



# Mobile Connect Summit Singapore

21 & 22 November 2017

Suntec Exhibition & Convention Centre, Suntec City

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# Growing the ecosystem – the value of digital identity services in wider industry

**Marie Austenaa**

Head of Business Development Identity, GSMA

A man in a grey jacket is looking at his smartphone. The background is a blurred city street. The image has a blue and purple color overlay.

# Major market trends are driving the need for secure digital identity

1. **Digital is everywhere** – and mobile is everything; valuable services are turning digital (and mobile) - globally
2. **Security in the digital world is not up the task but alternatives are growing**
3. **Major regulatory changes underway**
  - China: Cyber security and privacy law
  - Europe: eIDAS, PSD2, GDPR
  - US: NIST recommendations

- Mobile identity industry is estimated to be worth 88bn by 2020<sup>1</sup>
- Average cost of security is \$141 per record stolen<sup>2</sup>
- Businesses have lost up to 40% of their revenue in customer churn due to negative brand reputation<sup>3</sup>

[1] GSMA Intelligence, 2017.

[2] IBM Global Report – cost of data breaches. SOURCE: <https://www.ibm.com/security/data-breach/>

[3] <http://blog.securitymetrics.com/2016/10/-how-much-does-a-data-breach-cost.html>

## Good user experience

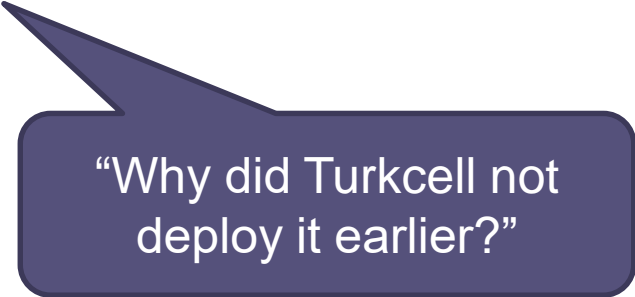
- **82%** of users satisfied (46% very satisfied) (Orange Spain)
- **92%** of active users perceive Mobile Connect as a useful solution (Orange Spain)
- **97%** said that it worked well and they would use it again (Turkcell)
- **Very fast seamless authentication** – better than SMS OTP (India)

## Found useful

- **30%** of all log-ins to self-care portal via Mobile Connect (Turkcell)
- **10-12x** transactions per month (Norway, Finland, Korea)
- **75%** prefer Mobile Connect to passwords (10%) (Orange Spain)
- **Proven willingness to pay** (Norway, Estonia, Finland)
- **Privacy** protection is important for money-related services (India)

## Promoted

- **Net promoter score +27%** (Orange Spain)
- 3<sup>rd</sup> most important reason to chose a mobile operator – **88%** (Telenor Norway)



“Why did Turkcell not deploy it earlier?”

## Benefits

- **Improve user experience**
- **New business models and services**
- **Reduce user friction; strengthen engagement**
- **Customer insights**
- **Reduce costs**
- **Reduce fraud**
- **Frictionless security**
- **Innovation**
- **Regulatory compliance**

## Use case examples

- Seamless and secure log-ins
- Convenient enhanced authentication
- Step-up authentication upon risk detection
- Convenient, secure payment authorisation
- Authorisation to add new payee to account
- Account sign-up
- Confirmation of user's identity
- Verify customer records to support know-your-customer (KYC) and anti-money laundering (AML) regulation
- Notice of fraud indicators (SIM change, active call diverts, device lost/stolen, account status)
- Verify user info and device for mobile wallet
- Verify validity of phone number change
- Age verification

# Mobile Connect service deployments

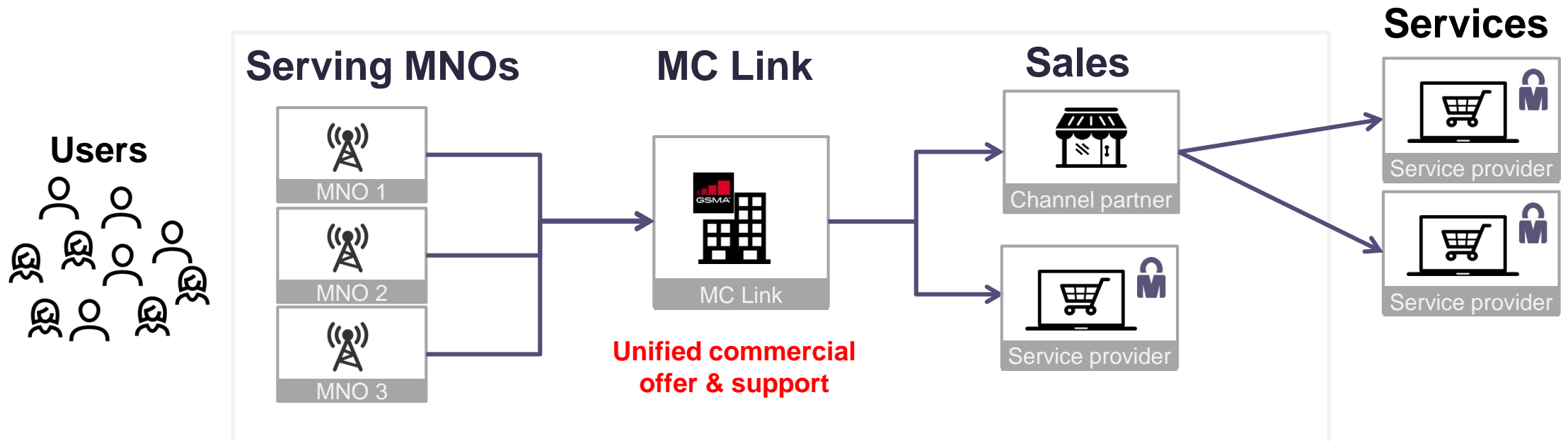


## Use cases deployed

- User data verification
- Payment transaction authorisation
- Log-in with mobile number
- Device trustfulness to reduce fraud
- Share true identity
- Call centre authentication
- Age verification

# GSMA MC Link – to simplify commercial availability globally

- **Mobile Connect Link allows service providers, channel partners and other MNOs to buy Mobile Connect from a one entity (MC Link)** as MC Link resells Mobile Connect services from participating operators
- MC Link hides supply side fragmentation and creates one-stop-shop for Mobile Connect services
- MC Link offers a single contract and price, technical support, 24/7 service monitoring, and billing
- With MC Link, service providers access Mobile Connect across MNOs seamlessly, making it easier to use MC





## Bridging Digital Identity to the Mobile Ecosystem

**Victor Ocampo**

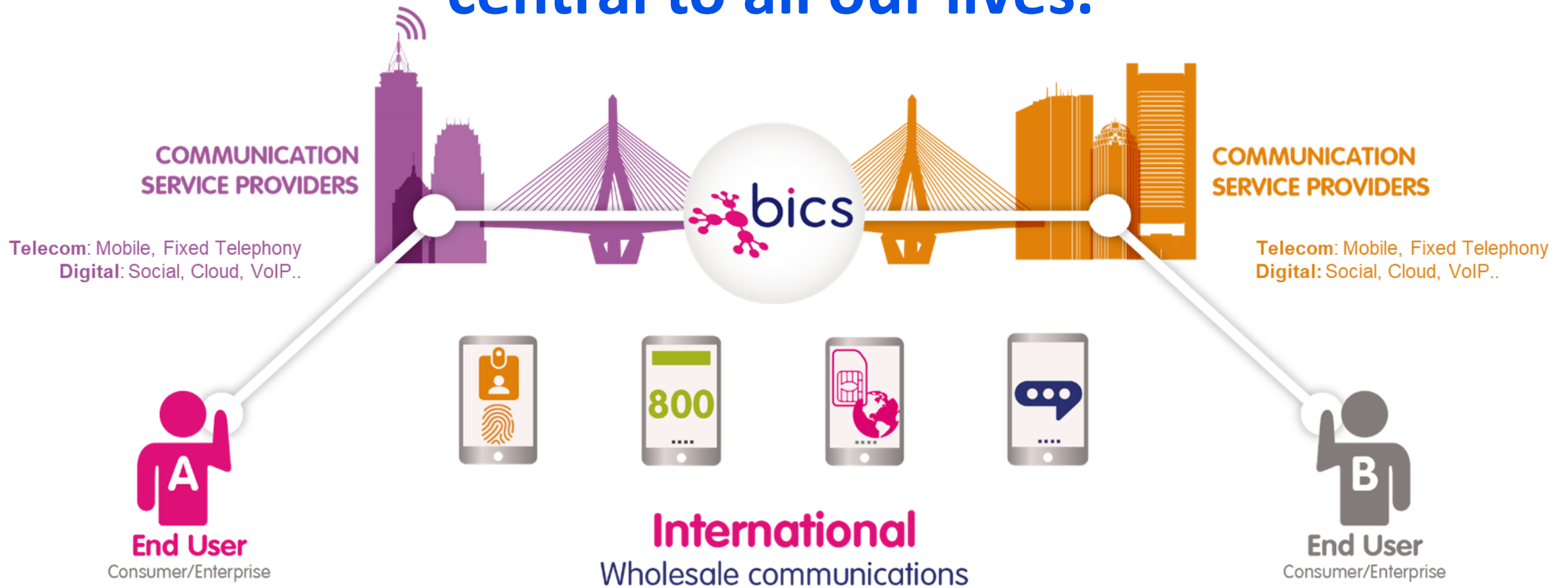
APAC Account Director for Digital Services

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# Mobile phones have become central to all our lives.



 **TeleSign** is a communications platform as a service (CPaaS) company, founded on security.

- A trusted partner to 20 of the world's 25 top websites and mobile applications.
- Secures over 4 billion end-user accounts in 200+ countries and 87 Languages
- TeleSign's data-driven, cloud communications platform is changing the way businesses engage with customers and prevent fraud.

# The Evolution of Identity

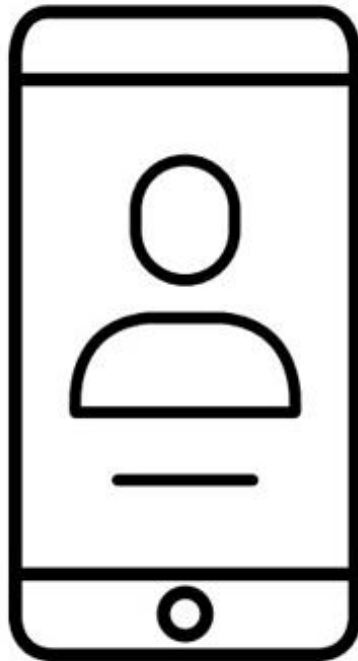
The smartphone is a sophisticated piece of electronic equipment, offering the users an endless amount of uses and operations.

## Network Connectivity

- 3G
- 4G
- Wifi

## Identity-related technologies

- Camera
- GPS
- Screen
- NFC
- Bluetooth
- Biometric Sensors



## Internet, apps and data



## Security elements to protect user data

- SIM (Subscriber Identity Module)
- Micro SD (Micro Secure Digital)
- eSE (Embedded Secure Element)

- Identity begins in the physical world
- Has become Digital
- Naturally extended into Mobile

Mobile phones have quietly become a global identity device.

# PHONE-BASED VERIFICATION IS UBIQUITOUS

Companies around the world are using mobile phone numbers as a *primary* user identifier.



# ISSUES WITH PHONE-BASED VERIFICATION (An TeleSign Client's Perspective)

- Account takeovers due to SIM SWAP
- Recycling of Phone Numbers
- Phone number as identifier versus KYC of company



# Identity and Fraud: A TeleSign Perspective

## FAKE USER FRAUD TYPES



“Through a variety of illicit acts, cyber criminals damage the global economy to the tune of billions of dollars every year.” Dr. Larry Ponemon, Founder and Chairman of the Ponemon Institute

