SK Telecom's Rural Broadband Initiative

2014. 4
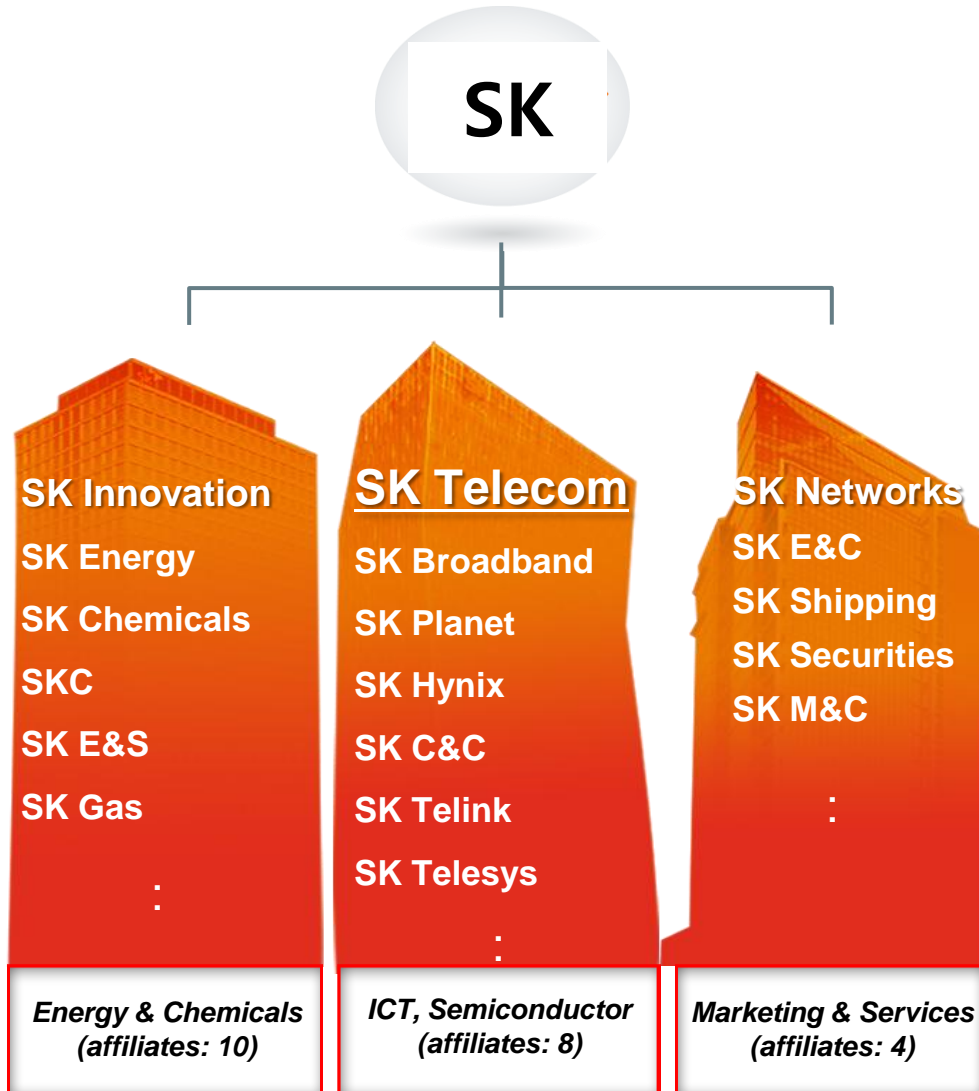
SK Telecom

Table of Contents

SKCBC

PROMOTION

SK Group is the third largest conglomerate in Korea

SK

SK Innovation
SK Energy
SK Chemicals
SKC
SK E&S
SK Gas

:

Energy & Chemicals
(affiliates: 10)

SK Telecom
SK Broadband
SK Planet
SK Hynix
SK C&C
SK Telink
SK Telesys

:

ICT, Semiconductor
(affiliates: 8)

SK Networks
SK E&C
SK Shipping
SK Securities
SK M&C

:

Marketing & Services
(affiliates: 4)

SK is Korea's top 3 conglomerate

- 3rd largest in sales :   U$ 140 bn
- 3rd largest in assets :   U$ 118 bn
- Accounts for 12% of Korean GDP and 11% of all exports

