

To Build the Most Reliable Energy Network using LTE



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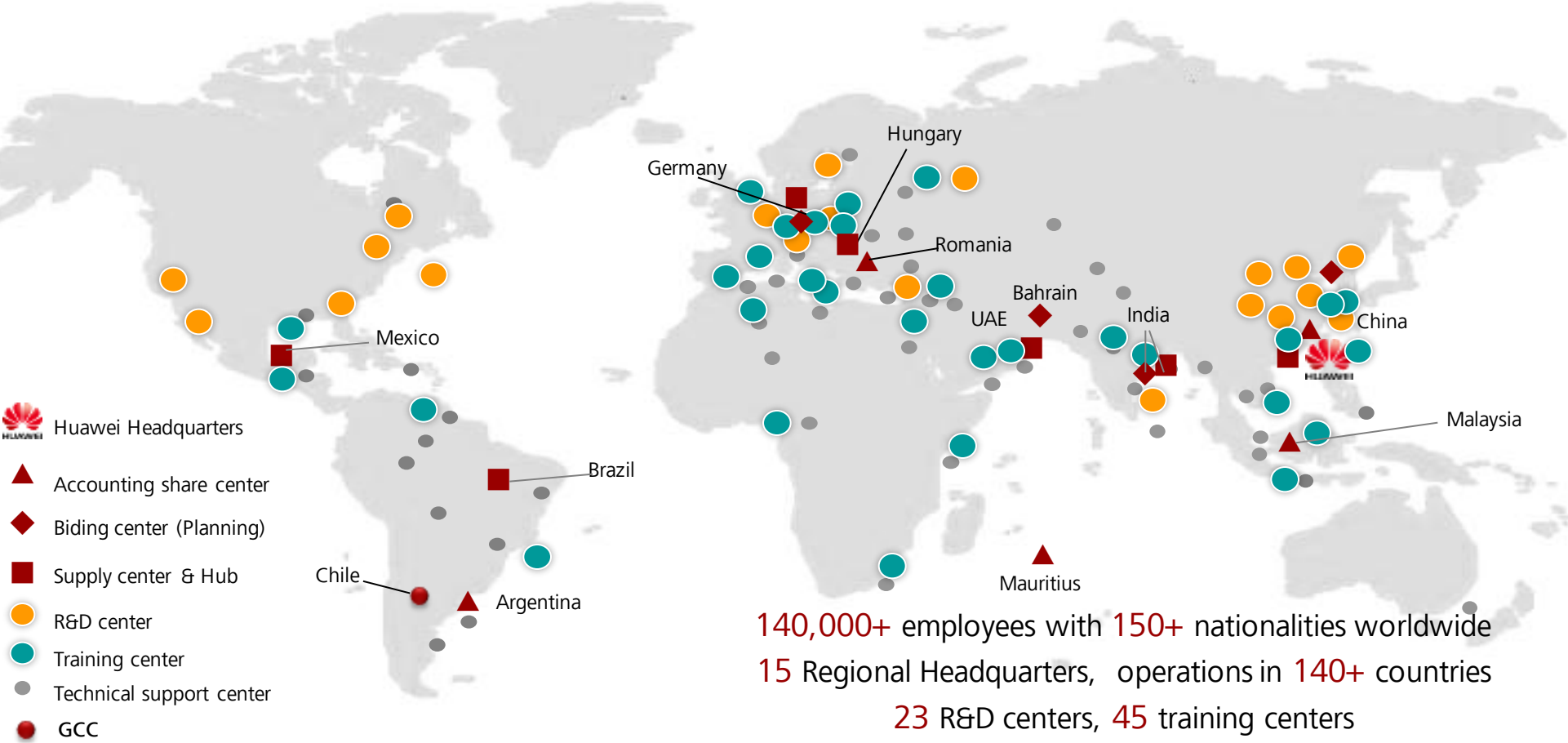
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Business Consulting Dept.

HUAWEI TECHNOLOGIES CO., LTD.

Huawei Confidential



A leading global ICT solutions provider with Centers of Expertise worldwide



Huawei Latin America Region



- Established in 1999 with headquarters in SP., Brazil
- 19 branch offices in Latin America, covered almost all the LA market
- 3 software R&D centers and 3 training centers.
- 4500+ staff, around 80% of whom are local staffs
- Serving over 50 Operators



Scenarios and Applications for Energy Network

Scenarios:

- ◆ Oil Field
- ◆ Mine

Application:

- ◆ Communication
- ◆ Surveillance
- ◆ Dispatching
- ◆ Data Collection
- ◆ Fleet MGMT
- ◆ IOT
- ◆ etc.