# TeleSign Solutions



- Phone Verification and 2FA APIs
- Mobile SDKs
- Data and Analytics APIs



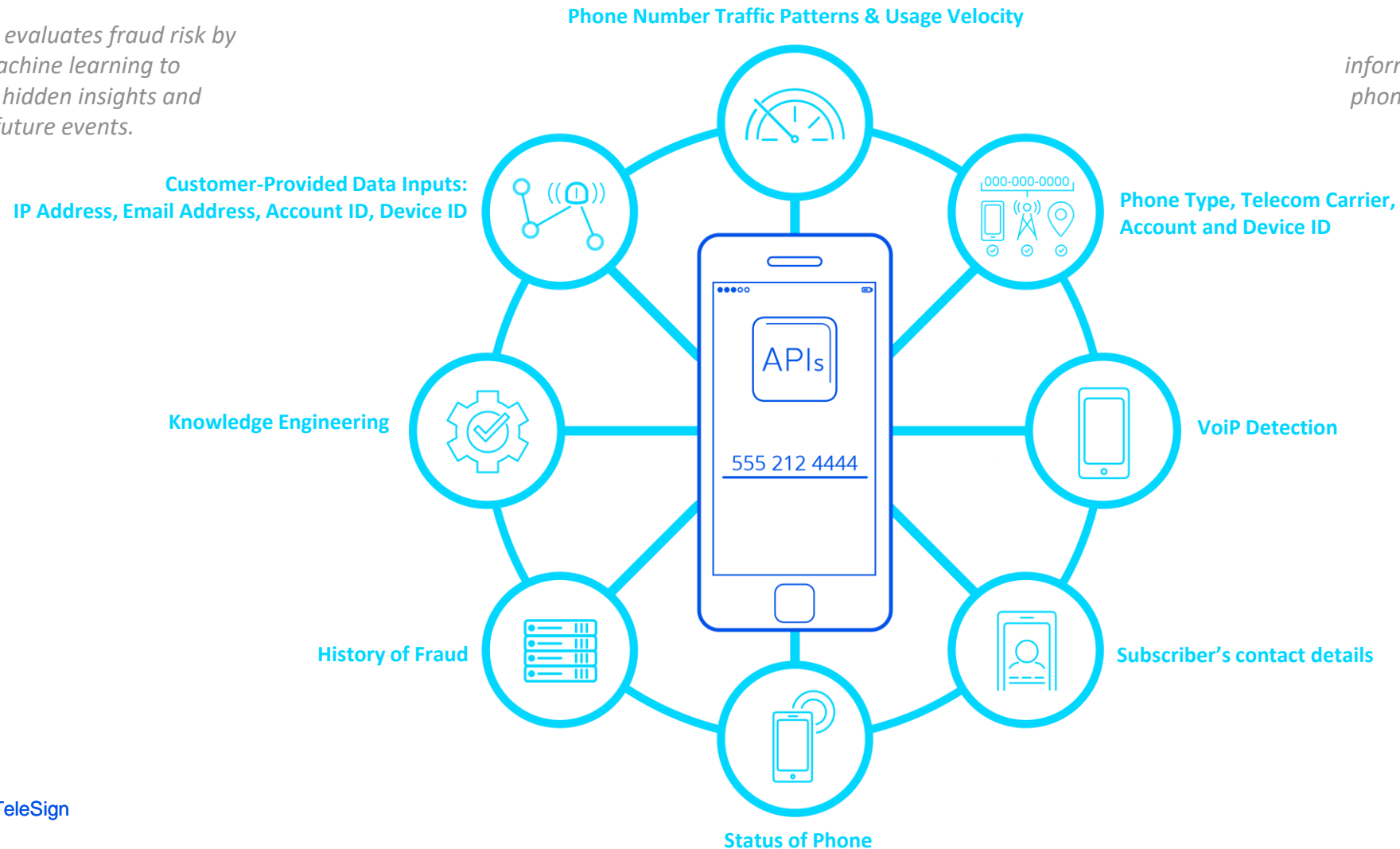
Businesses report as much as **10%** of their user base is fake

# REAL-TIME PHONE NUMBER INTELLIGENCE

## Industry-Leading Fraud Risk Assessment & High-Quality Data

*TeleSign evaluates fraud risk by using machine learning to uncover hidden insights and predict future events.*

*TeleSign delivers valuable information associated with the phone number, which improves SMS delivery.*





# Attributes Improved with MNO/MVNO Data

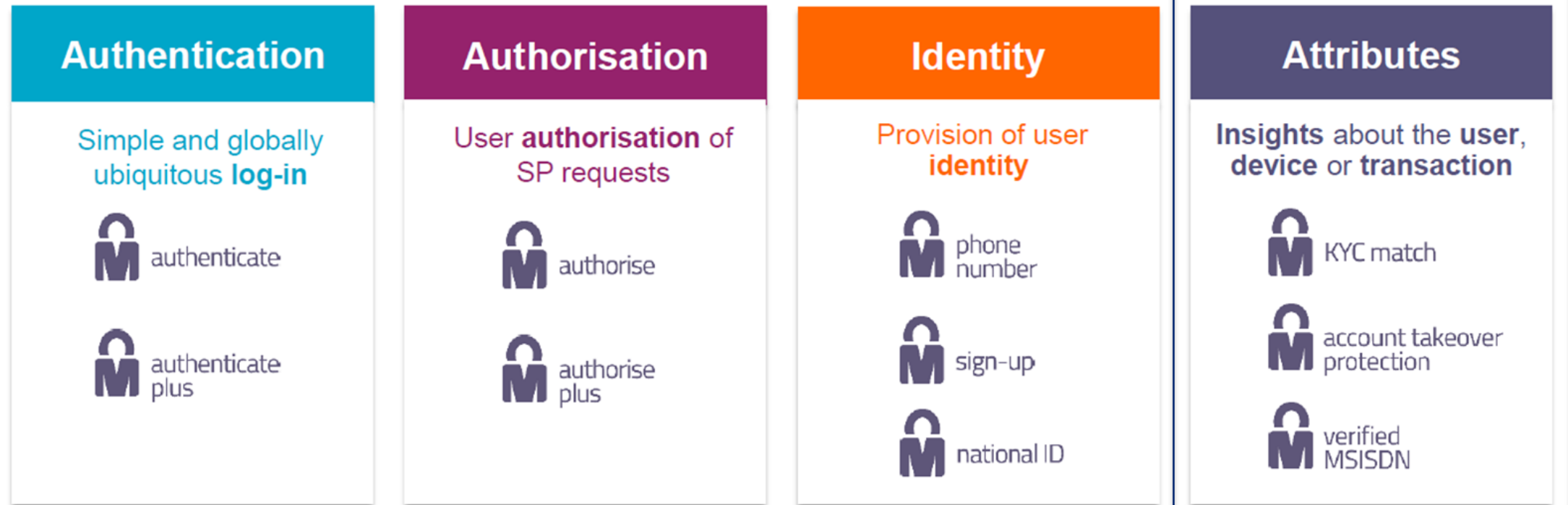


- Connected to over +500 MNOs, MVNOs and related services
- Working with GSMA to develop Open Connectivity Standards for Roaming/Messaging.

# BICS is working with the GSMA Mobile ID Program



Mobile Connect offers a range of products

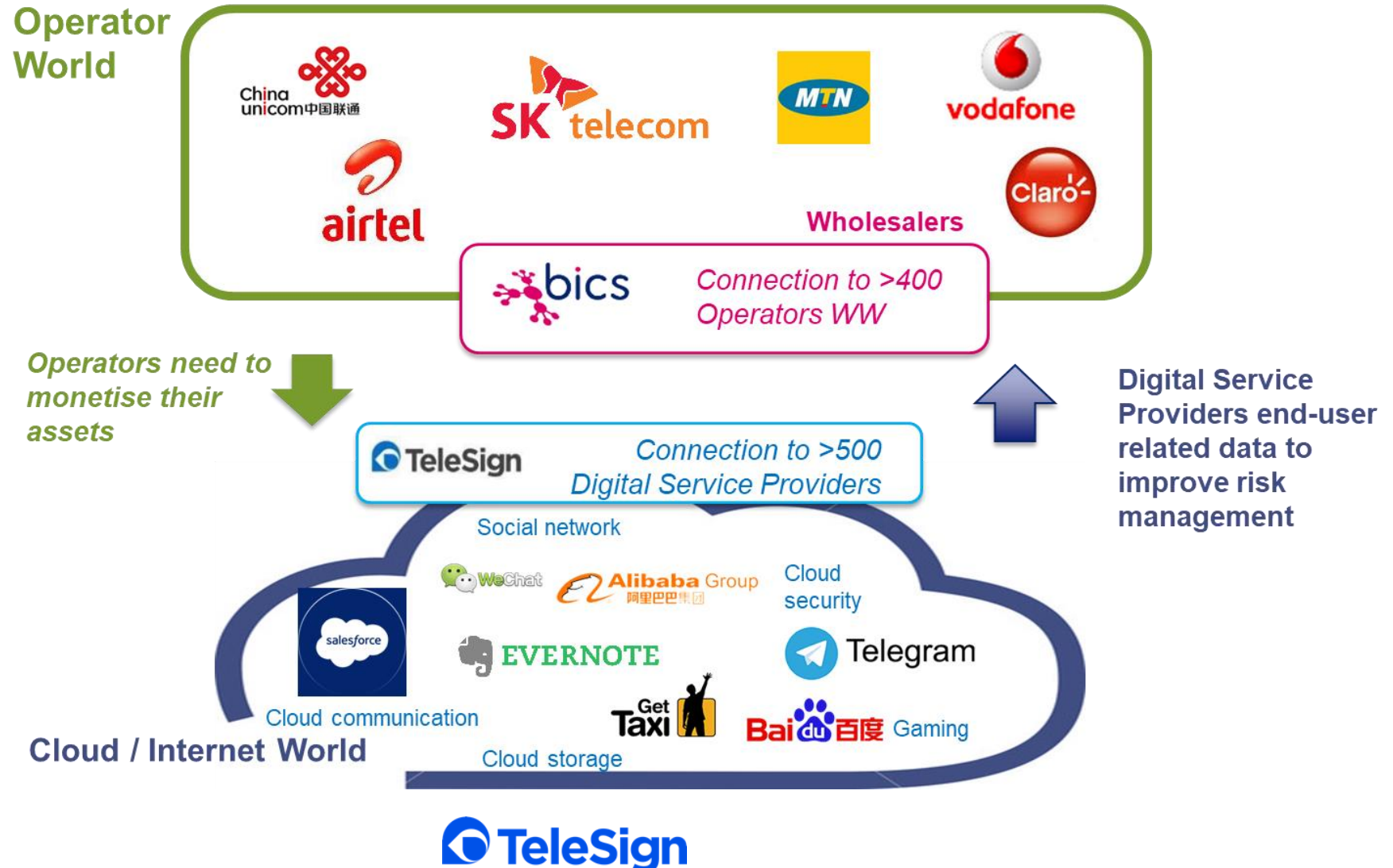




# Bridging Digital Identity to Mobile Operators

We aim to solve Identity Management issues like Account Takeovers, Fraud, and Poor End User Experience for Digital Services, using Contextual Mobile Identity Data collected through our global network of Mobile Operator Partners

# Creating New Revenue Streams for MNOs



```
mirror_mod.use_y = False
mirror_mod.use_z = False
elif _operation == "MIRROR_Y":
    mirror_mod.use_x = False
    mirror_mod.use_y = True
    mirror_mod.use_z = False
elif _operation == "MIRROR_Z":
    mirror_mod.use_x = False
    mirror_mod.use_y = False
    mirror_mod.use_z = True
```

At the end of the function, we add back the deselected mirror modifier object

```
mirror_ob.select= 1
modifier_ob.select=1
bpy.context.scene.objects.active = modifier_ob
print("Selected" + str(modifier_ob)) # modifier ob is the active ob
mirror_ob.select = 0
name = bpy.context.selected_objects[0]
my_data.objects[name].select = 1
print(bpy.data.objects[name].name)
print(modifier_ob.name)
```

#### OPERATOR CLASSES

```
class MirrorX(bpy.types.Operator):
    """This adds an X mirror to the selected object"""
    bl_idname = "object.mirror_mirror_x"
    bl_label = "Mirror X"

    @classmethod
    def poll(cls, context):
        return context.active_object is not None
```



**Victor Ocampo**

APAC Account Director for Digital Services

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# Unleashing the Full Potential of our Digital Identities

November 2017

DELTA PARTNERS

**Kiran Karunakaran**

Partner, Asia Pacific

# Identity

In the social jungle of human existence, there is no feeling of being alive without a sense of **identity**. Unlike a drop of water which loses its **identity** when it joins the ocean, man does not lose his being in the society in which he lives.

