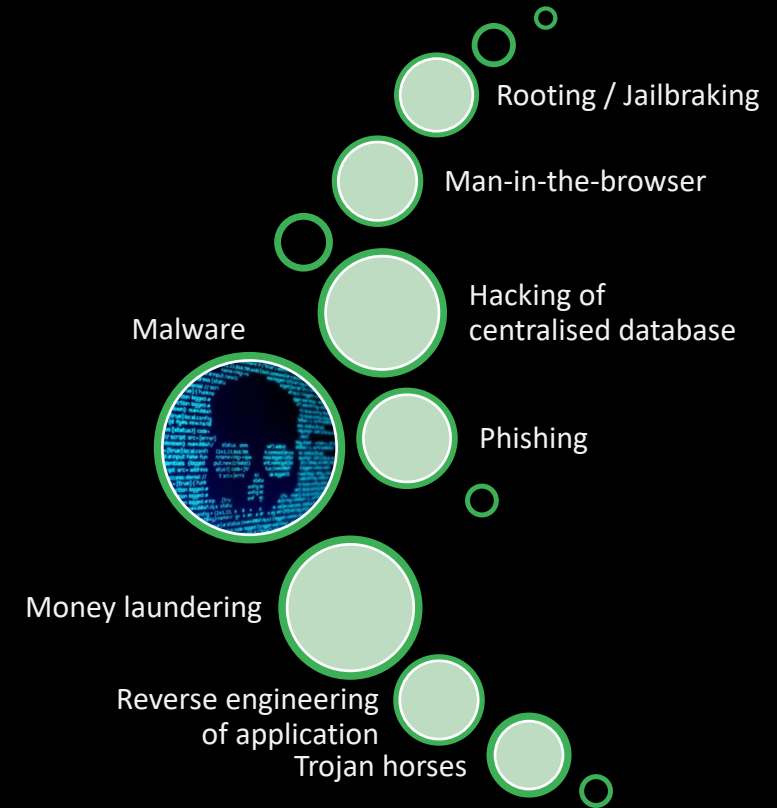
Oslo
entrepreneurship with extensive experience in Cybersecurity, encryption, IT and security operations, finance and venture, business development, project management.

Insight in EU -

Germany / Berlin
Innovation, market and EU insight, design competence, digital infrastructure and payments, blockchain, SSI, market intelligence

1. Challenges to the current state of the internett

The current internet is a modern version of the Wild West



AND SECURITY SOLUTIONS FOR DIGITAL TRANSACTION ARE NOT SAFE ENOUGH

Indeed – it's the wild west

TECHNOLOGY AND IIOT

Latest Yahoo Hack is the Largest Data Breach to Date

More than one billion Yahoo accounts were affected by a recently discovered data breach dating back to 2013.

DEC 15, 2016

The Chinese APT has been discovered behind a five-year espionage campaign that compromises government servers – and uses that as leverage for other attacks.

After five years under the radar, the Naikon APT group has been unmasked in a long-term espionage campaign against several governments in the Asia-Pacific region.

Tokopedia hacked – Login details of 91 million users sold on dark web

Another day, [another data breach](#) – This time hackers have targeted Tokopedia and as a result, personal and login credentials of 91 million users are being sold on a dark web marketplace for \$5000.

Tokopedia is an Indonesian technology company specializing in e-commerce. Founded in 2006; the company has become a giant with more than 91 million registered users/customers and over 7 million merchants.

British Airways faces largest ever data breach fine for 2018 hack

The £185.4 million fine is the largest the ICO has ever handed out, and represents 1.5 per cent of the firm's turnover. The General Data Protection Regulation (GDPR), which came into force last year, means firms can be fined up to 4 per cent of their annual turnover for data breaches.

"When an organisation fails to protect [personal data] from loss, damage, or theft, it is more than an inconvenience," says Information Commissioner Elizabeth Denham. "When you are entrusted with personal data you must look after it. Those that don't will face scrutiny from my office to check they have taken appropriate steps to protect fundamental privacy rights."

British Airline EasyJet Suffers Data Breach Exposing 9 Million Customers

DATA LEAKS IN HEAVY CYBERATTACK SEASON: INCREASING CONCERNS OVER PERSONAL DATA PROTECTION IN INDONESIA

With the recent cyberattack and data leak incidents in Indonesia, concerns over personal data protection have grown given that most of these cases are unresolved and perpetrators go unpunished.

GoDaddy Confirms Data Breach: What Customers Need To Know

The world's largest domain registrar, GoDaddy, with 19 million customers, has disclosed a data breach impacting web hosting account credentials.

With more than 19 million customers, 77 million domains managed, and millions of websites hosted, most everyone has heard of GoDaddy. According to Bleeping Computer, which [broke the news](#) yesterday evening, an as yet unknown number of customers have been informed that their web hosting account credentials had been compromised.

