



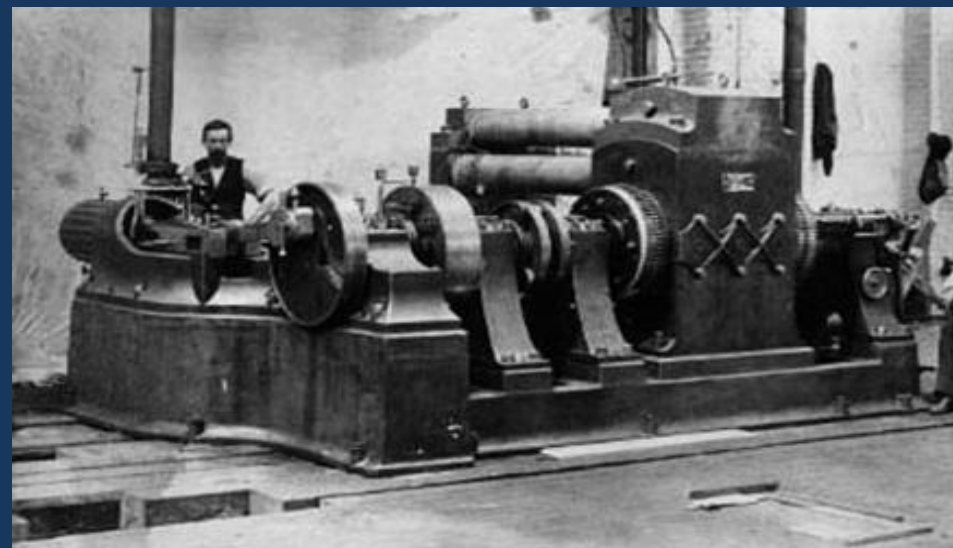
IndiaStack

Towards presence-less,
paperless, and cashless service
delivery

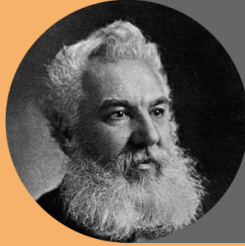
125 Years of Power Generation



Edison to Now



125 Years of Telecom



Graham Bell to Now



Layered
Innovation



Mass
Flourishing!

eCommerce
(Amazon)

Taxi
(Uber)

Hotel
(Airbnb)



Payments

Evolution of Payment Systems,
Security Frameworks, ...

Visa/Master, ApplePay

Smart Phones

Telecommunications & Computing
Technologies - Hardware
Innovations

Android, IOS

Open APIs, Platforms

Large Scale Infrastructure, Private
Companies,

Google Maps

Govt. Technology

Fundamental Technology
Innovations, Govt. Funded, Publicly
Available

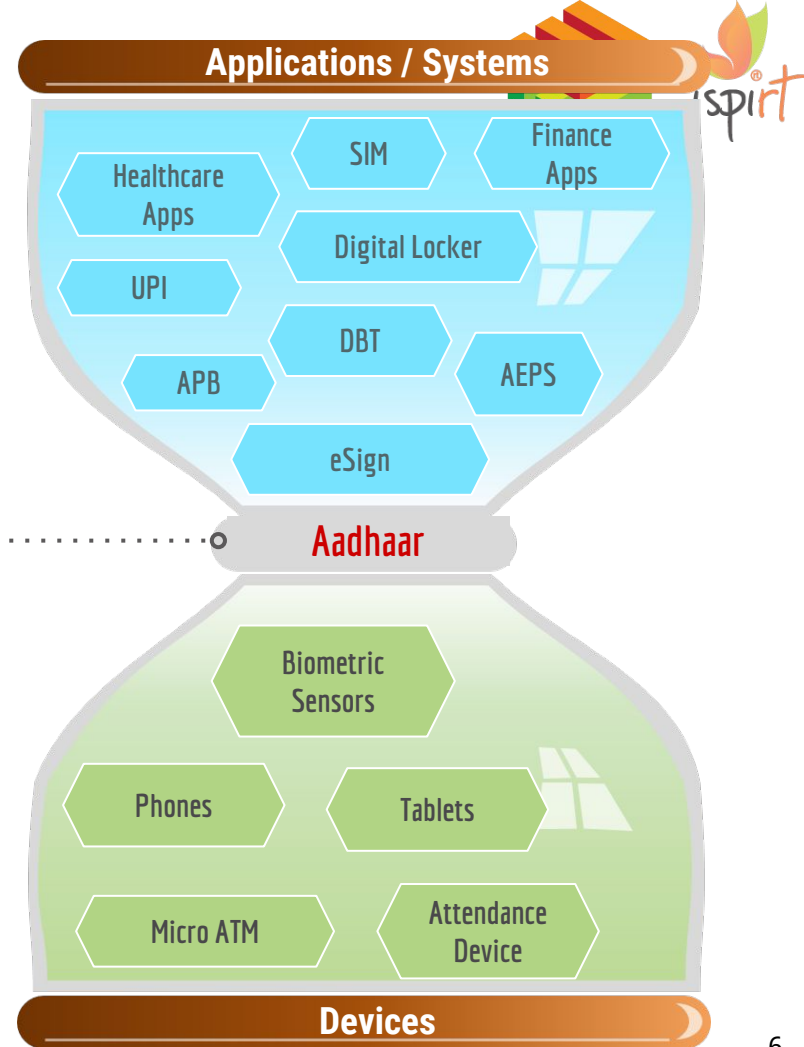
TCP / IP, Internet, SMTP
(Email), GPS

Layering of Innovation

Aadhaar Hourglass Architecture

- Minimal
- Standardized
- Simple design
- Easy to execute
- Easy to write a law

- Identity as a utility, an enabler
- Allows innovation on all sides
- Amplifies ecosystem players