## I will aim to convey 3 key messages today...

**1**

**Digital Identity enables creation of a "Digital Twin" unlocking the power of engagement**

**2**

**However, complexity is inherent in the structure but needs to be addressed**

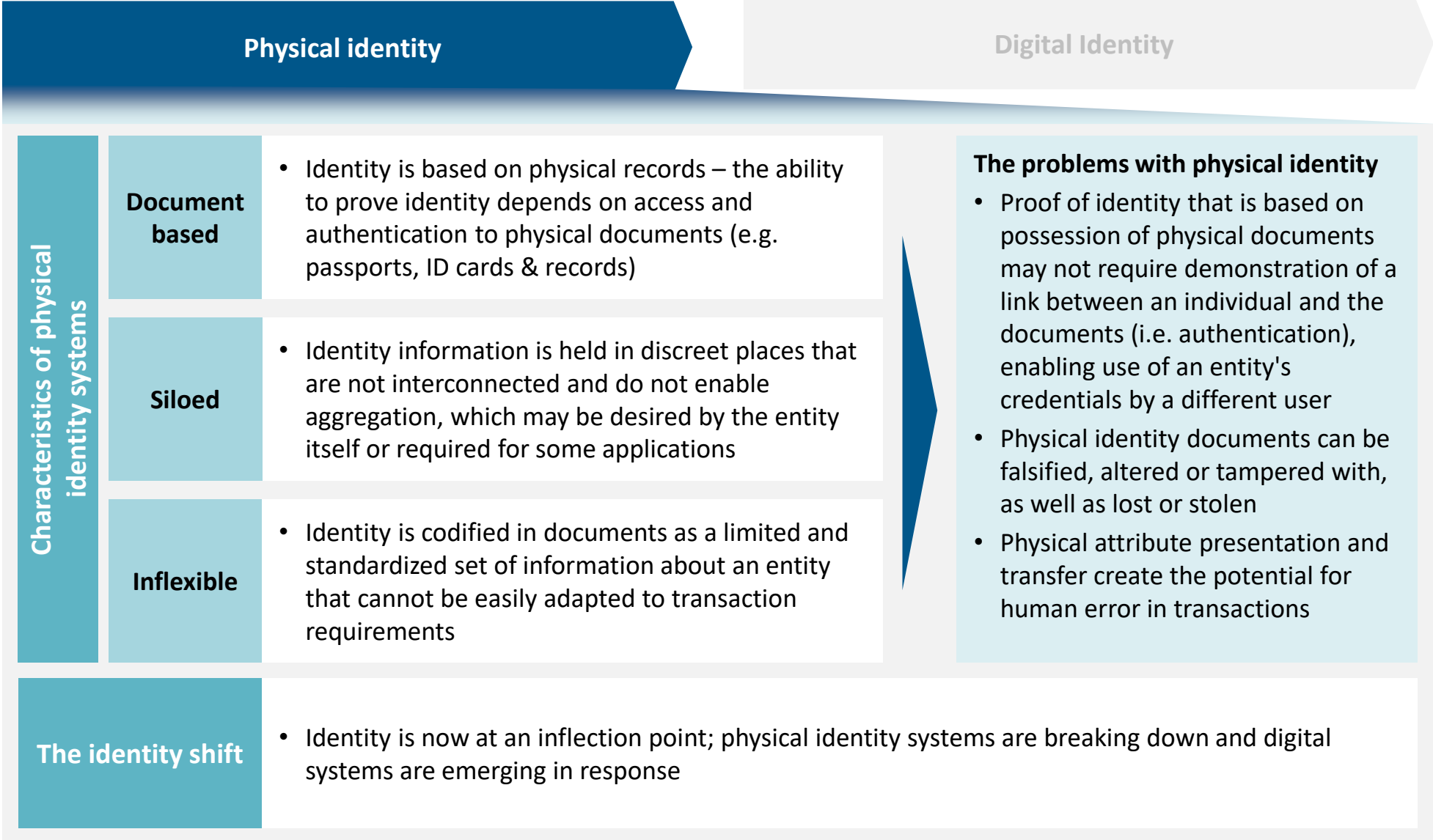
**3**

**The role of the MNO while is apparent – but not yet fully leveraged**

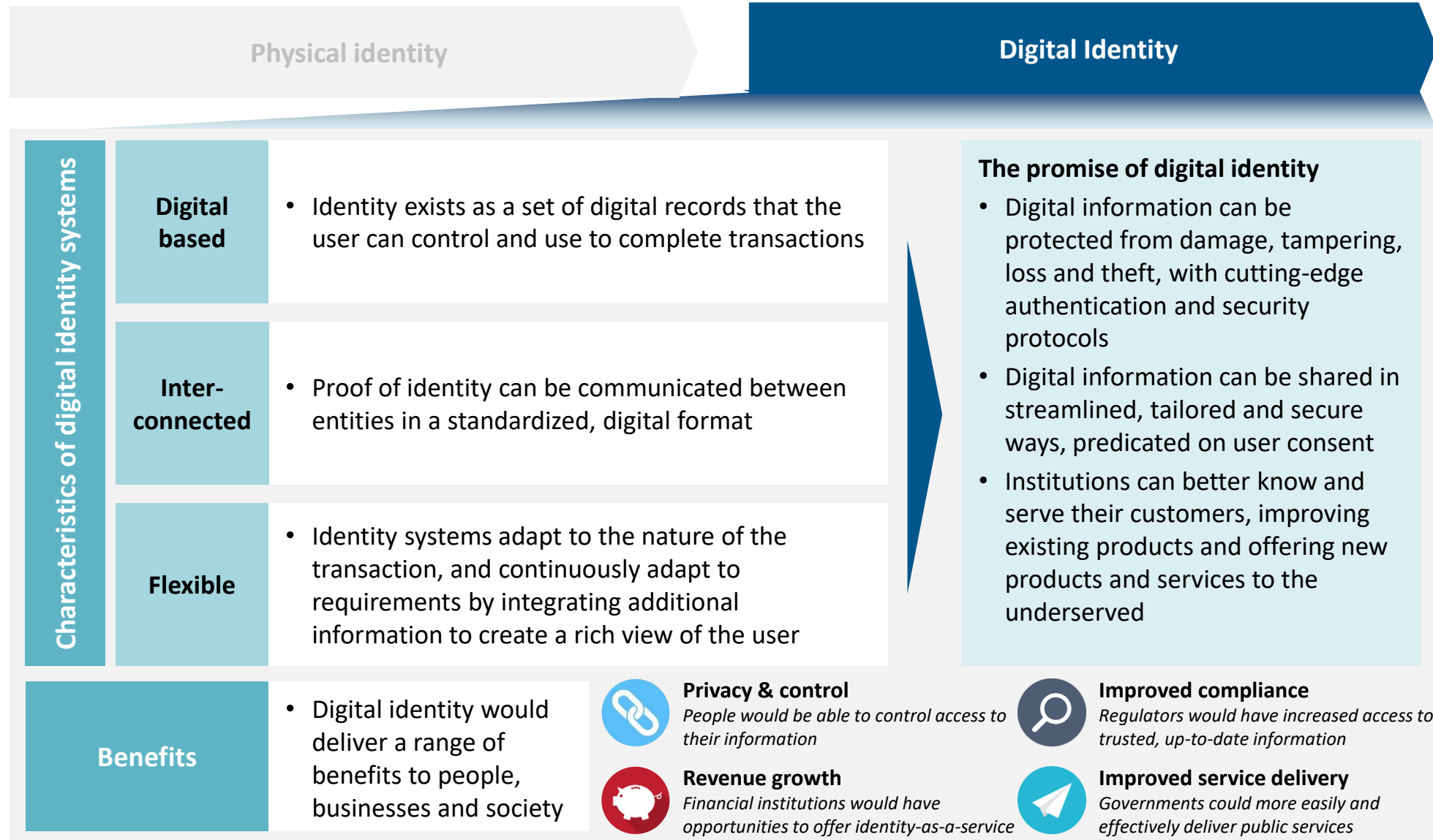




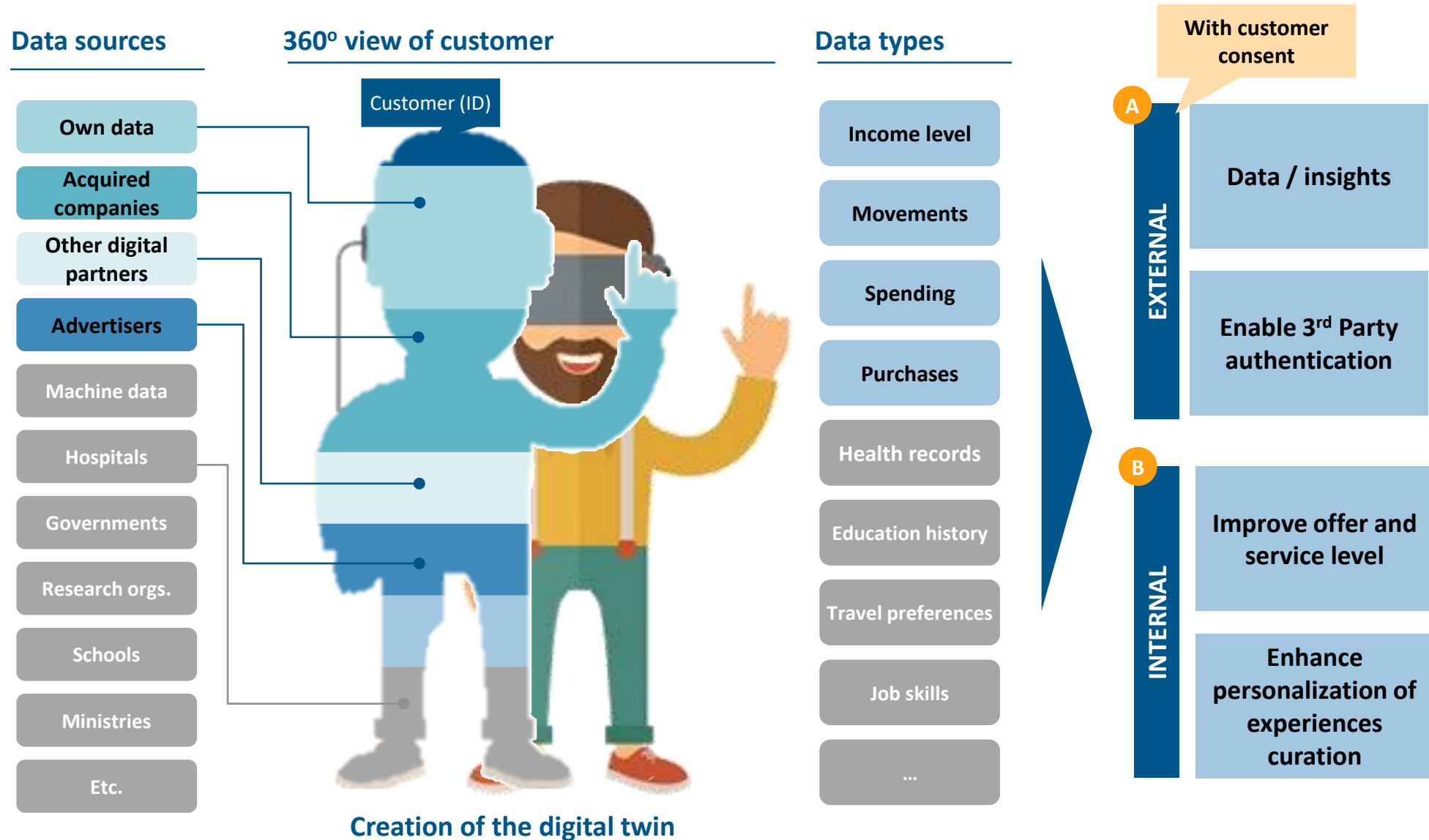
# Today's standard identity systems are based on physical documents and processes








# Digital identity systems support the needs of today's world



# Digital ID data can be enhanced with other sources, leading to the creation of a "Digital Twin"



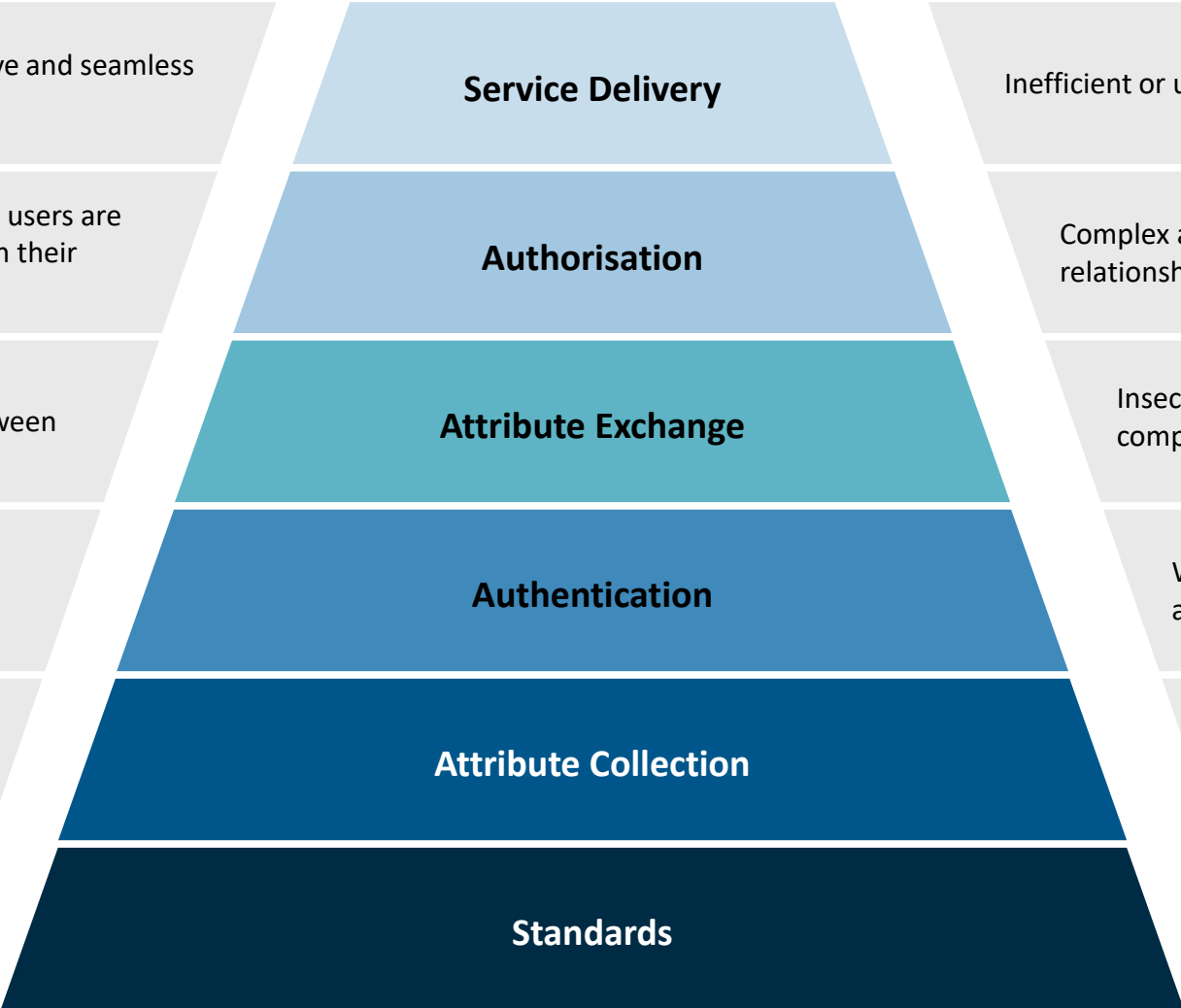
## So ... Why exactly Digital Identity ?