New Android Malware Steals Banking Passwords, Private Data and Keystrokes

April 30, 2020 Ravie Lakshmanan

A new type of mobile banking malware has been discovered abusing Android's accessibility features to exfiltrate sensitive data from financial applications, read user SMS messages, and hijack SMS-based two-factor authentication codes.

A new banking Trojan can steal financial information from Android users across the United States and several European countries, including the UK, Germany, Italy, Spain, Switzerland, and France.

Dubbed EventBot by researchers at Cybereason Nocturnus who discovered it in March 2020, the malware is a mobile banking trojan and infostealer designed to abuse the Android operating system's accessibility features to steal sensitive financial data.

"EventBot targets users of over 200 different financial applications, including banking, money transfer services, and crypto-currency wallets," the [Cybereason Nocturnus researchers found](#).

"Those targeted include applications like Paypal Business, Revolut, Barclays, UniCredit, CapitalOne UK, HSBC UK, Santander UK, TransferWise, Coinbase, paysafecard, and many more." – the full list of targeted Android apps is available [here](#).

The challenges of the SSO based Internet without Identity Layer



The flaws of the current Web2.0 infrastructure



SEARCH THE DIPLOMAT MY ACCOUNT SUBSCRIBE

FEATURES | SECURITY | SOUTH ASIA

Aadhaar: India's Flawed Biometric Database

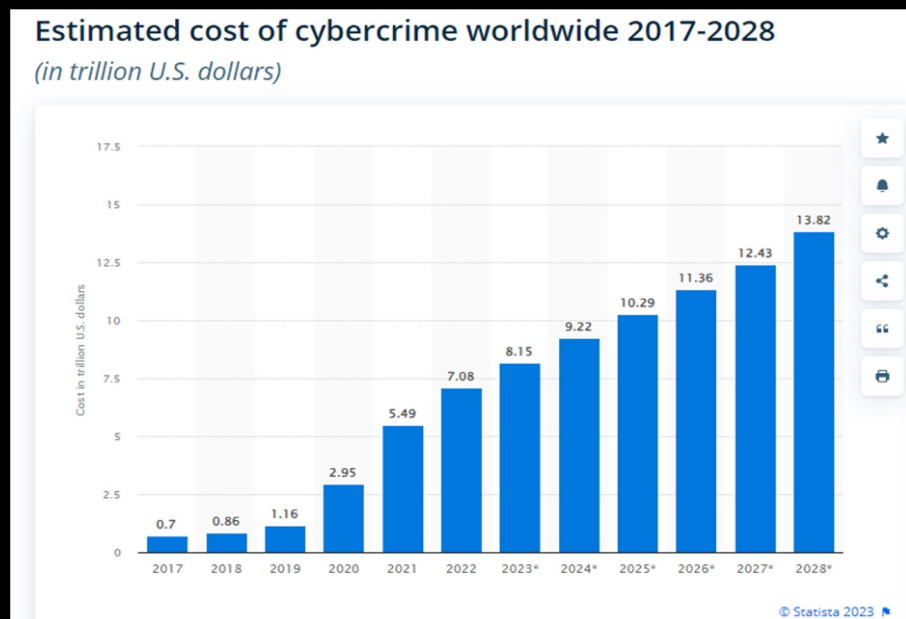
Aadhaar got pwned. Why isn't the Indian government taking Aadhaar's exposed security flaws seriously?

Without an identity layer Web2.0 internet is flawed* (You can be a dog on the internet")

- Data protection laws are insufficient or flawed, leading to **misuse of personal data** undermining trust.
- Weak privacy protection **limits digital interaction** between citizens and government and any **legal validity** of digital applications and transactions.
- **Digital inequality** as large part of population lacks control of their digital ID and credentials, with renewed risks from big data and artificial intelligence.
- **Government alone define what identity** is as it limits ability to claim attributes and ensure an extended digital identity.
- **Lack of interoperability** or limited use of credentials leads to multiple IDs, inefficient ecosystems and manual exercises.

Rising disruptive systemic risks from cybercrime with weak digital ID infrastructure

The global digital economy now is facing rising, high and possibly uninsurable systemic risks from cybercrime taking many forms like identity fraud, data theft, ransomware attacks, copyright infringement, and phishing campaigns are just some examples.



*“Disruptive cyber technologies could also impact critical infrastructure, **fracture social cohesion** within and across states, and **undermine trust in governments**”*

Source: Singapore Ministry of Defense

*“What will **become uninsurable** is going to be cyber attacks rather than natural catastrophes,.. if hackers take control of vital parts of our infrastructure ... such as recent attacks that have disrupted hospitals, shut down pipelines and targeted government departments”*

Source: FT interview December 2020, Mario Greco. CEO of Zürich

“ The most dangerous cybersecurity threat of the moment is an attacker with access to legitimate identity information for a given system.

Weak Identity and Access Management is key factor of all the existential threats incurred by the retreat by Cyber Insurance industry.”

