



Developing software for consumers worldwide – why, what and how

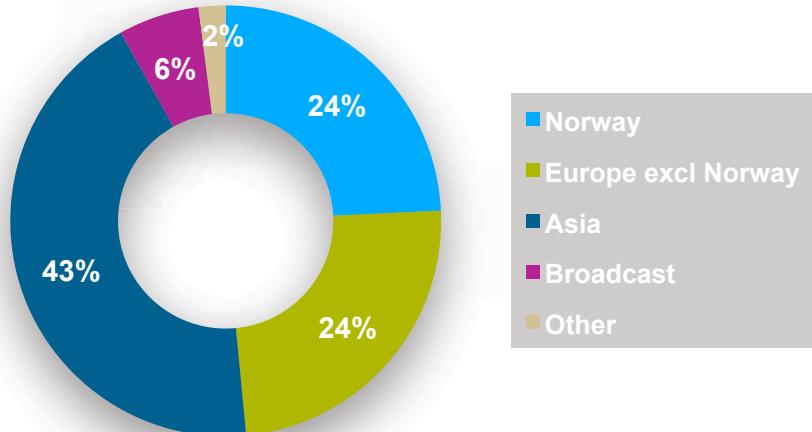
Sven Størmer Thaulow – COO Telenor Digital

Telenor Group

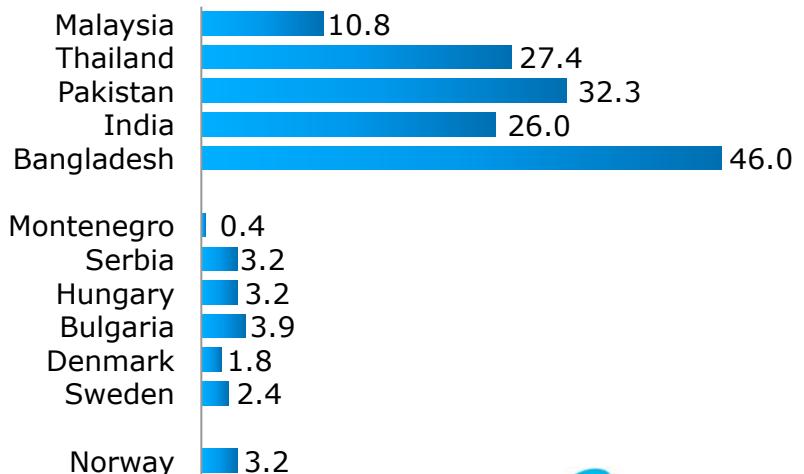
- Mobile operations in 12 markets in Norway, Europe and Asia
- A voting stake of 43 per cent (economic stake 33 per cent) in VimpelCom Ltd. with 215 mill. mobile subscriptions in 17 markets
- Among the top performers on Dow Jones Sustainability Indexes
- Revenues 2012: NOK 102 bn



Revenue distribution



More than 160 million consolidated mobile subscriptions, Q3 2013



*to be consolidated Q3 2013

Among the major mobile operators in the world

More than 160 million mobile subscriptions

32 000 employees

Present in markets with 1.6 billion people

A glance at the Telenor group

Telenor Norway

Telenor is the country's leading telecommunications operator.



Telenor Sweden

Telenor is the third largest mobile operator in Sweden.



Telenor Denmark

Telenor is the second largest mobile operator in Denmark.



Telenor Hungary

Telenor is the second largest mobile operator in Hungary.



Telenor Serbia

Telenor is the largest mobile operator in Serbia.



Telenor Montenegro

Telenor is the largest mobile operator in Montenegro.



Globul Bulgaria



DIGI Malaysia

DIGI is the third largest mobile operator in Malaysia. DIGI is listed on Bursa Malaysia.



The Telenor Group is listed on the Oslo Stock Exchange.



Telenor Pakistan

Telenor is the second largest mobile operator in Pakistan.



Uninor India

The Indian greenfield mobile operator Uninor launched its services in December 2009 and has presence in six Indian telecom circles.



Grameenphone Bangladesh

Grameenphone is the largest mobile operator in Bangladesh. Grameenphone is listed on the Dhaka Stock Exchange (DSE) Ltd and the Chittagong Stock Exchange (CSE) Ltd.



dtac Thailand

dtac is the second largest mobile operator in Thailand and is listed on the Stock Exchange of Thailand and the Singapore Exchange.



Telenor Group holds an owning stake of 33 percent (economic) and 43 per cent (voting rights) in Vimpelcom Ltd, operating in 17 markets

Telenor Digital – a vital part of the overall Telenor strategy

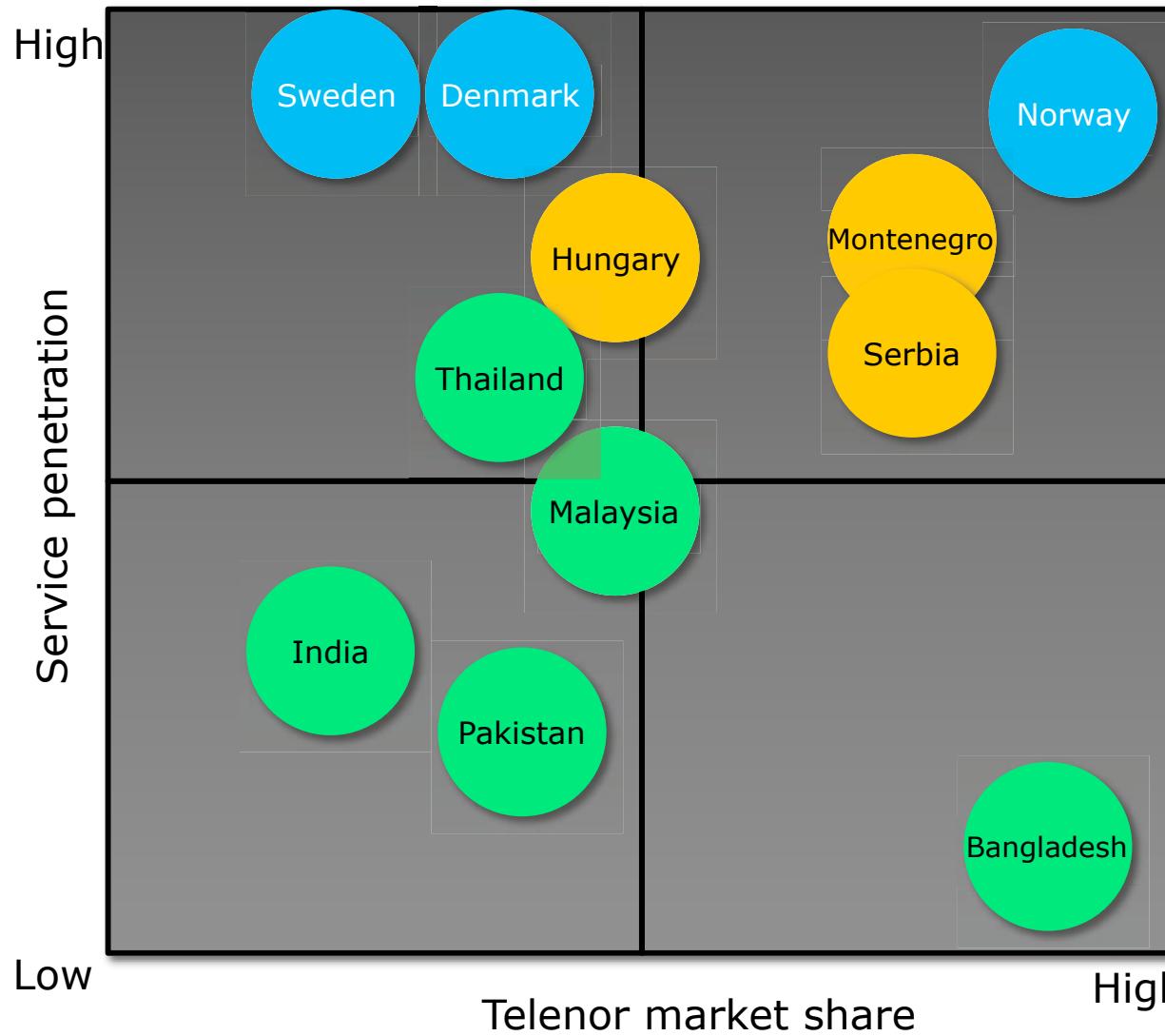


Telenor will continue to focus on **growth** and value creation.

Telenor will maintain being **a retail operator**, with the main share of revenues coming from **communication and connectivity** services.

We will provide new selected **digital services** to strengthen this position.

Telenor markets present different opportunities, based on service penetration and Telenor's position

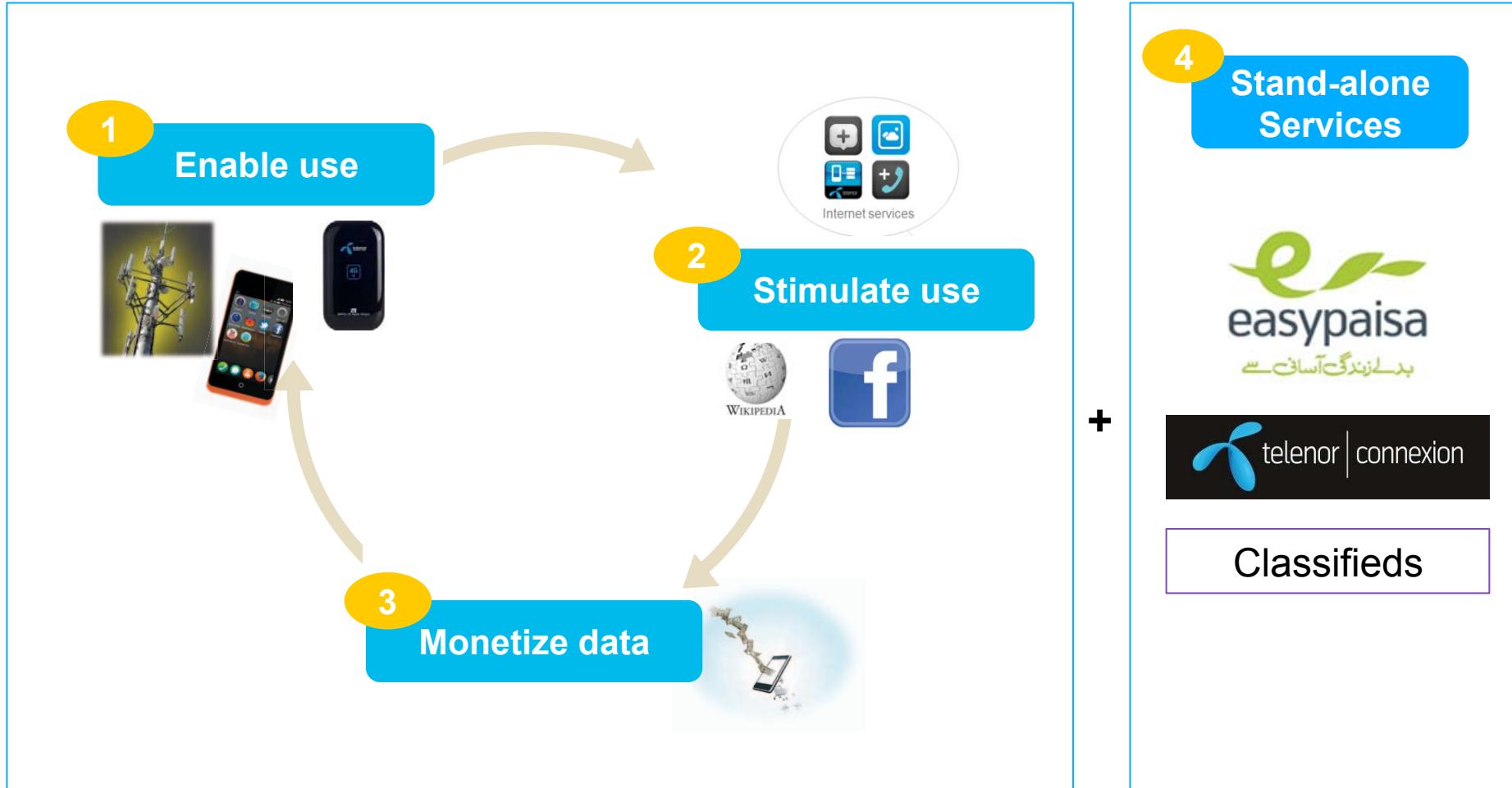


Telenor Digital:

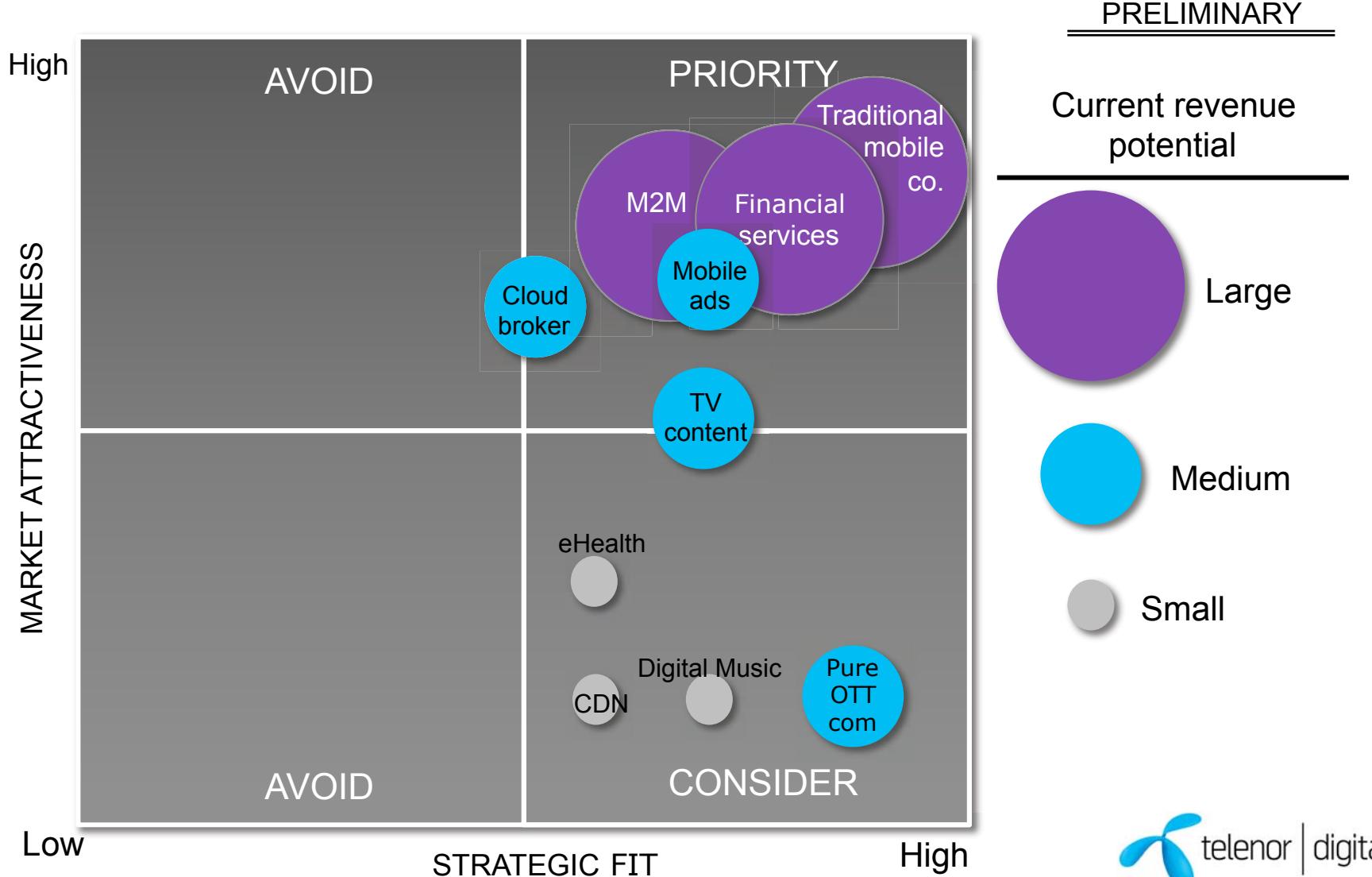


We exist to deliver best-in-class services to our customers that create value for Telenor Group