1	<b>Increasing transaction volumes</b>		The number of identity-dependent transactions is growing through increased use of the digital channel and increasing connectivity between entities
2	<b>Increasing transaction complexity</b>		Transactions increasingly involve very disparate entities without previously established relationships (e.g. customers and businesses transacting cross-border)
3	<b>Risking customer expectations</b>		Customers expect seamless, omni-channel service delivery and will migrate to services that offer the best customer experience
4	<b>More stringent regulatory requirements</b>		Regulators are demanding increased transparency around transactions, meaning that FIs require greater granularity and accuracy in the identity information that they capture and are increasingly being held liable for inaccurate or missing identity information
5	<b>Increasing speed of financial / reputational damage</b>		Bad actors in financial systems are increasing sophisticated in the technology and tools that they use to conduct illicit activity, increasing their ability to quickly cause financial and reputational damage by exploiting weak identity systems

# However, identity is a multi-layered problem making the creation of digital identity complex

## GOALS

- Providing efficient, effective and seamless services to users
- Provisioning what services users are entitled to access based on their attributes
- Providing mechanisms for exchanging attributes between parties
- Providing mechanisms for linking users to attributes
- Capturing & storing user attributes
- Developing standards to govern system operation



## PROBLEMS

- Inefficient or unsuited service delivery
- Complex authorisation rules and relationships
- Insecure and privacy – comprising attribute exchange
- Weak or inconvenient authentication
- Inaccurate or insufficient attribute collection
- Lack of coordination and consistency

# There are many distinct gaps in the digital identity landscape that need to be addressed

## Confusing Authentication with Identity

- Many efforts today focus on authentication as a solution to the identity challenge without addressing the strength of the underlying attribute collection
  - *Heavy reliance on preexisting onboarding and attribute collection processes*
  - *Authentication solutions are convenient for users but do not provide security or verification of the identity behind an account or username*

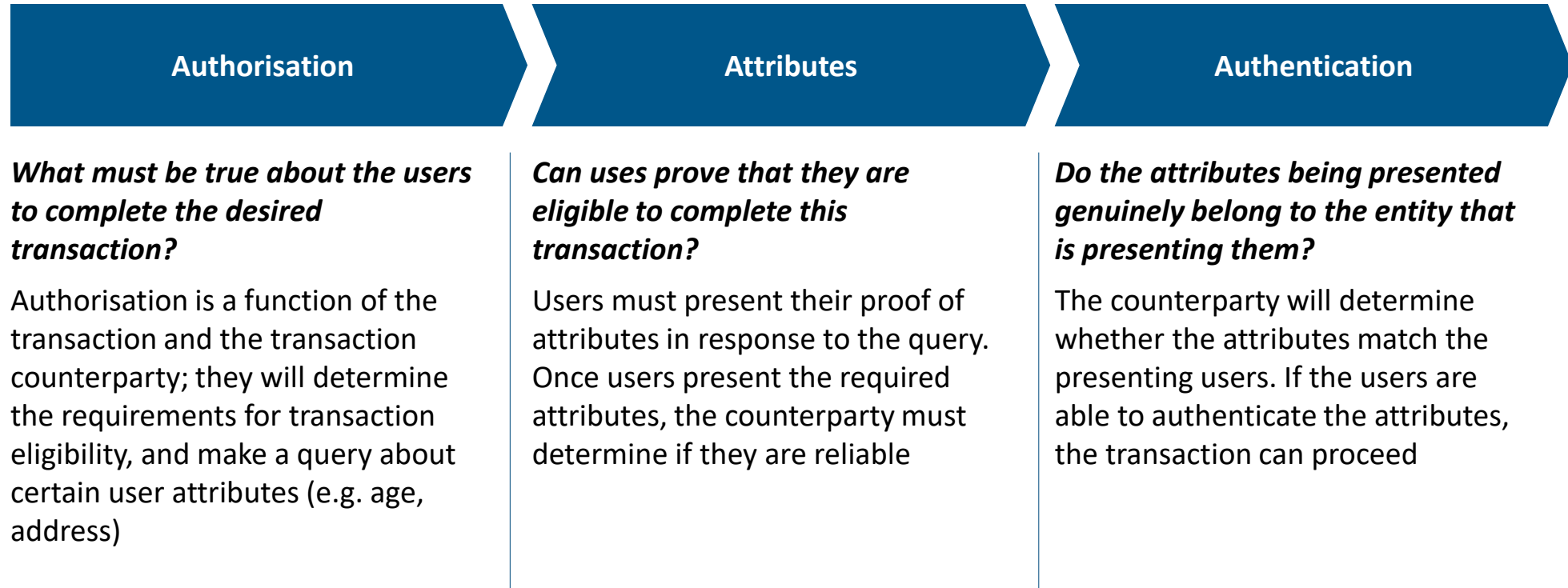
## Enabling transaction completion over activity

- Many solutions are driven by the goals and perspectives of a single organization and therefore are designed to serve the needs of particular transactions rather than the broader needs of users
  - *eGovernment solutions are intended to make government service delivery to users more efficient, and do not enable further transactions*
  - *Transaction-focussed solutions result in the repeated collection of 'tombstone' data rather than effective collection of user-centric and risk-relevant data*

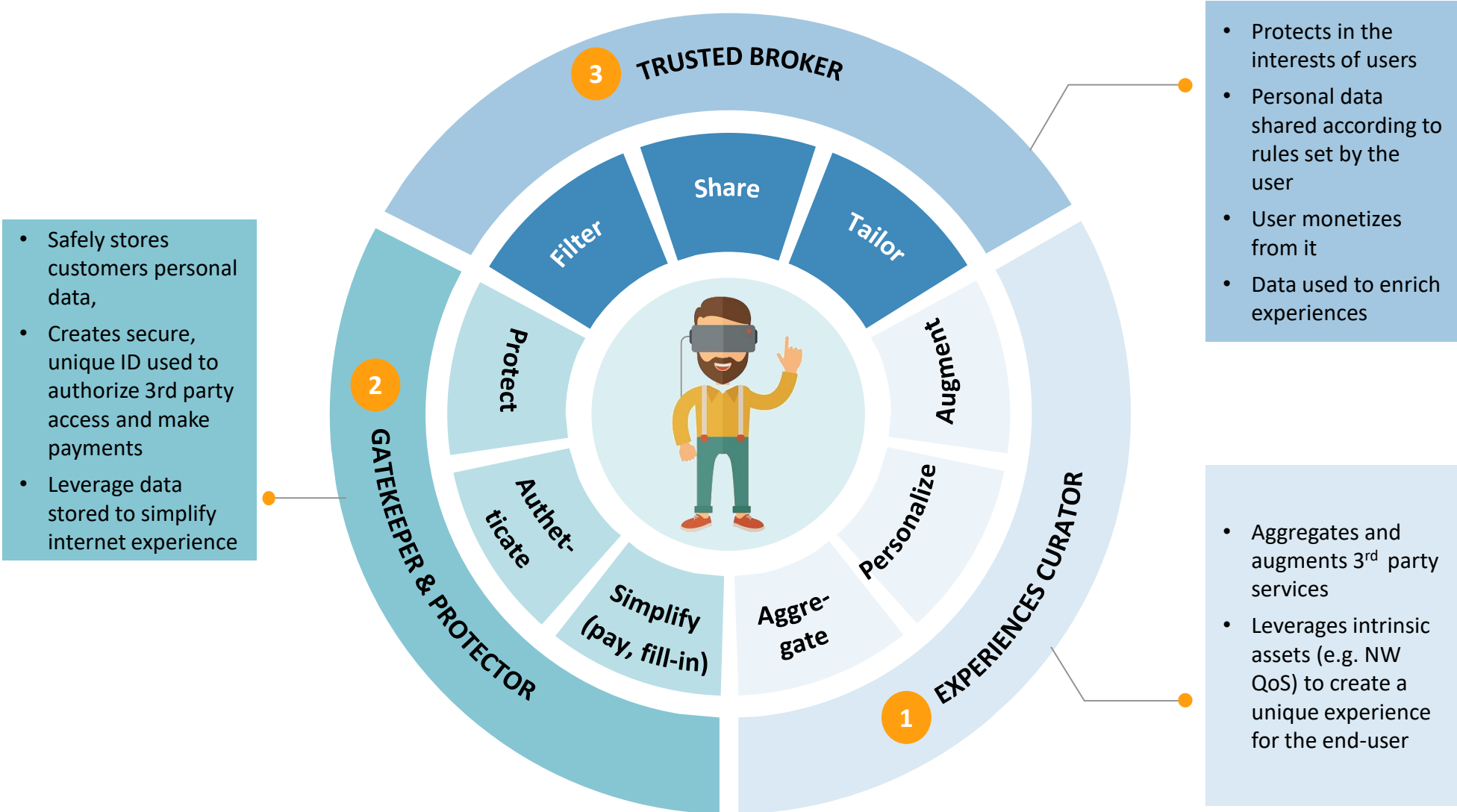
## Building consensus than action

- Many efforts focus on building agreement around standards and processes rather than creating a full identity solution
  - *Utilities and standards organizations are focused on creating consensus rather than providing a full identity solution*
  - *Multi-governmental efforts have considerable scale but are mainly focused at the regulatory level, and do not offer a commercially viable solutions*