<https://www.csoonline.com/article/648894/identity-based-security-threats-are-growing-rapidly-report.html>

Lack of digital and financial inclusion

INCLUDE THE UNBANKED PEOPLE ACROSS THE GLOBE AND EMPOWER THEM

Globally, 1.7 billion people were unbanked in 2017 (World Bank, 2018)

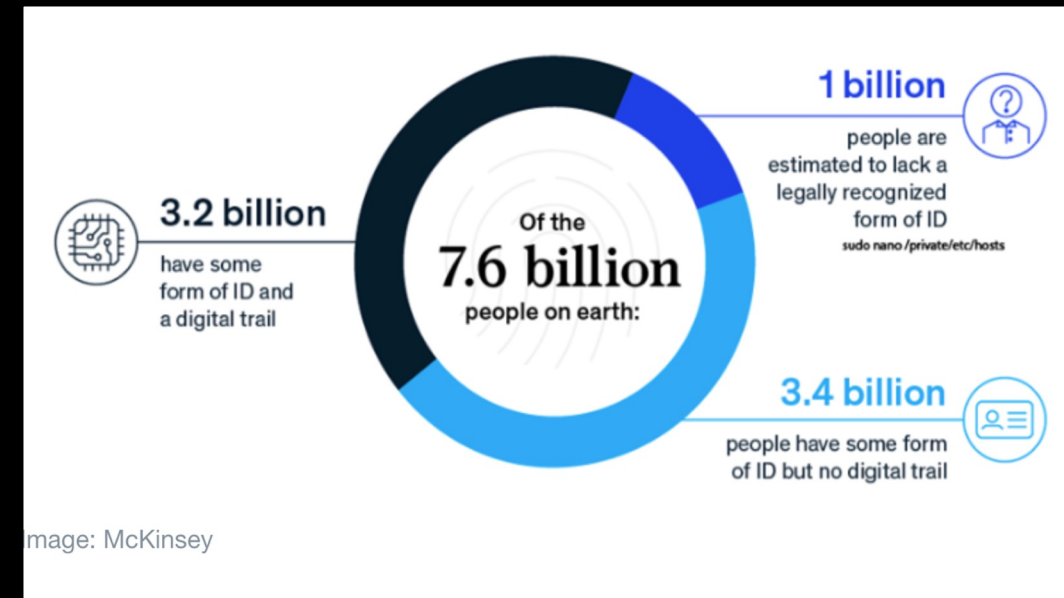
The statistic comes from [The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution](#), published on April 19th, 2018.

According to the World Bank report, the use of digital payments is on the rise but cash continues to play an important role globally with 1.7 billion people living unbanked and relying on cash to get by.

Key findings include

- 1.7 billion people did not have bank accounts in 2017
- 1 billion adults who have an account still use cash to pay utility bills
- 300 million account owners worldwide work in the private sector and get paid in cash
- 275 million account owners receive cash payments for the sale of agricultural products.