International Recognition

- Fortune Global 500 Ranking

The World's Lagest Corporations

FORTUNE
GLOBAL
500

2011	82nd
2012	65th
2013	**57th**

SK Telecom (SKT) has accomplished outstanding achievements in the telecom. industry over the last couple of decades and today, it is successfully spreading tech. leadership into other areas of ICT industry

SK Telecom's achievements

- **No.1 mobile network operator in Korea**
  - 50.1% M/S, 27 million subscribers
  - Revenue $15 bn, Net Income $2 bn (2013)

- **Outstanding LTE Contribution Award (by GSMA, in 2013 and 2014)**

- **World's 1st & Global ICT Leader**

  - LTE Advanced (2013)
  - HSUPA (2007)
  - HSDPA (2006)
  - Satellite DMB (2005)
  - CDMA 2000 1x/EV-DO (2000)
  - CDMA (1996)

  - Leader in 3 Band Carrier Aggregation
  - Leader in 5G Network Working Group among GSMA members

Key Business Domain

SK Telecom
- MNO
- B2B Solution
- Healthcare

Subsidiaries

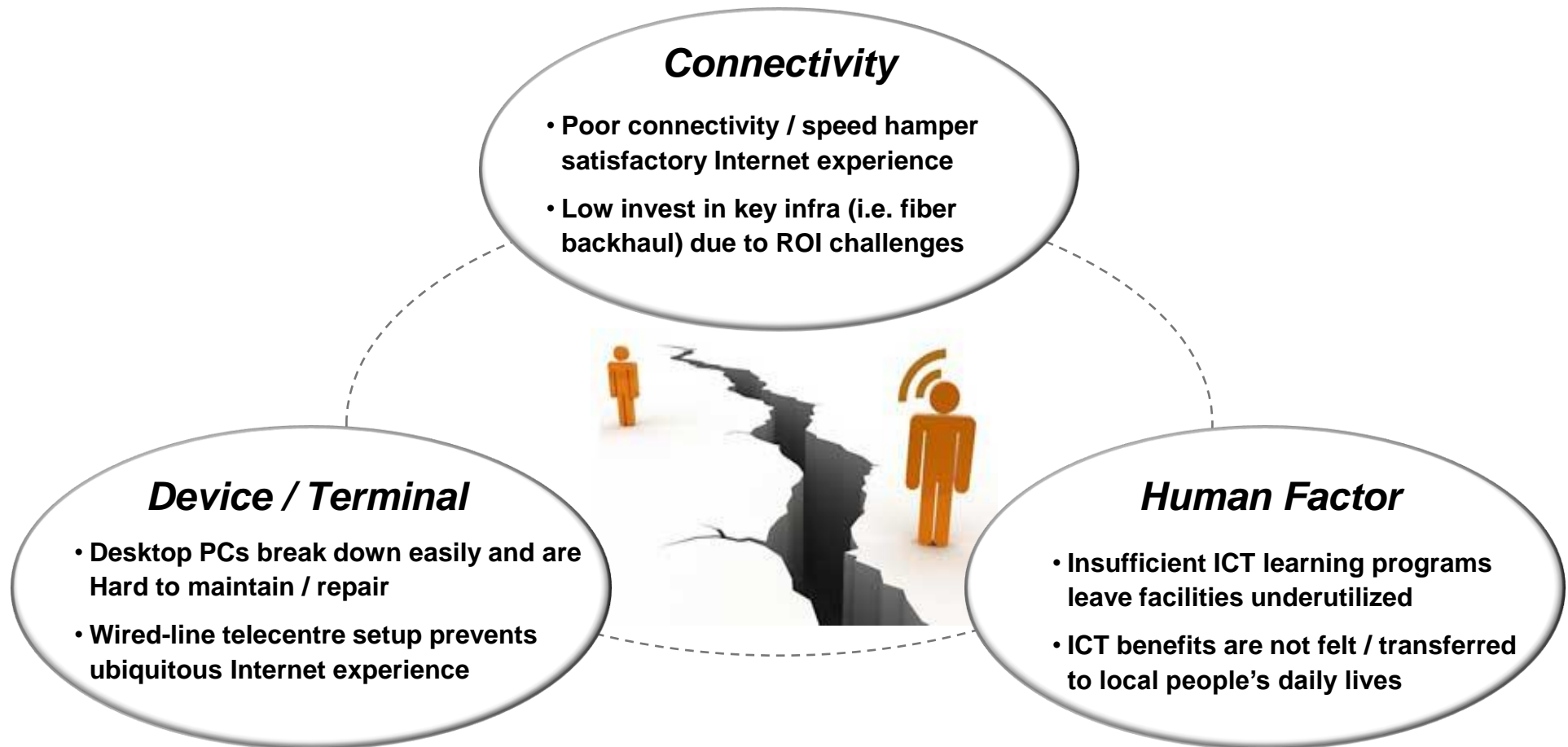**SK Broadband**
- Fixed Line
- Internet
- IPTV

