Transforming Society with Mobile Broadband

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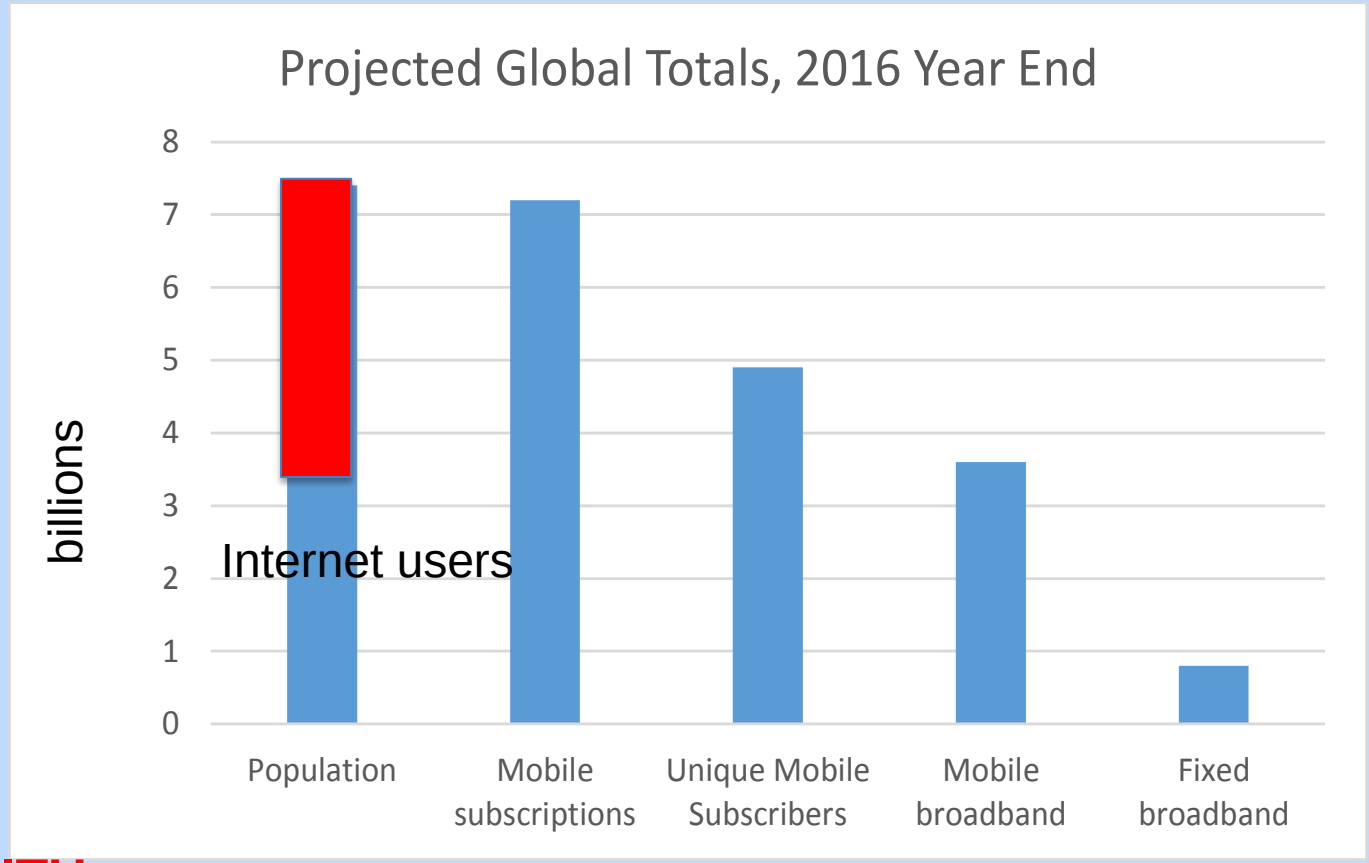
CTO

The shifting digital divide

From basic telephony to Internet



Source: ITU.