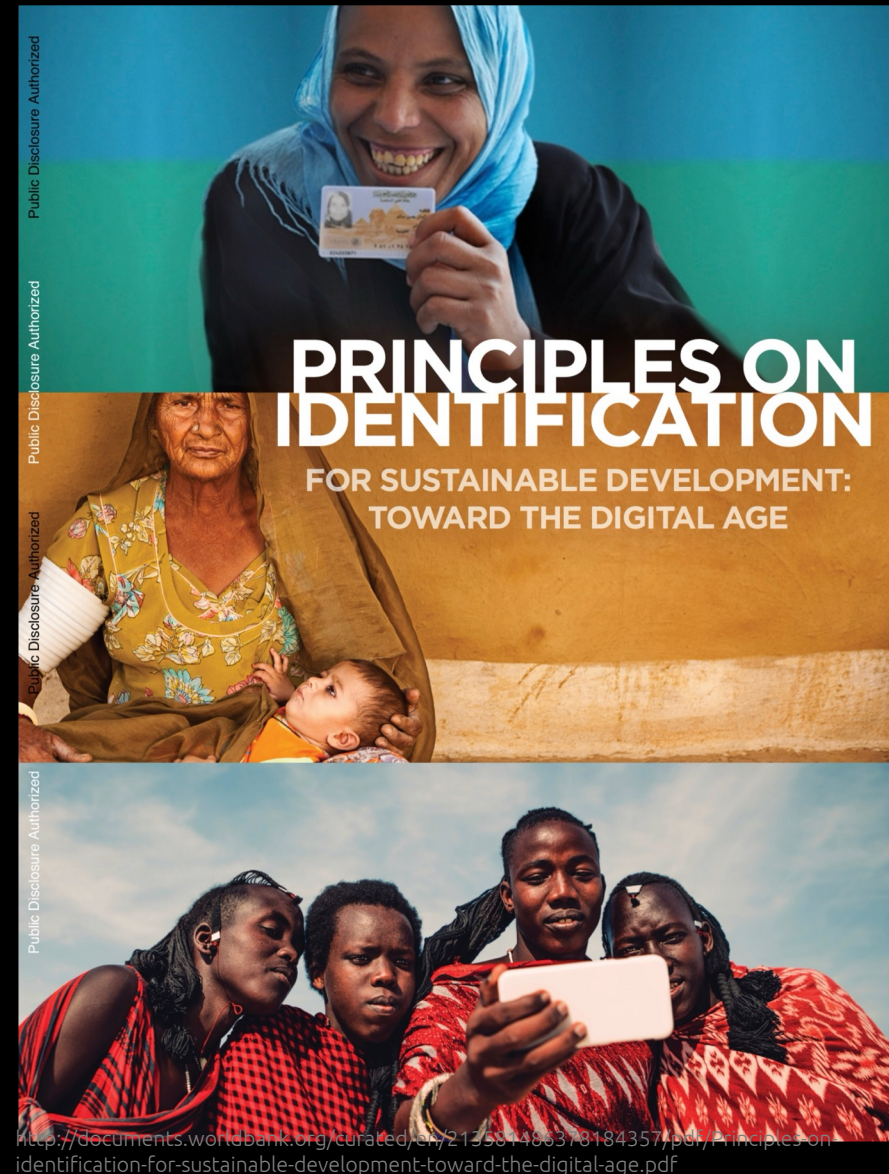
GIVE MILLIONS A DIGITAL ID TO EMPOWER THE 5 BILLION PEOPLE THAT ARE NOT ONLINE



World Bank – Identity for Development (ID4D) - Digital IDs to fight Poverty

THE WORLD BANK GROUP'S ID4D INITIATIVE

“INEQUALITY AND POVERTY ARE CORRELATED WITH A LACK OF OFFICIAL (3RD PARTY VERIFIED) IDENTITY OF CITIZENS”



A secure digital ID infrastructure is a prerequisite for a good Artificial Intelligence to predominate

“DIGITAL IDENTITY CAN BE AN ADDITIONAL EFFECTIVE TOOL IN THE FIGHT AGAINST SYNTHETIC IDENTITIES AND AUTO-GENERATED CONTENT.

BY ADOPTING ROBUST DIGITAL IDENTITY SOLUTIONS, WE CAN STRENGTHEN TRUST, ENSURE ACCOUNTABILITY AND PROVIDE GREATER SECURITY IN AN INCREASINGLY AI-DRIVEN WORLD.”



<https://oneid.uk/news-and-events/how-digital-identity-can-protect-against-misuse-of-ai>

“ A new secure decentralised digital ID infrastructure eliminates most of cybercrime risks ”

“ We argue in our whitepaper that based on the lessons learned so far, a structural re-design of the internet is highly needed.

Our universal and decentralized approach of deploying a secure and interoperable digital identity service will be the fastest way to achieve efficient protection against the reported 80% majority of launching all cyber attacks.”

Source: Trond Lemberg, CEO of Protectoria Venture, Whitepaper August 2023

<https://protectoria.com/2023/09/05/protectoria-whitepaper-protectoria-is-proposing-a-digital-identity-revolution-alined-with-the-visions-of-web3-0/>

2. Why decentralised digital infrastructure ?

WHY OUR DIFFERENTIATED APPROACH WILL DELIVER GROWTH AND VALUE

W3C driving force for a likely transformation of the structure of the internet – Web3.0 or probably Web5.0

Making the Web work

The World Wide Web Consortium (W3C) develops [standards and guidelines](#) to help everyone build a web based on the principles of [accessibility](#), [internationalization](#), [privacy](#) and [security](#).