Sparsely Populated



Pipeline



Underground



Offshore Platform



Push-To-Talk



Dispatch & Command



Emergency & Rescue



LBS



Data Service



Oil / Mine Field Surveillance



Data Collection

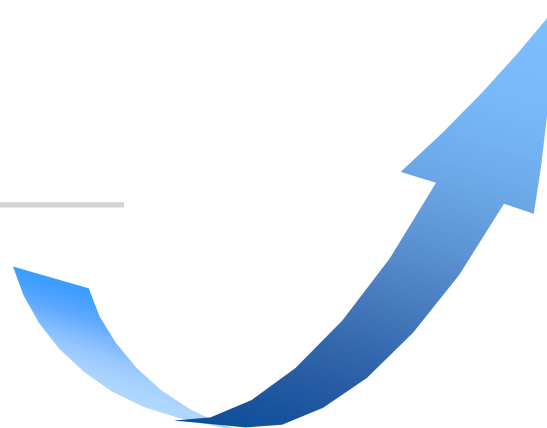


From Voice to Multi-Media



Traditional Voice Communication

- Single voice service
- Information Distorted by Voice
- Transmission of large amount of data is unavailable
- Video service is unavailable

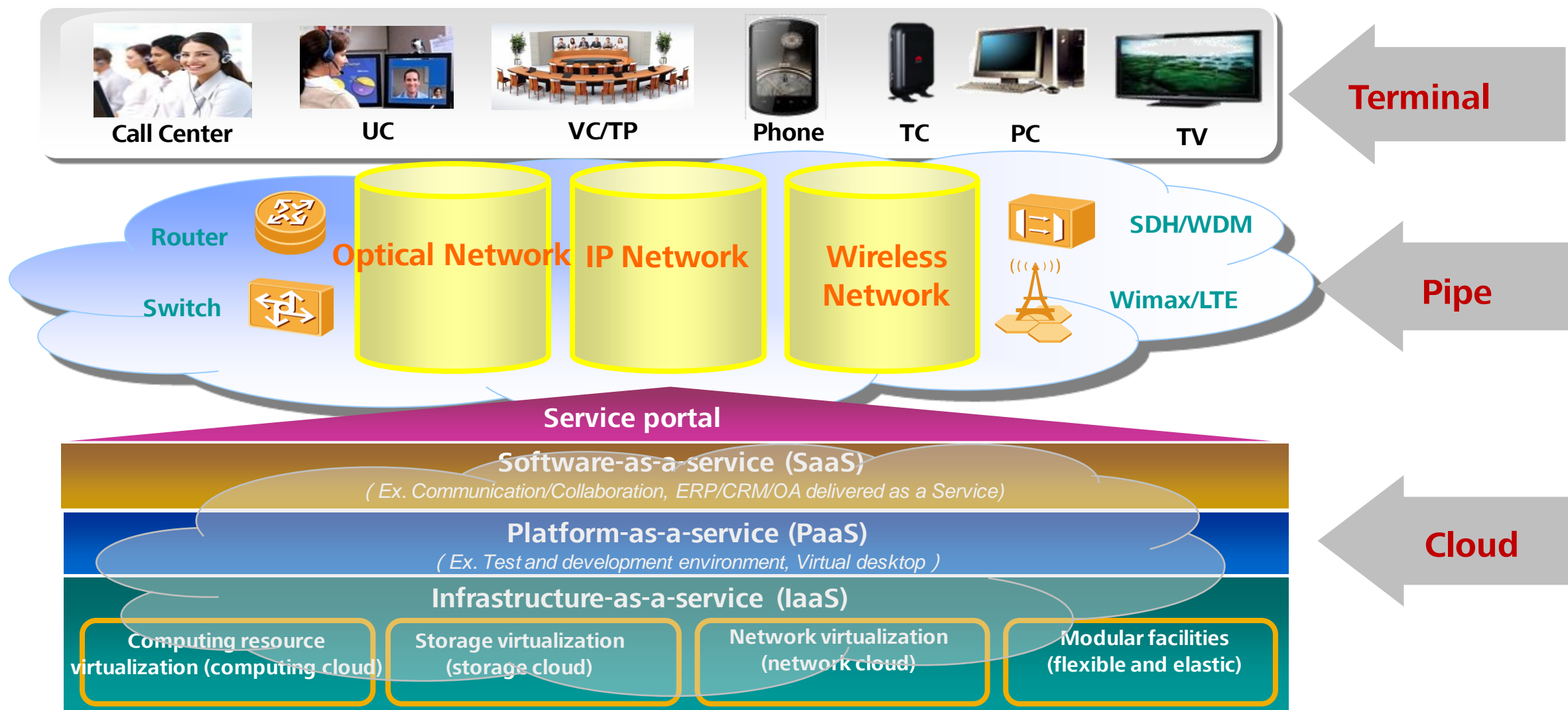


Multi-Media Communication

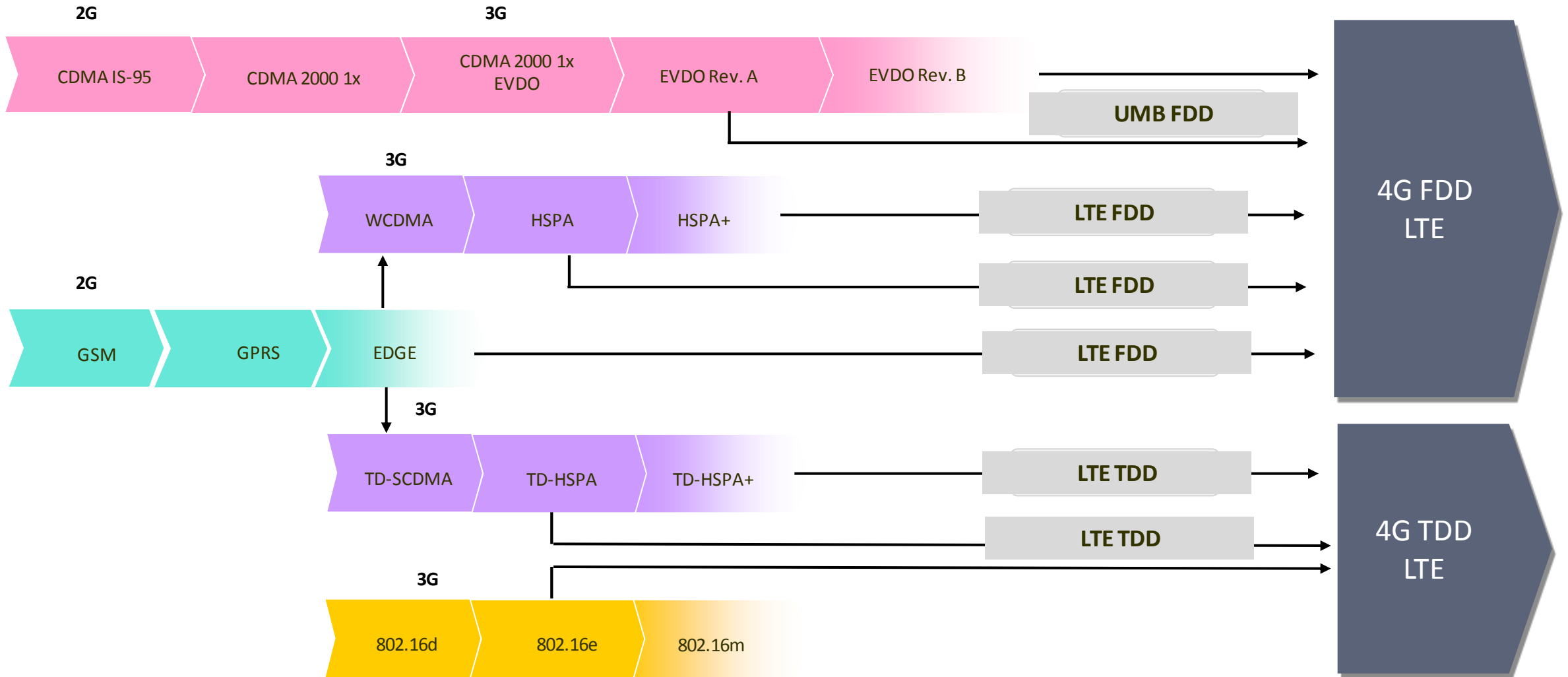
- Voice + Video Dispatching
- Visual Operation Management
- Remote mass data collection
- Video services enhance efficiency and security



New Generation ICT Technology Framework



4th generation (4G) FDD / TDD Long Term Evolution (LTE) roadmap