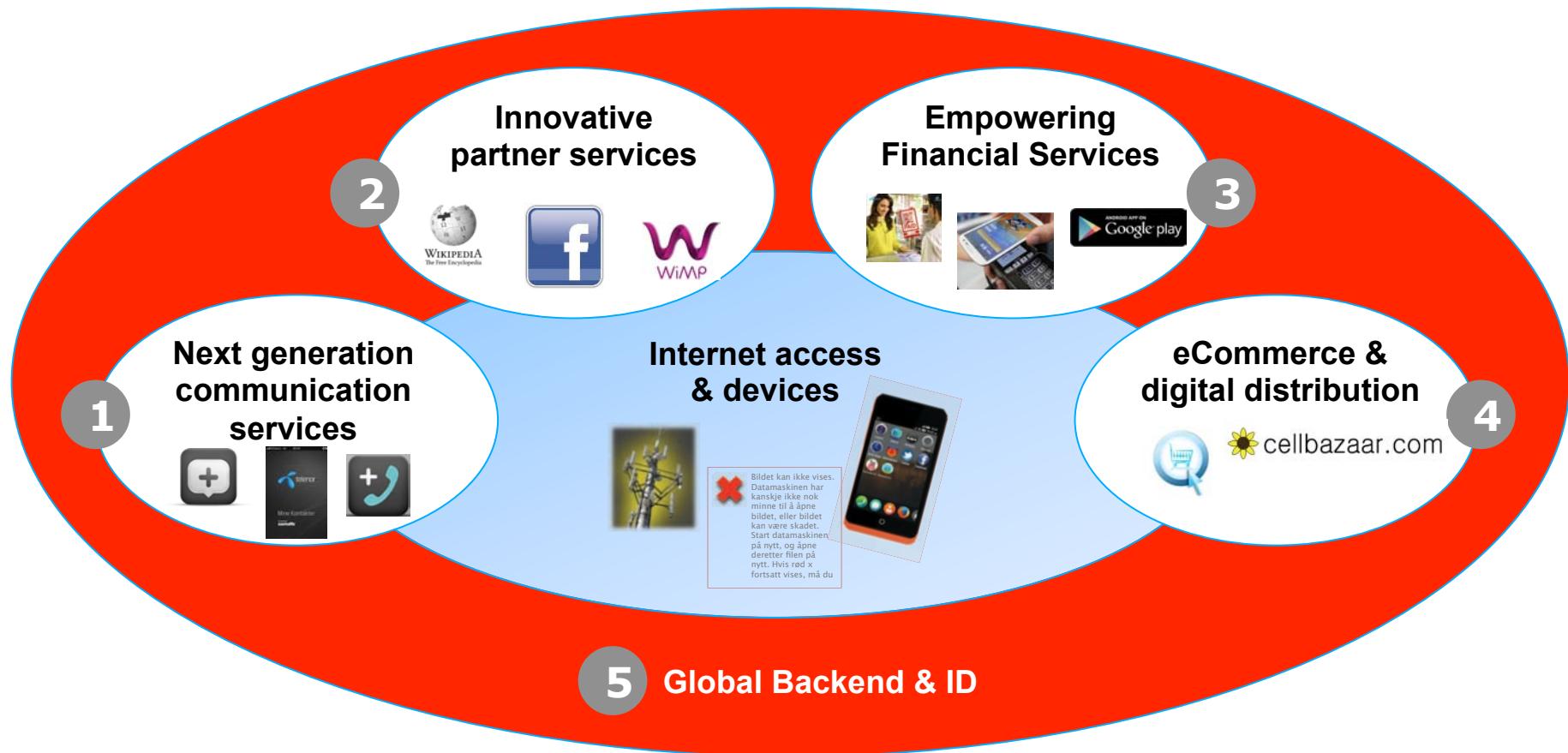
Internet for ALL: digital services initiatives are relevant in each step to become an I-telco



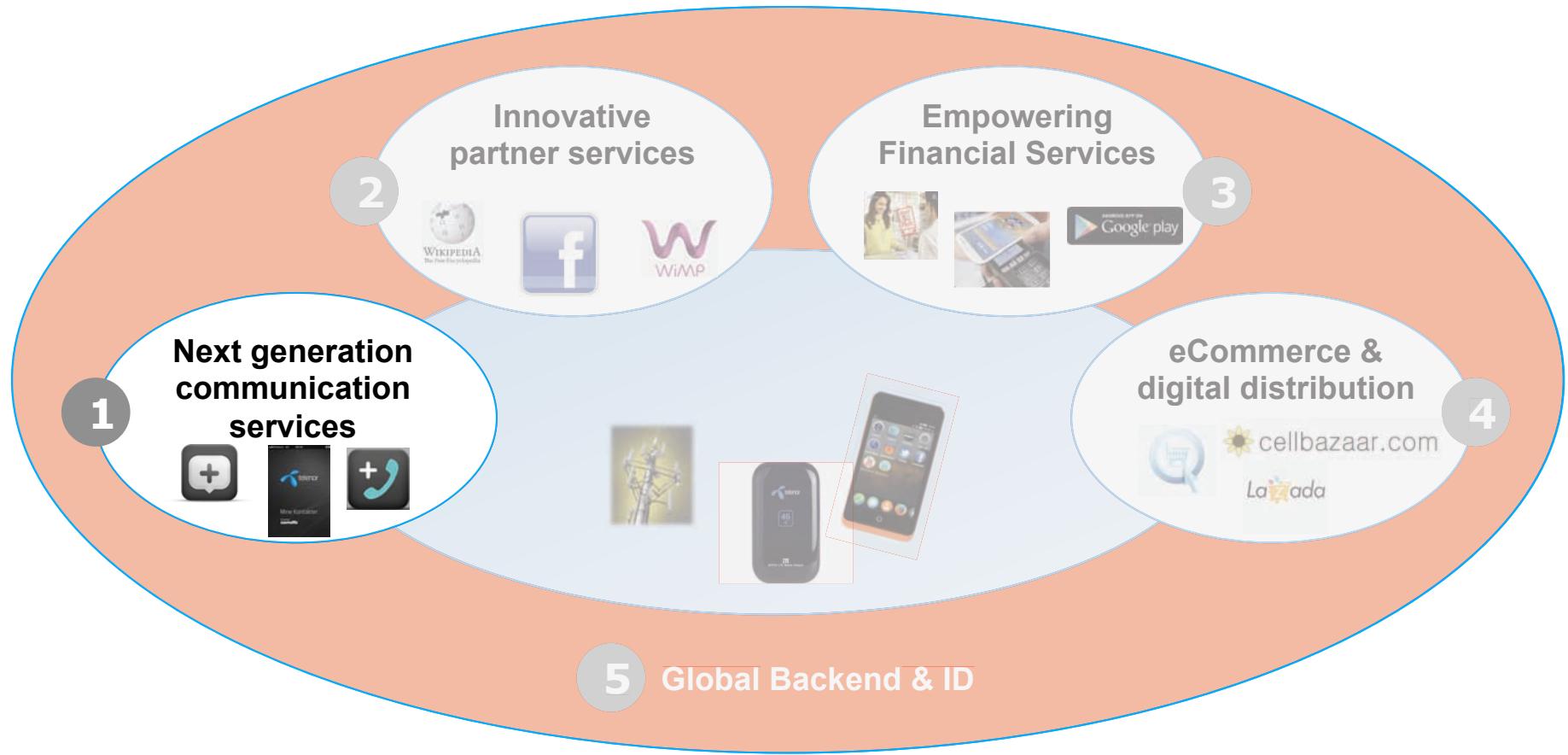
We have prioritized key focus areas based on their market attractiveness and strategic fit



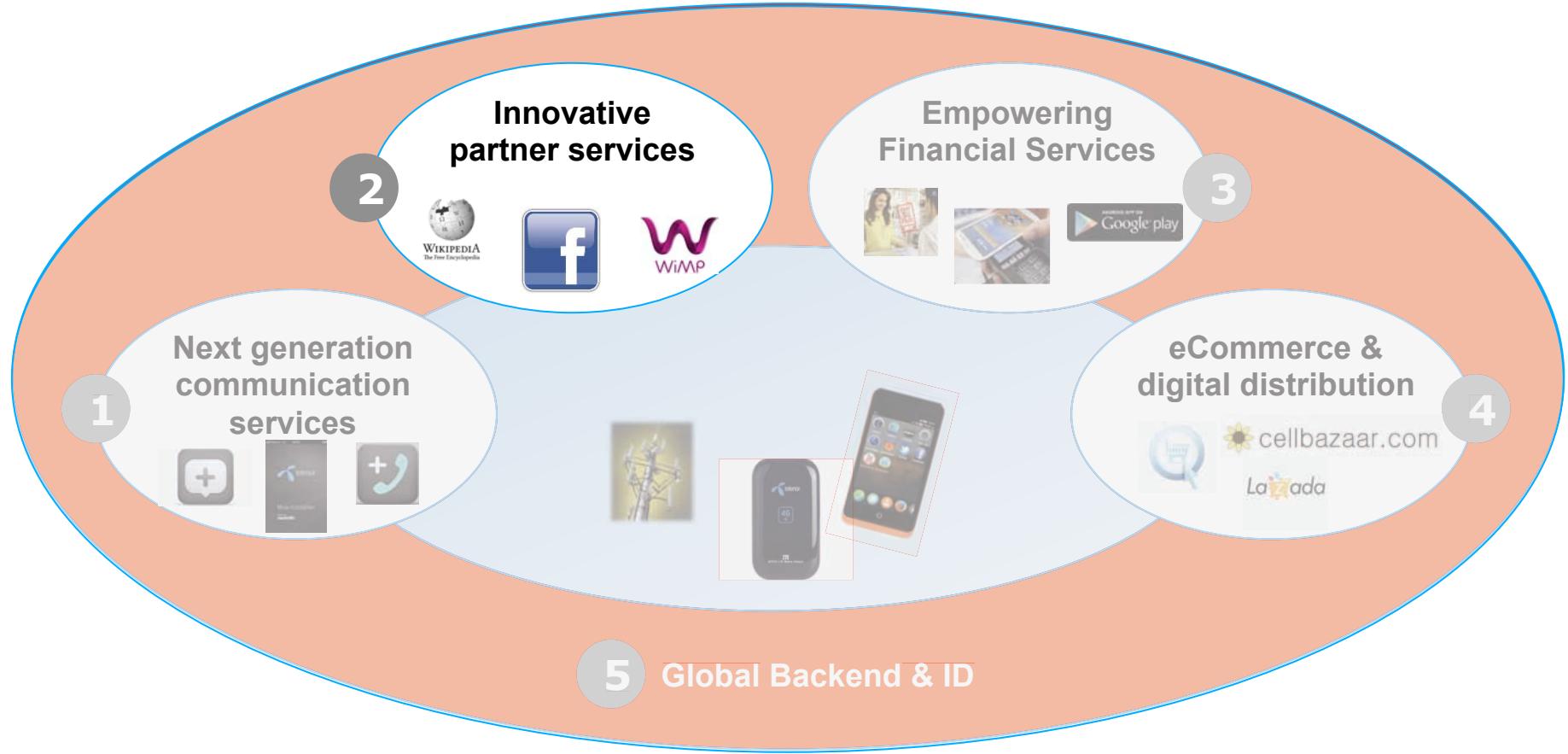
These five areas together create a unique customer experience towards Telenor becoming an I-telco



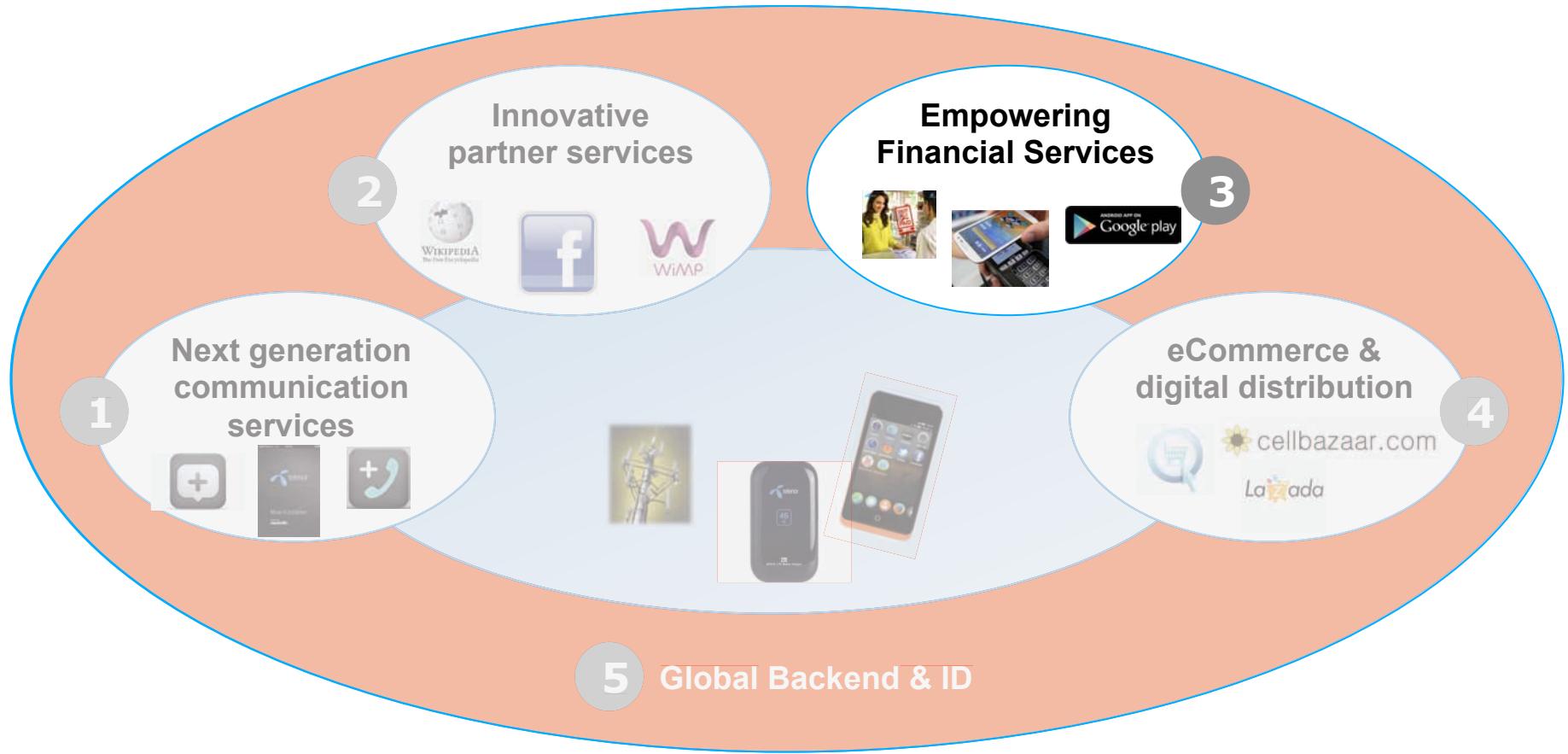
These five areas together create a unique customer experience to help Telenor become an I-telco