J A M - The Foundation of the India Stack

Pradhan Mantri Jan Dhan Yojana

BANKING FOR ALL



24.44 Crore Accounts opened so far

₹ 43,128.25 Crore deposits

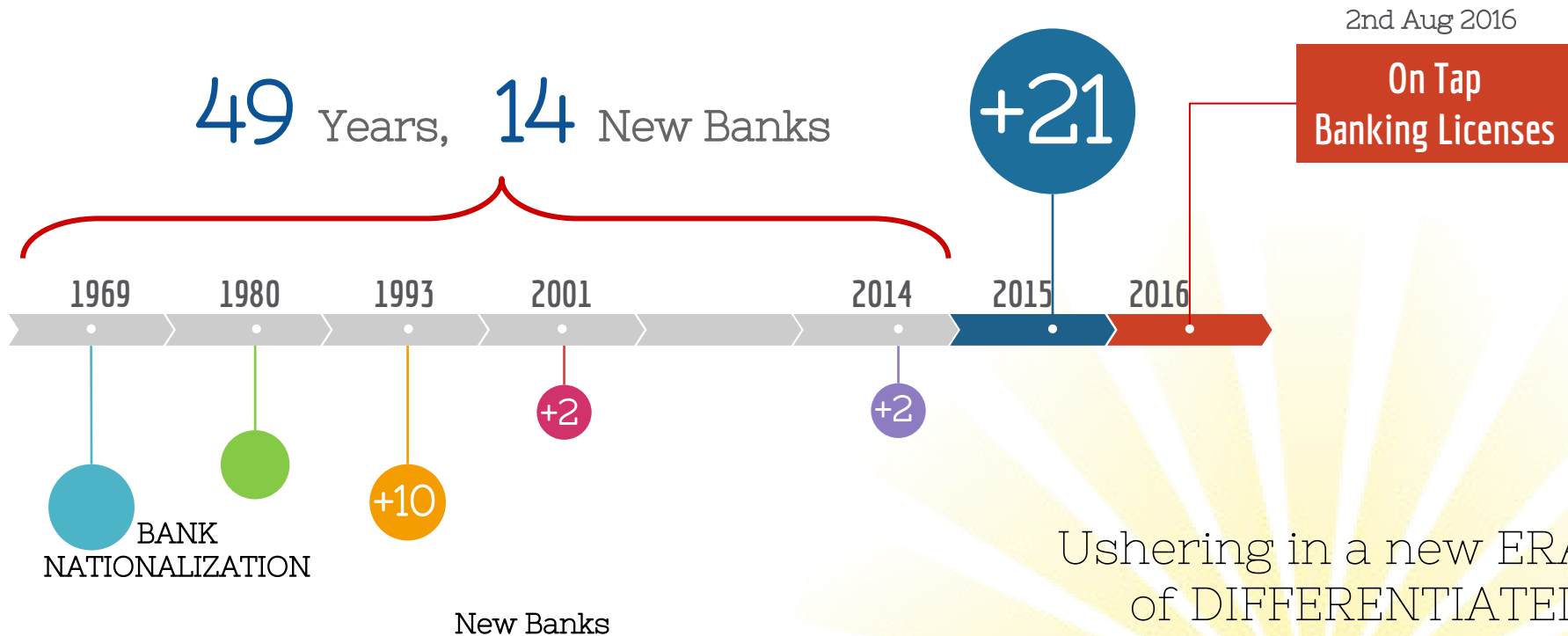
1.26 lac Bank Mitras

9.67 Crore Suraksha Bima Policies

3.04 Crore Jeevan Jyoti Bima Policies

Accelerated by regulatory innovation

49 Years, 14 New Banks



2nd Aug 2016

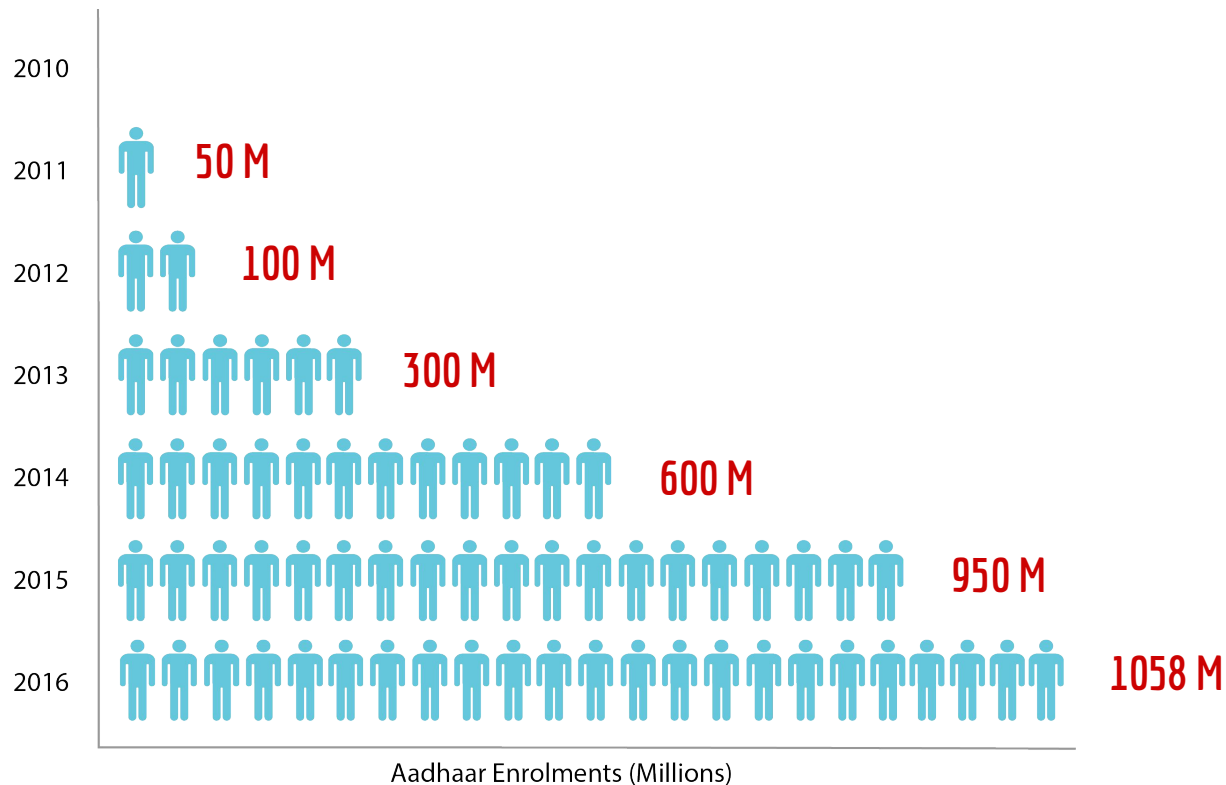
On Tap
Banking Licenses

Ushering in a new ERA
of DIFFERENTIATED
BANKING

Nandan Nilekani, 2016



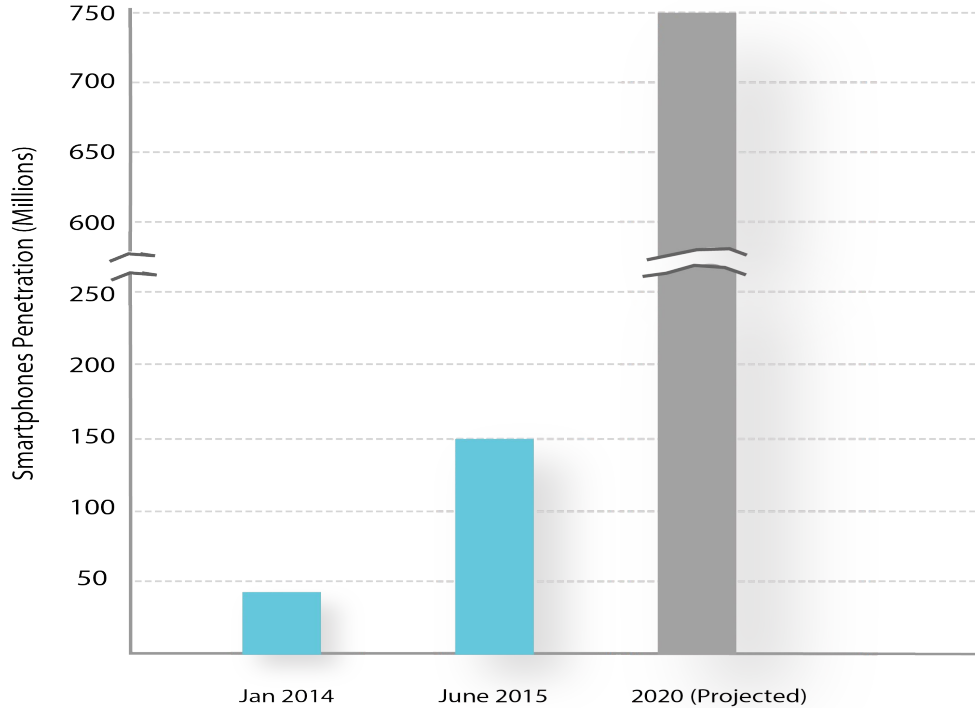
1 Billion in 5½ Years



A Ubiquitous **Digital Identity Infrastructure** for a digital desh.

The Aadhaar system can authenticate **100 M** transactions per day, in real time!

