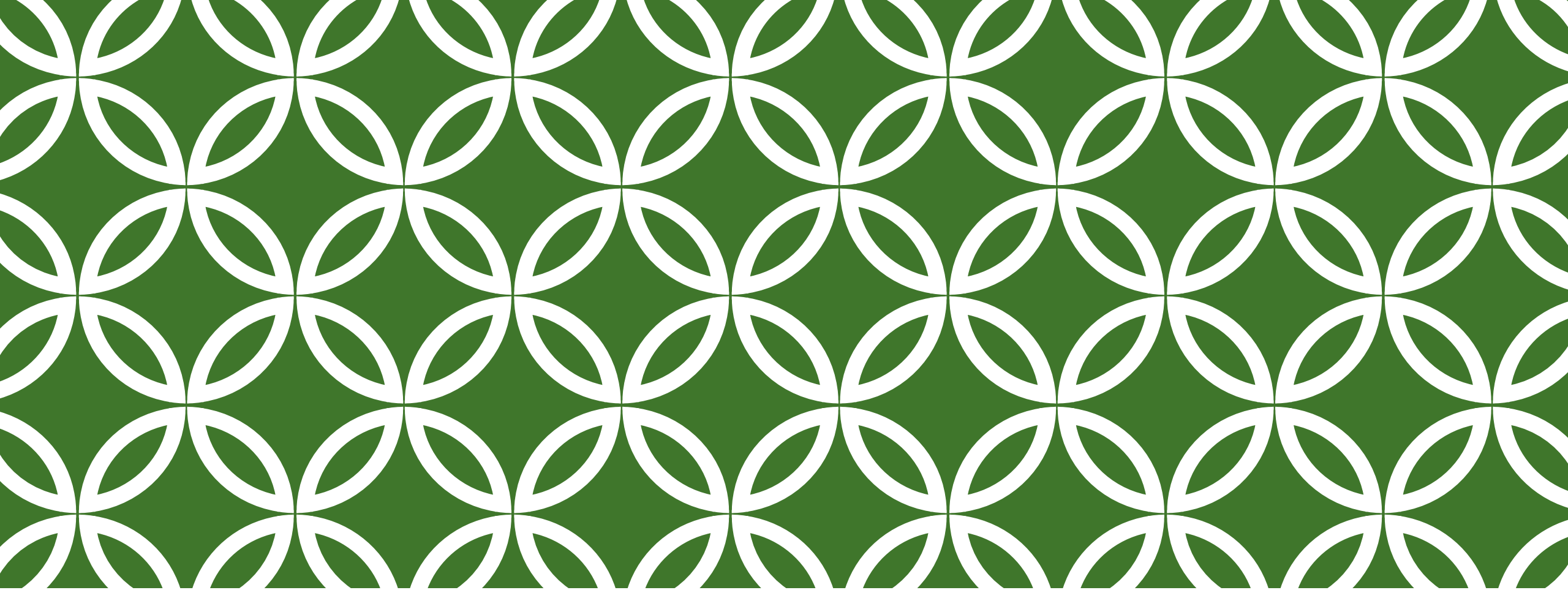


# EXPERIENCE WITH INDIA STACK

**Do’s and Don'ts for Financial Inclusion**

# WHAT IS INDIA STACK

IndiaStack consists of 4 technology stacks or layers - **presence-less layer, paperless layer, cashless layer and consent layer.** The India stack is a part of Digital India program aimed at treating information as a utility.

- A paperless and cashless service delivery system.
- The stack is a new technology paradigm that is scalable to handle massive data inflows, and is poised to enable entrepreneurs, citizens and governments to interact with each other transparently.
- It is an open system to electronically verify businesses, people and services.
- It gives the data to the concerned individual and lets him decide who he can share the data with. The smartphone will be the delivery platform for services such as digital payments, identification and digital lockers.

The set of open API for developers includes

- The Aadhaar for authentication
- The e-KYC documents that have been generated
- Digital lockers
- e-signatures (software based as against the present dongle based e-signs)
- The Unified Payments Interface which rides on top of the National Payment Corporation of India's Immediate Payment System.

# PRESENCE-LESS LAYER

The presence-less layer is built to ensure that individuals are able to provide verified identities at any time and place to anyone upon consent.

This led to the creation of UIDAI (Unique Identification Authority of India) and the development of Aadhaar, the national identity project, where every citizen of the country can obtain a unique, permanent, digital ID (which is essentially a twelve digit number).