These five areas together create a unique customer experience to help Telenor become an I-telco



These five areas together create a unique customer experience to help Telenor become an I-telco



Telenor Digital launching mobile contactless payment (NFC) in the Norwegian market – in a Joint Venture (JV) with DNB

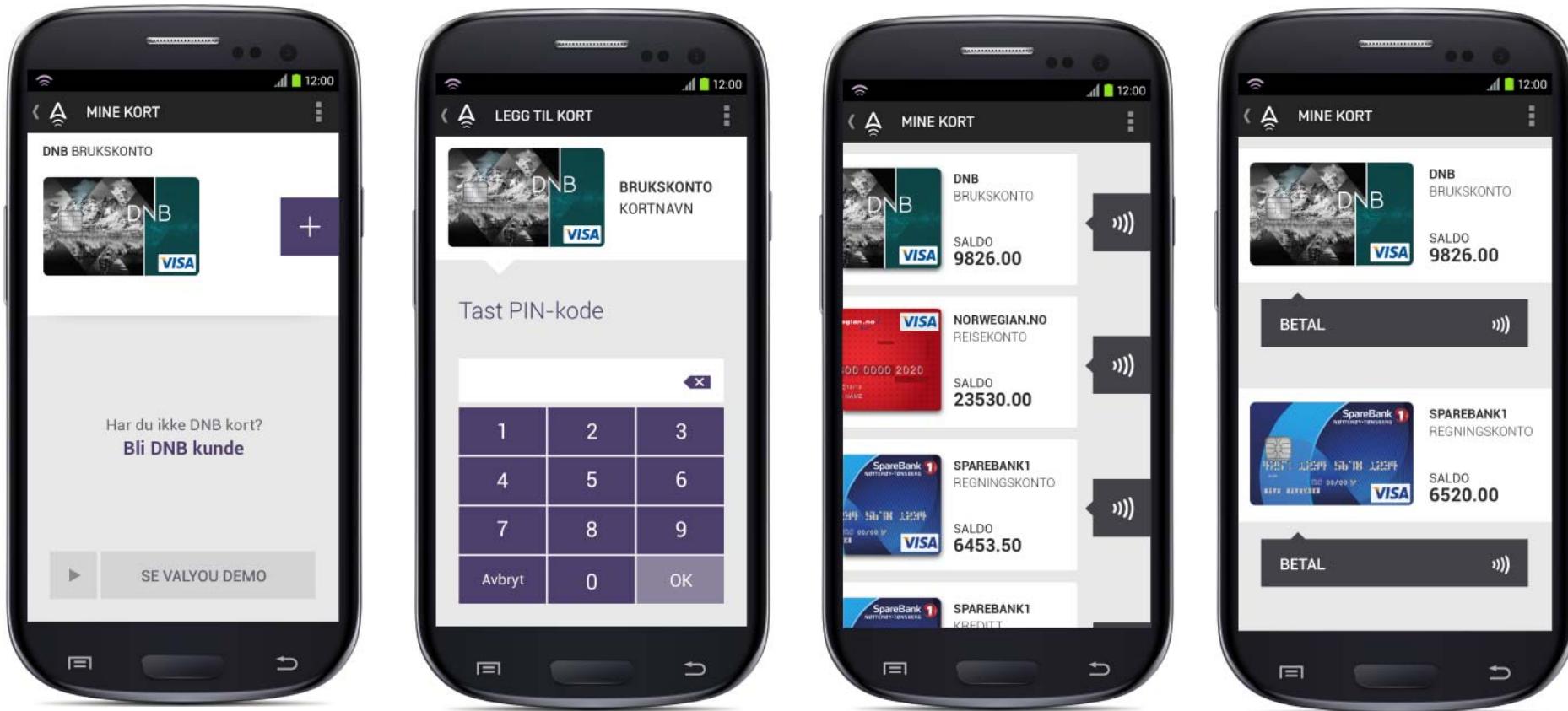


- Mobile wallet set-up to enable multiple payment cards
- Services like loyalty, tickets and access to be launched next year
- JV will provide TSM services to both Service Providers and Mobile Network Operators (MNOs)

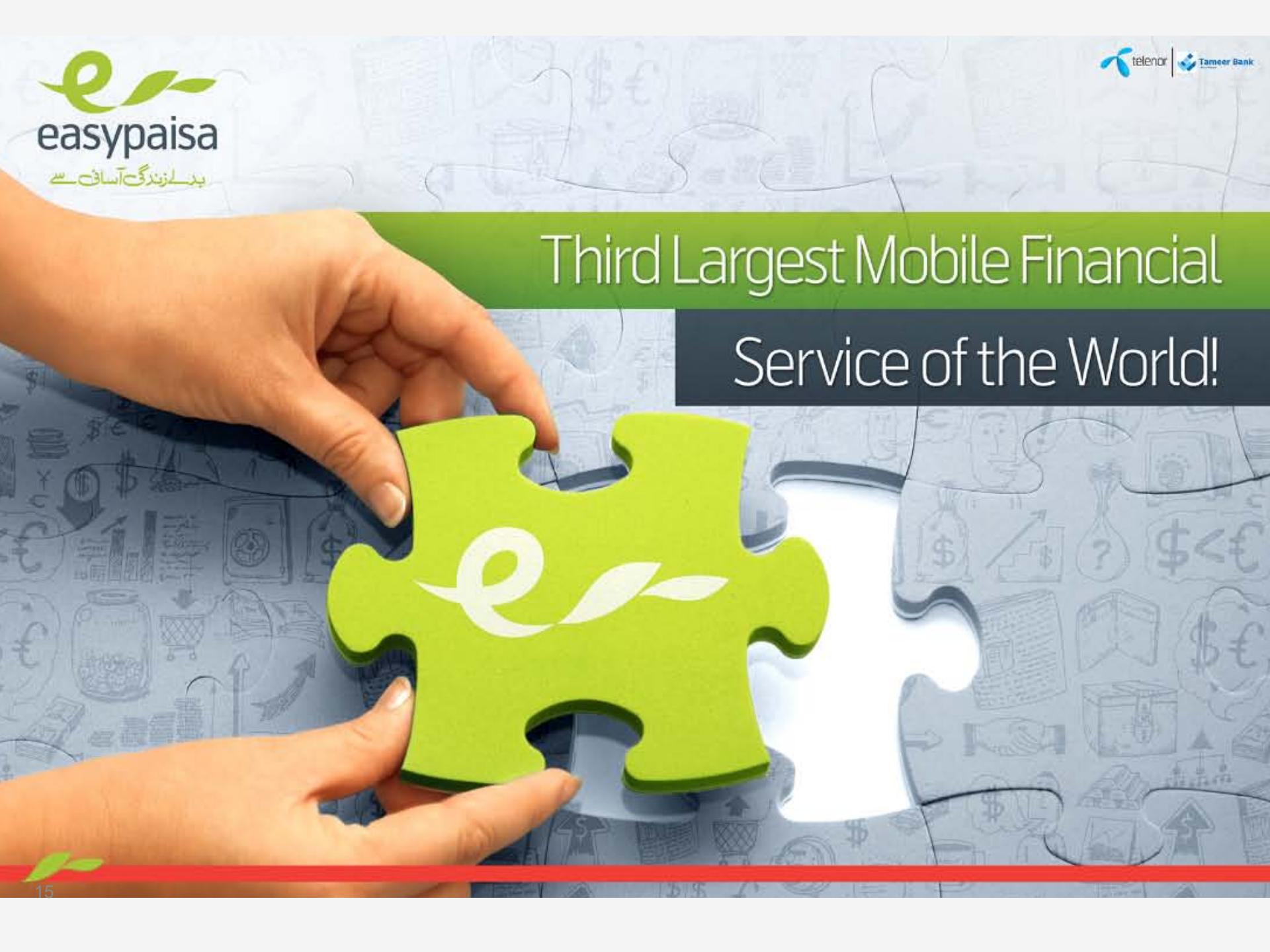
Promising pilot findings

– 97% indicated that they would continue to use mobile contactless payments

VALYOU – excellent user experience is becoming a hygiene factor



The customers expect good looking, easy to use and secure apps.
AND, not to forget easy sign up!



Third Largest Mobile Financial
Service of the World!

EasyPaisa launches mobile financial services on October 15, 2009



13

EasyPaisa – a growth story!



- Providing Basic Financial Services in a reliable and convenient way
- **20,000 easypaisa shops in 750 cities**
- Average **160,000 transactions / day**
- Nearly **5 million users** every month
- 60 Million transactions in 2012
- Targeting the Unbanked, Corporate and Government
- Brand awareness > 80%
- “Best Mobile Money Launch of the Year” by MMT in 2010
- Ranked **3rd biggest Mobile Money service in the world** in 2012

Life Insurance – an unknown product in emerging markets

<http://www.youtube.com/watch?v=YRyVZYEoaB0>

Telenor Pakistan embedded Life Insurance signed up 50 000 customer first week ...

Talkshawk Mohafiz highlights

- **Free monthly life insurance based on monthly airtime usage / ARPU**
- Life insurance for all – **no medical examination or documentation required are required at all**
- **No limitation of coverage** – claim to be disbursed in the event of death
- **Easy multi channel sign up** - USSD, agents and outbound call center

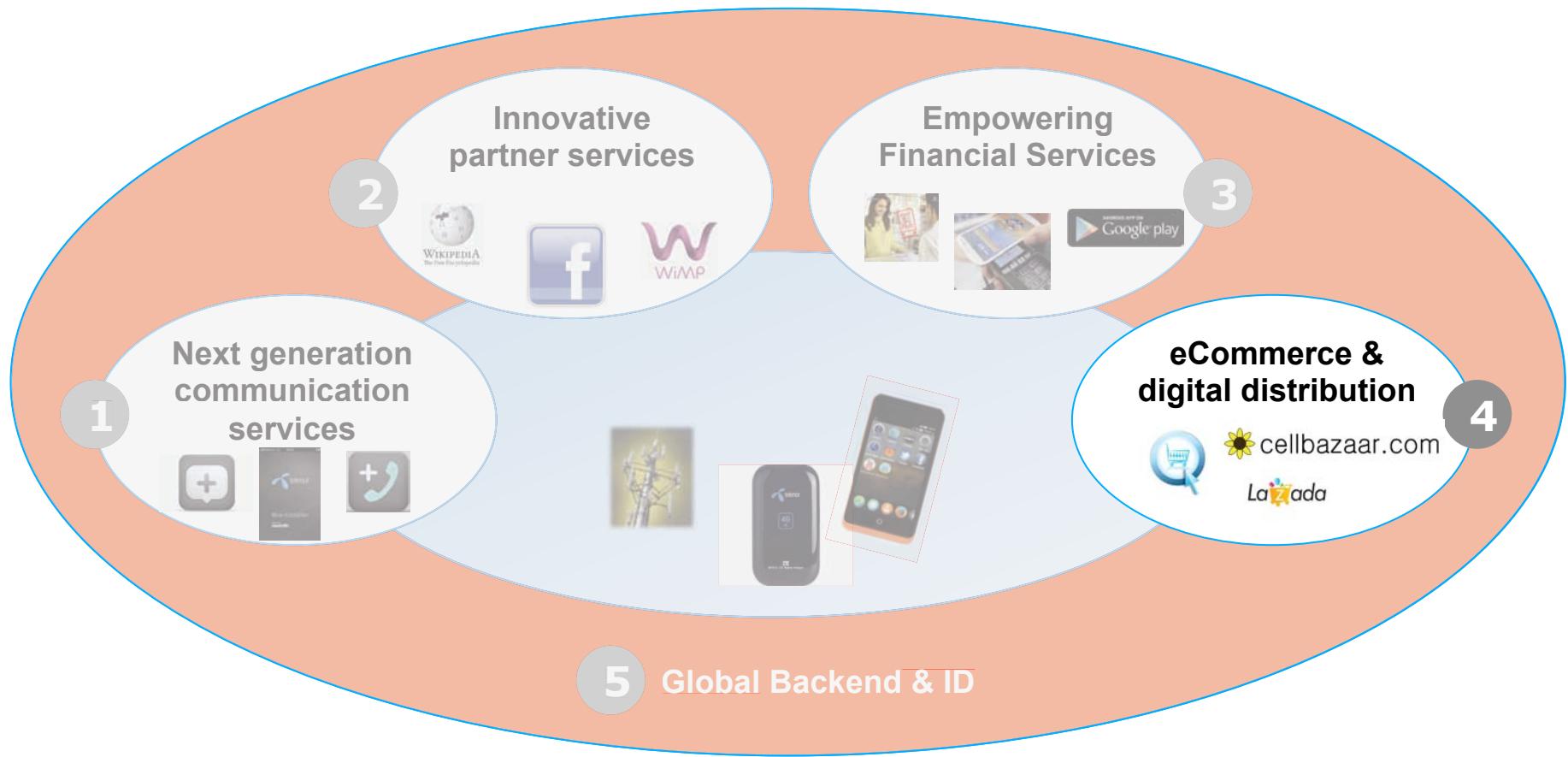
Usage / ARPU	Free insurance following month
Less than 200	Nil
200 to 299 (2 USD)	20,000 (200 USD)
300 to 499	30,000
500 to 699	50,000
700 to 899	70,000
900 and above	100,000 (1000 USD)

"Talkshawk Mohafiz is a **unique offering to provide convenience to our customers while protecting them from financial worries as a result of unforeseen events.**", Telenor Pakistan