SK Planet
- Digital Contents
- Integrated Commerce
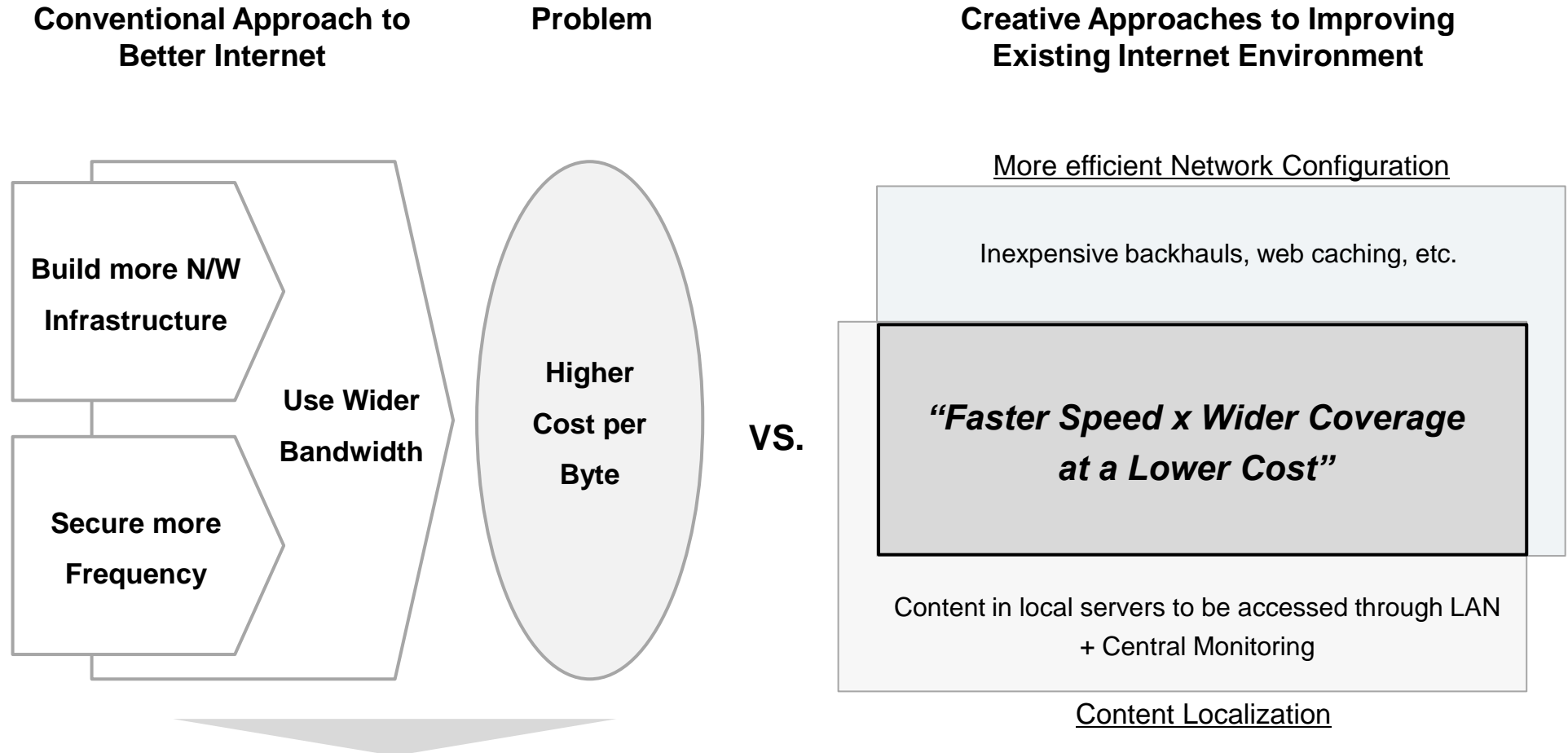- LBS and Telematics