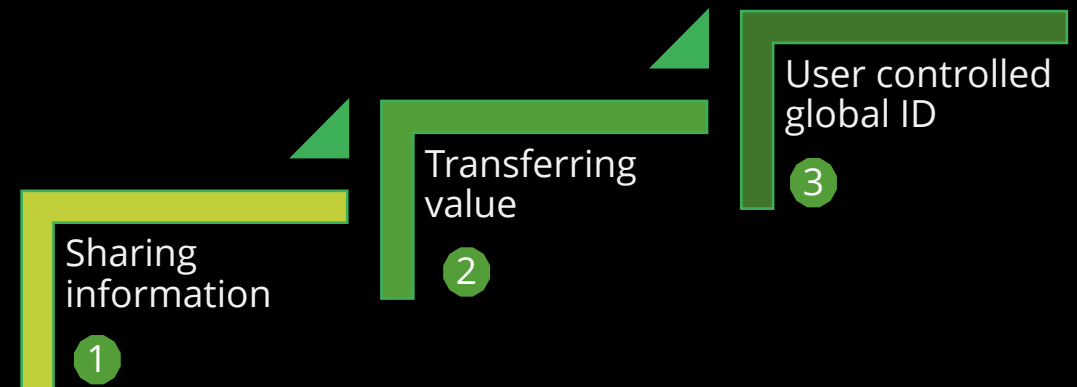


THE THIRD LEG OF THE GLOBAL ADOPTION OF THE INTERNET IS

- DECENTRALISED
- SECURE
- GLOBAL
- POWER DISTRIBUTED

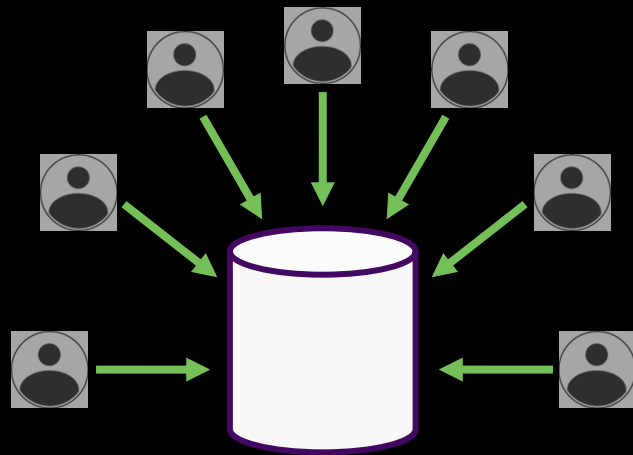
FOUNDED ON SELF-SOVEREIGN IDENTITY (SSI) AND BLOCKCHAIN

EVOLUTION OF THE INTERNET



The solution: An interoperable, secure, scalable and decentralized Digital ID infrastructure service creating trust

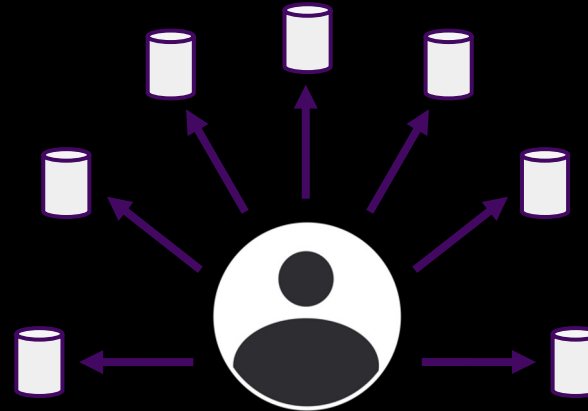
The past - Centralized approach



Central database with all citizen data

Role of central government – Own and control all data and operate the full infrastructure

The future - Self- Sovereign/ Decentralized approach



Data is owned by users and verified by verifying parties

Role of central government – Define the governance rules for the ecosystem

Decentralised data and encryption keys:

- Protect Privacy
- Interoperability
- User Friendly
- Secure
- Efficient
- Citizen centric

and **TRUSTED**

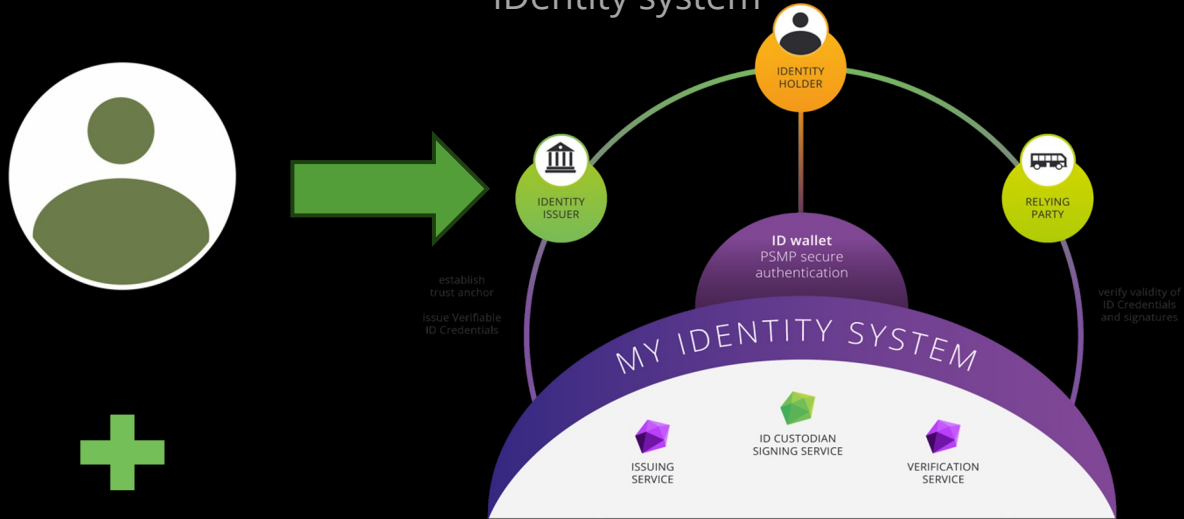
With a clear strategy to monetise the technology – we are a service company.