Remaining no unconnected People

Smart Sustainable Cities
[ITU-T L.1600]:

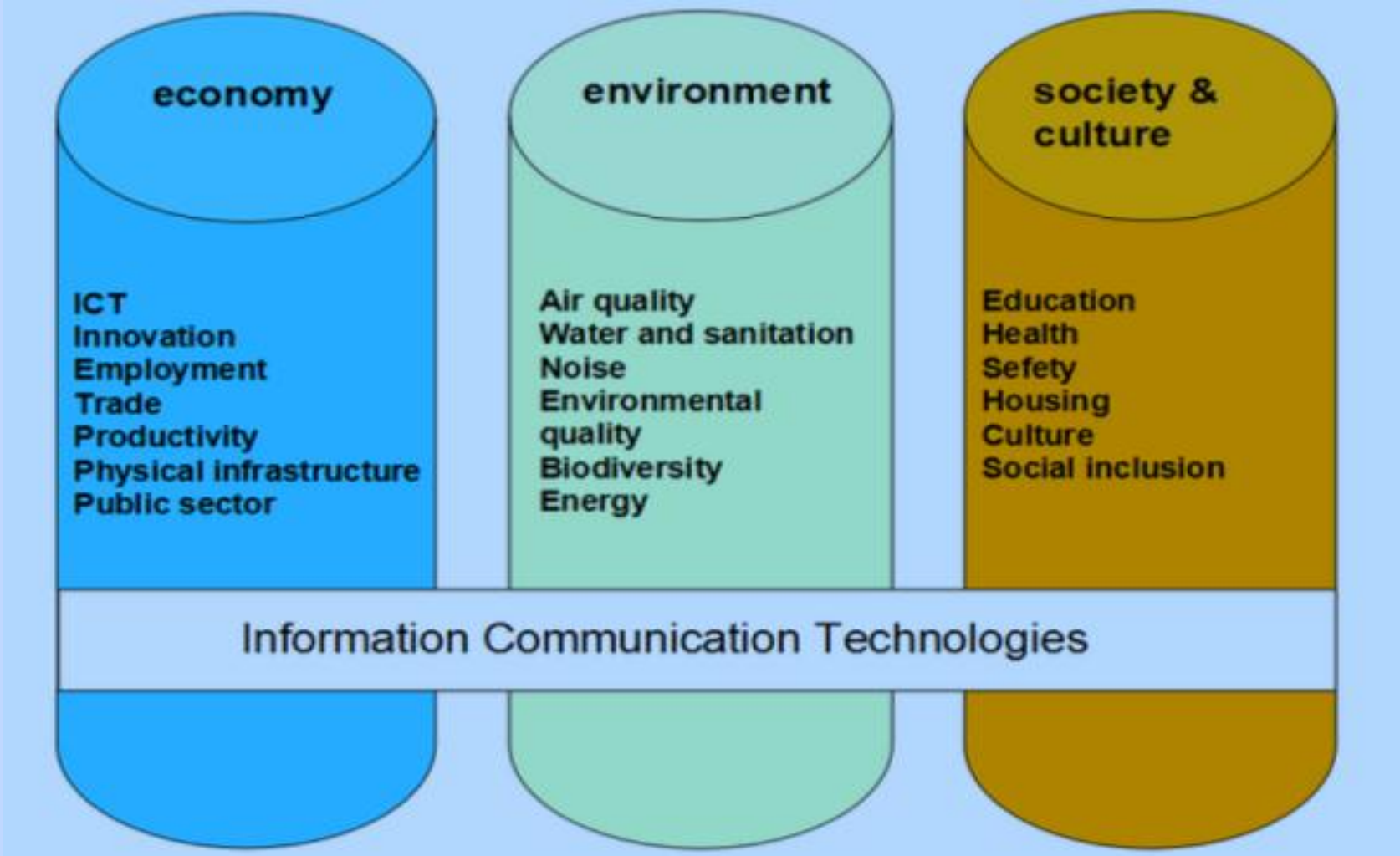
innovative city that uses ICTs and other means to improve:

- quality of life,
- efficiency of urban operation and services,
- Competitiveness

Ensure present and future aspects:
economic, social, and environmental and cultural aspects.