SK Hynix
- DRAM
- Flash Memory
- System IC

There still exist digital divide in many parts of the world mainly caused by issues arising from connectivity, device/ terminal, and human factor

【 Why is the digital divide still there? 】

Connectivity

- **Poor connectivity / speed hamper satisfactory Internet experience**

- **Low invest in key infra (i.e. fiber backhaul) due to ROI challenges**

Device / Terminal

- **Desktop PCs break down easily and are Hard to maintain / repair**

- **Wired-line telecentre setup prevents ubiquitous Internet experience**

Human Factor

- **Insufficient ICT learning programs leave facilities underutilized**

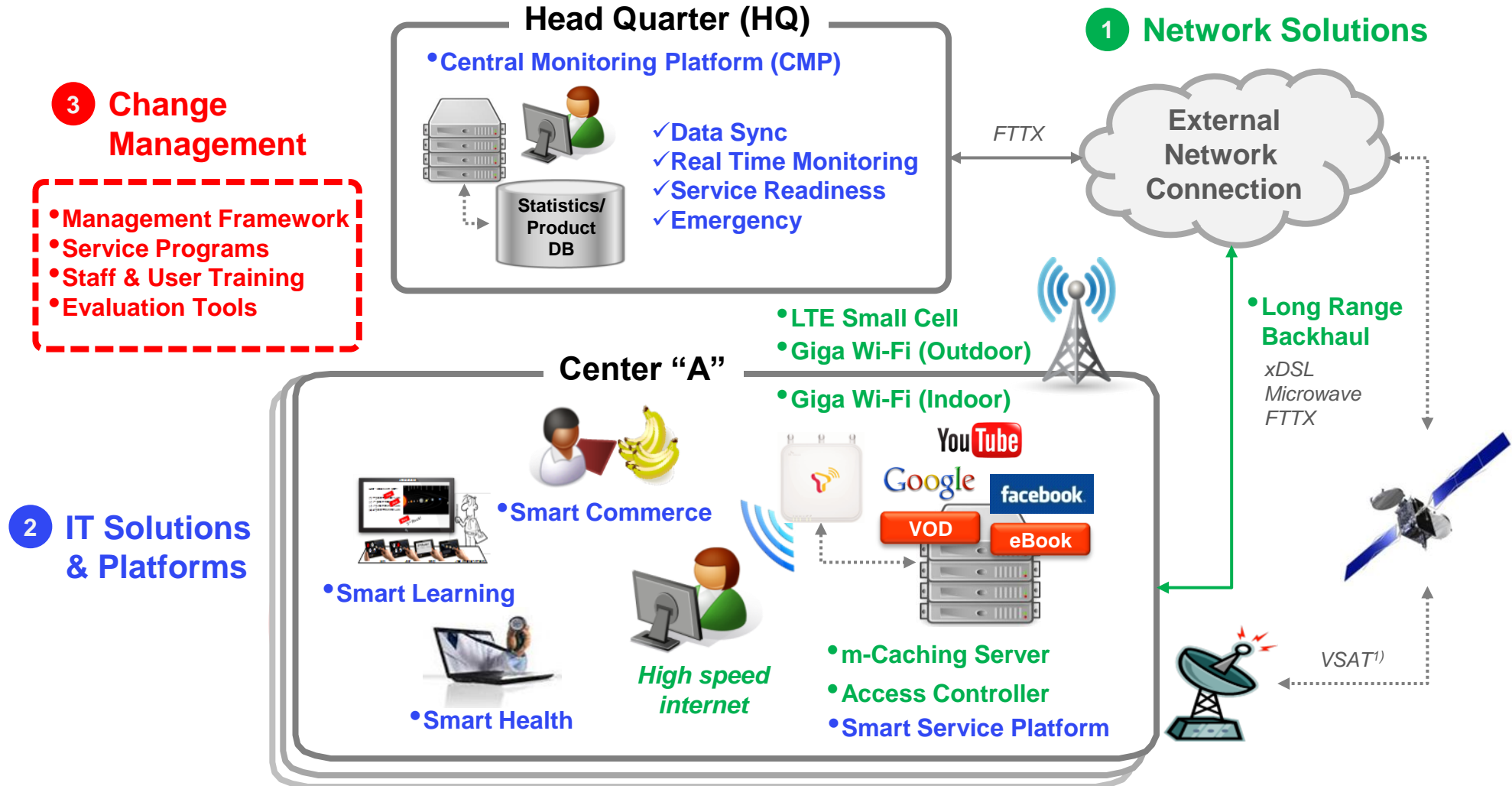- **ICT benefits are not felt / transferred to local people's daily lives**