Aadhaar captures 4 fields - name, gender, DOB and address and is a unique identification system. Aadhaar is unique in the way that it is not attached to any agency or service or government body. In comparison all other identity systems are usually attached specific departments or functions; for instance, the passport is primarily used for the purpose of travel. The core idea behind Aadhaar is to have a basic identification and verification system that can be used by enterprises to verify identity or build additional solutions with Aadhaar as the base.

Aadhaar captures individual biometric details, for the purpose of authentication. This unique ID provides people the opportunity to easily provide identity proof, without the need to carry additional documentation. In fact, in theory, people need not even carry the Aadhaar card, all they need to do is to remember the 12 digit number and the authenticity of the person can be verified with a simple fingerprint scan.

This presence-less layer through Aadhaar forms the foundation layer on which the other 3 layers rest.

# PAPERLESS LAYER

The fundamental nature of IndiaStack is to power solutions that can easily store and retrieve information and documentation digitally. This could be best achieved through a paperless layer. The paperless layer constitutes of 3 solutions:

- Aadhaar eKYC:

e-KYC is an electronic 'know your customer' process that links address and identity through the Aadhar authentication system. eKYC is a one stop authentication process that authenticates a person based on his/her Aadhaar identification details and is a great way to speed up processes.

- E-Sign:

E-sign allows for digitally signing documents, anytime, anywhere and on any device. It is governed by e-authentication guidelines and is a major step in reducing the amount of paper in circulation, thus ensuring significant cost savings as well as convenience.

- Digital Locker:

Digital Locker is the Government of India repository for documents.

The Aadhaar eKYC provides easy access to information (name, DOB, address and gender) through the Aadhaar identification system for verification processes at any time and place and on any device.

E-Sign is a process that allows individuals, enterprises and government bodies to easily and securely sign documents digitally.

Digital Locker is a solution that enables secure digital storage of documents for people to store, retrieve and share digital documents. These three solutions together powers a paperless ecosystem that verifies, authenticates and stores information and documentation digitally.

With E-sign and Digital Locker people can easily exchange, store and retrieve documents digitally as and when required, upon consent, without the need to physically print out documents. The application areas for this solution is practically limitless, for instance an organisation can use e-Sign to digitally sign important documentation like HR offer letters, vendor contracts and securely store them in the Digital Locker for retrieval at any point in time.

# CASHLESS LAYER

To really move things into the digital age, payments and financial transactions need to go cashless. Going cashless, increases transparency and ease of use. The cashless layer as part of IndiaStack primarily includes UPI in addition to AEPS & APS.

UPI stands for Unified Payment Interface and is a powerful solution that allows people to transfer money from any bank account to any other bank account (individuals or merchants) digitally, securely and instantly by simply creating a VPA (Virtual Payment Address) without going through circuitous steps online or offline.