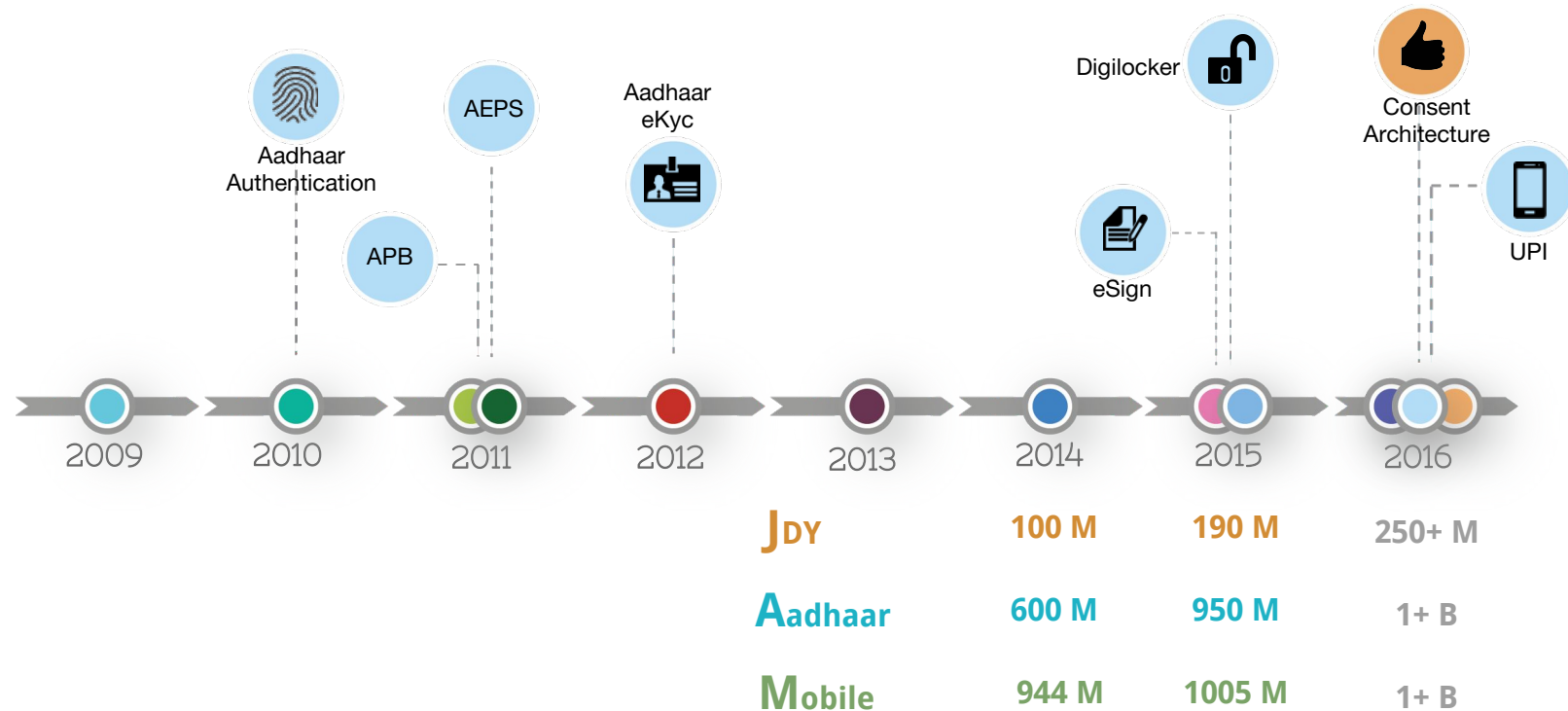
The rise of smartphones



Current sales
about **25M**
smartphones
per quarter



The Evolution of the India Stack - Built on JAM



Name
DoB/Age
Gender
Address
Mobile/Email



1234 5678 9012



Unique
Lifetime



Aadhaar Authentication

NO MORE PHYSICAL
PRESENCE

Are you who you claim to be?
Only a yes/no answer
Anytime anywhere

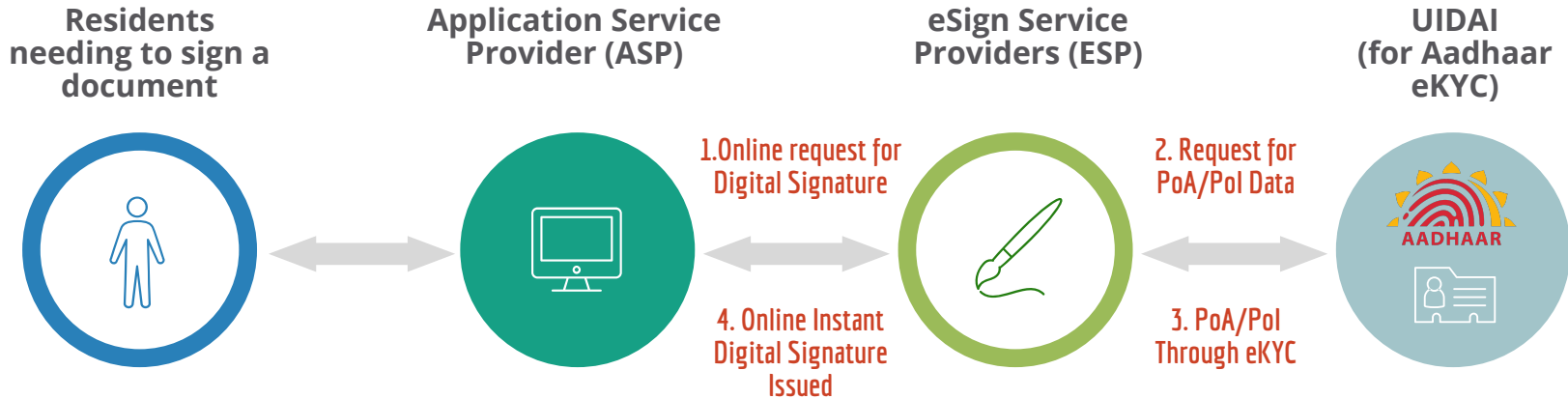
Aadhaar
e-KYC



NO MORE PHOTOCOPIES!

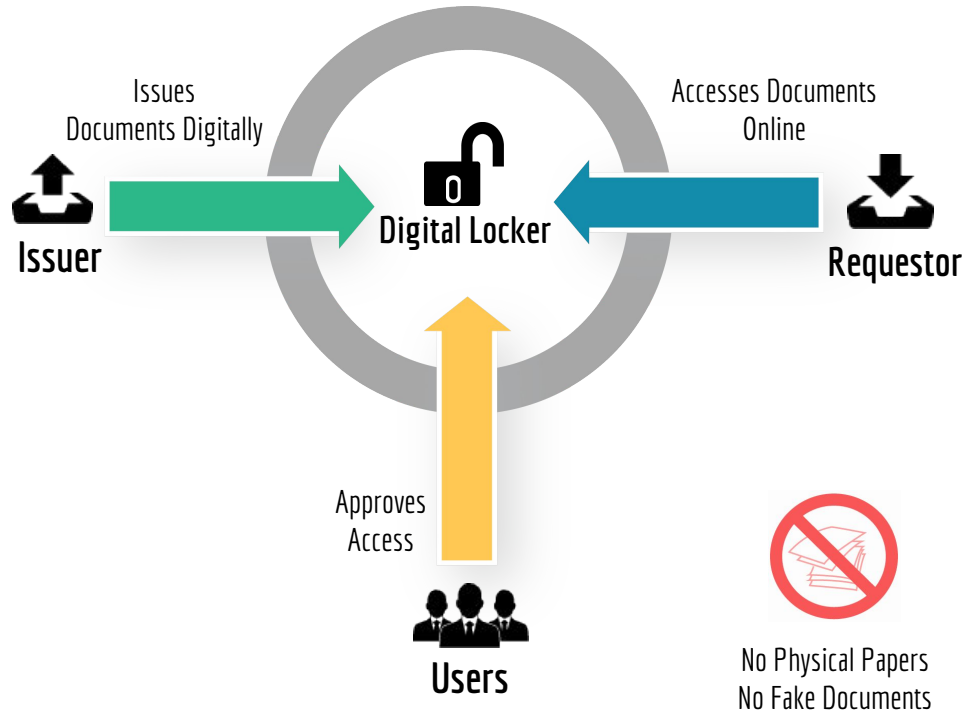
Access ONLY via authentication
No more fake identities
No more paper

eSign – eliminating wet signature



Existing DSC non-scalable due to physical verification, paper process, and use of dongles
eSign allows all Aadhaar holders to digitally sign anytime anywhere
Open API based, allowing applications to easily integrate

Digital Locker – eliminating fake papers



