

LTE for Fixed Access: The Next Big Thing?

https://marketpublishers.com/r/LC5E371B905EN.html

Date: September 2016

Pages: 72

Price: US\$ 3,300.00 (Single User License)

ID: LC5E371B905EN

Abstracts

In developed countries, the deployment of superfast broadband (SFB) is today one of the hottest topics in connection with the convergence of fixed and mobile. Plans for replacing a landline with a mobile line are nothing new.

The substitution by LTE of fixed broadband started to be offered by mobile players two or three years ago in European markets.

Many players are jumping onto the bandwagon, displaying a variety of strategies in a fast-moving industry.

The business case for fixed LTE is clearly there – whilst rather limited in advanced countries, it is wide open in developing markets.

The key question is if fixed LTE technology is going to win the race against fibre and hybrid and, if so, when? Today, LTE for fixed access appears to be the least expensive option to provide medium speeds in rural areas. The option of hybrid solutions combining xDSL and LTE is becoming a worthy competitor.



Contents

1. EXECUTIVE SUMMARY

- 1.1. Market drivers
- 1.2. Technical solutions: what makes fixed LTE technically different from mobile LTE?
- 1.3. Players' strategies
- 1.4. The market for LTE fixed
- 1.5. LTE for fixed access: which economic conditions?

2. METHODOLOGY & DEFINITIONS

- 2.1. General methodology of IDATE's reports
- 2.2. Definitions

3. MARKET DRIVERS

- 3.1. Factors driving LTE fixed success
 - 3.1.1. Advantages of LTE
 - 3.1.2. Fixed speeds can be significantly affected by physical/technological aspects
 - 3.1.3. Coverage
 - 3.1.4. Availability of spectrum in low frequencies
 - 3.1.5. Speed-based tiered pricing
- 3.2. Factors constraining LTE fixed deployment
 - 3.2.1. LTE speeds
 - 3.2.2. Blind spots still hamper rural LTE coverage
 - 3.2.3. Volume-based tiered pricing / unlimited offers
 - 3.2.4. Consumption / usages

4. TECHNICAL SOLUTIONS: WHAT MAKES FIXED LTE TECHNICALLY DIFFERENT FROM MOBILE LTE?

- 4.1. Fixed LTE versus other technologies
 - 4.1.1. Fixed versus mobile LTE
 - 4.1.2. TDD competing technologies
 - 4.1.3. Satellite
- 4.1.4. Hybrid solutions
- 4.2. Technical aspects
 - 4.2.1. Throughputs



- 4.2.2. Range of fixed LTE services
- 4.2.3. External outdoor antennas or integrated indoor solutions
- 4.2.4. Core network
- 4.2.5. Power emission level
- 4.2.6. Advantages and drawbacks of TDD and FDD modes
- 4.3. Frequency bands used for LTE fixed access
 - 4.3.1. Most popular bands for fixed LTE access
 - 4.3.2. Other bands used or to be used in the future

5. PLAYERS' STRATEGIES

- 5.1. Operators
 - 5.1.1. CDMA2000 players 'Migration to LTE 450 for survival'
 - 5.1.2. PHS/WiMAX players 'Migration towards TD-LTE'
 - 5.1.3. Satellite players
- 5.1.4. 'LTE as a substitute to fixed' gives a boost to mobile players, forcing fixed-only players to strike deals with mobile players
- 5.1.5. 'LTE as a complement to DSL hybrid solutions combining DSL and LTE accesses' enlarges potential market for integrated players
 - 5.1.6. 'Fixed wireless LTE' as a tool for OTT to eat into mobile revenues
 - 5.1.7. 'Fixed wireless Internet' as a tool for LMDS revival and 5G first use case
- 5.2. Equipment manufacturers

6. THE MARKET FOR LTE FIXED

- 6.1. The LTE fixed use case
- 6.2. The mid-term window of opportunity
- 6.3. Assessing the potential addressable market

7. LTE FOR FIXED ACCESS: UNDER WHAT FINANCIAL CONDITIONS?

- 7.1. LTE for fixed access
- 7.2. Fibre optic network capex assessment
- 7.3. Hybrid LTE/xDSL access
- 7.4. TCO Synthesis