Smart Sustainable Cities

KPI



Changing way of life

- Our communication Mobile, SMS, MMS, Chat, Viber,
- Sharing information Internet, Drop box, FB, Twitter
- Entertainment Online M-games
- Doing business E-Procurement, M-banking, M-money
- Services delivery M-Health, M-Learning, M-Shopping, M-banking, M-delivery

Today's business environment
"Driven by change"

Three fundamental ICT forces

1. Broadband
2. Mobility
3. Cloud

- rapidly reshaping value chains
- digitalising business models
- creating possibilities (unimaginable earlier)

Technology is being used in new ways by new actors to create new value

4G (LTE)

- LTE stands for Long Term Evolution
- Next Generation mobile broadband technology
- Promises data transfer rates of 100 Mbps (upto 1Gbps)
- Optimized for All-IP traffic

Advantages of LTE

For Network Operators

- High Network throughput
- Low Latency
- Plug and Play Architecture
- Low Operating Cost
- All-IP network
- Simplified upgrade path from 3G network

For End users

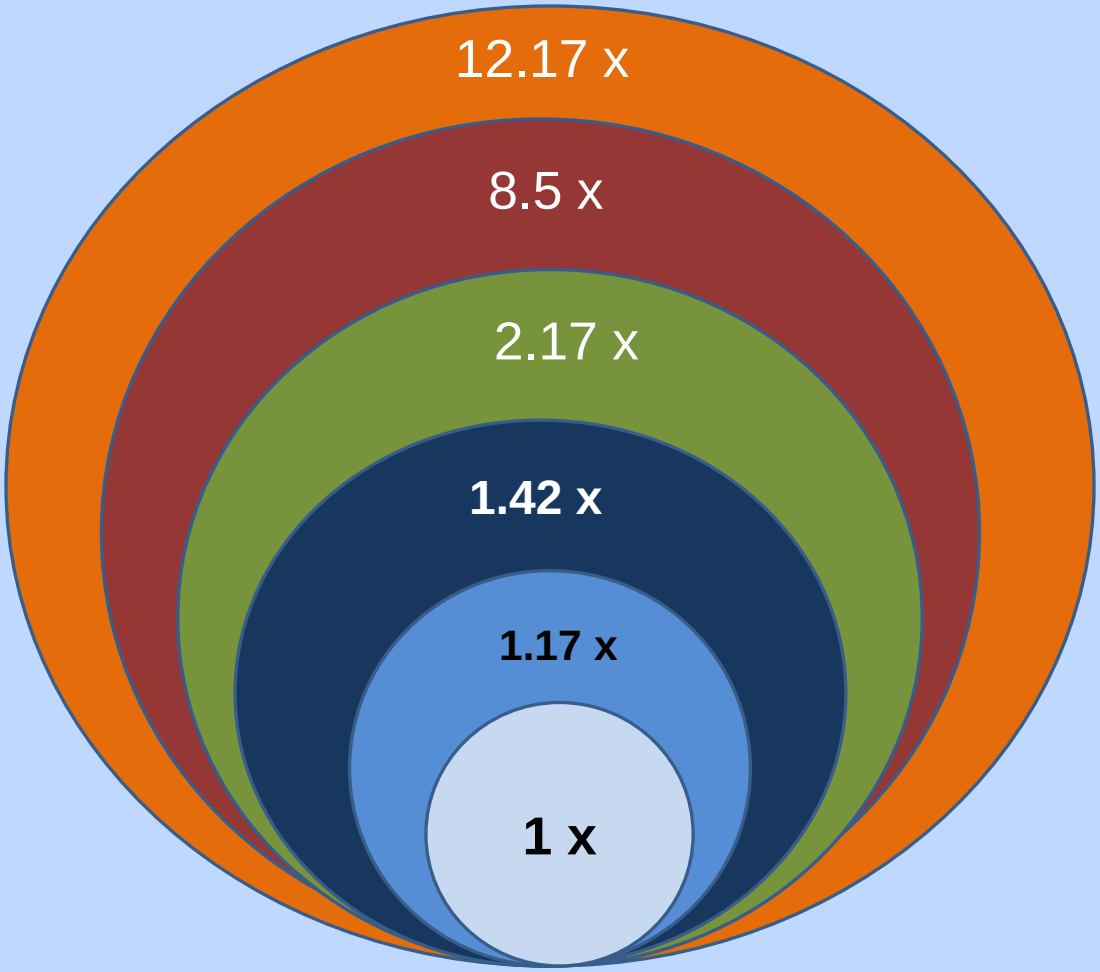
- Faster Data downloads/uploads
- Improved response for applications
- Improved end-user experience