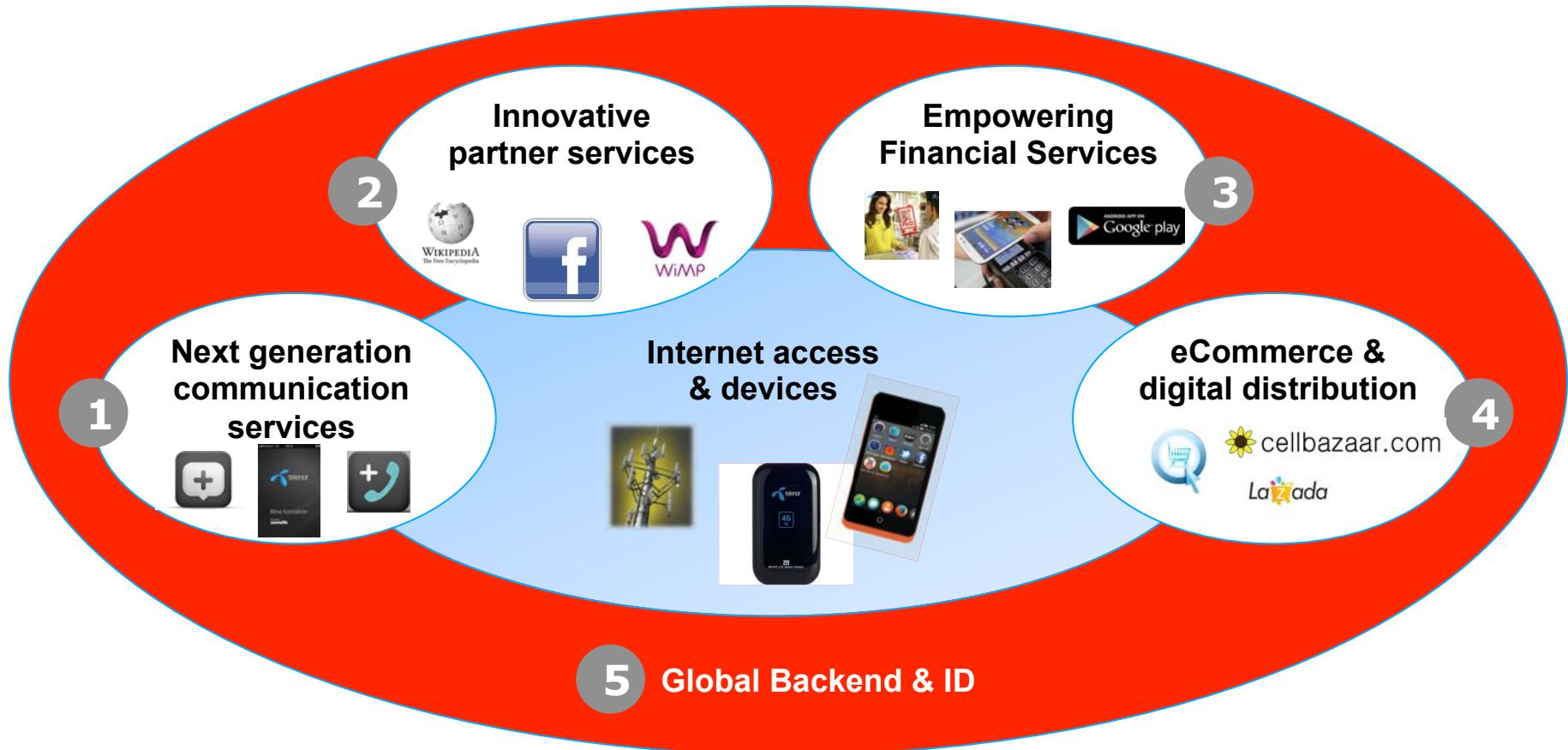


Empowering societies – Life Insurance for All!

These five areas together create a unique customer experience to help Telenor become an I-telco



These five areas together create a unique customer experience to help Telenor become an I-telco





The Rationale behind Comoyo and Telenor Digital

define: SERVICE

**Services are delivered on top
of a transportation layer**

**Hence a mobile broadband
subscription is not defined as
a service**

define: PRODUCT

The total offering given to the consumer – e.g. can contain several services and additional benefits

Hence a bundle of mobile broadband, voice, sms and premium customer care is a product

**TELCOS AND TV
DISTRIBUTORS DELIVER
SERVICES ON END-TO-
END CONTROLLED
VALUE CHAINS**

INTERNET-BASED SERVICES ARE DELIVERED STRAIGHT OVER THE OPEN INTERNET



OVER-THE-TOP SERVICES GROW FAST

18m users
US & Canada

NETFLIX

28m users
US

hulu

10m users
1m (N)

Spotify

500m users

facebook®

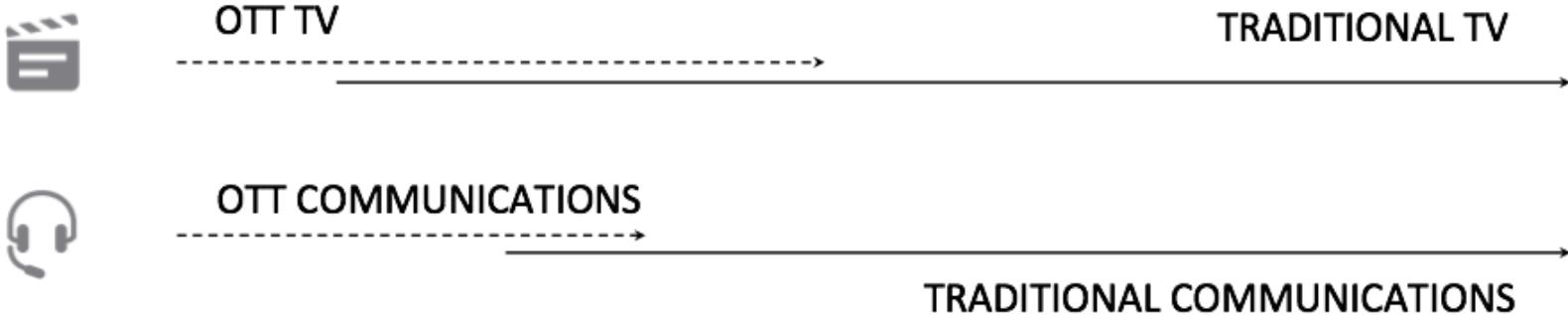
560m users
124m a/m

skype™

200m users

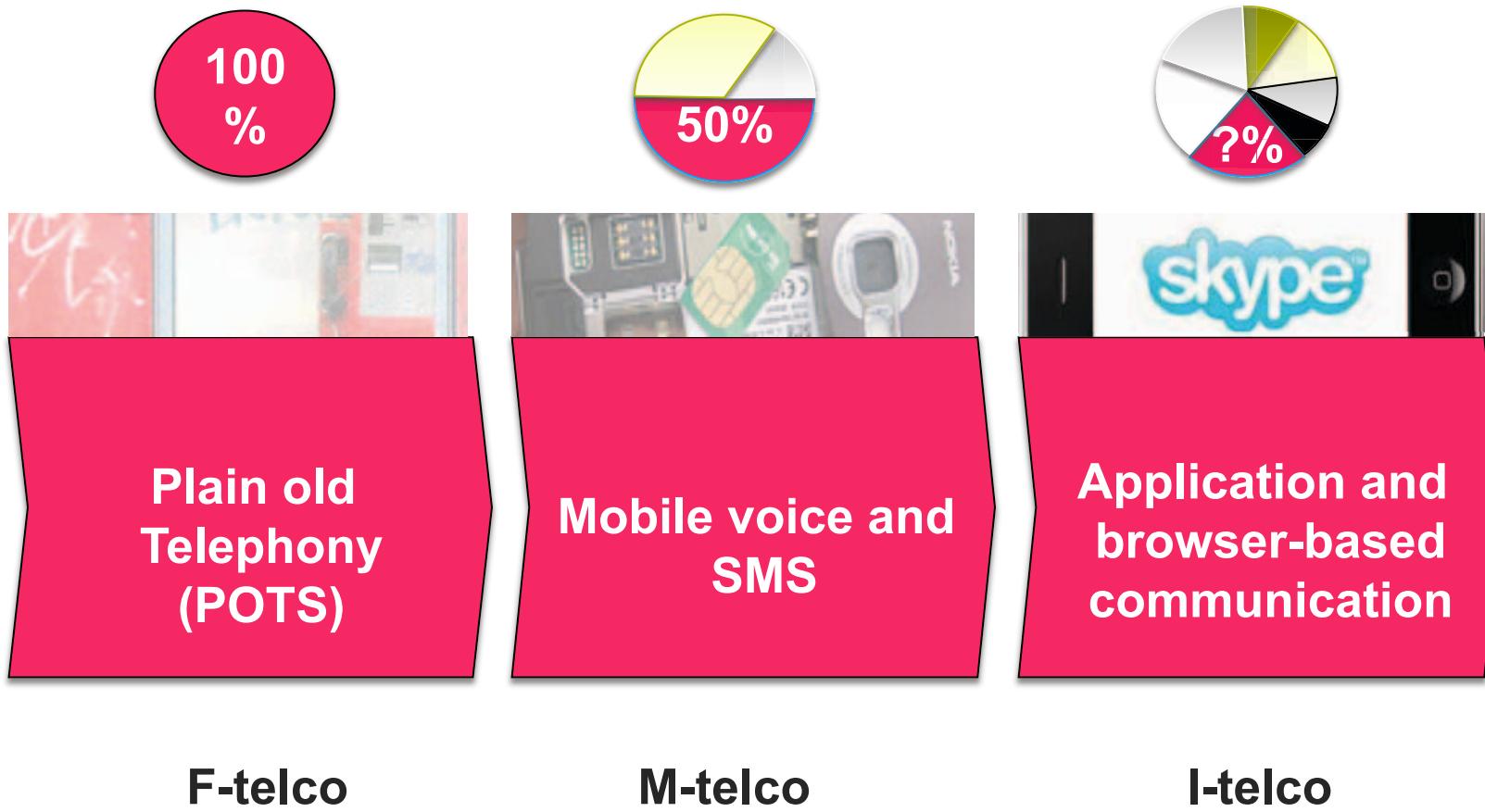
Gmail
by Google

AND SUBSTITUTE TRADITIONAL SERVICES OVER TIME



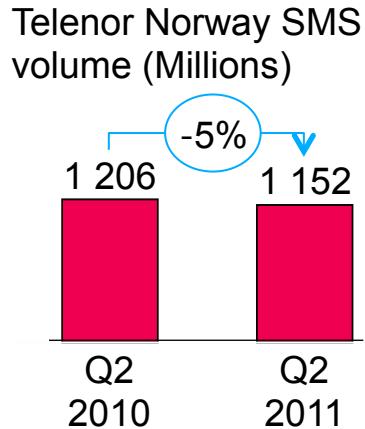
GLOBAL SCALE TRANSFORMS THE TELCO & MEDIA INDUSTRIES

And the game on how to “Own the end user” on services is changing again...