8. ANNEXES

8.1. FTTH (Fibre To The Home) architecture



- 8.2. FTTx/DOCSIS 3.1 architecture
- 8.3. FTTN (Fibre To The Node) architecture

9. GLOSSARY



Tables

TABLES

- Table 1: Line length and spectrum width affecting speeds
- Table 2: Theoretical speed and flow-rate fluctuations, by technology
- Table 3: Comparative table on variables' sensitivity on speeds
- Table 4: Outdoor LTE coverage in a selection of countries
- Table 5: The three major new LEO constellation projects
- Table 6: Understanding MIMO and order modulation effect on performance
- Table 7: Frequency range and coverage
- Table 8: Members of 3GPP supporting the work item on a new power class UE in LTE Rel.
- Table 9: Different industry strategies
- Table 10: Comparison of key features of fixed UFB solutions
- Table 11: Comparing LTE fixed access with fibre optics and hybrid access
- Table 12: Fixed access General assumptions
- Table 13: Fixed access capex assumptions
- Table 14: Fixed access opex assumptions
- Table 15: Fixed access Traffic assumptions
- Table 16: Fixed access Capacity assumptions LTE Release
- Table 17: Fixed access Capacity assumptions LTE Release
- Table 18: Fibre optic capex assumptions Fibre optic costs
- Table 19: Hybrid access Network capex assumptions
- Table 20: Hybrid access STB capex assumptions
- Table 21: Hybrid access opex assumptions
- Table 22: TCO assessments
- Table 23: Comparison of key features of fixed UFB solutions



Figures

FIGURES

Figure 1: Comparison of fixed and mobile broadband growth in Sweden, H1 2008-H1 2015

Figure 2: Comparison of fixed and mobile superfast broadband growth in Sweden, H1 2008-H1 2015

Figure 3: Comparison of advertised average speeds (DL/UL) in OECD countries

Figure 4: Estimated xDSL connection speeds, by distance from the exchange

Figure 5: Geographical breakdown of 1 Gbps fixed connection plans

Figure 6: Comparison of rural household coverage between fixed (xDSL, FTTP,

DOCSIS x.0, WiMAX) and mobile broadband (HSPA, LTE)

Figure 7: Comparison between fixed and mobile broadband usage in developed country, in 2014

Figure 8: Comparison between fixed and mobile broadband usage in emerging country, in 2014

Figure 9: Comparison between LTE-CA (Carrier Aggregation), LTE-LWA (LTE Wi-Fi Access) and LTE-U (LTE-Unlicensed)

Figure 10: The different releases of XGP

Figure 11: AXGP roadmap

Figure 12: Relation between XGP 3.1 and XGP 3.2

Figure 13: WiMAX evolution path towards TD-LTE

Figure 14: UQ strategy and roadmap for introduction of WiMAX

Figure 15: Capacity of various Ka-band satellites

Figure 16: Why latency is higher for satellite communication than with terrestrial solutions

Figure 17: Coverage attained by constellation of LEO satellites

Figure 18: Minimum throughput required, depending on stream definition

Figure 19: Comparison of IP-level congestion vs TCP-level congestion

Figure 20: Percentage of advertised speed actually attained, by access technology, in Germany, in 2012

Figure 21: Breakdown of subscribers by speed class for fixed LTE services, in

Germany, in 2012

Figure 22: Delivery range of an eNodeB

Figure 23: External antenna system provided by Telenor

Figure 24: LTE architecture

Figure 25: Coverage benefit brought by UE power class

Figure 26: Comparison of coverage in given area between NBN and its competitors*



Figure 27: What is the best technology for providing wireless / mobile access in rural areas?

Figure 28: LTE device ecosystem

Figure 29: Roadmap for trials and auctions for 3.5 GHz and 2.6 GHz frequency bands in France

Figure 30: Depth of XO LMDS spectrum

Figure 31: MulteFire roadmap

Figure 32: The DT 10-year copper network life extension with hybrid

Figure 33: Deutsche Telekom 'integrated' strategy

Figure 34: Comparison of wireline and wireless technologies in the next five years

Figure 35: Households with DSL connection (not upgraded to VDSL), thousands, national level

Figure 36: Overall fixed broadband coverage in Europe in 2014 (% of households)

Figure 37: LTE coverage in Europe in 2014 (% of households)

Figure 38: HSPA coverage in Europe in 2014 (% of households)

Figure 39: Fixed broadband connections distribution by DL speeds in the USA

Figure 40: Proportion of households with Internet access

Figure 41: FTTH P2P architecture

Figure 42: FTTH PON architecture

Figure 43: FTTx/DOCSIS 3.1 architecture

Figure 44: FTTDP/ G.fast architecture

Figure 45: Relevance of VDSL solutions according to fibre connection point



I would like to order

Product name: LTE for Fixed Access: The Next Big Thing?

Product link: https://marketpublishers.com/r/LC5E371B905EN.html

Price: US\$ 3,300.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer

Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/LC5E371B905EN.html