4G LTE brought both technology and competitiveness advantage for telecom services

Enhanced experience for end-to-end quality

- Higher speed (×10)
- Lower latency (1/4)
- Lager capacity (×3)



HD video content



Home entertainment solution

Spectrum flexibility

- More spectrum (New or re-farming)
- Varsity channel bandwidth



Easy coverage



Independent network (e.g M2M)

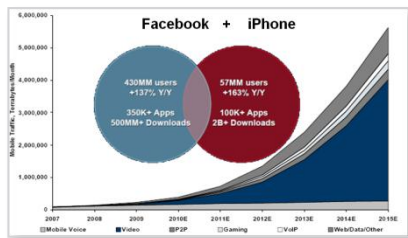
Lower cost

- IP based flat network architecture
- Low OPEX: SON
- High re-use of asset

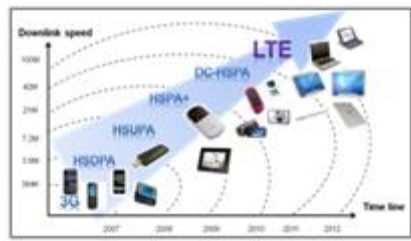


- technology adopted by both GSM/UMTS and EVDO worlds
- Easy roll-out network

Data consumption increasing, device innovation, seamless user experience and market competition are main drivers of LTE development