Open API based

Ecosystem driven

Digitally protected

Unified Payment Interface

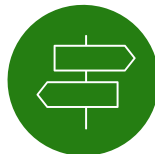
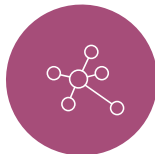


Push & Pull Payments

Payments can be initiated by payer or payee.

Ubiquitous - Bank accounts

Every one with a bank account can send money to any bank account in India!



Virtual Payment Address

No need to disclose account information.
Allows account portability, enhances privacy.

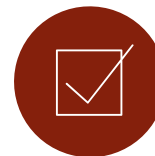
Easy Immediate Payments

Real-time posting
Funds are not locked!



Timely Notification

Immediate notifications of
the payment made



Validation & Assurance

Real-time validation of the
account and balance



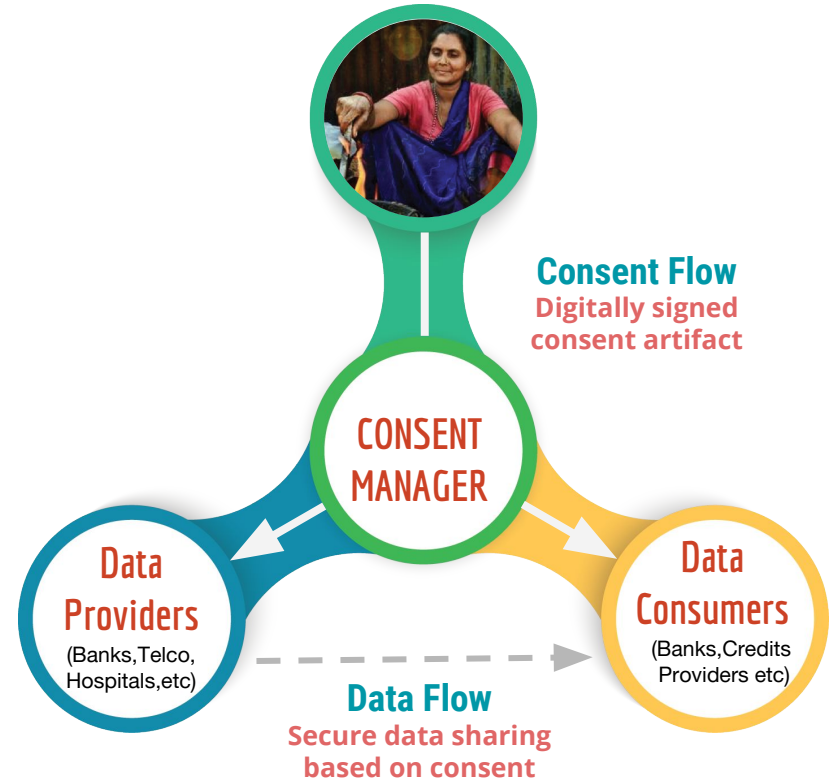
Minimal Issuer/Acquirer Cost

Smartphone replaces card and
PoS machine!!