## Identity transactions have three main aspects

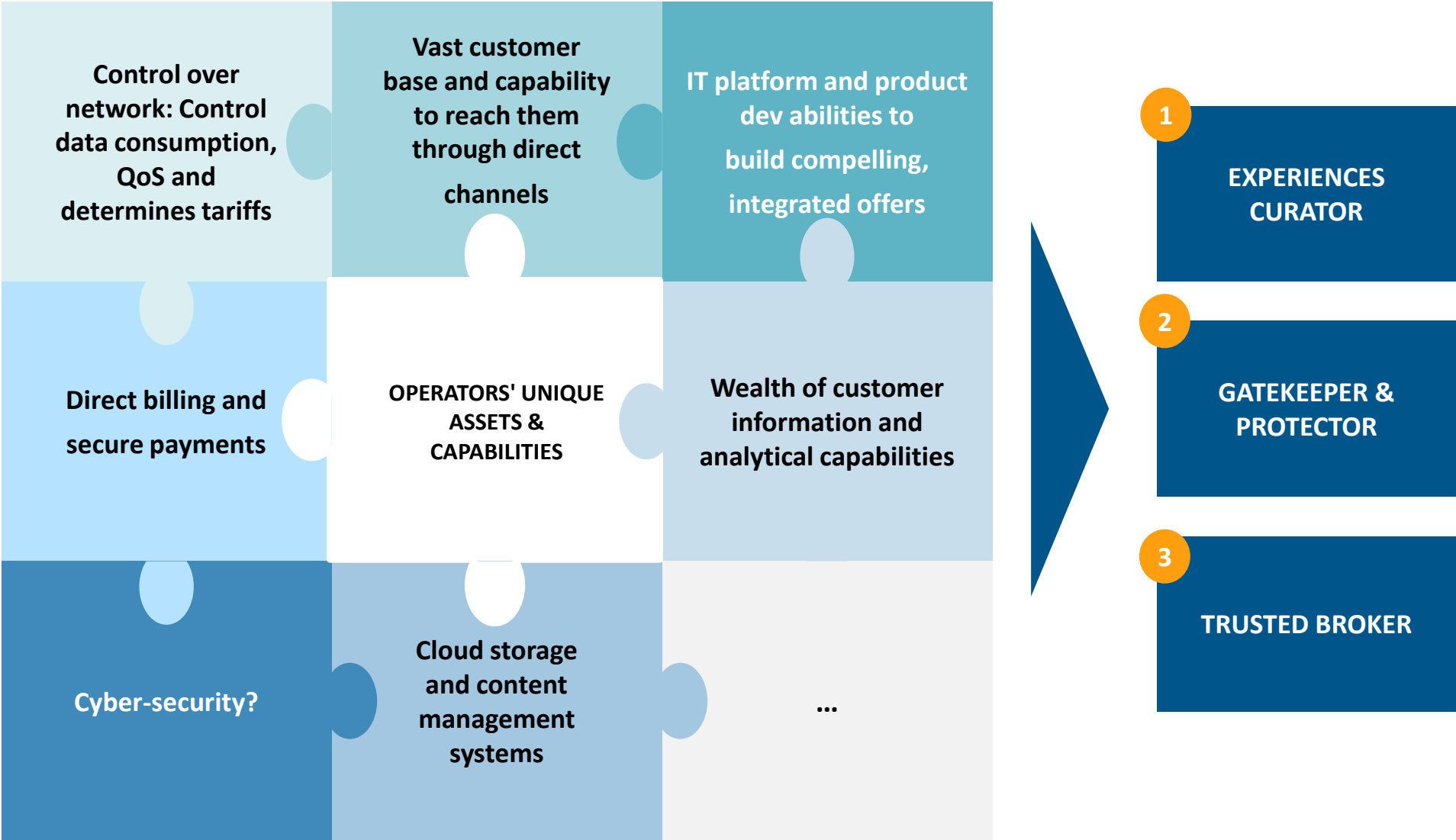


# Operators can potentially participate and compete via a 3-pronged strategy....

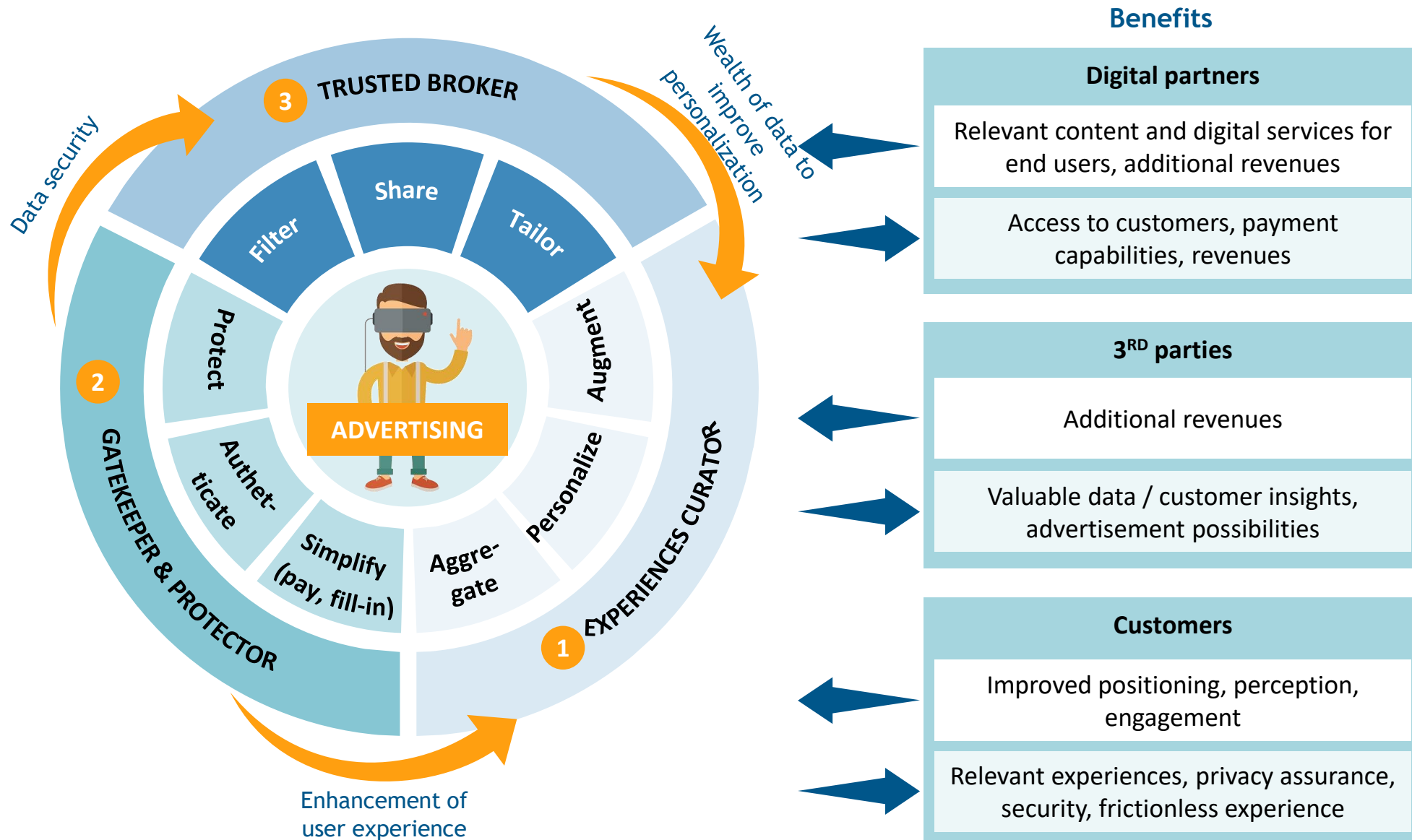




...leveraging intrinsic assets and (potential) capabilities



# The end game is a cohesive 'hub' that delivers mutual benefits across participants



## To summarize again....

**1**

**Digital Identity enables creation of a "Digital Twin" unlocking the power of engagement**

**2**

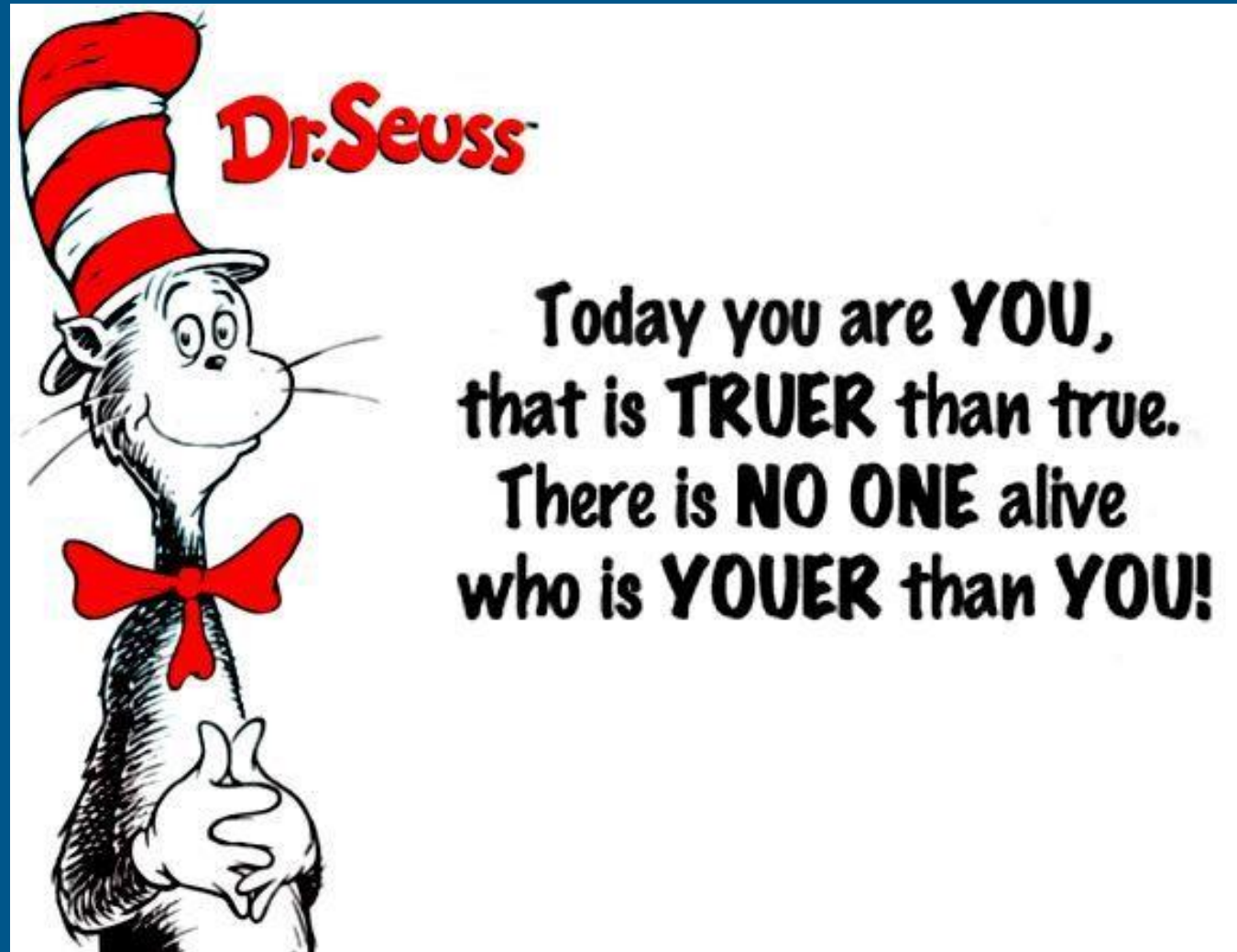
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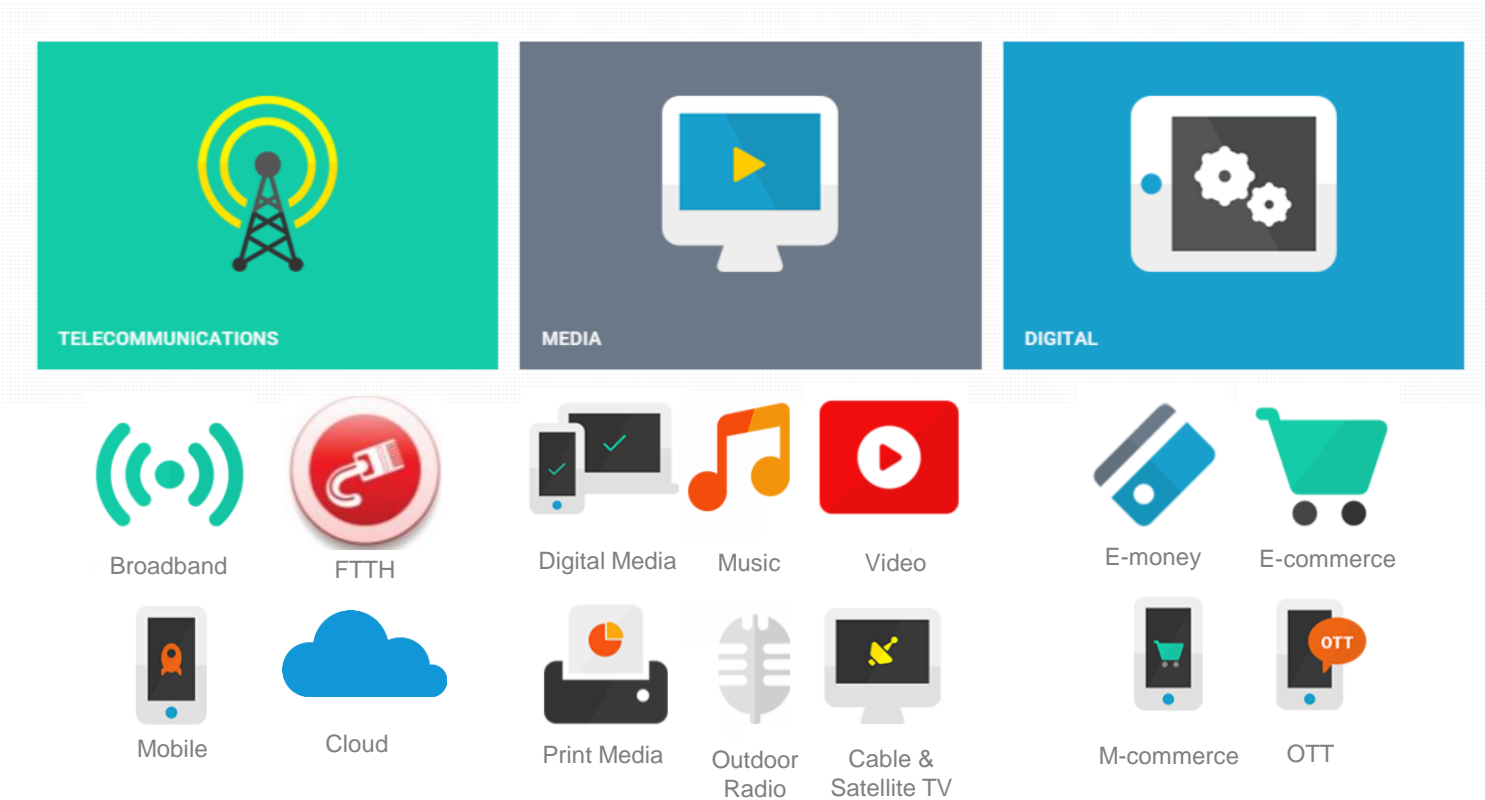


# Identity



**Thank You**

# Pioneer Consulting Asia is an international management consultancy specialising in media, telecoms and digital



*We combine research and analytical expertise with industry experience to develop pragmatic strategies and performance improvement plans for our clients*

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# The importance of digital identity within the digital economy; touching on the use of data, eKYC and the Aadhaar use-case