Major LTE Radio Technologies

- Uses Orthogonal Frequency Division Multiplexing (OFDM) for downlink
- Uses Single Carrier Frequency Division Multiple Access (SC-FDMA) for uplink
- Uses Multi-input Multi-output(MIMO) for enhanced throughput
- Reduced power consumption
- Higher RF power amplifier efficiency (less battery power used by handsets)

LTE Ecosystem

(Coverage Area)



700 MHz

900 MHz

1800 MHz

2100 MHz

2300 MHz

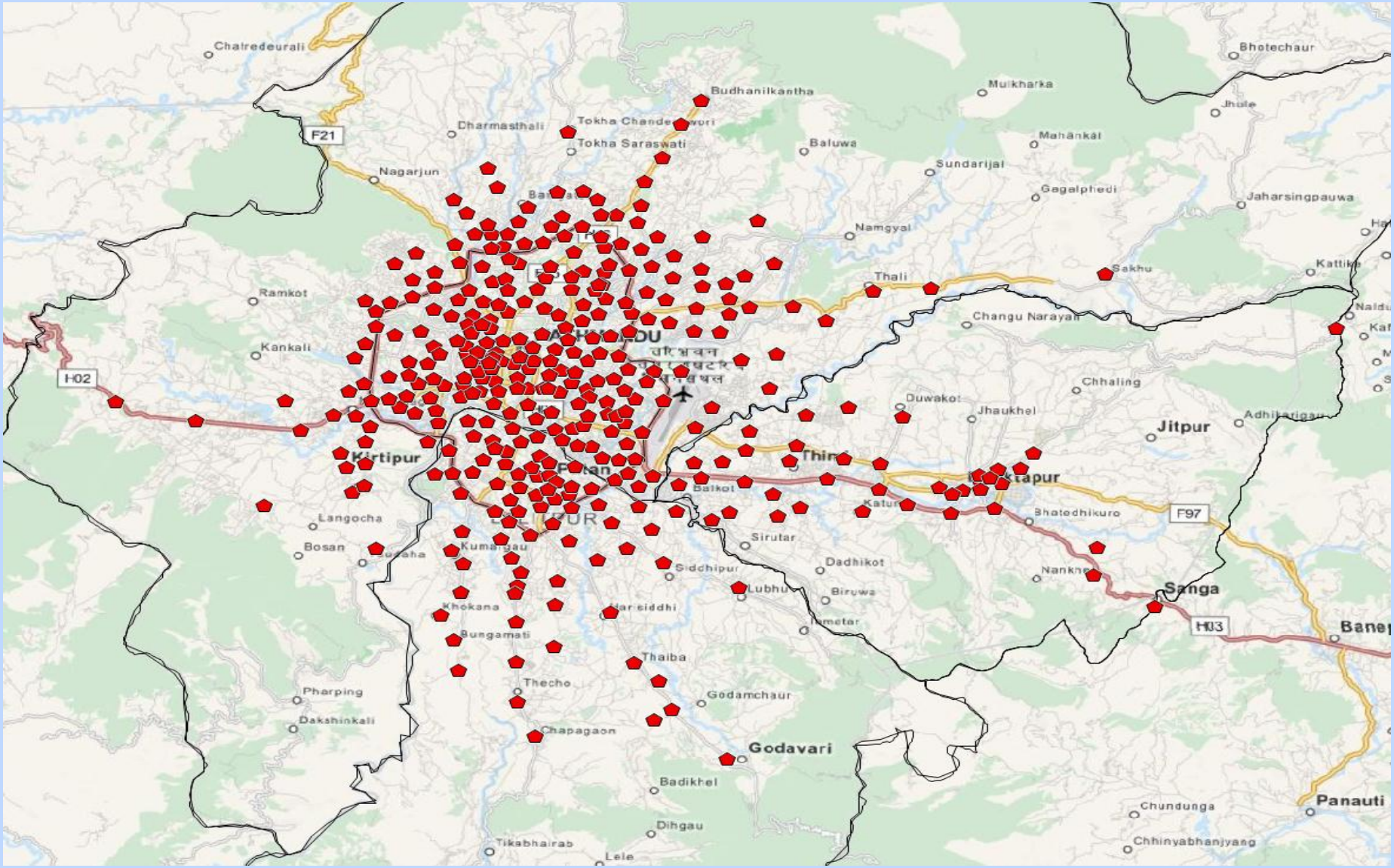
2600 MHz


Welcome to 4G World
NT 4G
12:00
NT
4G
LTE
" THE FIRST 4G / LTE SERVICE IN NEPAL"
INTRODUCING THE 1ST 4G / LTE SERVICE IN NEPAL
4G/LTE FREE PROMOTIONAL PACKAGE
DIAL *444# FOR ACTIVATION
OFFER
VALIDITY
SUBSCRIPTION PERIOD
USAGE LIMITATION
FREE 4GB DATA
4 (FOUR) DAYS
1st JAN - 31st JAN
1 GB PER DAY*
* OFFER VALID FOR GSM POSTPAID USERS
Normal data tarriff at Rs. 1/MB will be charged beyond 1GB / day promo offer.
Subscribers can enjoy browsing 4G using existing GSM postpaid Data Packages.

Nepal Telecom 4G Lte

Technology Neutral License on 1800Mhz
Refarming of 1800 band (Band 3)
10Mhz for 2G
5 Mhz for Lte
308 Operational in Jan 1st 2017
79 Sites in process
Max BW 32.4Mbps per site
Activation through seld care *444#
Lte Support SIM and band 3 support Mobile
Expansion in major cities within 2 yrs

Lte nodes in KTM



Broadband Services of NT

SKYDATA

3G Data HSPA+

Wimax

Fiber Internet

Nepal Telecom IP Backbone

DSL Internet

Google Cache

NT Cache

Global Internet Cloud

Friction in the Digital Economy

Providers

- Developers
- Retailers
- Government
- Brand Advertisers
- Content Owners
- Telco – Retail

Barriers

- Identifying Other Party, Authorisation & Security
- Promoting Offer
- Conducting transaction
- Fulfilling Order
- Billing & Payment
- Service & Support

Users

Millions of Customers

Thousands of Segments

Telco assets: to reduce friction

Providers

- Developers
- Retailers
- Government
- Brand Advertisers
- Content Owners
- Telco – Retail

Telco Capabilities & Assets

Barriers

- Identifying Other Party, Authorisation & Security
- Promoting Offer
- Conducting transaction
- Fulfilling Order
- Billing & Payment
- Service & Support