Electronic consent architecture

- Structured consent artifact and log system
- User controlled data sharing, data flow, and data retention
- Separation of data and consent flows
- Consistent with current legal frameworks



Benefits of proposed consent architecture



Allows **more data sources** to be used for lending decisions

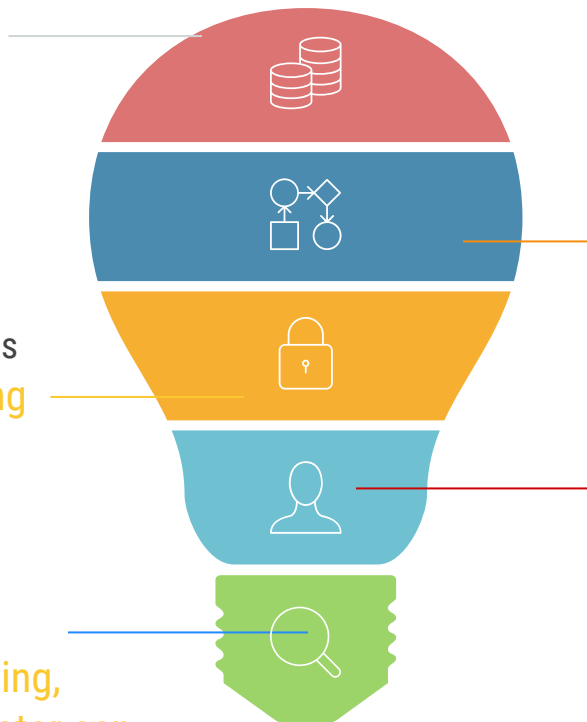
Stronger underwriting, less likelihood for loan defaults

Consent tokens are shared, not credentials

Reduced potential for misuse, leading to improved security and privacy

Purely digital process

Instant monitoring, and reporting, improved transparency. Regulator can monitor defaults, risks, fraud



Data flows tracked digitally, providing **traceability**

Quickly **identify fraud**, take early action. Reduced data leakage, **improved security and privacy**

Real Identity is verified in the process

Reduces potential fraud, and improves the effectiveness of credit bureaus.

COMMERCE
(GSTn)

CREDIT
(RBI)

INVESTMENTS
(SEBI)

SKILLS

OTHERS



CONSENT LAYER

Provides a modern privacy data sharing framework

Open Personal Data Store

CASHLESS LAYER

Game changing electronic payment systems and transition to cashless economy

IMPS, AEPS, APB, and UPI

PAPERLESS LAYER

Rapidly growing base of paperless systems with billions of artifacts

Aadhaar e-KYC,
E-sign, Digital Locker

PRESENCE-LESS LAYER

Unique digital biometric identity with open access of nearly a Billion users

Aadhaar Authentication

JAM

Jan Dhan, Aadhaar, Mobile

1.058 Bn

Enrolments In 6 years since launch



2.6 Bn

Authentications of 470M unique ids



150 Mn

eKYC in 4 years
50 Mn unique ids



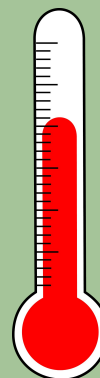
320 Mn

AEPS Payment auth in 4 yrs
XX Mn Rs transacted



300K

UPI VPA in
Less than 1 Month



>1 Mn

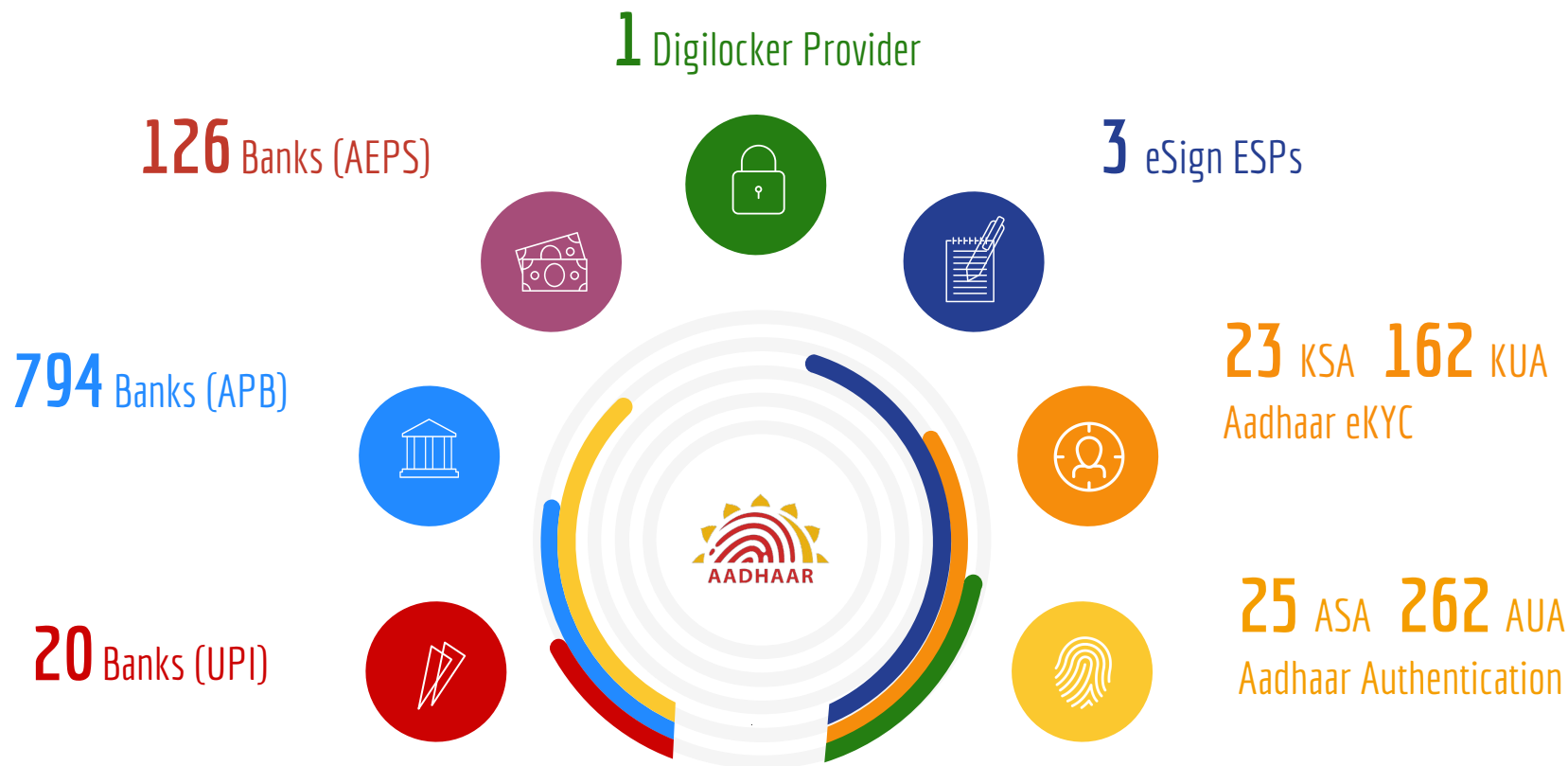
e-Sign in 15 months
>0.8 Mn unique ids



2.5 Mn 3.7 Mn

Digilocker users & Docs
15 months

India Stack Ecosystem



India will go from data poor to data rich nation in 5 Years ...