Amit Sharma



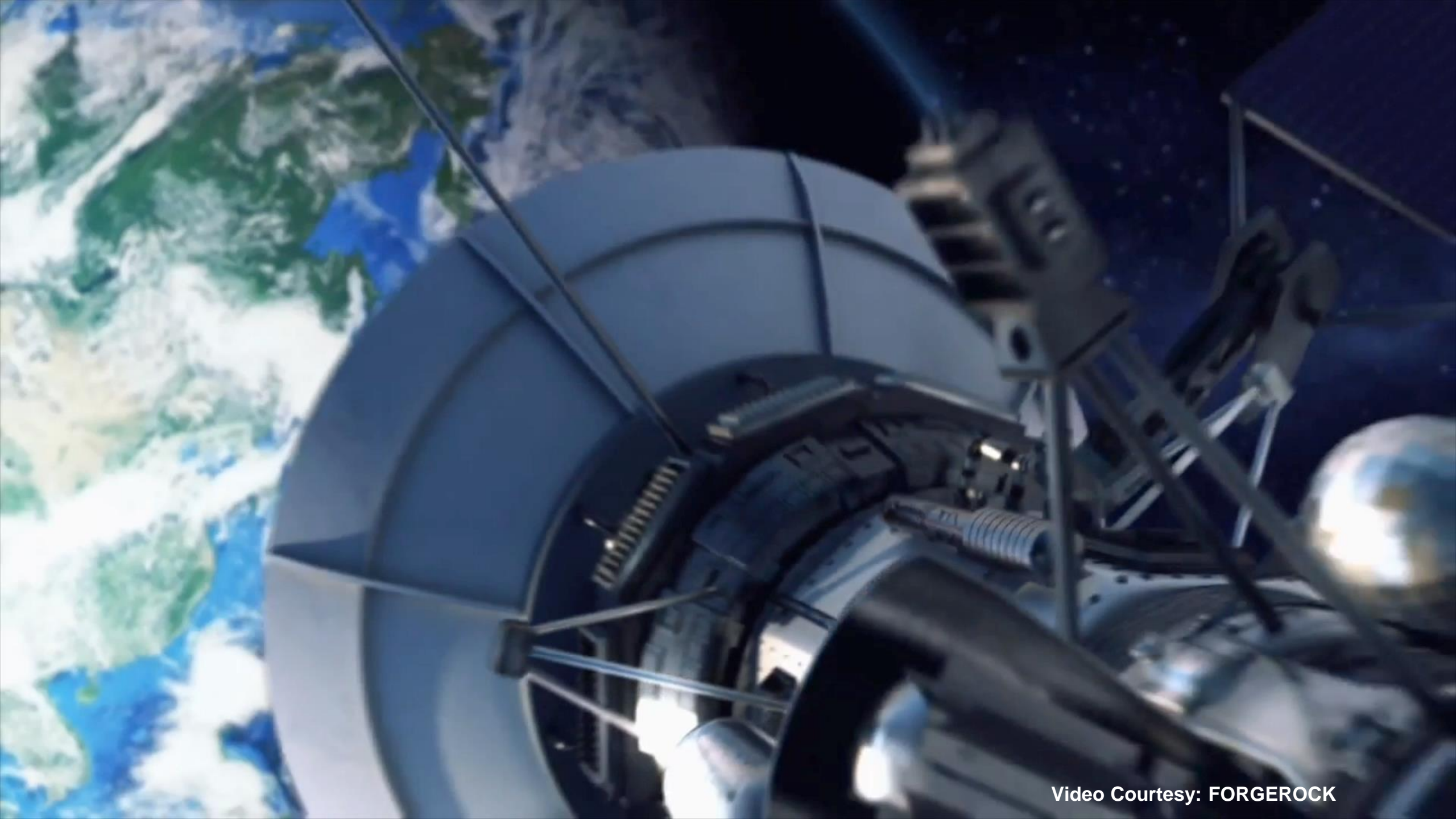
Kaustuv Ghosh

Moderator



Virat Patel  
MD, Pioneer Consulting

**#MCSxSG**

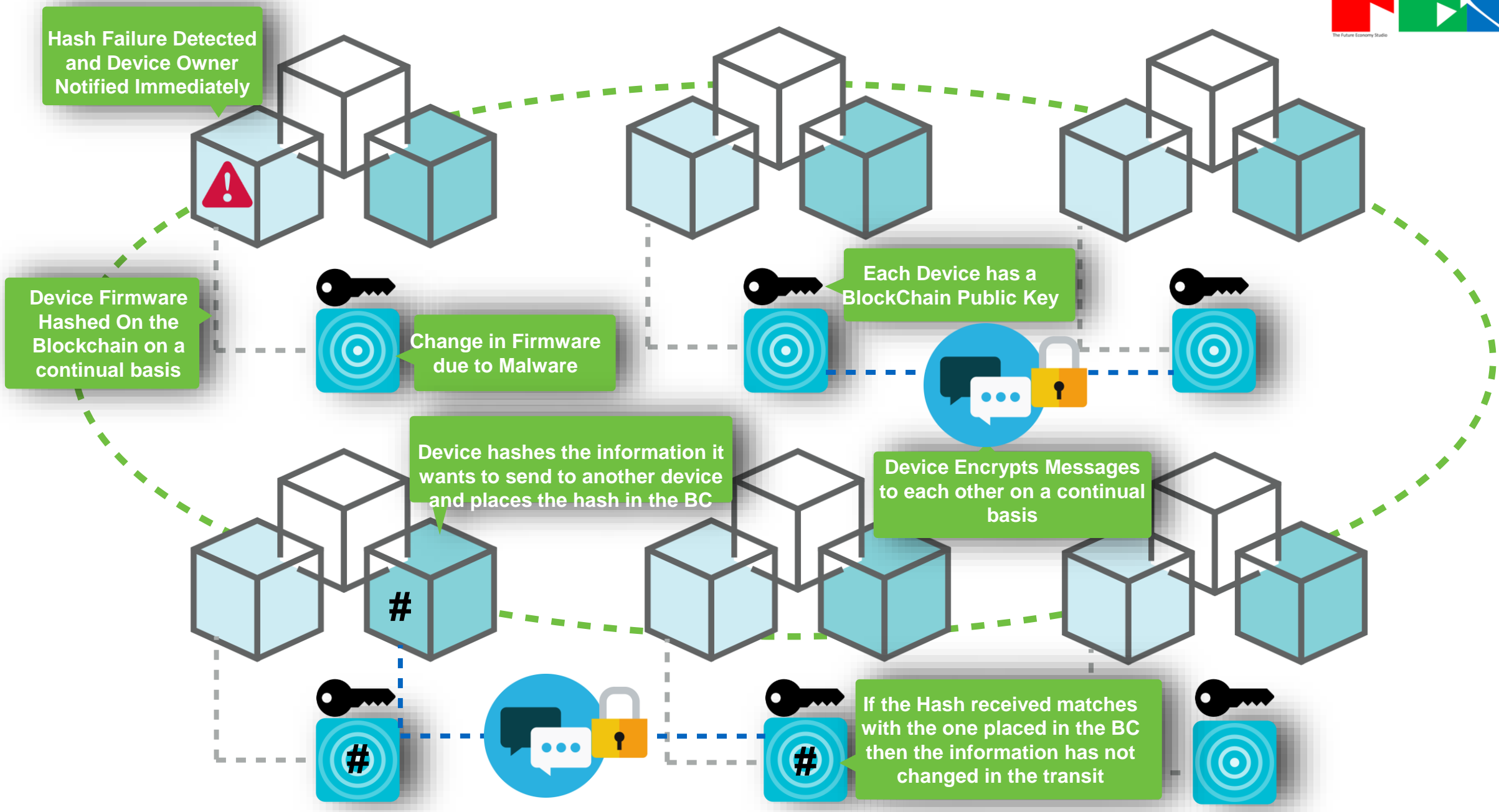


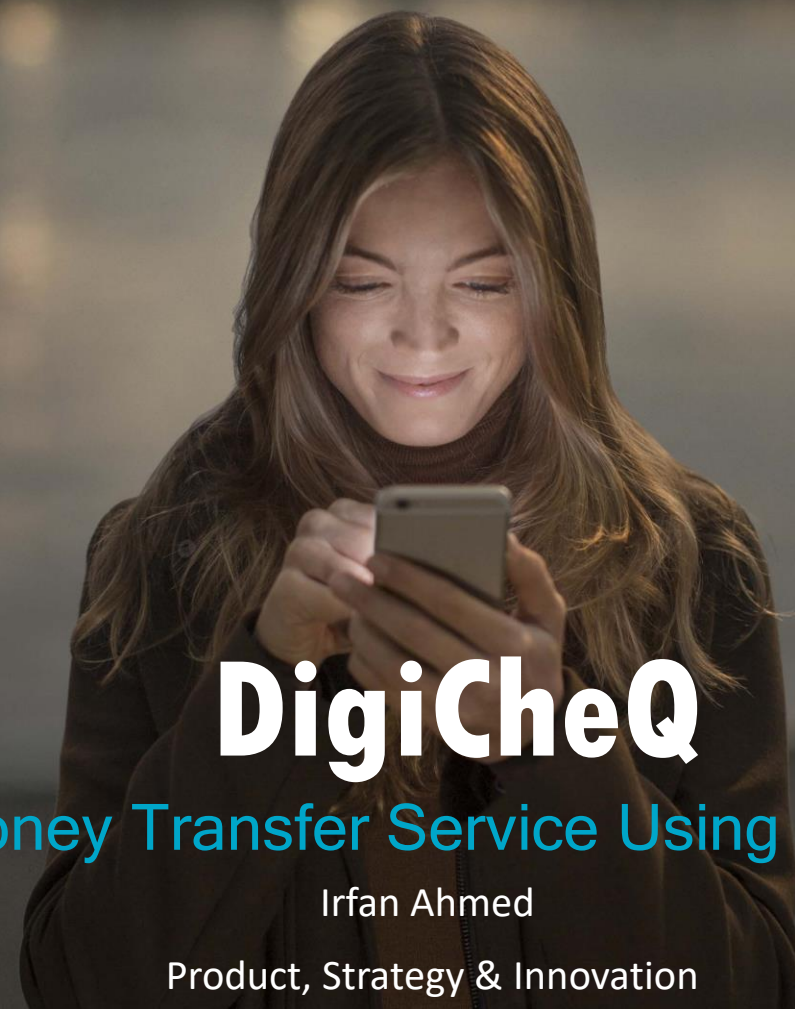
Video Courtesy: FORGEROCK



# Device Identity and Security







# DigiCheQ

Verified Money Transfer Service Using Mobile Connect

Irfan Ahmed

Product, Strategy & Innovation

# TPS – Journey of Excellence

Global Provider of Digital Payments Platform Solutions



# TPS

Leader in  
Card &  
Payment  
Solutions

20  
Years of  
Innovation

30+  
Countries

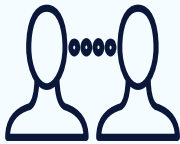
120+  
Customers



Learning  
Organization



National  
Experience



Professional  
Services



Flexible to  
Change



Continuous  
Innovation

# DigiCheQ – Value Proposition

**How about verified money transfer to a mobile number rather than a bank account number?**



**How about top-up to a mobile money account without needing a mobile money agent?**



**How about ATM withdrawal  
from your account without  
carrying your plastic card  
with  
you?**



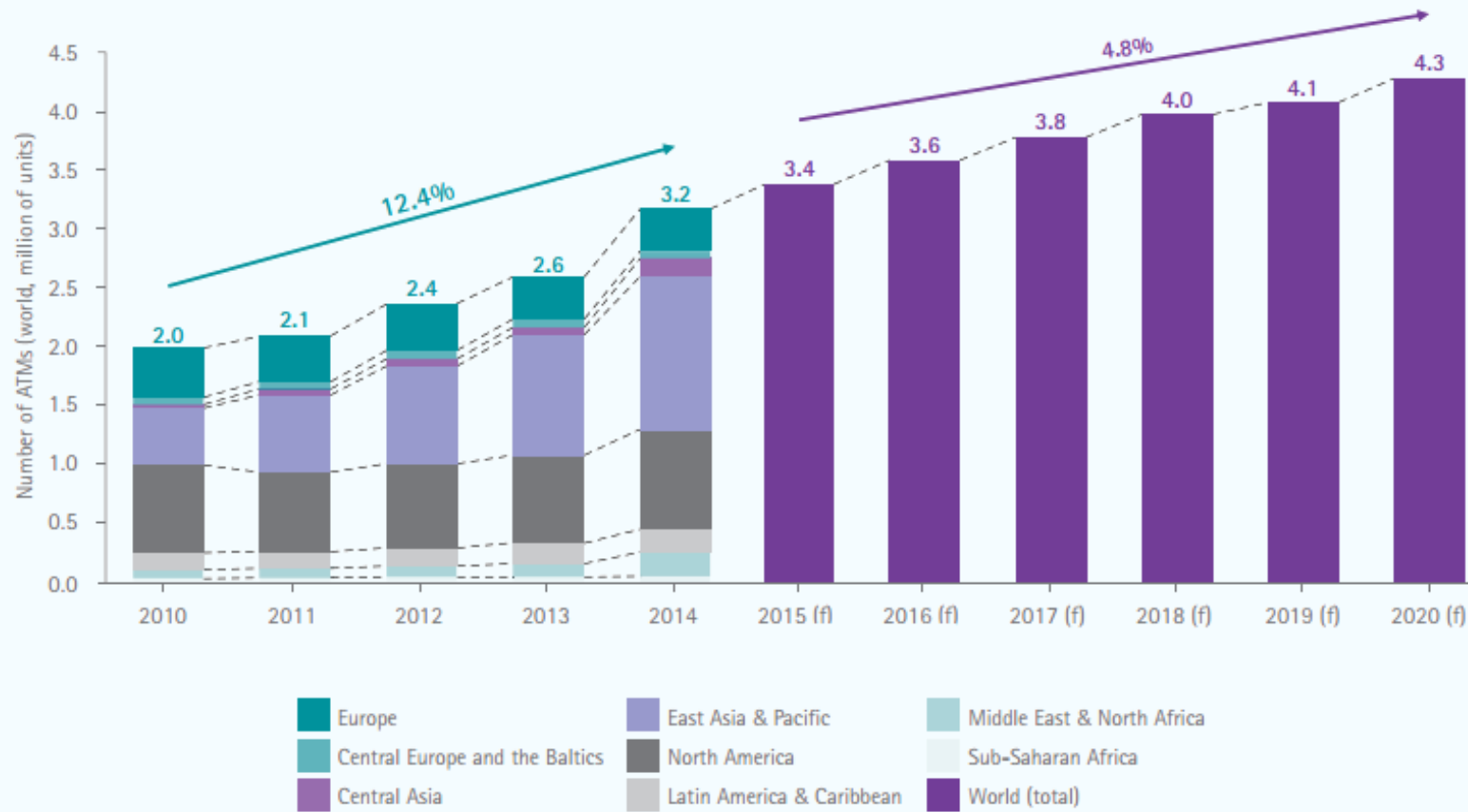
# DigiCheQ: A Cardless Money Transfer Solution

**DigiCheQ** is a global **money transfer** platform that enables you to **instantly** remit cash to a verified **mobile number**. With DigiCheQ, you can simply **withdraw cash** from an **ATM** machine without having to reach for your **plastic cards**





# ATM Growth and customer preferences

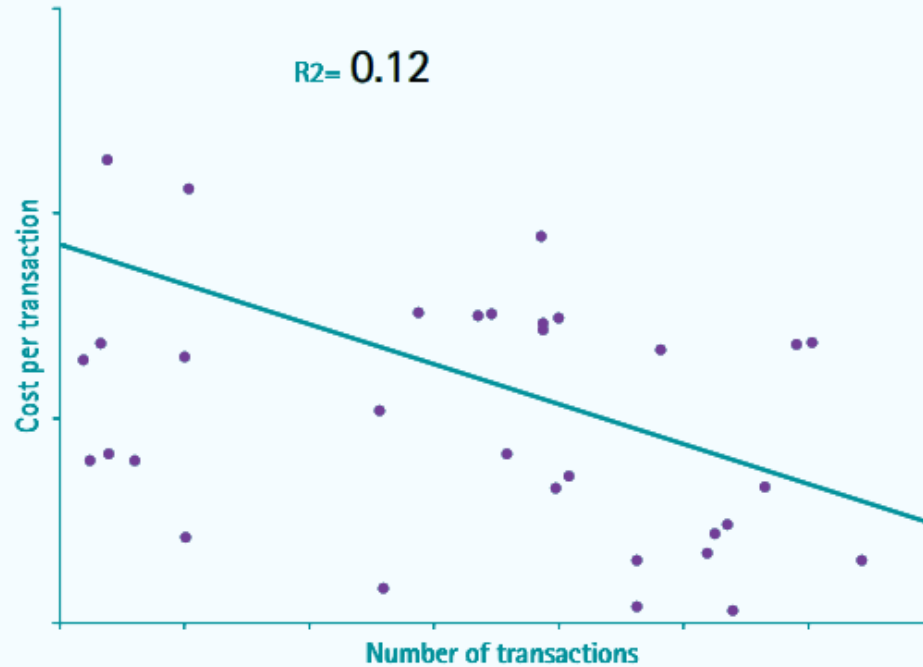


By 2020 the number of ATMs in the world are set to grow to 4.3 million lead by APAC