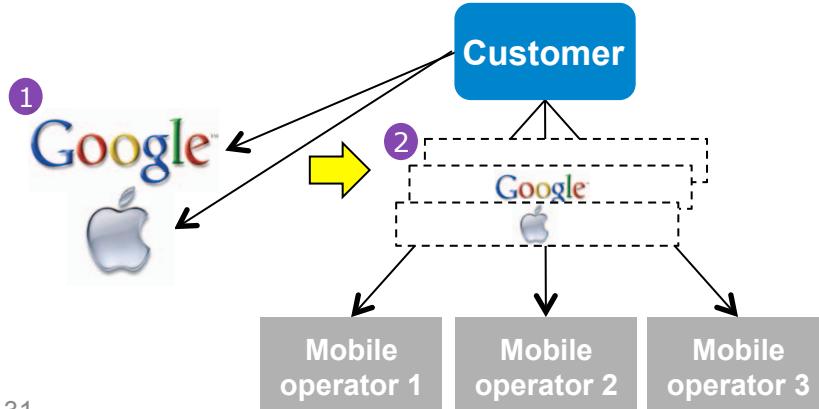


Potential sources of pressure on the situation for telcos

Substitutes threaten our traditional services



Ecosystem players are threatening our customer relationship

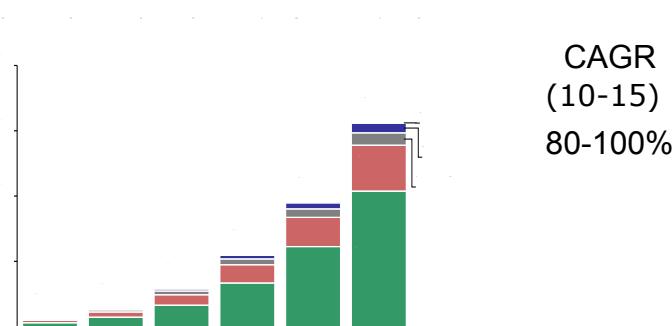


MVNOs and regulation are pushing prices and profits down



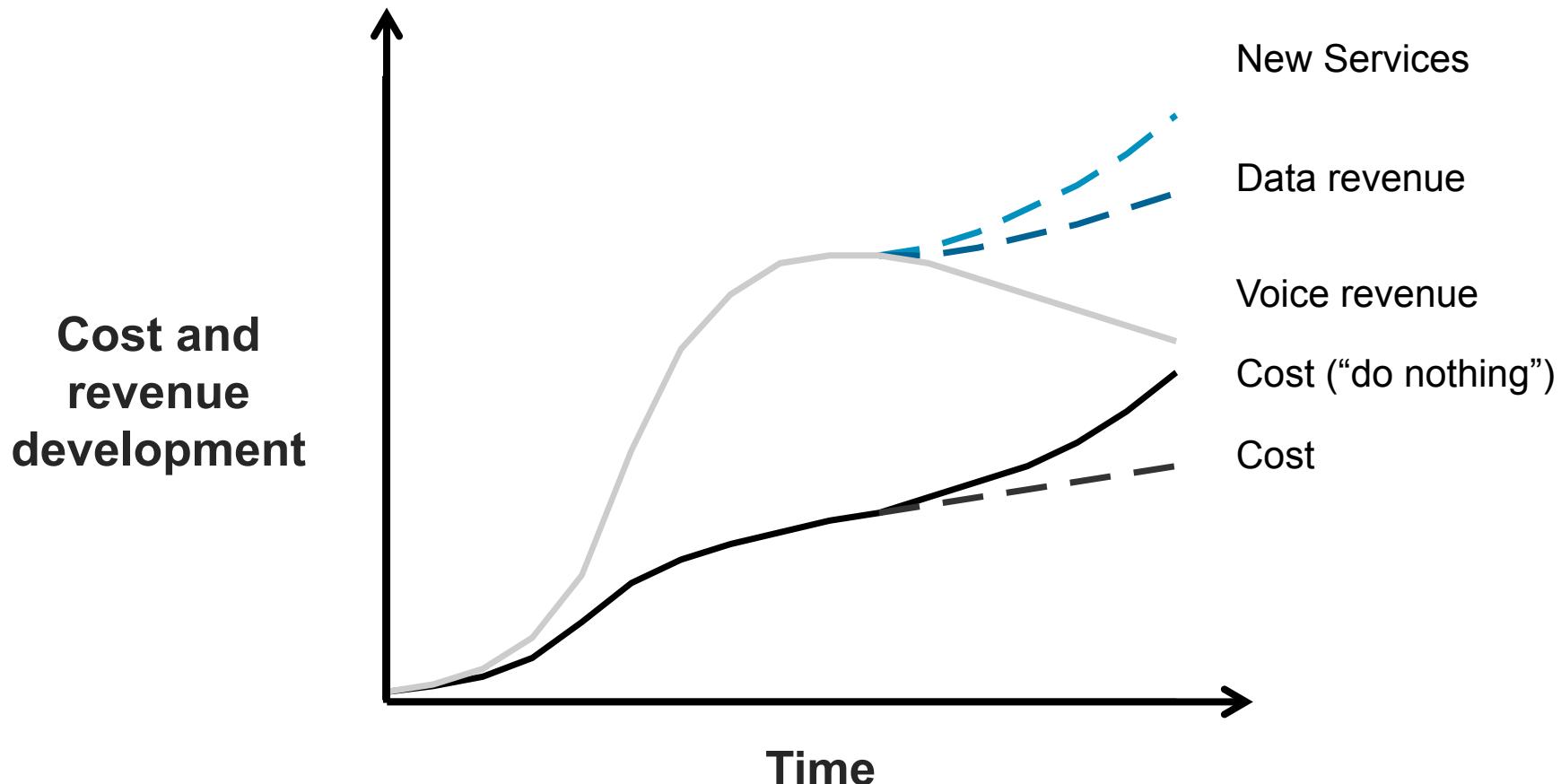
E.g. termination fees

Infrastructure cost likely increasing due to surging data traffic

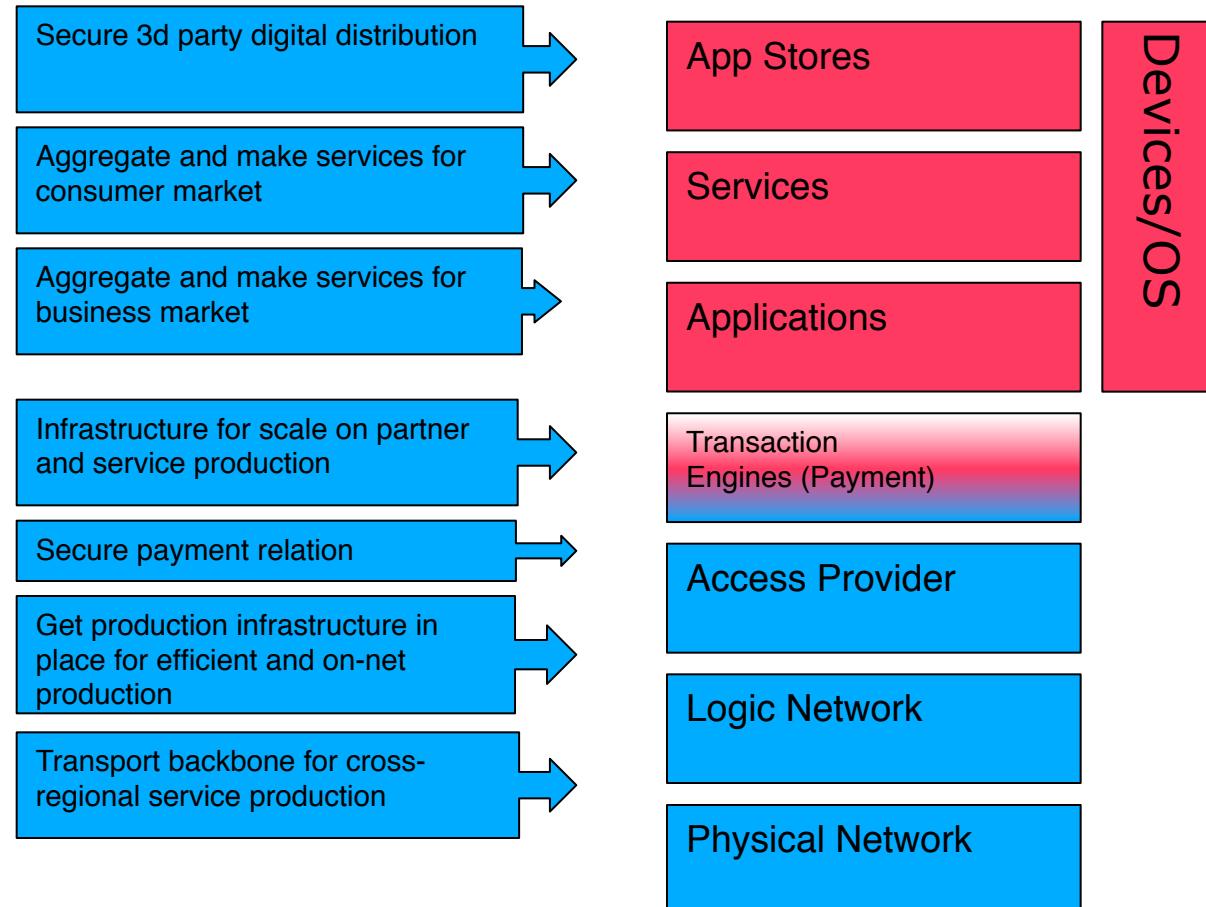


Source: Cisco VNI Mobile, 2011

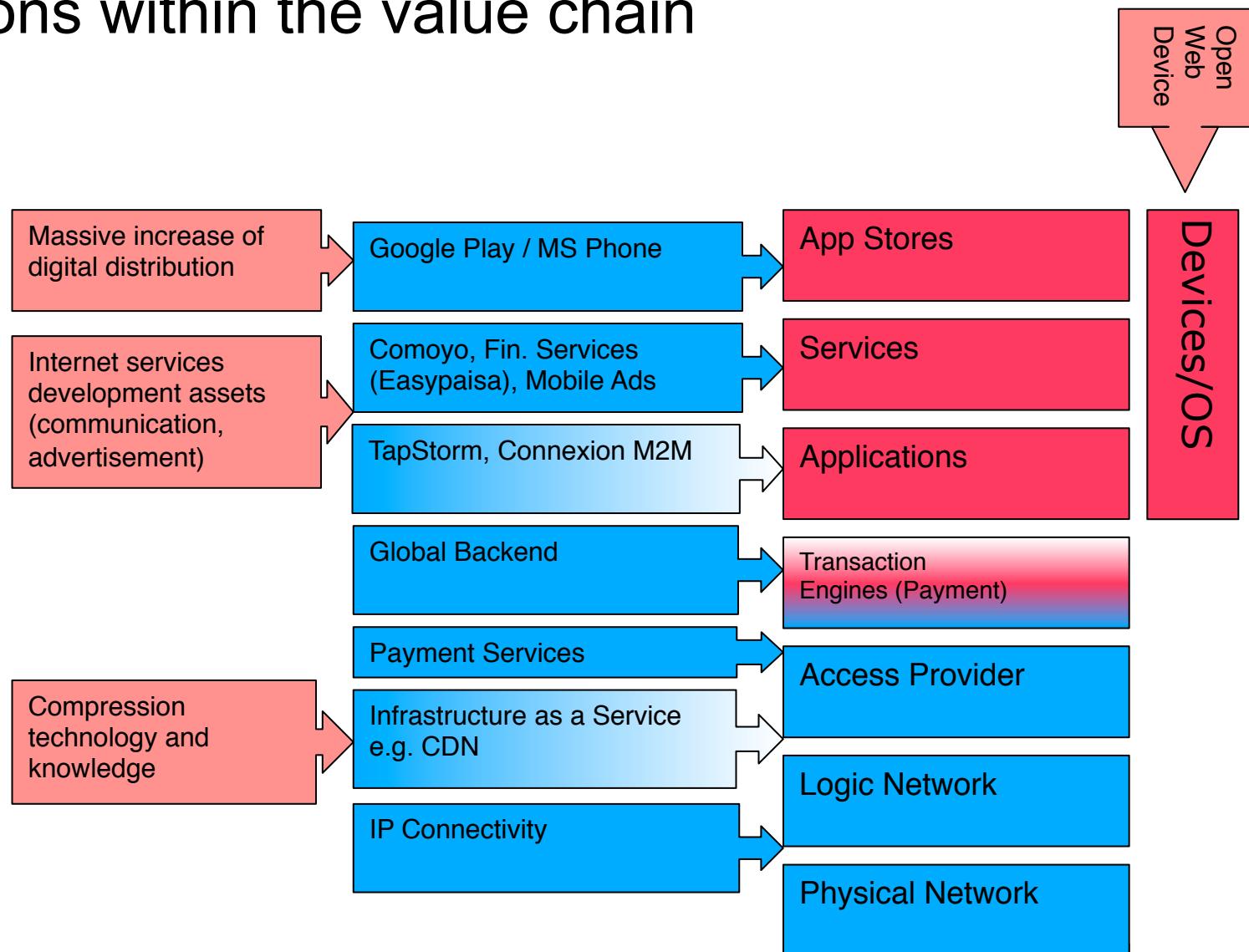
Internet disrupts existing service model but enables growth based on positions within new services and data



Telcos need to rapidly take stakes in the new Internet-based production and distribution environment and get scale

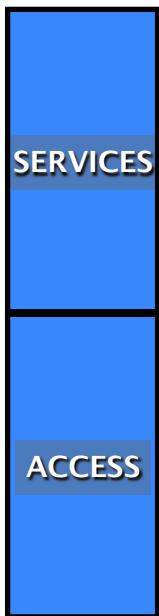


Telenor Digital is taking several bets and positions within the value chain

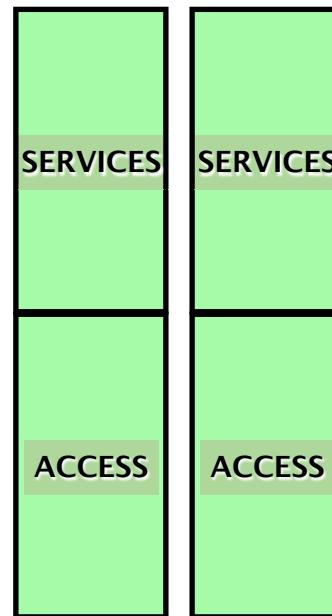


TELCOS AND THE CUSTOMER SOME YEARS AGO

Customer
John Doe



Telenor
BU1



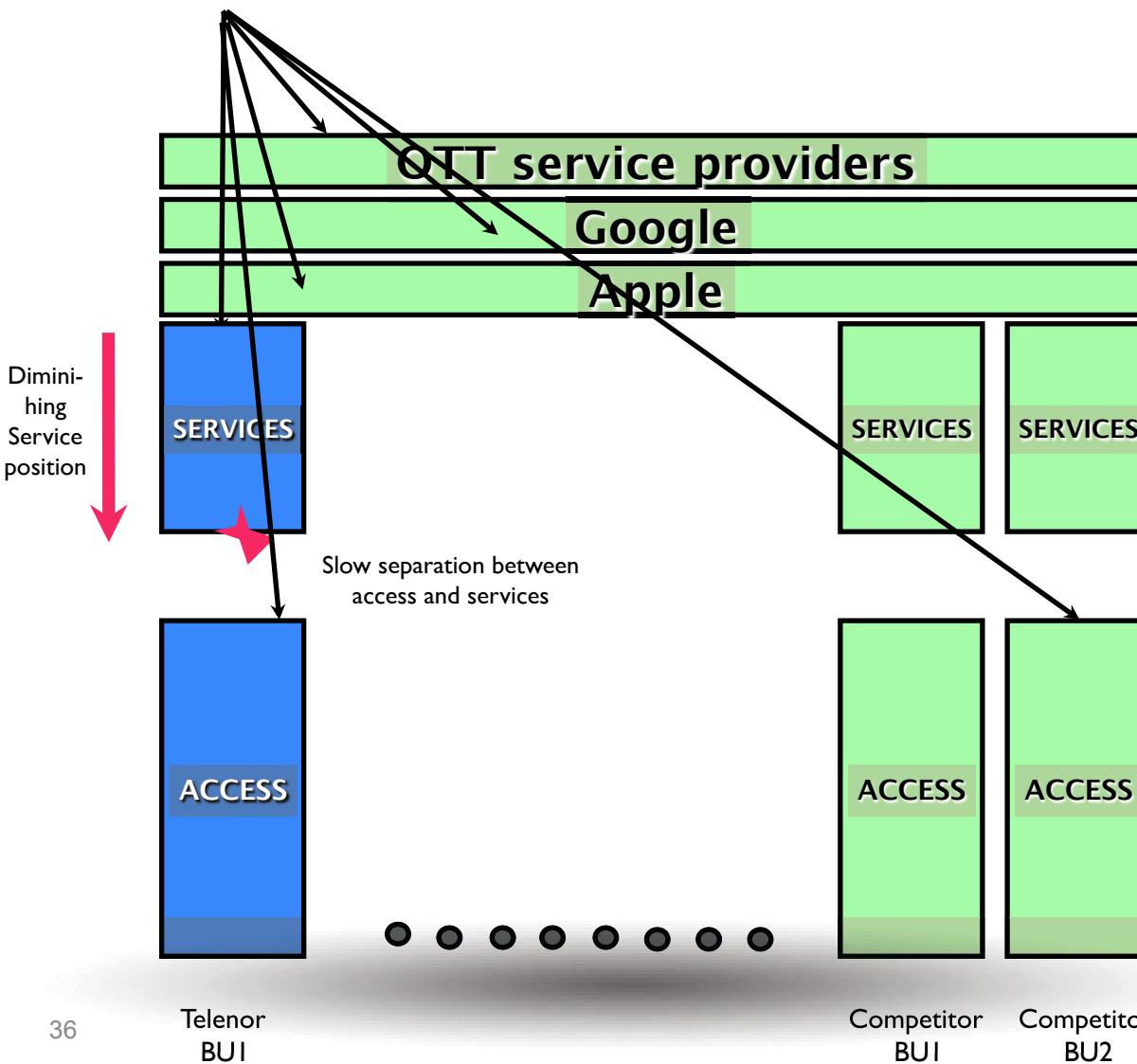
Competitor
BU1 Competitor
BU2

- * Vertical Service Providers
- * Customer has ONE Service Provider providing Access + Service