... allowing data driven decision making for scale and inclusion!

WHAT
YOU
KNOW



PIN / Password

WHAT
YOU
HAVE



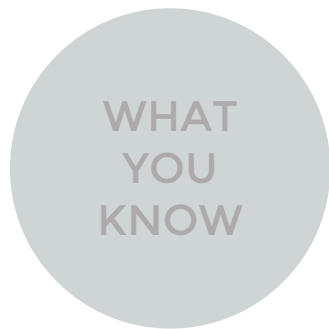
Card

WHO
YOU
ARE



Proof of Identity

The phone will replace the card as the
'What you Have' authentication factor



Smart Phone

+



Aadhaar



Combining Security with Convenience

Biometric smart phones enable 1-click 2-factor authentication

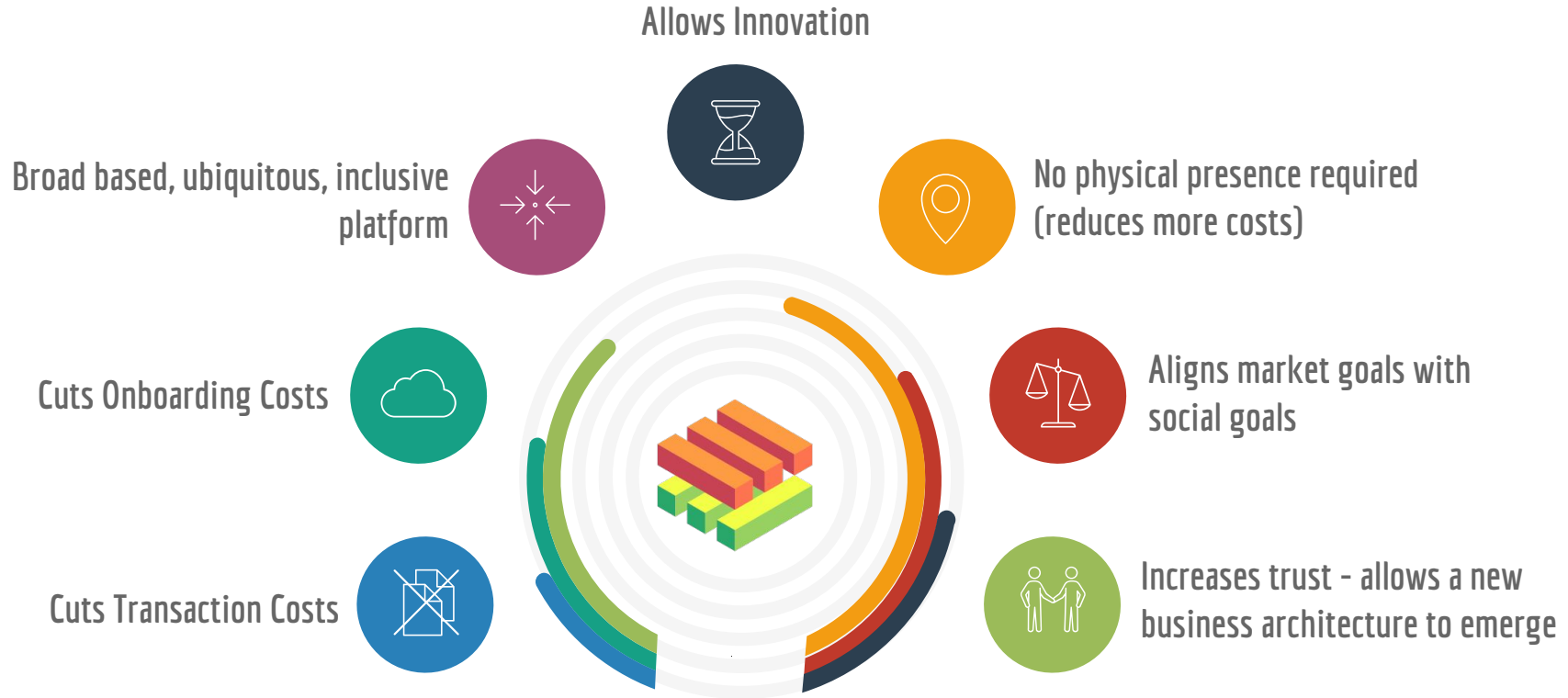
The future is here!



Smartphones with integrated
Aadhaar compliant Iris
recognition available for
commercial use!



Why is the India Stack disruptive?



Providing credit without friction

In today's model, Rajni can never get a loan!



Sales Cost



Servicing Cost



No Credible Data



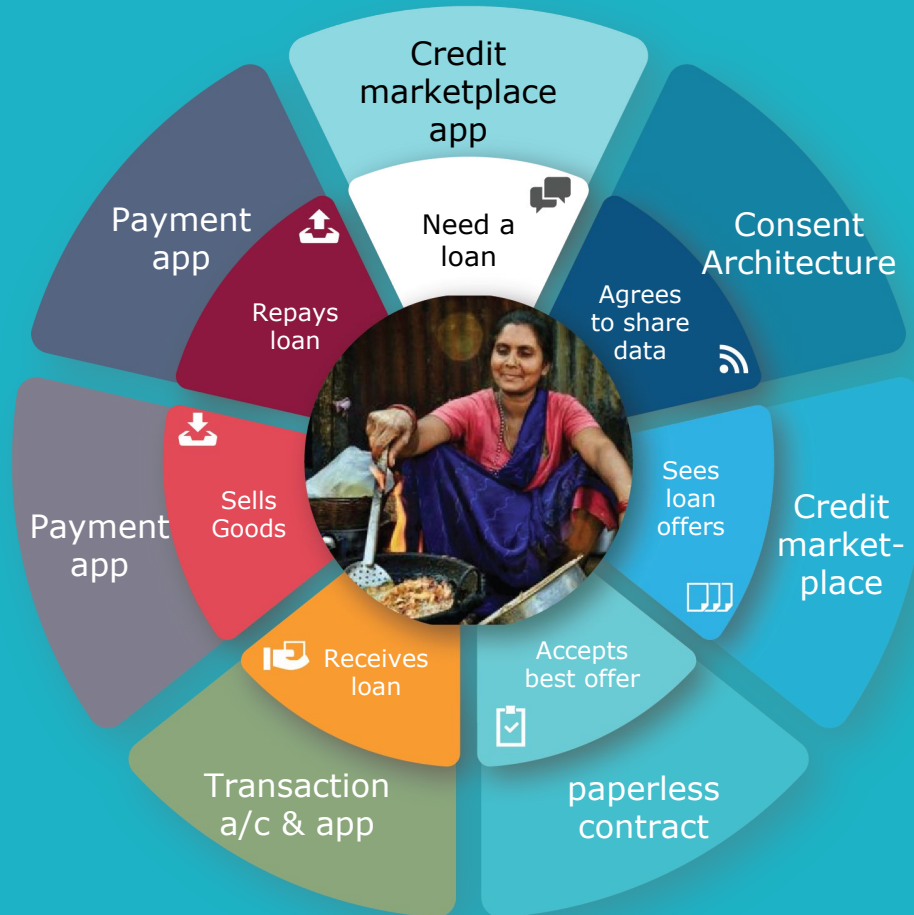
Customers with
the lowest
default rates
have the
highest interest
rates