More accessible & faster Internet environment can be had without massive investments in network by creatively improving the existing infrastructure

Conventional Approach to Better Internet

Problem

Creative Approaches to Improving Existing Internet Environment

Build more N/W Infrastructure

Use Wider Bandwidth

Secure more Frequency

Higher Cost per Byte

VS.

More efficient Network Configuration

Inexpensive backhauls, web caching, etc.

"Faster Speed x Wider Coverage at a Lower Cost"

Content in local servers to be accessed through LAN + Central Monitoring

Content Localization

Not Applicable to Rural / Urban Poor 'Not-Spots'

Network and IT solutions, together with management system, will be implemented in each local center and will be managed/monitored through the CMP at the HQ

【 Illustrative Structure 】

Head Quarter (HQ)

1 **Network Solutions**

3 **Change Management**

- **Management Framework**
- **Service Programs**
- **Staff & User Training**
- **Evaluation Tools**

- **Central Monitoring Platform (CMP)**
  - ✓ **Data Sync**
  - ✓ **Real Time Monitoring**
  - ✓ **Service Readiness**
  - ✓ **Emergency**

Statistics/ Product DB

FTTX

External Network Connection

- **LTE Small Cell**
- **Giga Wi-Fi (Outdoor)**
- **Giga Wi-Fi (Indoor)**

- **Long Range Backhaul**

xDSL Microwave FTTX

Center "A"

2 **IT Solutions & Platforms**

- **Smart Commerce**
- **Smart Learning**
- **Smart Health**

High speed internet

YouTube

Google

facebook

VOD

eBook

- **m-Caching Server**
- **Access Controller**
- **Smart Service Platform**

VSAT[1]

1) VSAT : Very Small Aperture Terminal

SKT offers various cost-effective and high-performance network components suitable for poor network environment such as in the rural communities

Giga Wi-Fi

Indoor AP

Outdoor AP

- ✓ *Cost & Performance-efficient*
- ✓ *x3 wider coverage*
- ✓ *x6 faster speed*
- ✓ *Max. 200+ concurrent users*

mCaching Server

- ✓ *Real-time web caching*
- ✓ *Contents pre-loading*
- ✓ *Max. x4 backhaul capacity enhancement*

Long-range Backhaul Solution
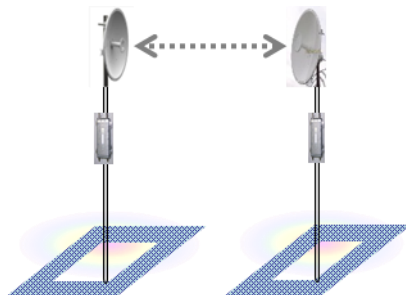
- ✓ *Unlicensed frequency*
- ✓ *Point to Point & Mesh function*
- ✓ *Max. 30km range*

LTE Small Cell

Indoor

Outdoor

- ✓ *The most suitable cellular access for low-population areas*
- ✓ *Max. 5km coverage*
- ✓ *Max. 128 concurrent users*

Easy-to-use and practical IT platforms are lined up for the local community to take full advantage of the benefits of the broadband connection in the area