THE CUSTOMER AND TELCOS

NOW

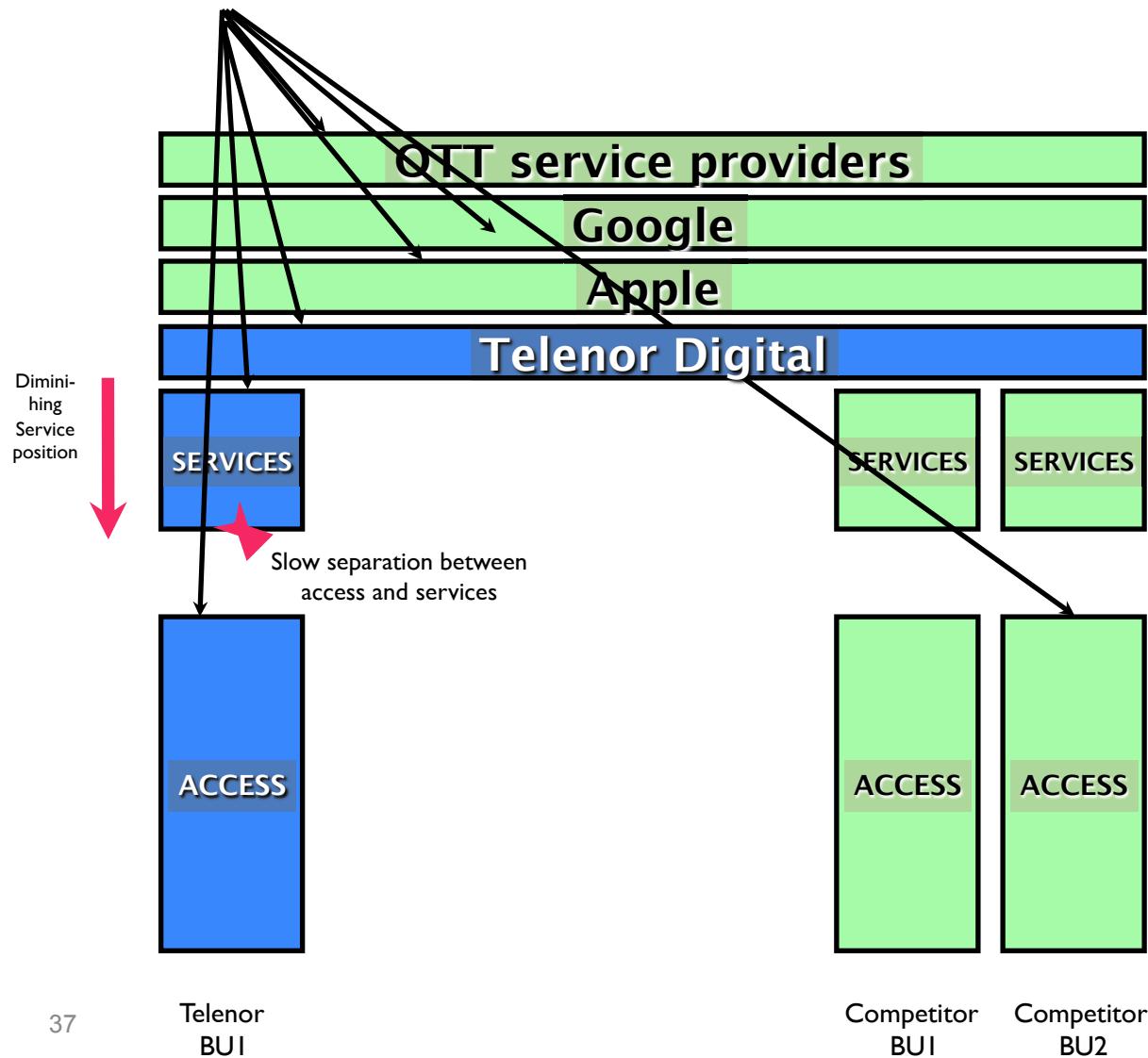
Customer
John Doe



- * Horizontal and access agnostic (OTT) Service Providers gain strong positions
- * Customer has MULTIPLE Service Providers providing on Service layer
- * Vertically integrated Service Providers are pressured on Service layer

Customer
John Doe

THE CUSTOMER AND TELENOOR IN SOME YEARS

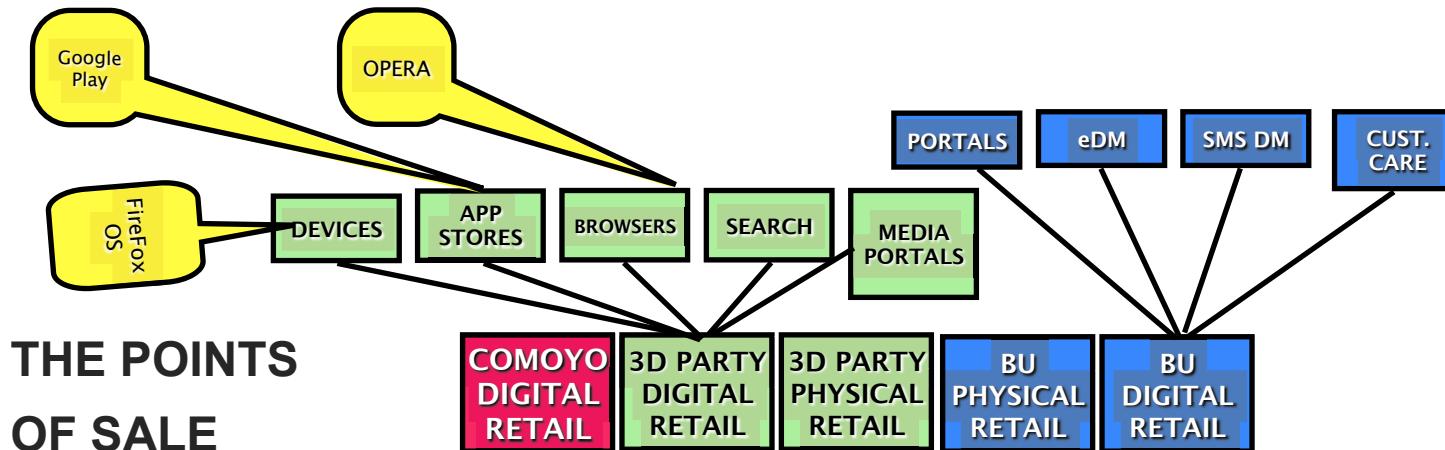


* Telenor built their own horizontal, global and access agnostic Service Provider Telenor Digital

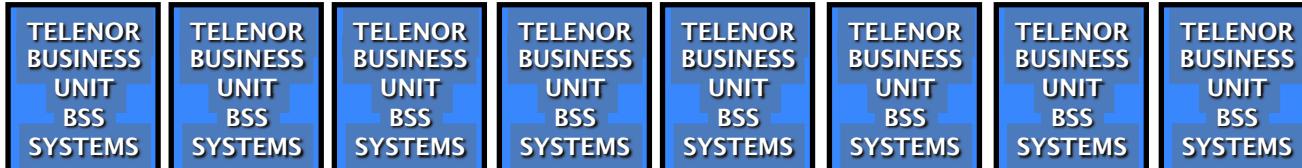
* Customer base fueled by Telenor's vertical service providers (BUs) by bundling offers between Telenor Comoyo and Telenor's BUs

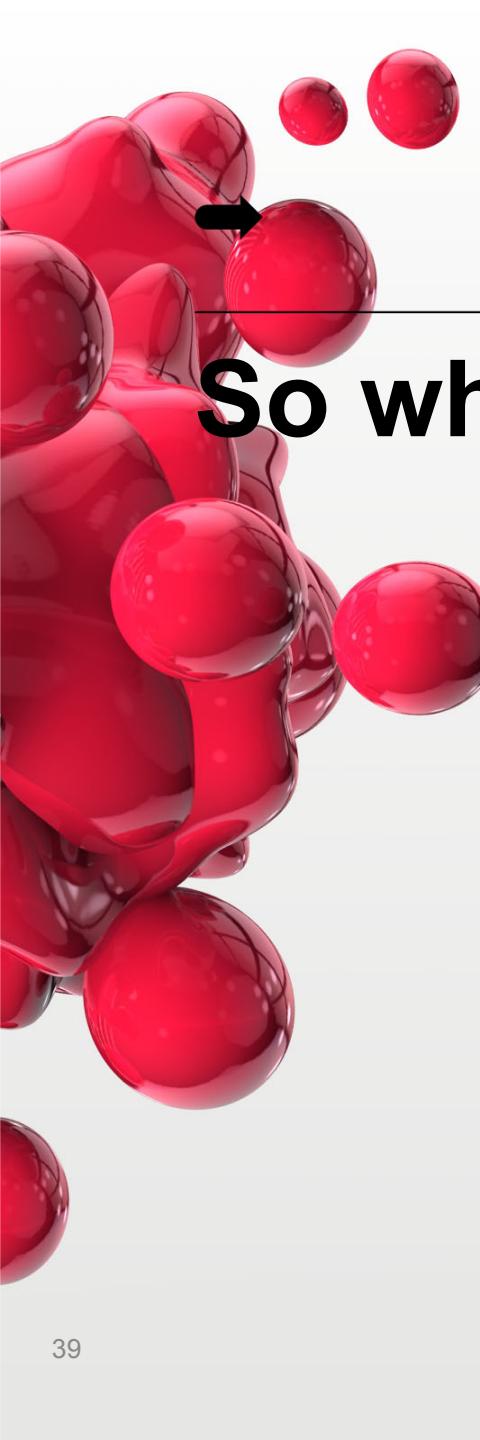
* When customers churned from Service layer in Telenor's BUs the customer relationship is kept in the horizontal unit Telenor Digital

THE TELENOX DIGITAL SETUP



GLOBAL BACKEND





So what does Comoyo do?



Comoyo is a product development organization in Telenor Digital, with people who want to use new internet technologies to create products & services that improve people's lives

Comoyo focus on four key service areas

1



Internet-based Communication services – on multiple devices and multiple networks – voice, messaging, contacts, email

2



Internet-based Service retailing – sell services through other application stores with operator billing

3



eCommerce – focusing on mobile

4



Global backend to enable rapid roll-out of services and partners in most cost-efficient way

KEY BELIEFS

All services will be internet-based and network agnostic

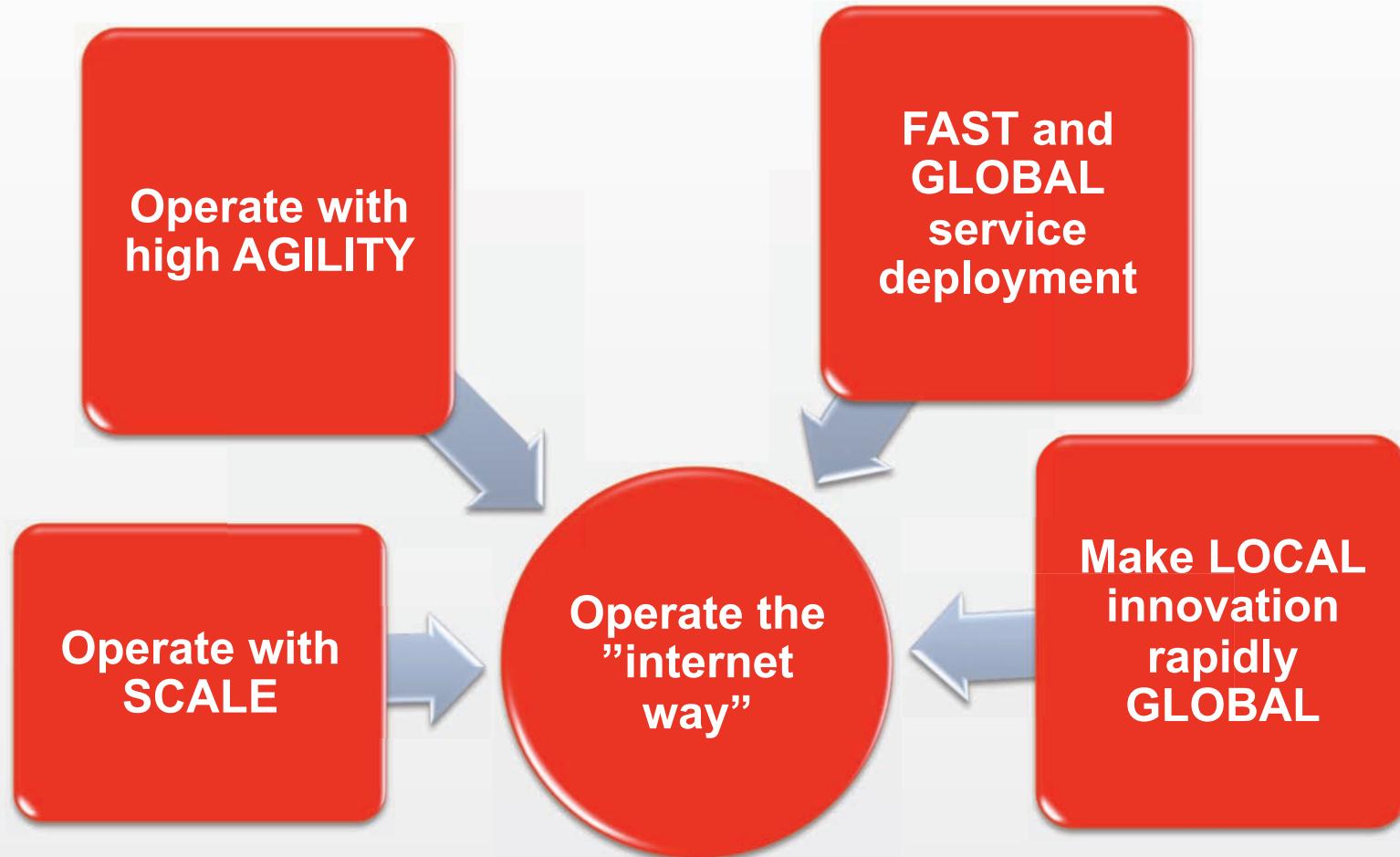
Telcos will increasingly bundle access and services

Flexible and individual data pricing is needed to add bundle value

Innovation and speed will be key to stay competitive

Customers will radically increase to purchase services digitally

We are building new capabilities to be a part of this industry development





What we have done so far...

VIDEO ON DEMAND AND TV



COMMUNICATION SERVICES



STORAGE

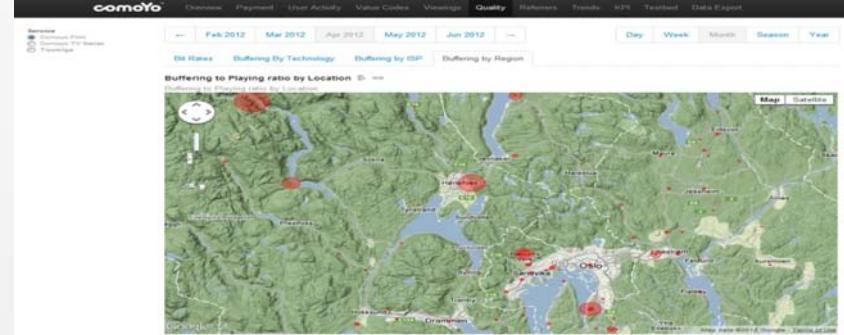


MinSky

ECOMMERCE

SOBAZAR

BIG DATA ANALYTICS



LAUNCHED WITH GOOGLE PLAY and MICROSOFT PHONE



FIREFOX OS CONTRIBUTOR



GLOBAL BACKEND COMMERCIAL



**“WTF IS THIS
GLOBAL
BACKEND!?”**



iTunes insight – why a success?