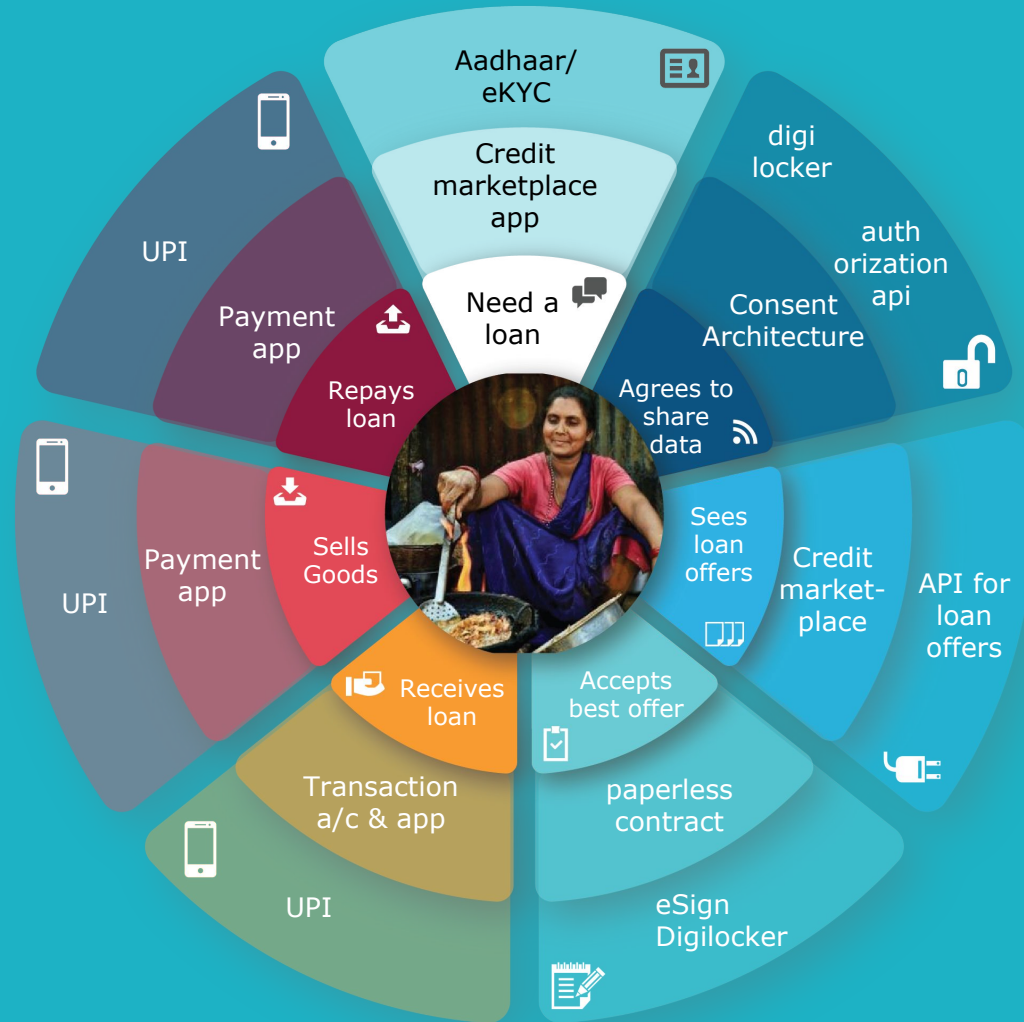
DENIED



7 Key Steps For Rajni to get a small intra-day loan



**Each step requires
a solution**

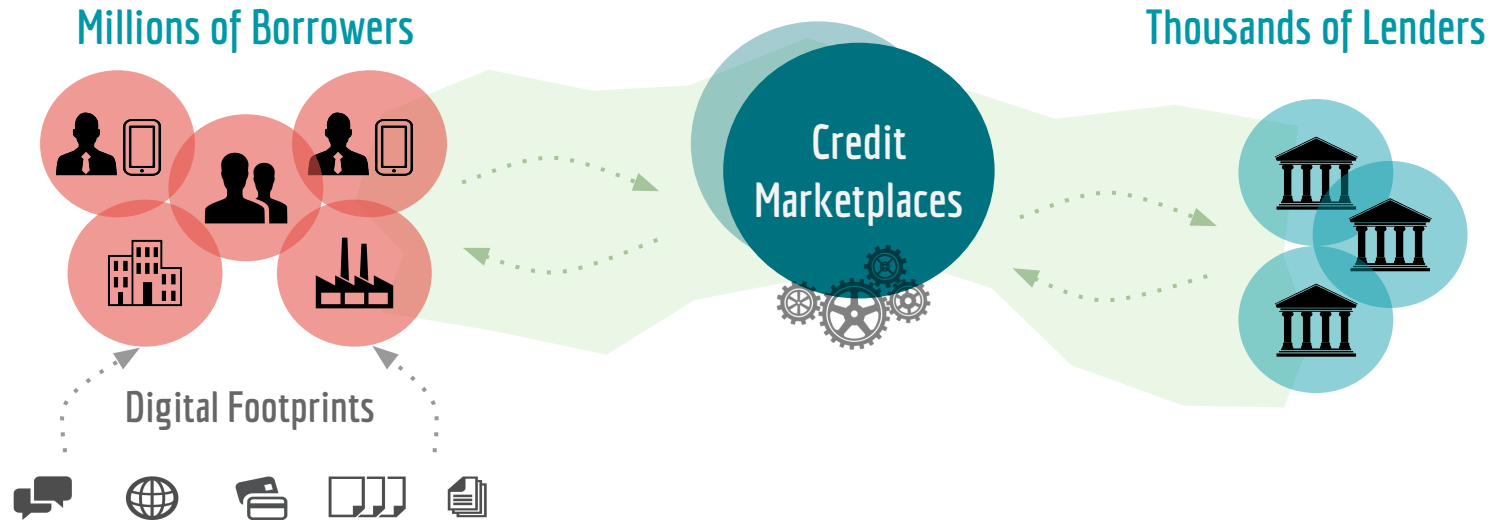


Each solution is enabled by the India Stack



Virtuous Cycle of Credit to the first mile

Credit at scale



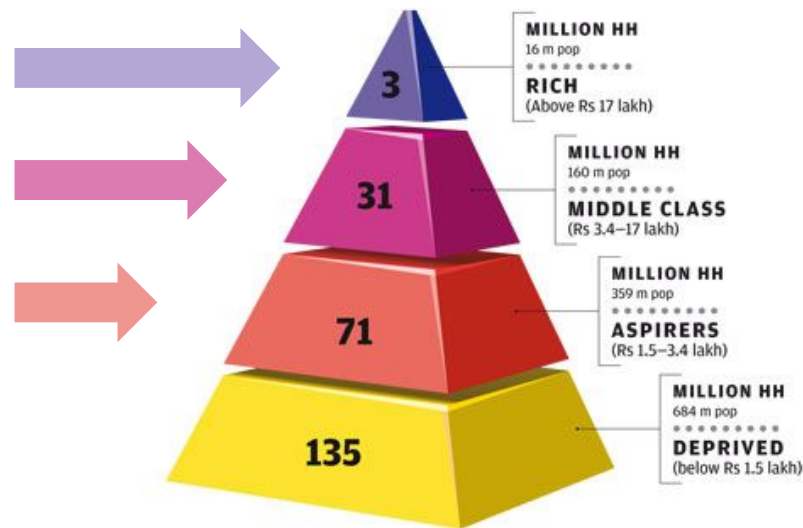
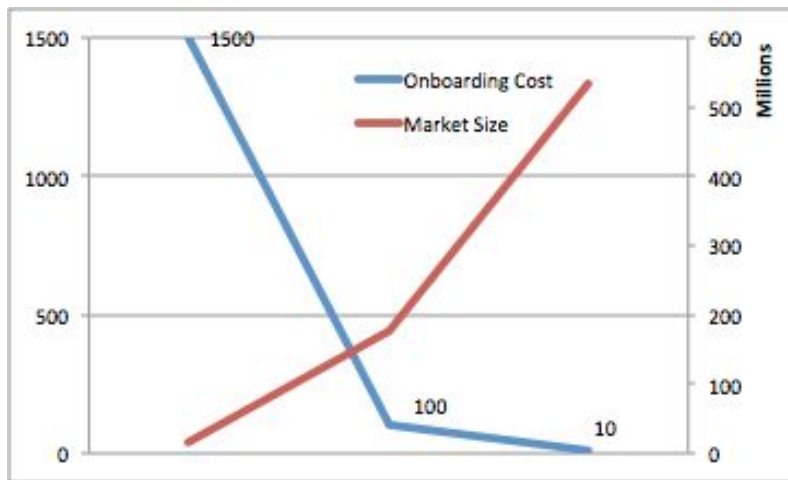
Data Driven
Algorithm Driven

Consented Data Sharing
Enabled by Mobile

Electronic Contracts
Digital Payments

Making investments accessible

Investment at scale



Low Cost, High Volume, Low Ticket Size

Sachet Sized Transactions!

With reduced costs, minimum ticket sizes will come down,
volumes will go up!

TXn Cost	Comm.	Break Even Ticket Size
Rs 50	50 bps	Rs 10,000
Rs 5	50 bps	Rs 1,000
Rs 2	50 bps	Rs 400



To Increase Market Size 10x or 50x

Cost of Doing Business Must Come Down!

Enabling The Skills Marketplace