DATABASE
without revenues

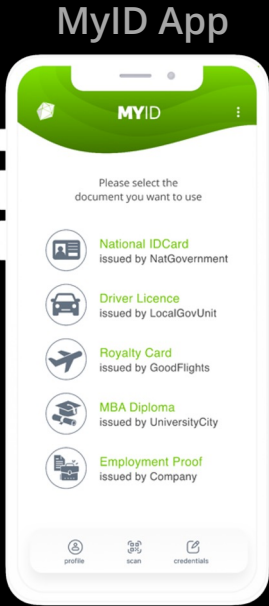
DIGITAL ID INFRASTRUCTURE
Onboard, secure and make interoperable and decentralised in My IDentity system

DIGITAL ID WALLET
ID holder controls own data (ID, attributes)

PORTABLE SECURE ID
Citizen can prove his extended ID and attributes everywhere



The Core Digital Identity issued by Government/ Firm / Civil society



DESIGNED THE ECOSYSTEM
with client extracting maximum benefits of a secure digital infrastructure leading to many transactions and efficiency allowing

MONETISATION

Citizen collects proofs of his capabilities and rights (verifiable credentials)



The EU Digital Wallet demonstrates the potential of Digital Identity

THE EU FINALLY DECIDED ON A DECENTRALISED IDENTITY INFRASTRUCTURE SETTING THE STANDARD FOR THE REST OF THE WORLD.

PROTECTORIA ANTICIPATED THE DEVELOPMENT – AND HAS NOW A FULL DECENTRALISED DIGITAL ID INFRASTRUCTURE ALIGNED WITH THE EU AND WORLD BANK VISION READY TO BE DEPLOYED.

WE BELIEVE IN OPPORTUNITIES IN ASIA.



The most innovative regions and countries of the world are selecting decentralized digital identity infrastructures



The Self-Sovereign Identity (SSI –open W3C standards of decentralized identities) is widely adopted internationally.

«SSI is the only architecture that has an efficient resolution of seamlessly orchestrating borderless Many2Many digital relationships in secure and interoperable ways, respecting privacy and actually democracy».

Trond Lemberg, CEO and Chairman of Protectoria Venture - Norway

Our decentralised ID offer eliminates the cybercrime risks

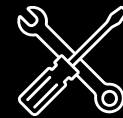


INVESTMENT IN OUR IDAAS WOULD BE SELF-FINANCING REDUCING LENDING COSTS / INSURANCE WITH REDUCED OPERATIONAL RISKS



True Protection of IDs and Endpoints

Reduces risks for IDs theft, stolen password and fake credential.



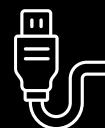
Decentralisation of Data and access keys

There is no central depository of valuable data. Data are spread out. The cost to gather them is insurmountable .



Elimination of manual processes

With no passwords or user-names to be share, as access key are integrated in the wallet, risks are low.



Combination with modern encryption

With direct link and continuous verification, double keys and secure DIDs, zero trusts risks disappear.

The Rise of the Portable Secure ID wallet

Gartner predicts that at **least a third of national governments** and half of U.S. states will offer citizens mobile-based identity wallets by 2024. But only a minority will be interoperable across sectors and jurisdictions.

<https://www.gartner.com/en/newsroom/press-releases/2022-02-21-govt-tech-trends-2022-press-release>

The decentralised digital iDentity model is a **seismic shift** in the digital landscape. It will forever change how organisations across the globe do business

<https://www.microsoft.com/en-us/security/business/solutions/decentralized-identity>

It is also interesting to see that Identity Wallets are moving **through the hype cycle at a very high pace**, despite the confusion around the term “identity wallets”, including proprietary solutions as well as upcoming open standards-based wallets.

Wil Jansen Cofounder of Inverid: <https://www.inverid.com/blog/inverid-in-gartner-hype-cycle-on-digital-identity>

Universal Wallets are the first step towards **unleashing the potential of Digital Identity**

World Economic Forum, <https://www.weforum.org/agenda/2024/02/how-businesses-could-use-universal-wallets-to-unleash-potential-of-digital-identity/>

Why a paradigm shift to decentralised digital IDs NOW ?

01

Enormous cost of cybercrime and Widespread and rising push to protect privacy

Exploding cybercrimes, ID thefts and manipulations, data breaches, stolen email and passwords, phishing attacks on mobile devices means that centralised digital IDs are not trusted anymore

02

Emerging political consciousness and will to act

Following the World Bank, World Economic forum and UN drive for self sovereign IDs, the EU, South Korea and Switzerland decides for such IDs. Urge for public entities to propose trusted digital interaction, and similar movements in other countries, also to protect freedom, privacy. ASEAN countries eager to adopt the best European Technologies.

03

Maturity of technology and standards pushing Web 3.0

Blockchain technology development combined with the decentralised ID technology standards being defined and mature allows for actual deployment of decentralized digital ID services, in line with the reform of the internet towards Web 3.0.