Data consumption will increase 40 times in next 5 years



Innovated big screen device bring 10X traffic

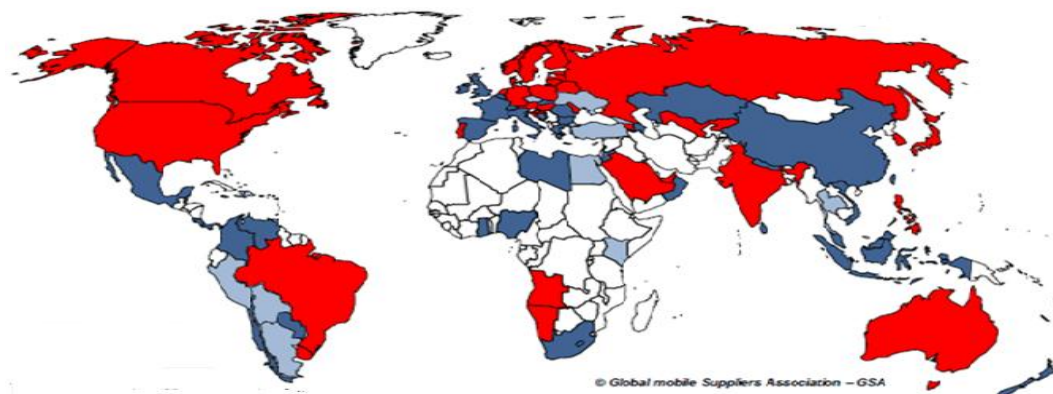


Customer demand seamless broadband experience



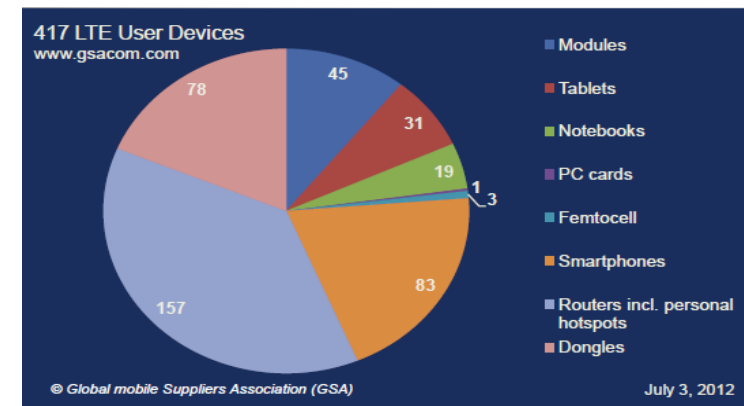
Mobile broadband market competition

- Commercial LTE services
- LTE development on-going or planned
- LTE trial sites



Total **327** operators in 99 countries are investing in LTE

- 267 commercial LTE network commitments in 86 countries,
- 60 pre-commitment trial in additional 13 countries
- **80 commercial LTE networks launched in 38 countries**



LTE device development (417 from 67 manufacturers)

GSA forecasts 144 commercial LTE network by end of 2012

Leading Global LTE/EPC Markets



38 commercial LTE networks

30 commercial EPC networks

80+ commercial LTE/EPC contracts

Huawei LTE Networks Provide Coverage to 135 Million People

Industry Recognition of Huawei's LTE Leadership

2012 GTB Innovation Awards



**World's Largest & Fastest
LTE TDD Network**



**(Sole vendor in Tokyo,
Osaka & Nagoya)**

2012 LTE World Awards



**Most Significant
Development for
Commercial LTE Networks**



**Best LTE Core Network
Element**

2011 LTE World Awards



**Significant Progress for a
Commercial Launch of LTE
by a Vendor**

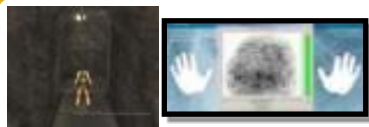


**Best LTE Network Elements
(SingleRAN BTS3900L)**

Huawei's Energy Network Platform opens for all innovated business cooperation



High Speed Data



RFID/LBS



Video Surveillance



Push to talk



- Voice Service
- Multimedia Service
- Internet Service

- Underground Office
- Attendance Administration
- Push to talk
- Command and Dispatch

- Accident rescue
- Underground Precise Positioning
- Video surveillance
- Underground Key Data Upload

Different technology, Different Service , Unified Solution, for Different Scenery

Thank you

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