Users

Millions of Customers

Thousands of Segments

wealth of untapped data assets…

Address
Gender
MY PERSONAL DATA
Name
Profile
Preferences

Bad debt
Demographics
MY CREDIT
Average balance

Bank
School
MY RELATIONSHIPS
Workplace
Friends

SIM
SoftSIM
MY DEVICES
Device details
Serial Number

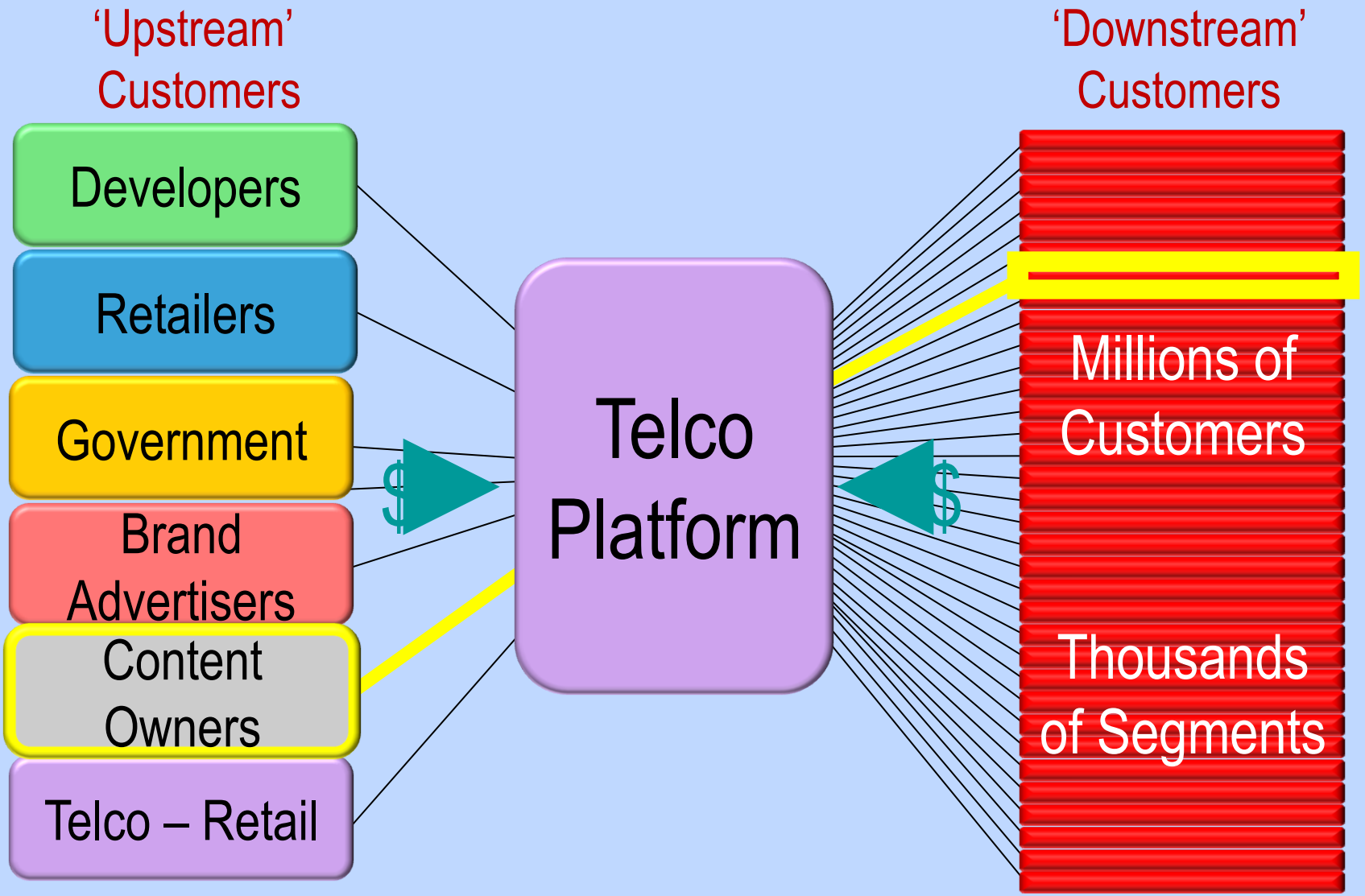
Browsing History
MY INTERACTIONS
QR Codes

Number
SIP Number
MY IDENTIFIERS
IP Address

Location
Presence
MY CONTEXT
Roaming
On/Off

Pictures
Videos
MY STUFF
Address Book
Calendar

‘two-sided’ market



Smarter Society

- Smart card for public transport
- Smart Metering and Promotion of renewable energy
- Public Vehicle information systems using GPS
- Vehicle Tracking System for parking at designated place
- Enhancement of Traffic Situation information - 4321
- Local community information system (garbage collection, Delivery …)
- Public Information System: Parking lot vacancy, Incidents information,
- Traffic management made easy using sensor network
- .Knowledge bank and knowledge delivery
- ……

Ref:

UNECE United Nations Economic Commission for Europe

Draft new Recommendation ITU-T L.1603 (ex L.KPIs-SSC-SDGs)

Key performance indicators for smart sustainable cities to assess the achievement of sustainable development goals