Smart Learning Solution

✓ *VODs[1] & eBooks for on/ offline environment*

✓ *Self-progress control feature*

✓ *Easy & simple UI*

Smart Commerce/Health Solution

Smart Commerce

✓ *3~4 simple steps to promote online*

✓ *Linked to various SNS & Commerce websites*

✓ *Self health measurement*

✓ *Printable health record*

Smart Health*
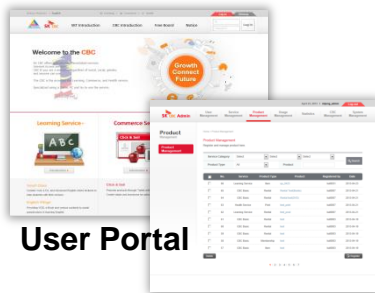
User & Admin Portal

User Portal

Admin Portal

✓ *Web Portal for accessing services*

✓ *Managerial features including membership, usage & asset mgmt.*

✓ *Various Statistics*

Central Monitoring Platform (CMP)

Local Portal A
Local Portal B
Local Portal N
HQ CMP
Local Portal C
Local Portal E
Local Portal D
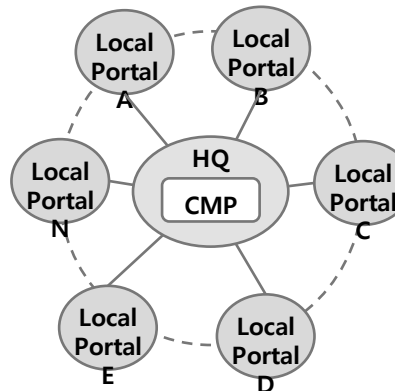
✓ *Monitoring of local centers from HQ*

✓ *Data sync. between local centers & HQ*

✓ *Customized data analysis*

✓ *Emergency Control*

1) VOD : Video on Demand

* extendable under permission of health related regulations

Change management tools can greatly enhance the level of user engagement by encouraging local community's consistent and active utilization of the broadband and IT services

Management Framework

- ✓ *Detailed policies & procedures for center management*
- ✓ *Tasks & responsibilities for staffs*

Service Programs

- ✓ *List of programs & promotions*
- ✓ *52-week schedule*
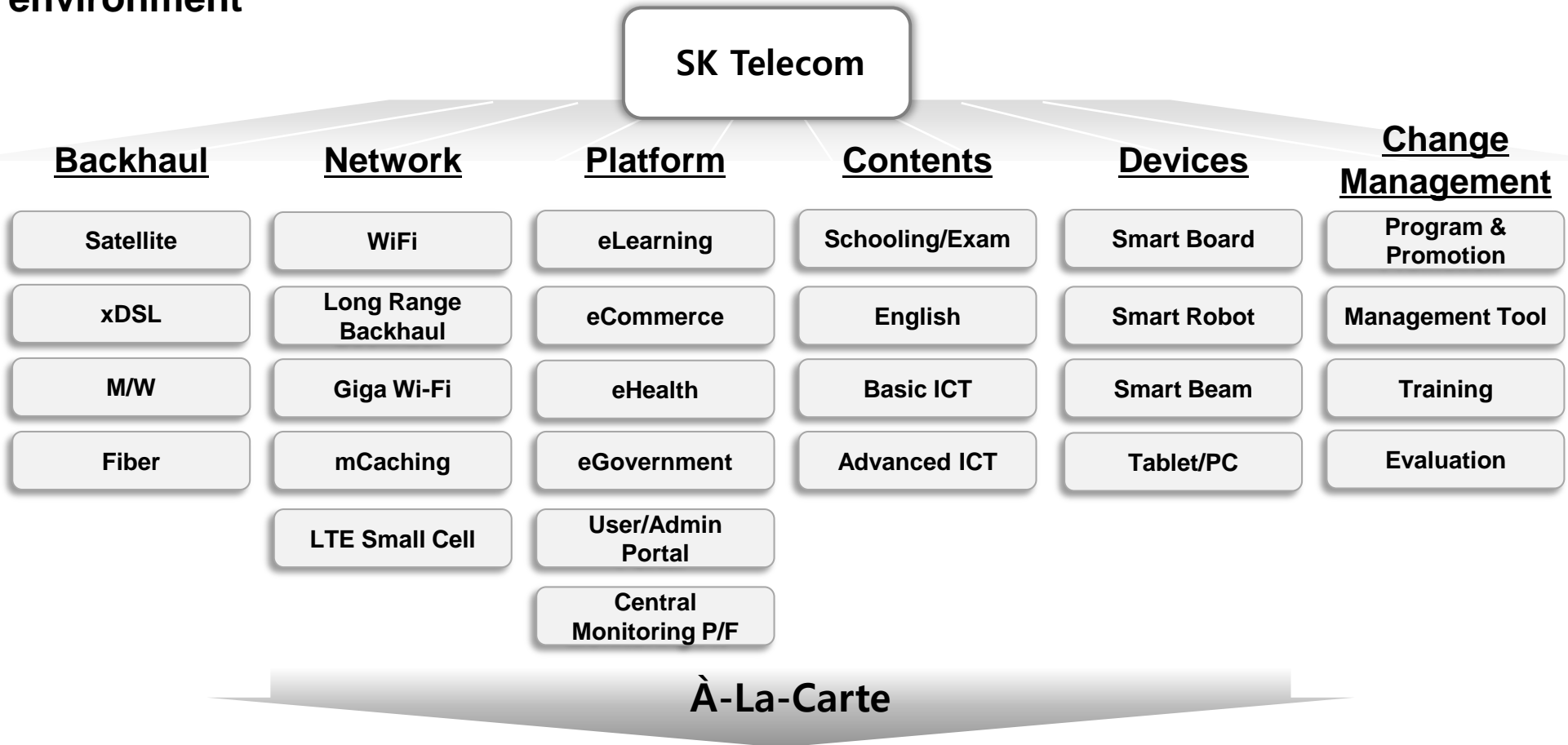- ✓ *Execution guides*