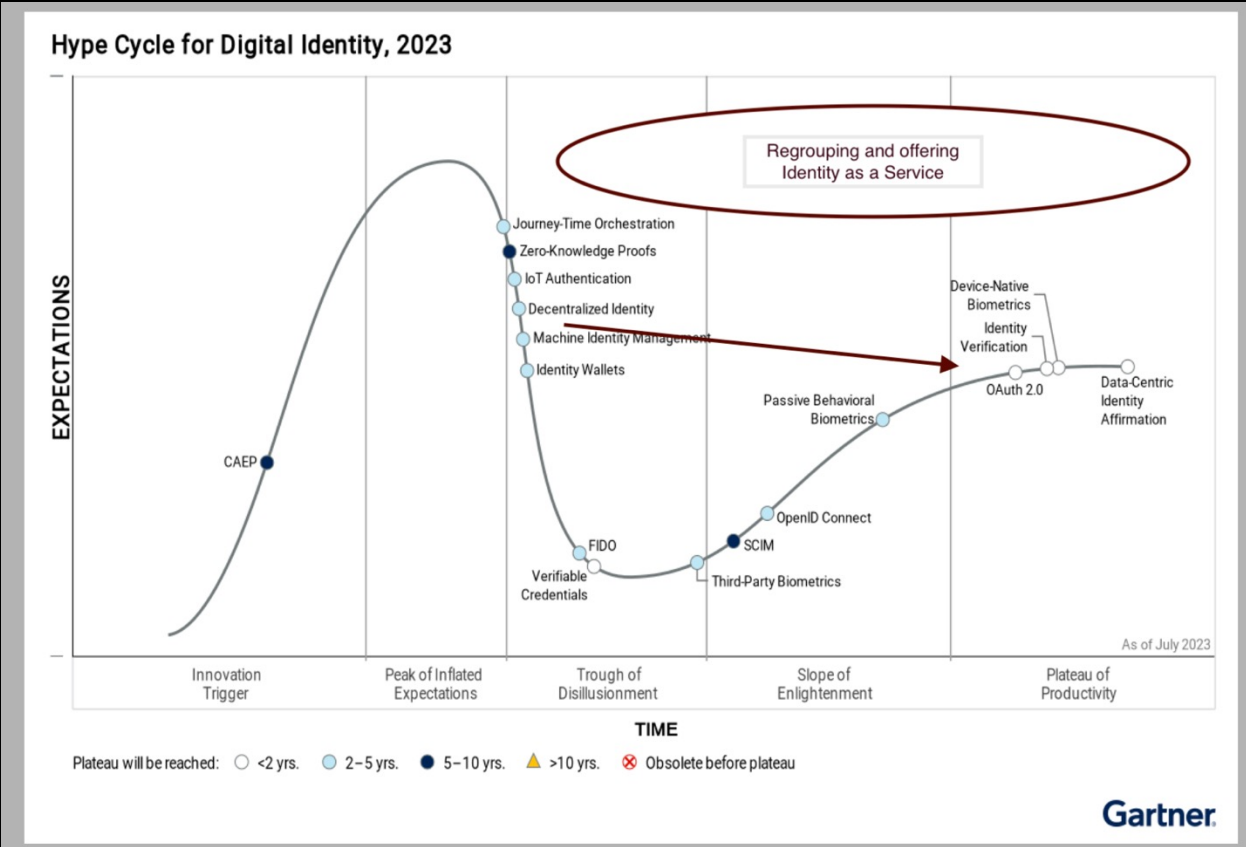
04

Drive for interoperability and to act with devices

The reliability and versatility of mobile devices transform them into a legal decision tools, with exploding number of transactions, compounded for a need for trusted IDs with vaccine certificates and truly secured digital health services

The Gartner group is excited about Digital Identity – but underestimate the potential

ALL THE COMPONENTS OF THE DIGITAL IDENTITY INFRASTRUCTURE ARE MOVING FAST TOWARDS PLATEAU OF PRODUCTIVITY



Articles / Analysis

Gartner: Web3 Will Drive Decentralized Identity Adoption

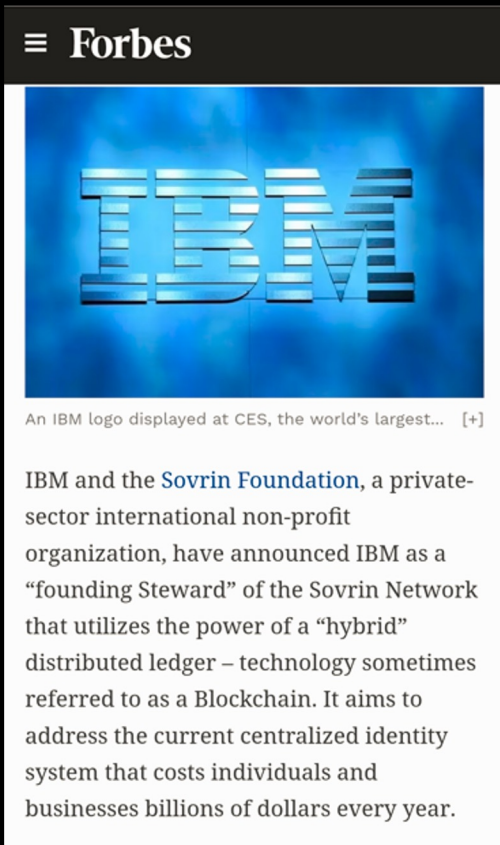
Nancy Liu | Editor
March 22, 2023 5:30 PM