# CONSENT LAYER

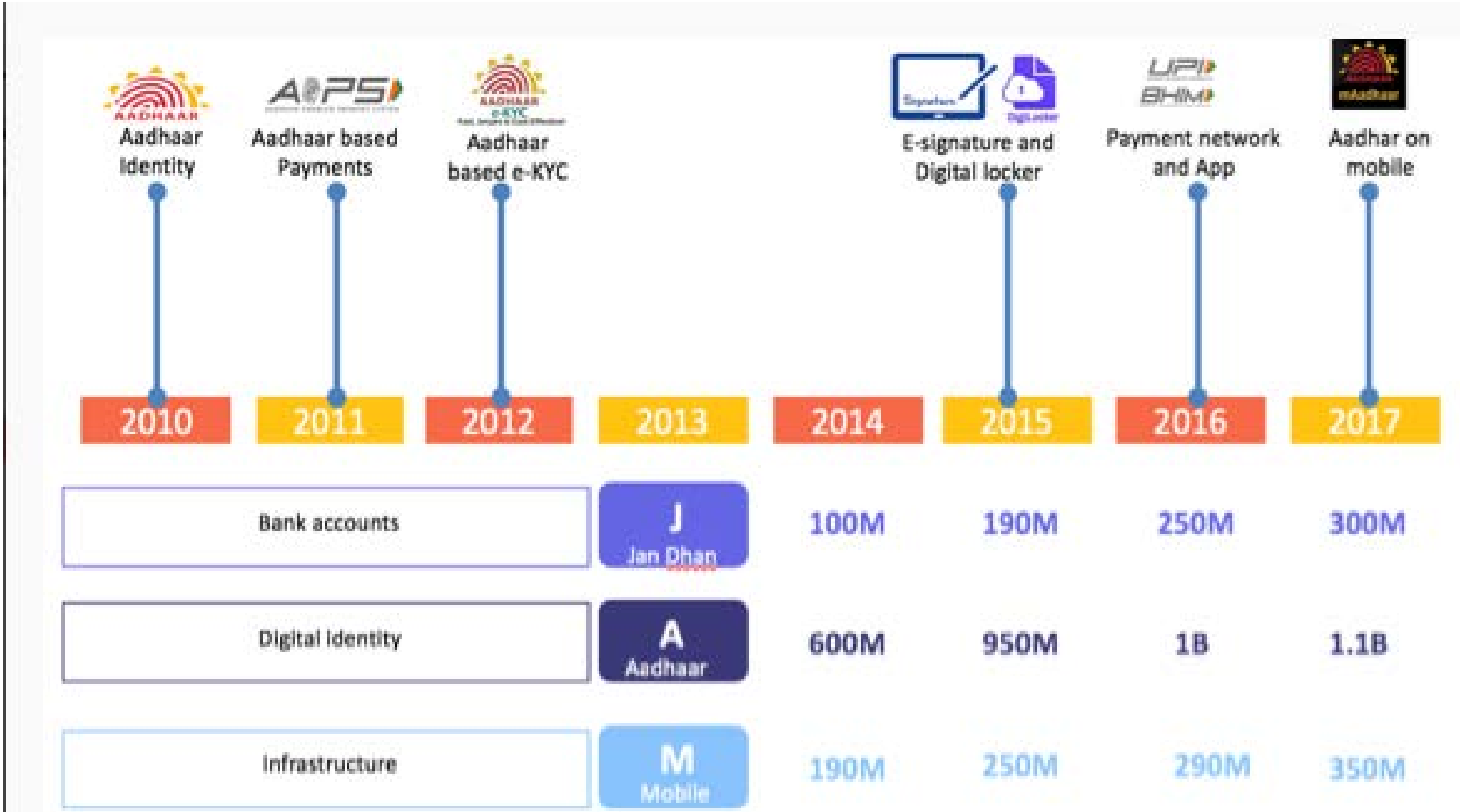
The electronic consent architecture enables user controlled data sharing, data flow and data retention. The consent layer is built to enable people to securely provide consent for the data flow between data providers like banks, hospitals and telcos to data requestors like banks, credit card providers etc. For instance, if a person wants to apply for a credit card, he can provide consent to the bank (where he has an account) to share relevant documentation to the credit card company to verify his credit worthiness for the issuance of a credit card.

# UPI

Unified Payment Interface (or UPI) is a system that enables bank account holders to send and receive money immediately from one bank account to another through smartphones, without the need to enter lengthy account information or other net banking details, like IFSC codes, user IDs etc. Instead, it uses a simple virtual payment address (VPA) similar to an email ID, that people can create for themselves. An individual can attach any number of bank accounts to a single VPA and can pick any specific individual bank account before making a transfer. UPI transactions can be completed via the BHIM app or other UPI enabled apps, like banking and wallet apps.

# INDIA STACK

| | What's It | What's in It | Who is the Owner |
|---|---|---|---|
| Consent Layer | A modern privacy data sharing framework | Open personal data store | Reserve Bank of India |
| Cashless Layer | An Electronic Interoperable payment network | IMPS, AEPS, APB, UPI | National Payment Corporation of India |
| Paperless Layer | Easily store and retrieve information digitally | Aadhaar E-KYC, E-Sign, Digital Locker | Department of Electronics and Information Technology |
| Presence-less Layer | Unique digital biometric identity with open API access | Aadhar card, Mobile Aadhaar | Unique Identification Authority of India |


Aadhaar Identity
Aadhaar based Payments
Aadhaar based e-KYC
E-signature and Digital locker
Payment network and App
Aadhar on mobile
2010
2011
2012
2013
2014
2015
2016
2017
Bank accounts
J
Jan Dhan
100M
190M
250M
300M
Digital identity
A
Aadhaar
600M
950M
1B
1.1B
Infrastructure
M
Mobile
190M
250M
290M
350M

# INDIA STACK

1. Biometric Identity Database (Name, Gender, Dob, Address, and Biometric,)
2. Simplified Payment Addressing (connecting Unique Identity with Phone Number)
3. Digital Payment Interoperability (UPI Infrastructure)
4. Digital Locker (Personal documents in digital format)
5. E-consent (to share data with the agency you like)

These five layers connects hundreds of businesses, government and people.

**Important References:**

https://www.youtube.com/watch?v=suE8CQkCqOQ

https://indiastack.org/about/