Staff & User Training

- ✓ *Staff training on service & facility operation*
- ✓ *User training on services & Smart Devices*
- ✓ *Various manuals*

Evaluation Tools

- ✓ *Periodic operational report*
- ✓ *Staff & program evaluation sheets*

All individual components provided by SKT can be individually chosen and customized in various combinations to best suit the needs of a specific local environment

SK Telecom

Backhaul	Network	Platform	Contents	Devices	Change Management
Satellite	WiFi	eLearning	Schooling/Exam	Smart Board	Program & Promotion
xDSL	Long Range Backhaul	eCommerce	English	Smart Robot	Management Tool
M/W	Giga Wi-Fi	eHealth	Basic ICT	Smart Beam	Training
Fiber	mCaching	eGovernment	Advanced ICT	Tablet/PC	Evaluation
	LTE Small Cell	User/Admin Portal			
		Central Monitoring P/F			

À-La-Carte

Can be combined to form **"the most optimal package"**

to meet the specific needs required by the environment

A pilot site is currently under operation in a small rural town in East Malaysia with the optimal combination of our components implemented

Pilot Site in Malaysia

" *I was impressed with the infrastructure set up at the SK Community Broadband Center* which appeared to be effective in assisting Kuala Tomani villagers to enjoy ICT facility.

On Giga Wi-Fi technology, government needed to take into consideration the cost before making a decision, and *the Ministry is prepared to hold discussions on the new technology offered in the effort to develop PI1M[1] nationwide* "

- *Dato' Sri Ahamad Shabery Cheek*
Ministry of Information, Communication and Culture

On average,
100+ MEMBERS
visit the Center
ever day

PC Usage & Content
usage sums up to
***200 HOURS & 150
VIEWS*** PER DAY

Membership count has
reached over ***1,000
WITHIN 5 MONTHS***
of operation

Max. amount of data usage
within a 1-month period
was 11.7Mbps, with
***mCACHING
PROCESSING 7.8Mbps
& BACKHAUL 3.9Mbps***