# Improving ROI on ATM assets

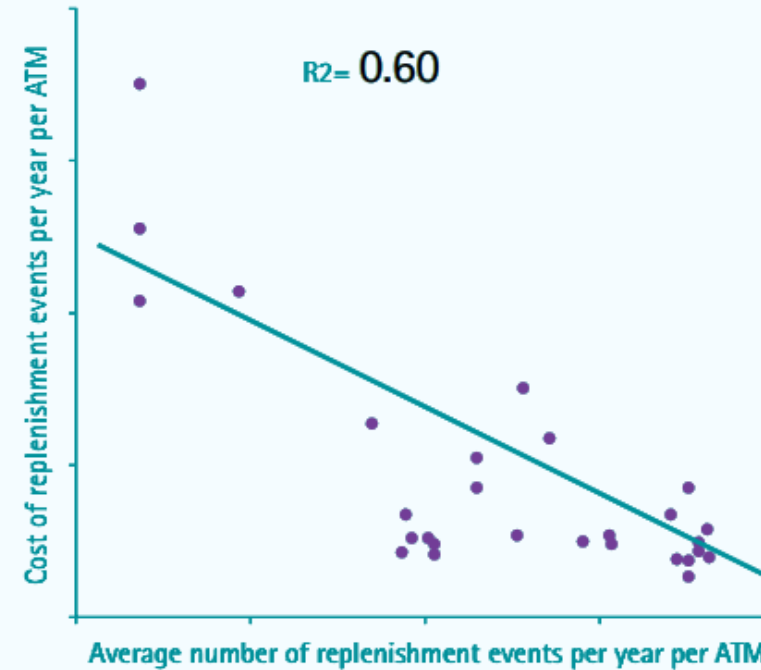
CPT (Cost per Transaction)

Cost per transaction vs. number of transactions



CPR (Cost per Replenishment)

Cost per replenishment vs. number of replenishments per year



ROI on ATM expansion can be built on premise that cost will reduce as volumes increase

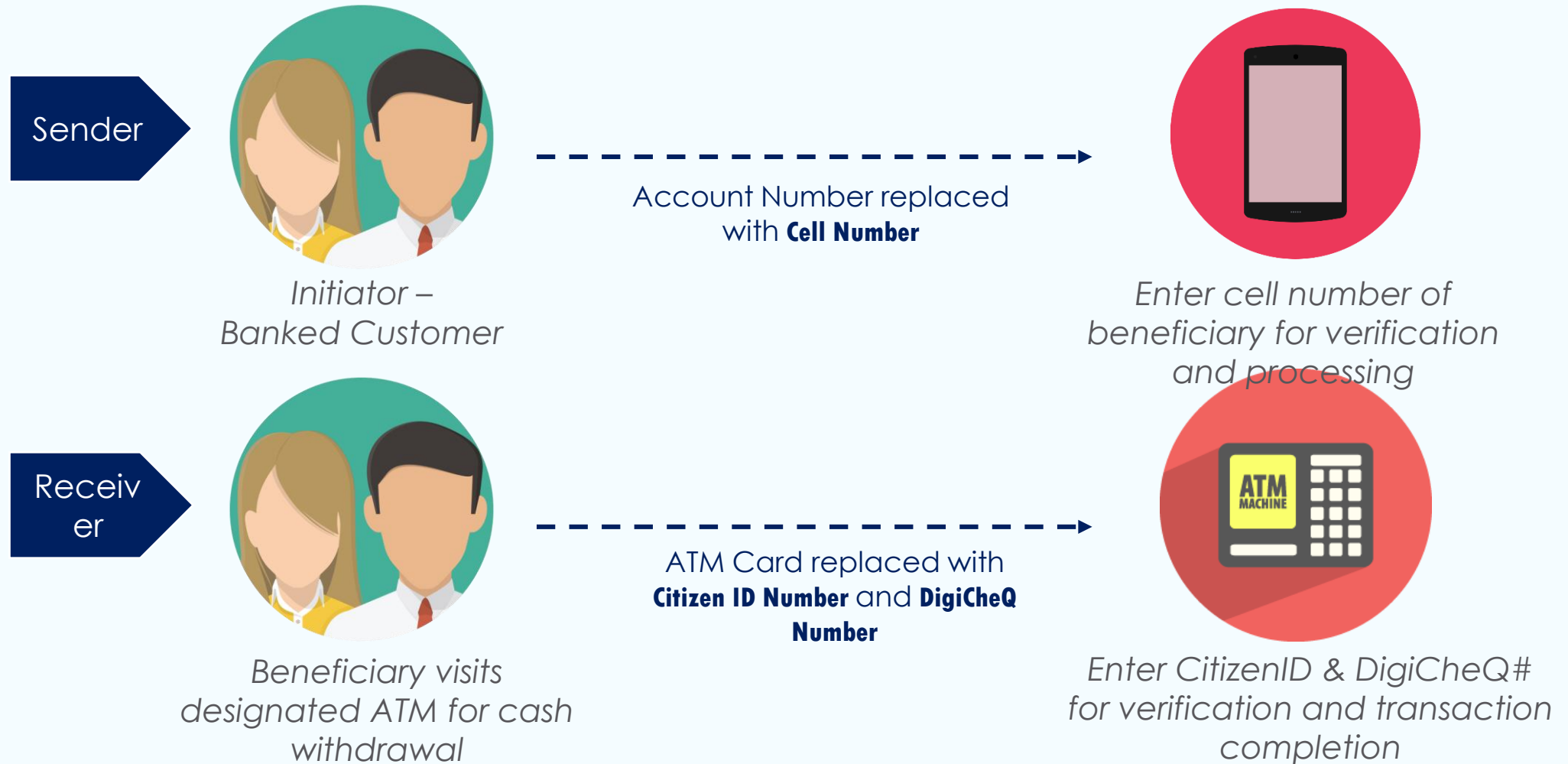
# User preferences for ATM transactions

Value Added Services	2016	2014	Status
Balance Enquiries	1	1	=
Printed Receipts	2	2	=
PIN Services	3	3	=
Mini Statements	4	4	=
Bill Payments	5	7	↑
Account Transfers	6	6	=
<b>Cardless Withdrawals</b>	<b>7</b>	<b>13</b>	↑
Mobile Top-Ups	8	5	↓
P2P Domestic Remittances (initiated)	9	14	↑
P2P Domestic Remittances (collected)	10	15	↑

There is a greater demand for value added services like cardless withdrawals

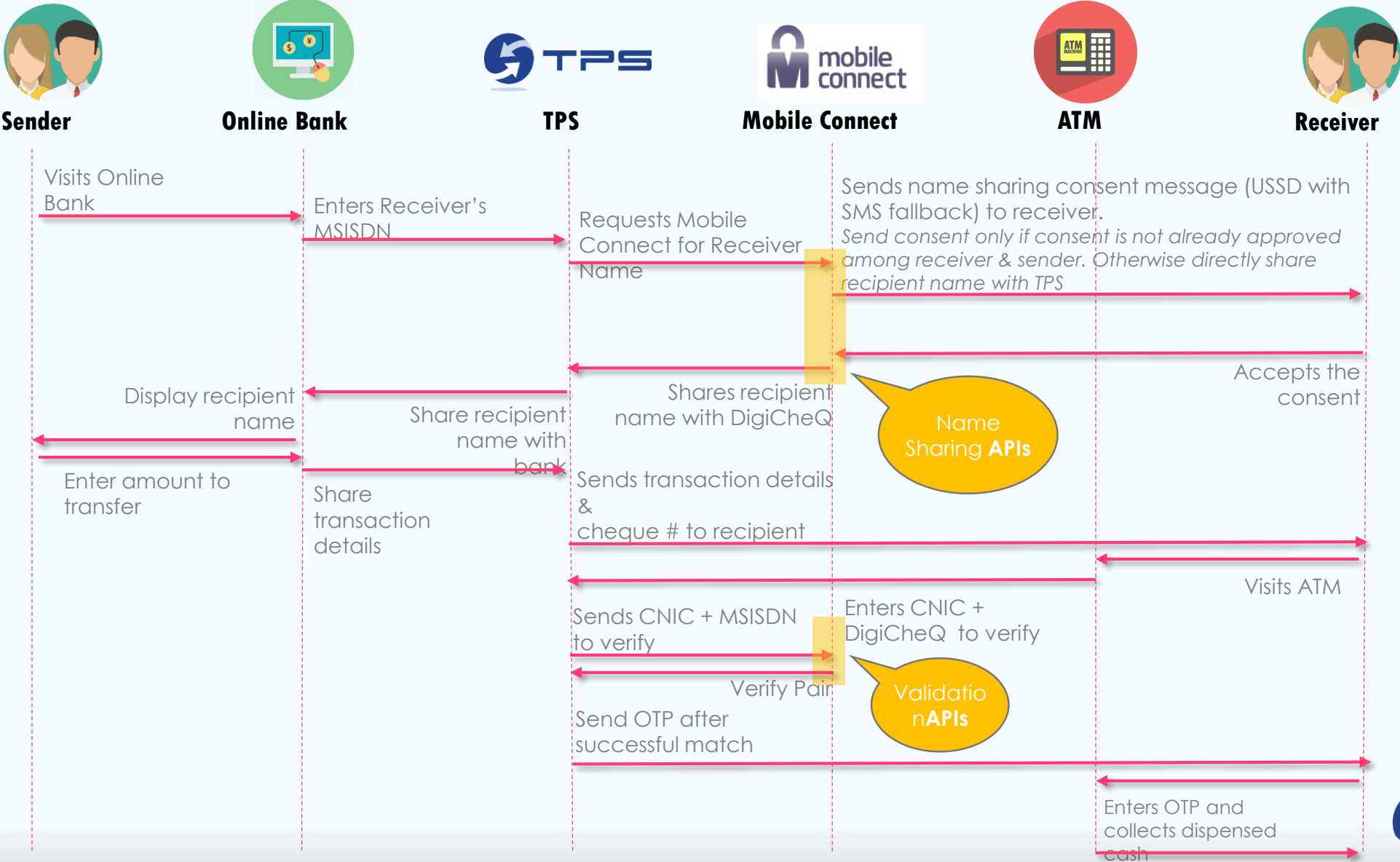
# DigiCheQ: A Cardless Money Transfer Solution

For the Pakistani market, we have developed a solution to connect the banked to the unbanked

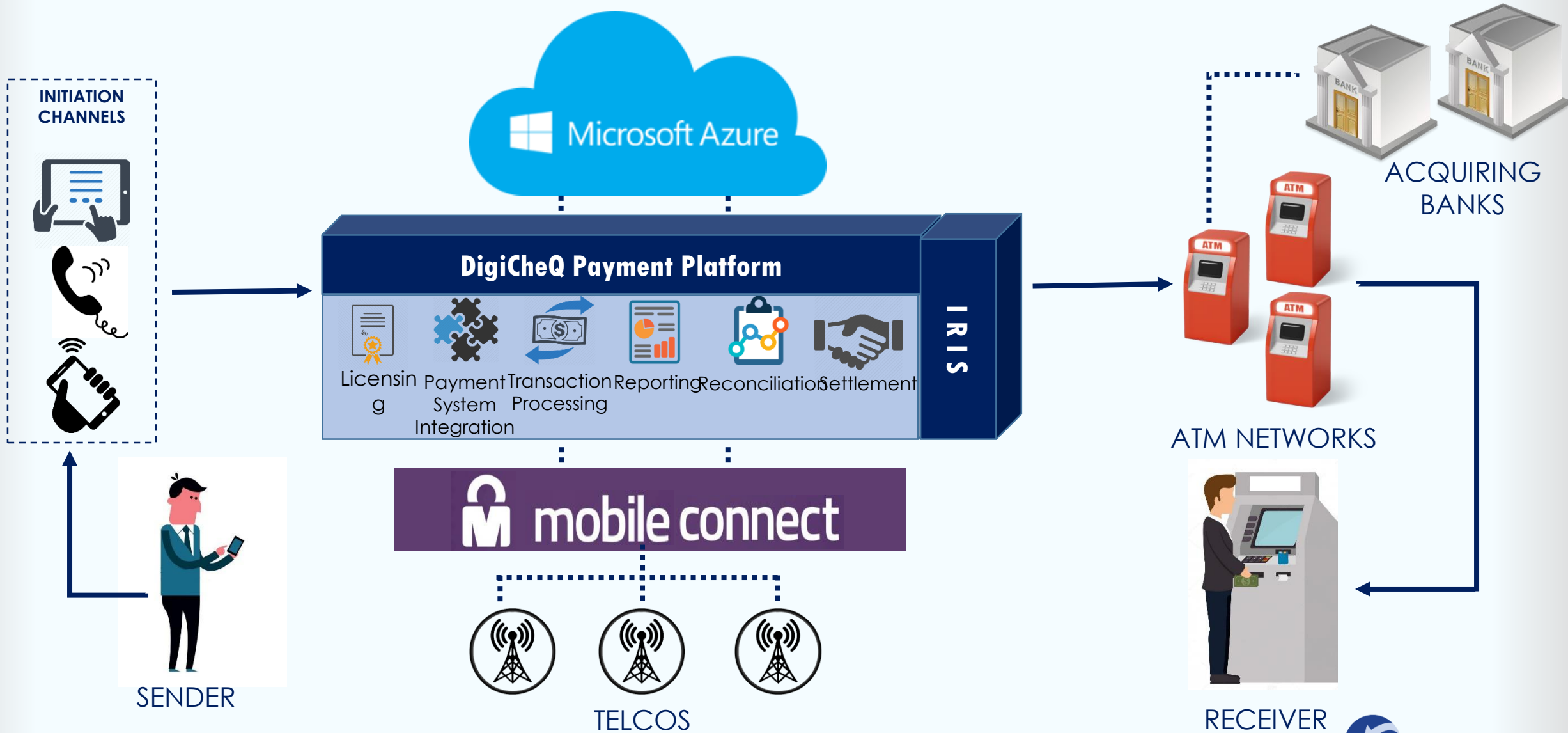


# DigiCheQ: Customer Journey

The solution leverages GSMA's Mobile Connect Technology to validate transactions



# The DigiCheQ Infrastructure



# Security Protocol

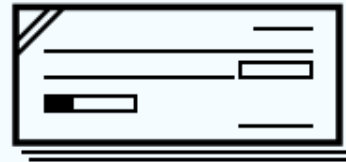
To ensure optimum safety of the customers a multifactor authentication system will be deployed