- ✓ Quality products
- ✓ Strong brand
- ✓ Simple to become a customer
- ✓ One account for all
- ✓ It works!

It's all about convenience!

SIMPLE
REGISTRATION

Email/phone# +
password only

SIMPLE
LOGIN

Auto log in

Reset
Password

SIMPLE
PAYMENT

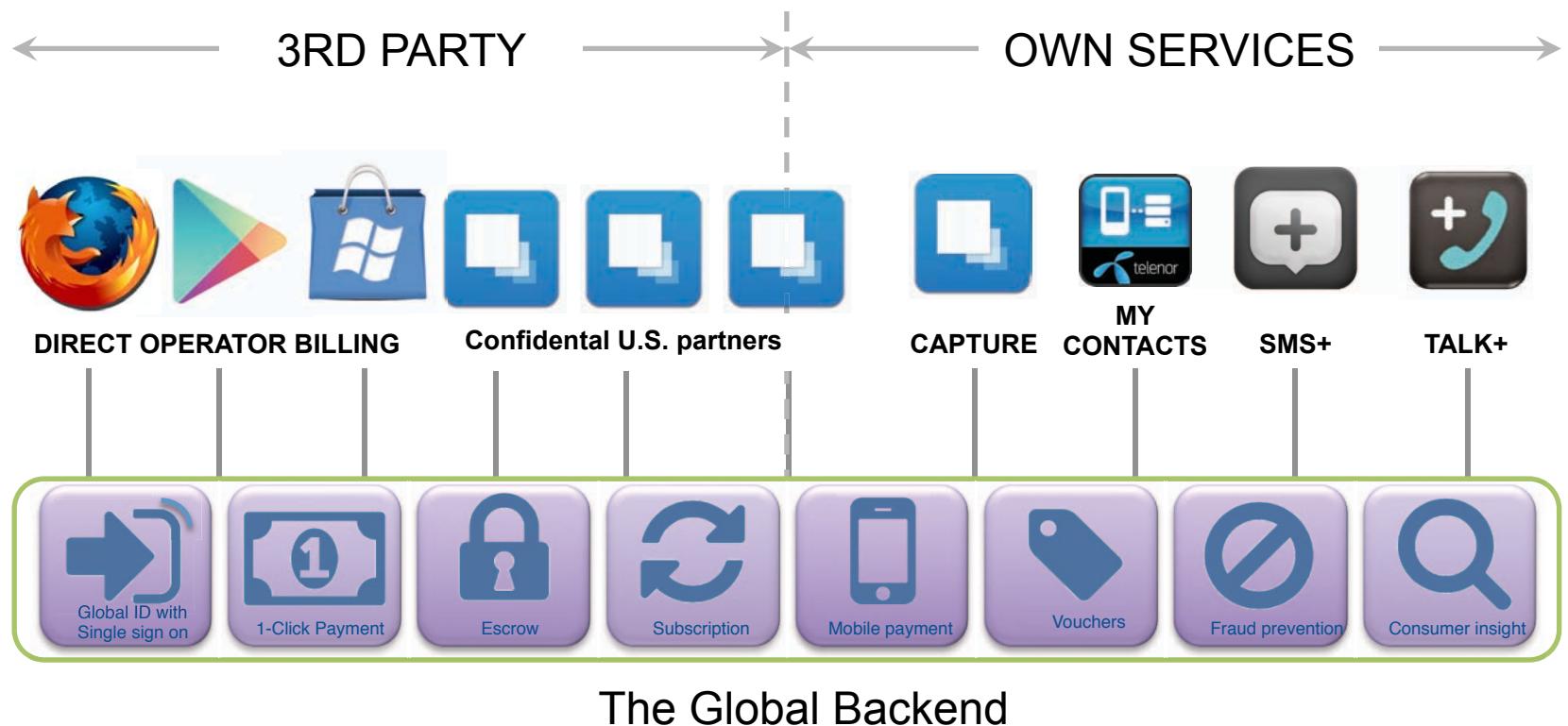
Card-on-file

Prepaid

Postpaid

comayo™

Global Backend gives user-friendly access to Telenor Digital's services – our own and partners' – worldwide

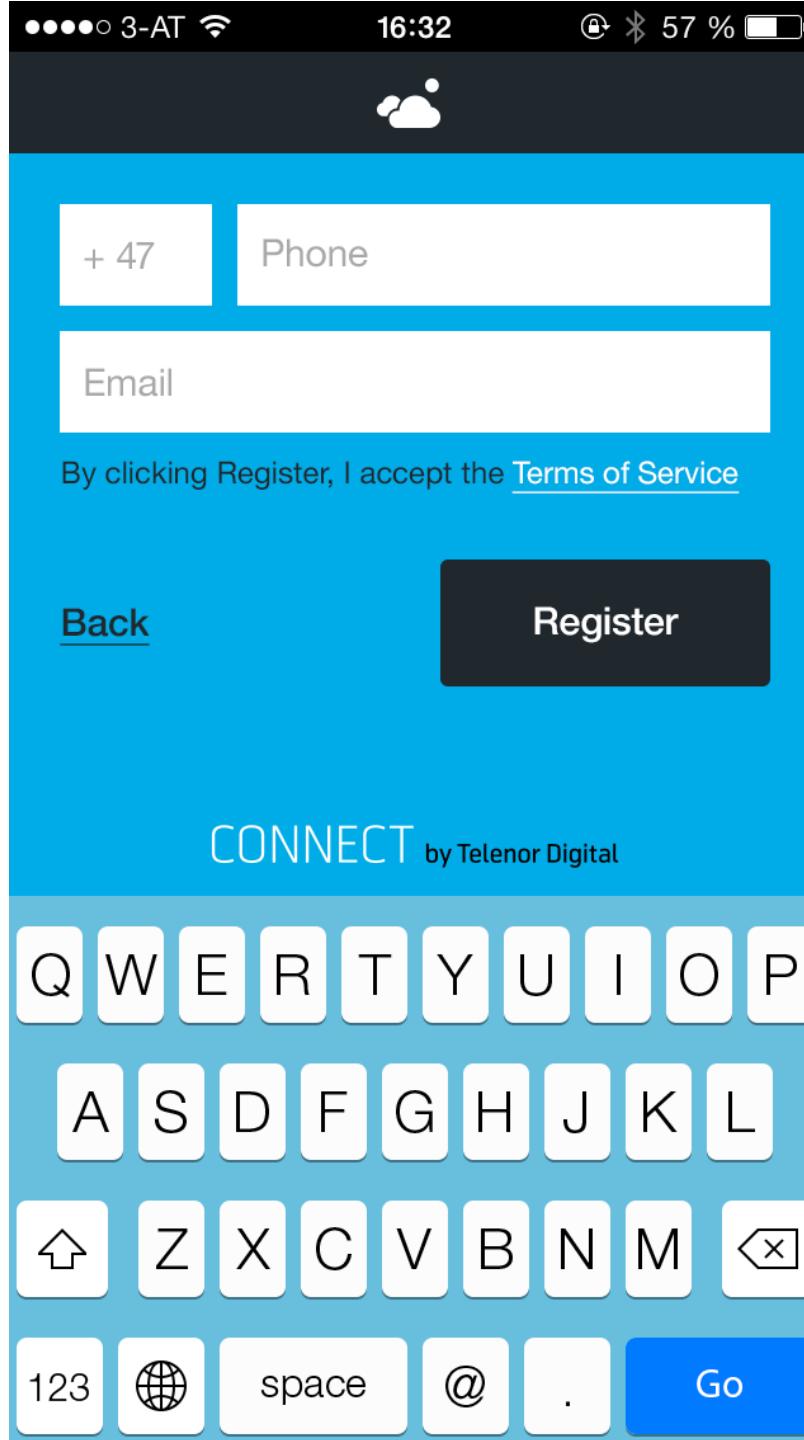


Global ID enables superior user insight through BigData

- ✓ Volunteered data
- ✓ Observed data
- ✓ Inferred data

But key to:

- ✓ Being transparent towards the user
- ✓ Acting with integrity



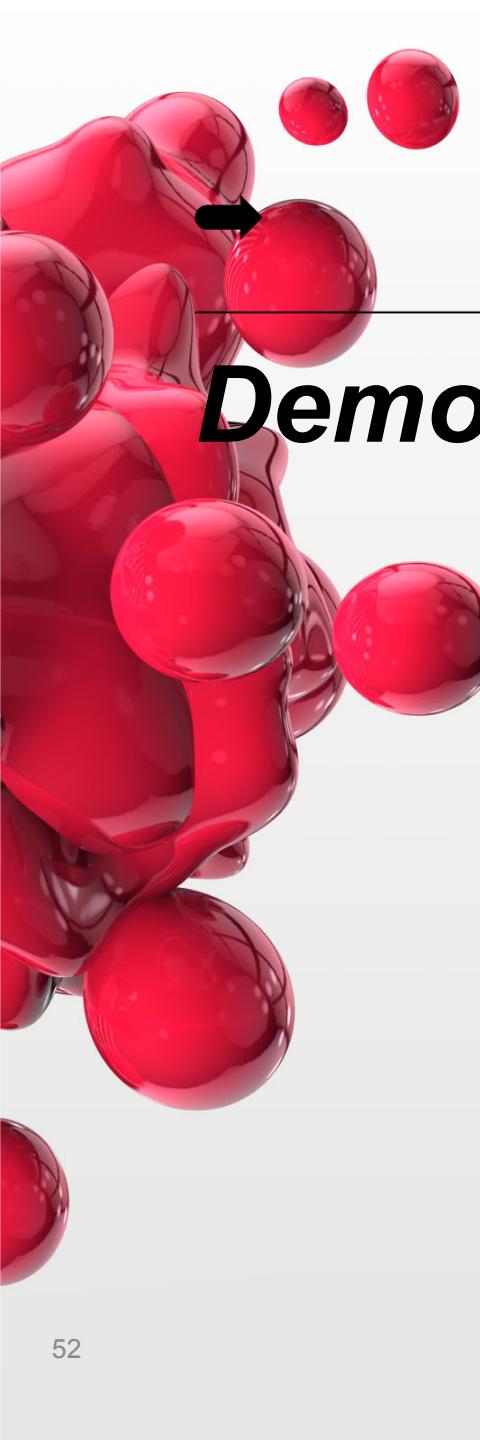
So how do we build the Global Backend?

- **Service needs** drive capabilities in Global Backend (and services are developed focusing on UX)
- Deployed in cloud infrastructure
 - No up-front investments
 - Pay-for-usage
 - Extra capacity is provisioned in minutes (elasticity)
 - Using AutoScalingGroups
- In house engineering team
 - Hire only top-notch people
 - Engineers have experience developing large-scale services for Google, YouTube, Yahoo!, FAST, Microsoft, Opera.
- Low-cost, no-frills operation



To scale, we are building Global Backend based on hard principles

1. **Simplicity** trumps most other concerns
2. **Empower developers**, design for change
3. **Agile approach** - small tangible iterations that provide customer value
4. **Control over lifecycle of data** dictates who is responsible to call
 1. BUs and Service Providers call Global Backend APIs (no direct callbacks) – Reverse Hollywood principle
 2. Group API Hub aggregates and calls legacy BU Telco APIs (e.g., CPA), i.e., Hollywood principle
5. **Keep licensing cost down (currently \$0 in software licenses)**



Demo time!

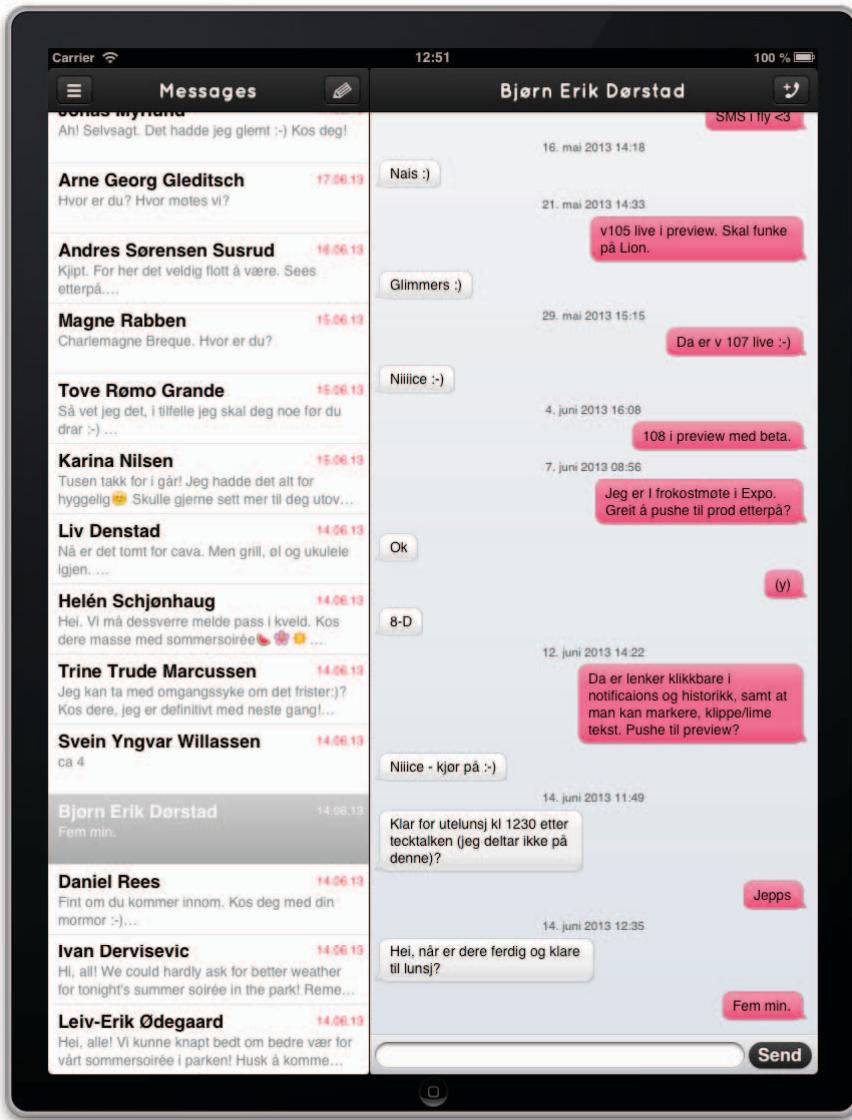
SMS+

Your SMSs on any device – with full SMS history





iPad version of SMS+



Download SMS+ from

www.smspluss.no



Last ned

FOR TELENO- OG DJUICE-KUNDER

SPAR TID OG JOBB SMARTERE

La mobilen ligge - send og motta SMS lynraskt fra din PC og Mac.