Regular school classes
has been held
consistently
EVERY DAY by the
teachers

<Internet Café w/ members>

Waiting List

<Adults & teens using PCs>

<Students using Tablet PCs>

<A student doing research>

\<Training Program for Teachers\>

\<Regular School Class Schedule\>

\<Regular School Class Schedule\>

\<SKCBC Content used by a teacher\>

<Teachers & students using the writing feature>

<Video Clip Session>

<School Entrance Exam Prep. Class>

<A teacher using the Web>

<Self-Study with SKCBC Content>

<MS Office Excel Class>

<Typing Class>

<"Creating My First Email" Class>

<Web Searching Contest>

<Adults & students participating in the Contest>

<Comments on Freeboard>
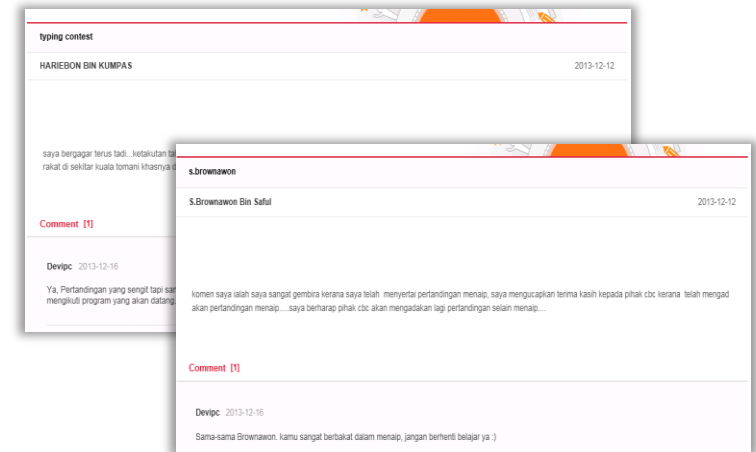
"I am very nervous at the moment. I hope this contest will carry on because this kind of contest will arouse interest, at the same time utilize the technology for the right thing."

- **Comment from an Adult Member**

"I was very happy to participate in the Typing Contest. I would like to thank CBC for holding the competition. I hope CBC will hold more competition other than typing."

- **Comment from a Student Member**

<Vocabulary Card Reading Game>

<Storybook Time>

<Alphabet Fishing Game>

<Marketplace Board Game>

<Students drawing on the Tablets>

<Students' Drawings>

<Ladies taking pictures & uploading promotions on SNS>

<Various promotional postings on SKCBC Kuala Tomani's facebook site>

<Comments left on the postings by Customers>

<Presentation on Sanitation & Health Equipment Training>

<CBC Passport Event>

<BRIM Registration Aid>

<College Apps. & Job Search Aid>

<Promotions at the mini RTC Carnival>

**<Visitors from the Ministry
of Education, Malaysia>**

**<Minister of Ministry of Information,
Communication and Culture, Malaysia>**

<Visitors from the MICT, Thailand>

**<Visitors from the MCMC
& Various Malaysian Telco.>**

V. Our Vision

SKT believes that the Rural Broadband Initiative will act as a 'catalyst' to provide new opportunities to improve the overall quality of life of the relevant communities
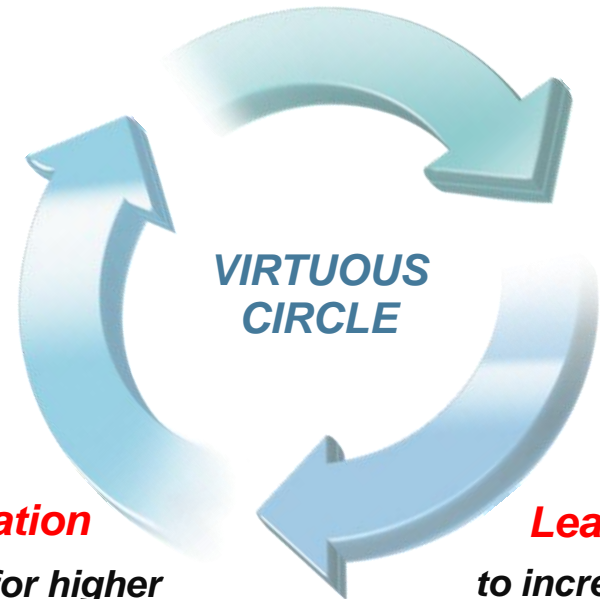
'CATALYST'

SK Telecom

Rural Broadband Initiative

Sets in motion

Self-development through ICT

Opportunities

to access ICT training & education

VIRTUOUS CIRCLE

Realization

of desires for higher achievements

Learning

to increase skills & knowledge