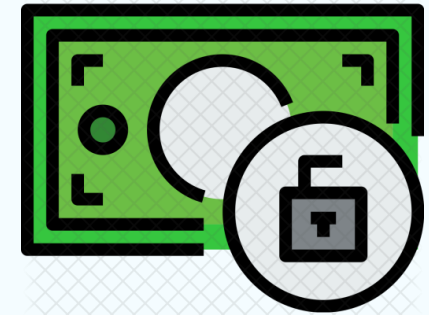
Citizen ID Number



One-Time Password



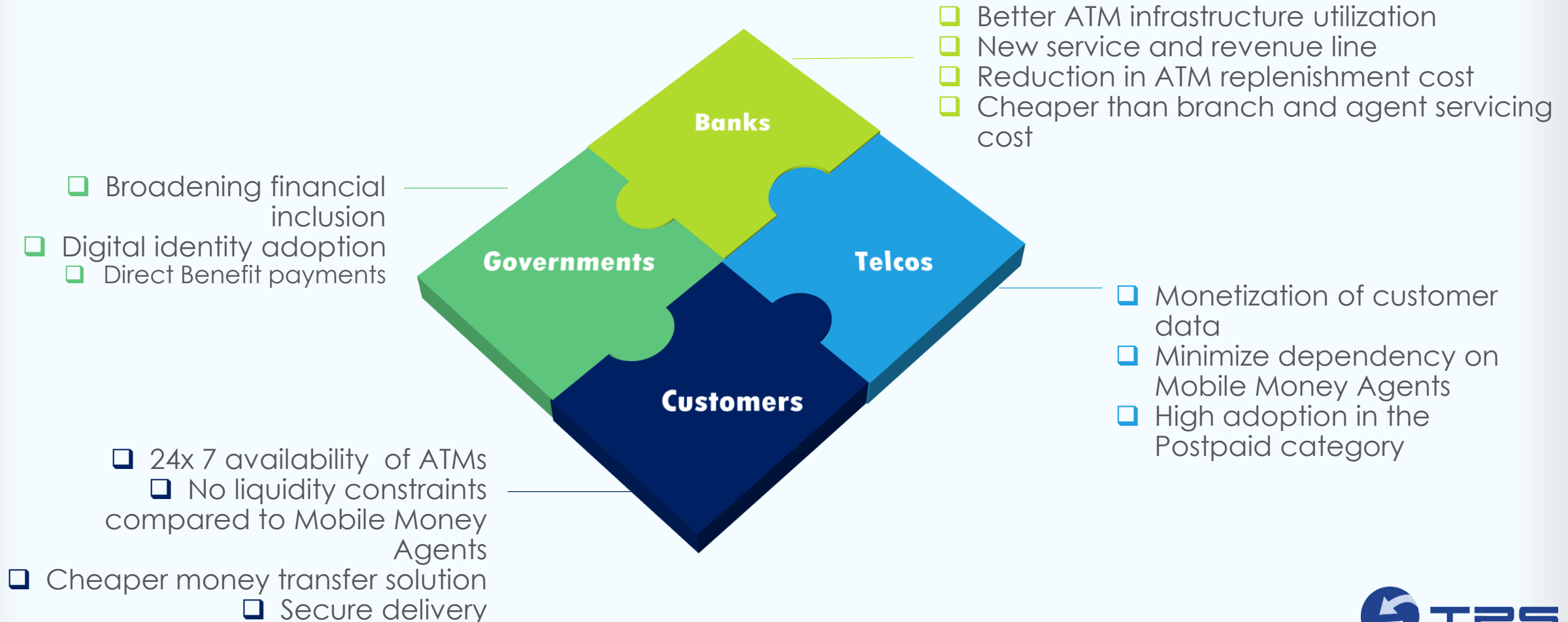
DigiCheQ Number



Cash Out DigiCheQ

# DigiCheQ for Digital Ecosystem Development

The DigiCheQ platform offers a number of benefits to each of the stakeholders involved





# Opportunity Sizing

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Average domestic remittance fees*	3% - 5%
Share of agent (origination & disbursement)	60%
Share of MFS provider	40%
Opportunity to replace physical agents with ATM/CDM**	1.8% - 3%

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\* Global Market Estimates

\*\* % of Transaction Fees

# Business Model

The business model follows a revenue sharing agreement, with the customer fee being split between the issuing bank, telco, DigiCheQ platform, acquiring bank and settlement bank

## Sample Calculation\*

Fee From Customer		100%
Issuing Bank	(DigiCheQ Creation)	20%
Telco	(Identity Verification)	10%
DigiCheQ Platform	(Transaction Management)	30%
Acquiring Bank	(Cash Out)	25%
Settlement Bank	(Settlement Operation)	15%

\* This is subject to change based on market roles and final fee determination

# New Use Cases & Service Expansion

The service has the potential to be extended to multiple avenues

## Migrant Worker Remittances

Migrant worker remittances directly disbursed through ATMs **01**



## Corporate Cash Payments

Corporate micro payments to contractors & daily wage workers **02**



## Government Benefit Payments

Direct social payment disbursements minimizing dependency on agent network **03**



## Verified Cardless Deposit

**04** Utilizing Cash Deposit Machines for Wallet Cash In, Account Deposits & Money Transfer



## Other Bank ATM & Agent payouts

**05** DigiCheQ withdrawal using shared infrastructure of other bank ATMs and Banking Agents



# The Curious Case of Digital Pakistan



## Coverage

Internet coverage to reach **90%** by 2020



## Connectivity

Mobile connections are expected to grow to **150 Million** by 2020



## Devices

Smartphone penetration to **80 Million** and **51%** by 2020



## Bandwidth

The growing penetration of **3G** and **4G** will increase the pace of digital services adoption in the country



## Services

Increasing digitization of **commerce** and **payments** will provide impetus to mobile money uptake

# Potential Impact



## Access

- The DigiCheQ service would allow **100Mn** mobile subscribers to receive payments
- Fully interoperable services will allow 60 Mn account and wallet holders to be able to utilize the money transfer service



## Quantum of Flows

- DigiCheQ has a potential to capture 10% of the annual **400 Mn** branchless banking transactions with an associated value of **\$2 Bln**
- Through the DigiCheQ platform, TPS aims to capture **2%** of International remittances of \$19 Bln over a period of 3 years.

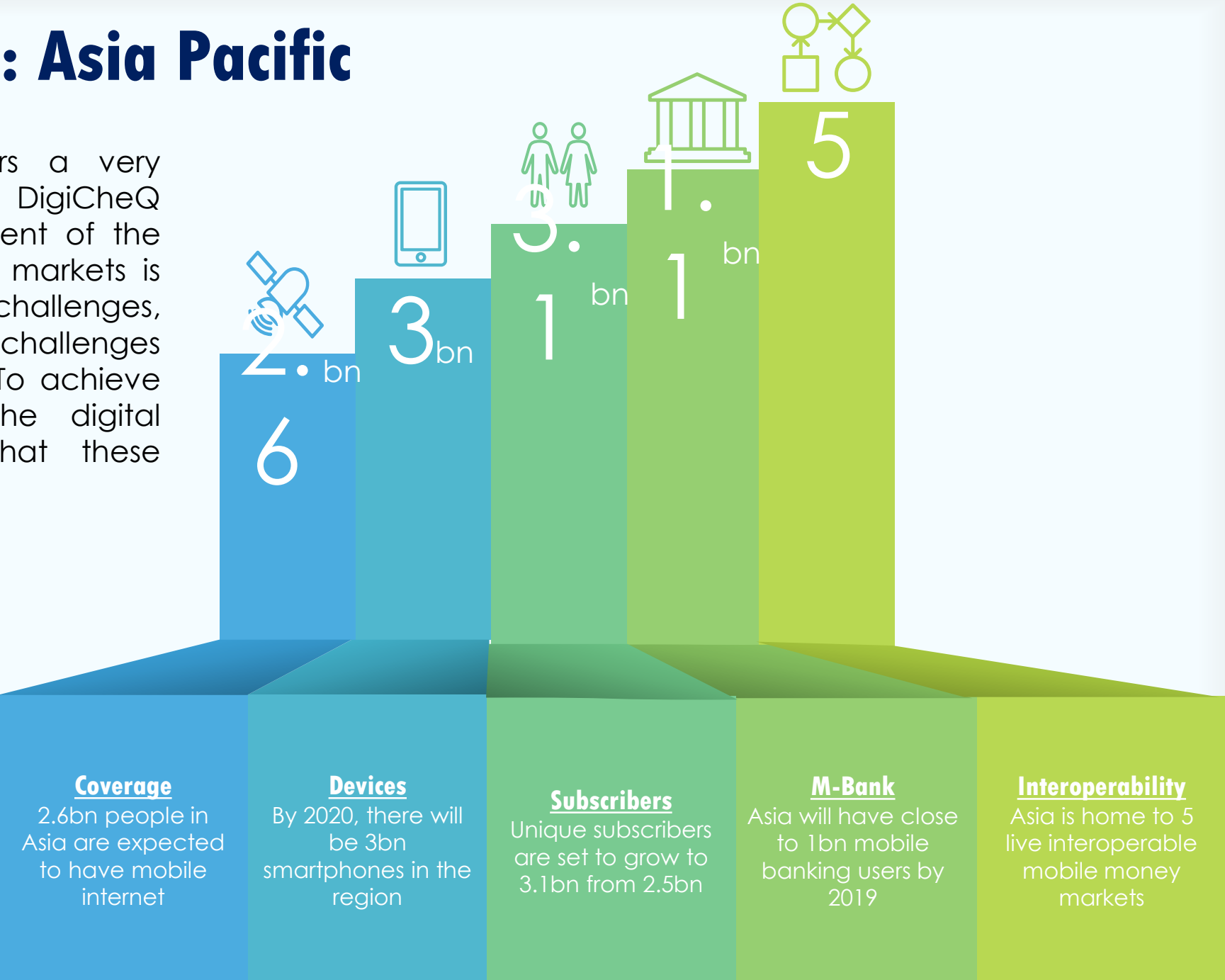


## Scalability

- The service envisages the service to be subscribed by more than **30** banks in Pakistan
- With Public cloud DigiCheQ service will also be extended to international markets with growing digital financial services

# Opportunity 2020: Asia Pacific

The Asia Pacific market offers a very lucrative opportunity for the DigiCheQ platform to tap into. Development of the digital ecosystem in developing markets is subjects to a number of challenges, however, the extent of these challenges varies from country to country. To achieve the maximum potential of the digital ecosystem it is imperative that these challenges are addressed.



Source: GSMA Intelligence

# GLOBAL REACH LOCAL EXPERTISE

- Banks
- Telecom Operators
- Payment Processors
- Central Bank
- National Switch Providers
- Abu Dhabi
- Afghanistan
- Algeria
- Bahrain
- Bangladesh
- Brunei
- Burkina Faso
- Cameroon
- Congo
- Egypt
- France
- Ivory Coast
- Jordan
- Kuwait
- Lebanon
- Libya
- Malaysia
- Maldives
- Mauritius
- Morocco
- Oman
- **Pakistan**
- Qatar
- Saudi Arabia
- Sudan
- Togo
- Tunisia
- Turkey
- UAE
- UK
- Yemen

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P.O. Box: 502785, Dubai, U.A.E | K.C.H.S., Karachi 75350, Pakistan  
[www.tpsonline.com](http://www.tpsonline.com)

 [Company/TPSworldwide](https://www.linkedin.com/company/TPSworldwide)

 [TPSworldwide](https://www.facebook.com/TPSworldwide)



## Danal and G+D

# At the HEART of the Mobile ID Ecosystem

Cedric Damico  
Head of Partnerships  
G+D Mobile Security



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# The value of attributes within digital identity services



Victor R. Ocampo, International Accounts, APAC  
Digital and OTT Services, BICS



Eriko Hondo, Standards Strategy, KDDI



Irfan Ahmed, Head of Product Management –  
Switching Technology, TPS



Cedric Damico, Head of Partnerships at G&D



Kiran Karunakaran, Delta Partners, Asia Pacific

Moderator



Marie Austenaa  
Head of Business  
Development, Identity,  
GSMA

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