Last ned for
Windows



Last ned for
Mac OS X

FIREFOX OS

Bringing the Open Web to Mobile
Devices



Mozilla & Firefox

- Promote openness, innovation and opportunity on the web
- 21% Global market share
- 3 billion add-ons downloaded
- Most trusted internet brand
- Brand awareness
- Firefox OS, major mobile momentum



Firefox OS

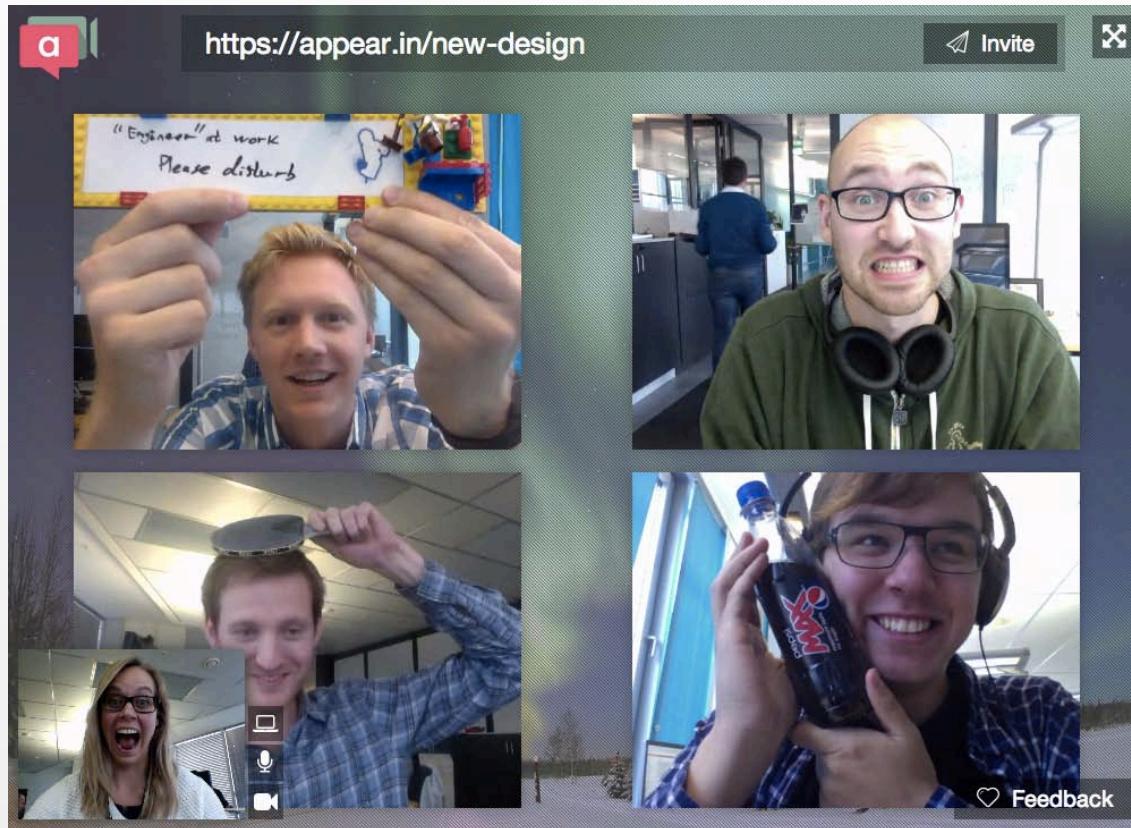
- Bring open web to mobile
- Introduce new standards, webAPI
- Code is open, anyone can contribute
- No SDK; HTML5, CSS3, JS
- Complete eco-system for anyone;
Marketplace, operator billing
- Cross-platform, helps developers
- Leverage web technologies; Why use a
Facebook app?



But hey – 30% of time spent on mobiles are used on games. And HTML and games suck – right?

appear.in

- Video conversations in the browser!

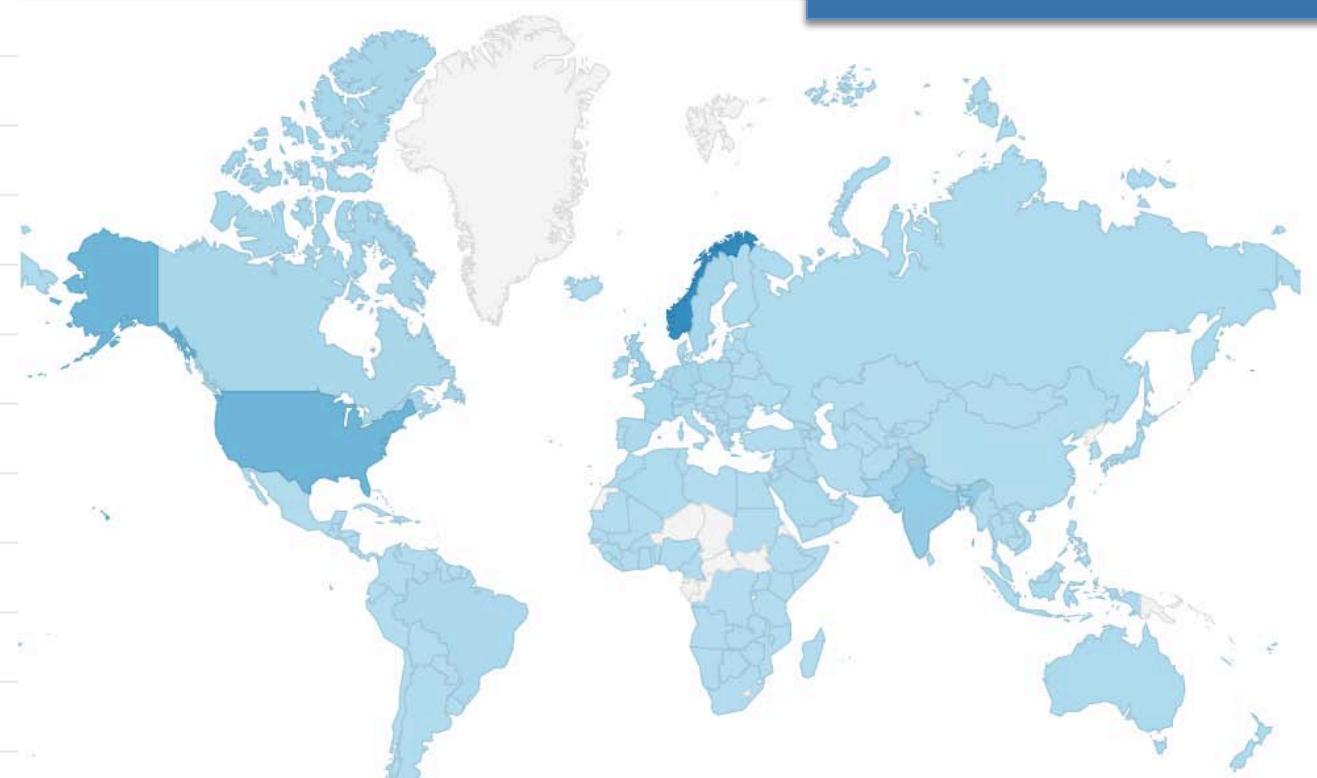


- No downloads
- No login
- FREE!
- Up to 8-10 participants

Born global!

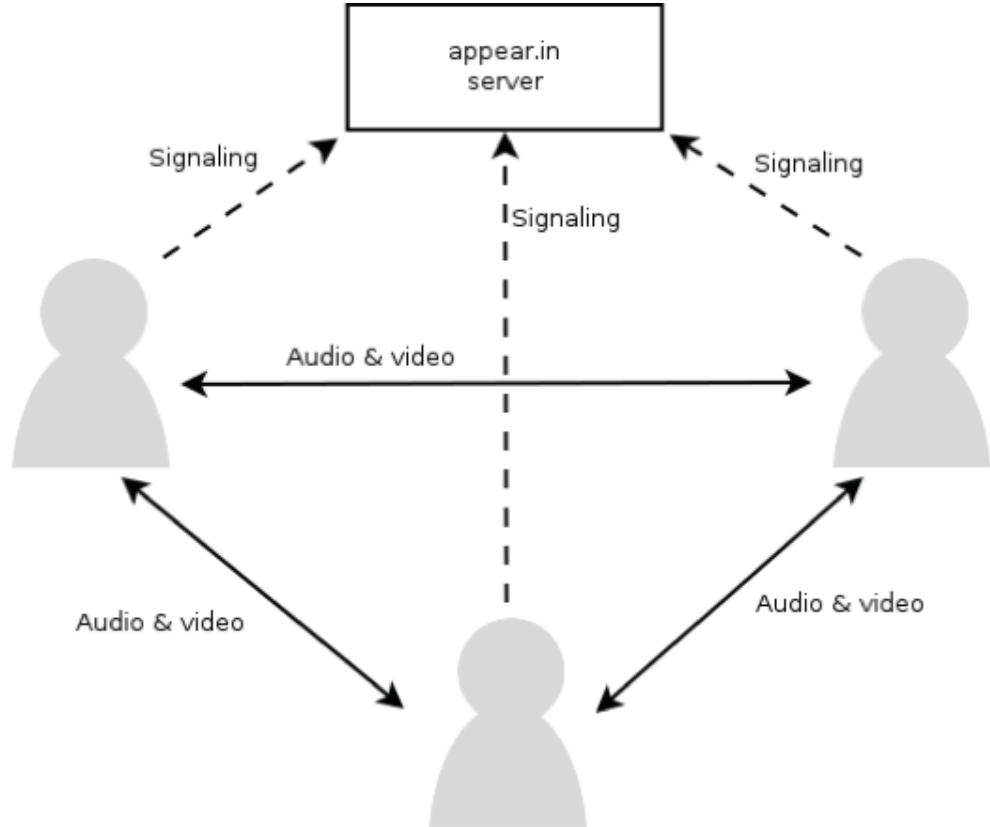
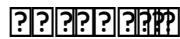
Top countries last month:

1.  Norway
2.  United States
3.  India
4.  Pakistan
5.  France
6.  Azerbaijan
7.  United Kingdom
8.  Iraq
9.  Germany
10.  Canada
11.  Saudi Arabia



Users from 180 countries
have used appear.in
since launch!

The tech



Let's try it!

<https://appear.in/watch-us-work>



Culture: How do we do things here?

1. We DELIVER stuff – talk is cheap.
2. You MUST understand your colleagues' work
– we work x-functionally
3. We love bold RISKS to gain positions
4. We ruthlessly focus on USER EXPERIENCE
5. We go for gold through TRIALS AND ERRORS – not endless planning
6. We give medals to those taking RISK AND RESPONSIBILITY
7. We honour MERITS and hate mediocrity
8. If there is an issue – handle it! Don't expect “someone” to fix it
9. We CHALLENGE each other – silence is a crime!



We're Hiring!

***Check out
www.comoyo.com/careers***

We are looking for the best developers, UX and product managers!

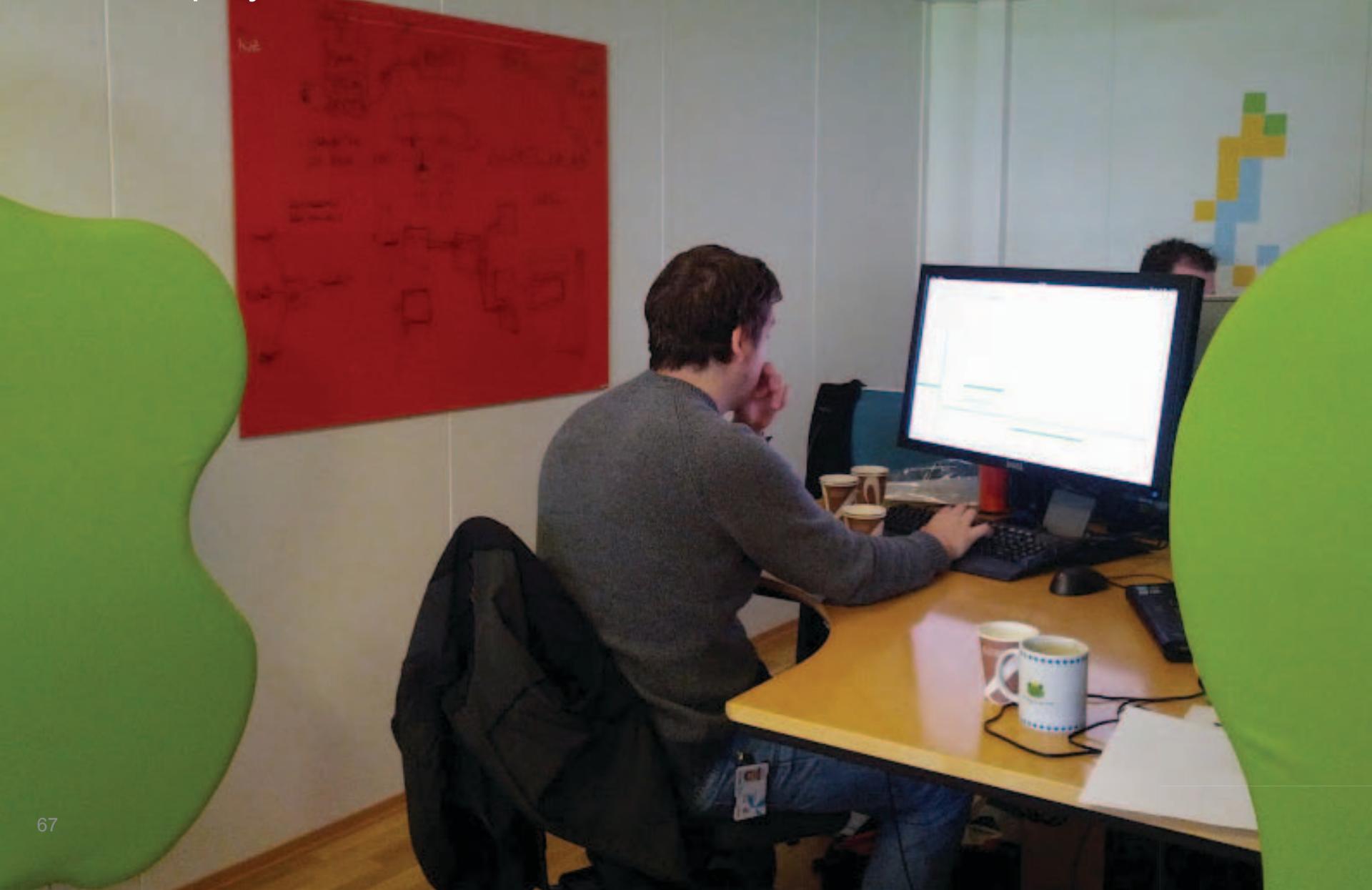
You might work with:

- Frontend (HTML, CSS, jQuery..)
- Clients (Android, Mac/iOS, Win..)
- Authentication
- Payment
- Search
- Cloud infrastructure
- Analytics/data mining
- APIs
- Security



Development office at Tyholt

~20 employees



7 summer projects in 2012



Why work for Comoyo?

- Real projects that can go into production
- Room for ideas, vision and rebellion
- Superstar colleagues

Submit application at:

comoyo.com/careers

No deadline; if you're good enough we'll hire you



Visit our developer blog:

<https://comoyo.github.io>