The Skills Problem

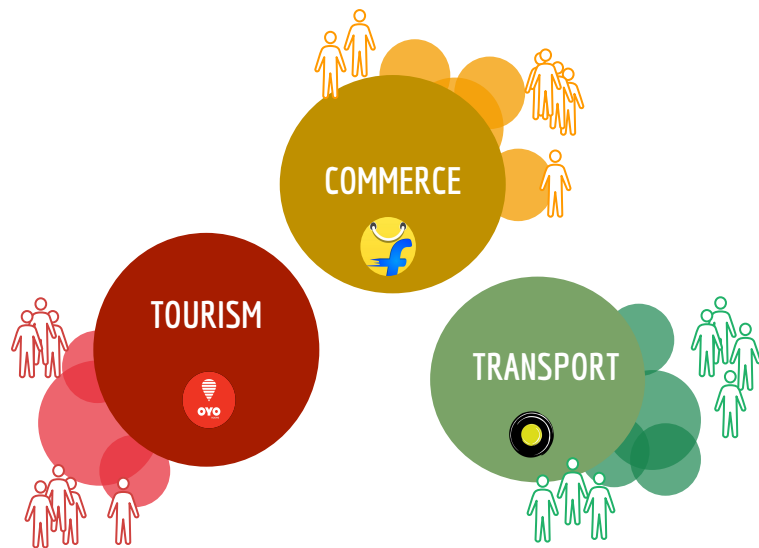


Low trust environment
Employers do not trust credentials
Training is not a differentiator
No premium for quality
No accumulation of skill credentials
Lack of mobility

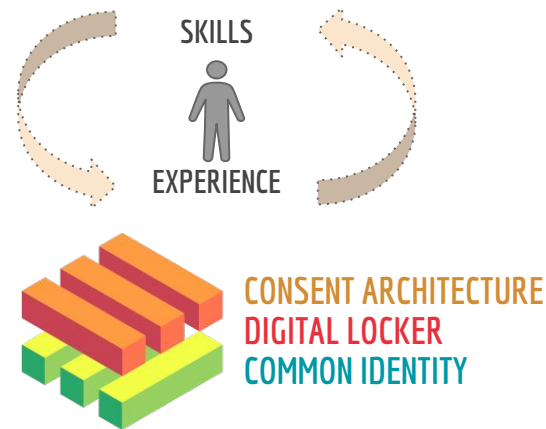
Virtuous Cycle for Skills



Skilling at scale



Networks and aggregators driving mass skilling in several domains



India Stack allows skill and experience to be portable

A robust
foundation to
enable innovative
solutions to
India's hard
problems

Innovative Solutions to India's Hard Problems

- Commercially Viable
- Far reaching consumer impact
- Reinforces experimentation

100s of Experiments

- Low barriers to entry
- Level playing field
- Aligned to national issues
- Rapid success/failure cycle



Market Making Policy
via Challenge Grants



India Stack as
Digital Infrastructure



Regulatory
Policy



Thank You