Share this article:

March 22, 2023 10:30 am MT

The global digital identity solution market is projected to grow from **23.3 billion USD in 2020 to 49.5 billion USD in 2026**. The rapid market growth is driven by increasing instances of **identity fraud, data breaches, and new government regulations**.¹

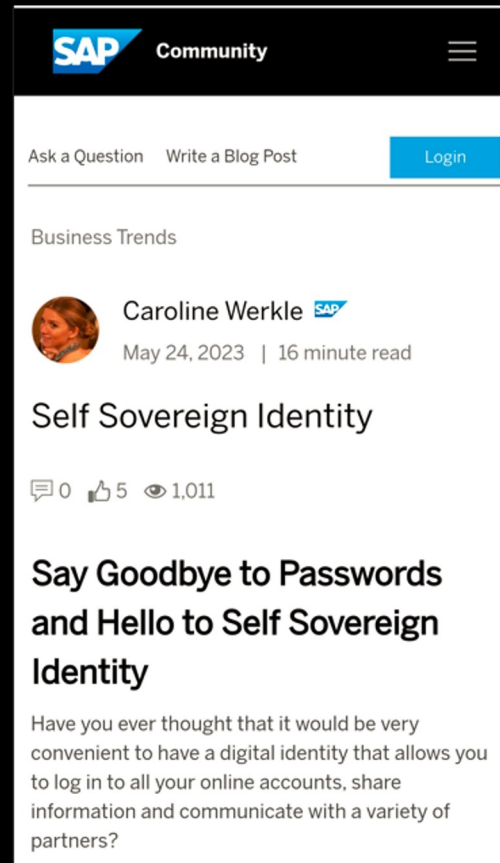
We can offer what Big businesses is talking about- Decentralization and Self-Sovereign Identity (SSI)



Forbes

An IBM logo displayed at CES, the world's largest... [+]



IBM and the [Sovrin Foundation](#), a private-sector international non-profit organization, have announced IBM as a “founding Steward” of the Sovrin Network that utilizes the power of a “hybrid” distributed ledger – technology sometimes referred to as a Blockchain. It aims to address the current centralized identity system that costs individuals and businesses billions of dollars every year.



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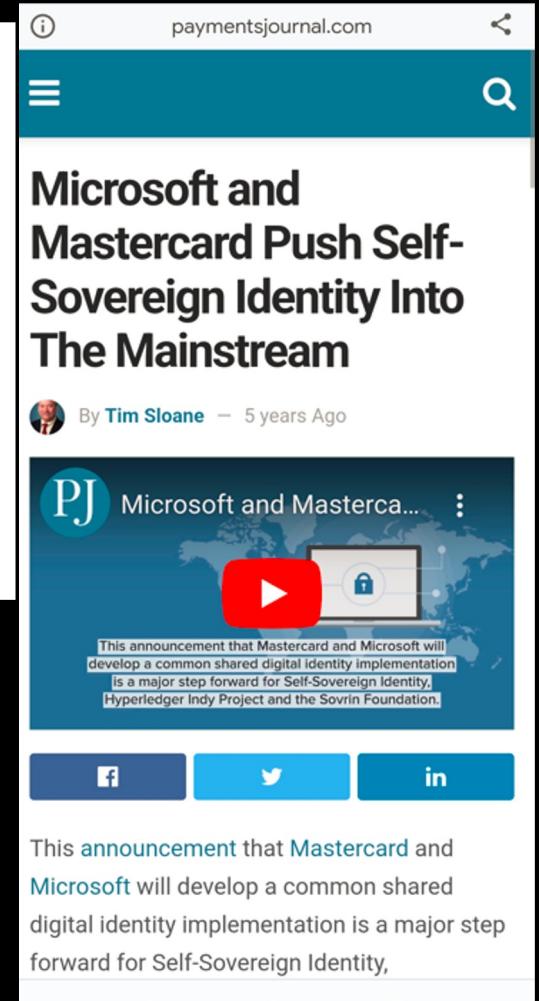
 **Caroline Werkle** 
May 24, 2023 | 16 minute read

Self Sovereign Identity

0 comments 5 likes 1,011 views

Say Goodbye to Passwords and Hello to Self Sovereign Identity


Have you ever thought that it would be very convenient to have a digital identity that allows you to log in to all your online accounts, share information and communicate with a variety of partners?






paymentsjournal.com

Microsoft and Mastercard Push Self-Sovereign Identity Into The Mainstream

By [Tim Sloane](#) — 5 years Ago

 Microsoft and Masterca...

This announcement that Mastercard and Microsoft will develop a common shared digital identity implementation is a major step forward for Self-Sovereign Identity, Hyperledger Indy Project and the Sovrin Foundation.

This announcement that Mastercard and Microsoft will develop a common shared digital identity implementation is a major step forward for Self-Sovereign Identity,

We do expect a digital Identity
Revolution next decades