FTTH Council MENA - Panorama

Middle East and North Africa FTTH Broadband status

Market at September 2019

FTTH Council MENA Conference – October 22nd, 2019 – Cairo, Egypt
Agenda

1. Study Background
2. General overview and main trends
3. MENA : FTTH/B Status and leading countries
4. MENA : FTTH/B Technical trends
5. MENA : FTTH/B Ranking at September 2019
6. Key conclusions
01 Study Background
Methodology

- Mission on behalf of the FTTH Council MENA
- Provide a complete summary of the FTTH/B status in 17 countries in Middle East and North Africa at Sept. 2019

**ACTIONS**

**Scope**
- Analysis of 17 countries*
- Data per player for FTTH/B and other fibre-based architectures
- Distinction between architecture: FTTH/B vs FTTx (FTTN/C+VDSL, FTTLA+Docsis 3.x)
- Key parameters study: technical, financial, business models, figures

**Bottom-up methodology**
- Desk research
- Direct contacts with leading players and IDATE partners within countries
- Information exchange with the FTTH Council MENA members

**Results**
- Both quantitative and qualitative data
- Market status in the country
- Strategic approach of involved players

(*) Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Tunisia, United Arab Emirates
02 General overview and main trends
FTTH/B figures in MENA as at September 2019

As at September 2019 in MENA(*):

- 3.46 million FTTH/B subscribers → + 18% YoY growth
- More than 6 million FTTH/B Homes Passed → + 19% YoY growth

FTTH Council MENA scope at September 2019

17 countries covered

Take-up rate* 55.5%

FTTH/B Market evolution in terms of Subscribers and Homes Passed (MENA-17) in millions

FTTH/B Subscribers
FTTH/B Homes Passed

September 2014: 1.59 million
September 2015: 1.84 million
September 2016: 2.34 million
September 2017: 2.59 million
September 2018: 2.82 million
September 2019: 3.46 million

Source: IDATE for FTTH Council MENA

(*) MENA-17 = Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Tunisia, United Arab Emirates

*Take-up rate = FTTHB Subs / FTTHB Homes Passed
Incumbents play a significant role in enhancing FTTH/B networks

- Analysis of around 56 FTTH/B projects in Middle East and North Africa at September 2019
- Around 53% of total Homes in the region have been passed via incumbents initiatives (representing 4.6 million homes), and approx. 27% of Homes deployed by public initiatives.
- In terms of the number of FTTH/B initiatives, alternative ISPs (account for 29 initiatives, i.e. 52%) are leading the fibre transformation (although their projects are not as big as those initiatives from incumbents or public players).
MENA : FTTH/B Status and leading countries
FTTH in MENA – Countries Position

In September 2019

Mature & Dynamic markets
- Qatar
- UAE
- Oman
- Bahrain
- Saudi Arabia
- Kuwait

High Potential markets
- Iran
- Libya

Markets with significant announcements and/or progresses
- Lebanon
- Iraq
- Morocco
- Algeria
- Tunisia
- Jordan
- Egypt

Steady markets with few evolution
- Palestine
- Sudan

(*) Excluding countries with non available data

Source: IDATE for FTTH Council MENA
Trends in MENA: Fibre transformation through the deployment of full FTTH solutions or a progressive migration from copper towards fibre

United Arab Emirates

- Few years ago, Etisalat and Du engaged in the rapid deployment of FTTH networks across the country.
- As at September 2019, the whole country is almost entirely covered with FTTH networks for both residential and corporate users.

Saudi Arabia

- A country where a National Broadband Plan is currently in execution in order to reach at least 3.5 million homes with FTTH by 2020.
- Several telecom players are involved in the deployment of the National Broadband Plan and also one electricity company.

Qatar

- Qatar’s QNBN plays a key role in promoting FTTH deployments throughout the country
- ISPs in Qatar are currently almost covering the whole country with Fiber-to-the-Home broadband networks

FTTH/B additional Subscribers and Homes Passed in United Arab Emirates, Saudi Arabia and Qatar from September 2018 to September 2019

United Arab Emirates
- + 25k Subs (Δ+2%)
- + 30k homes passed (Δ+1%)

Qatar
- + 114.9k Subs (Δ+14%)
- + 400k homes passed (Δ+22%)

Saudi Arabia
- + 114.9k Subs (Δ+14%)
- + 57k homes passed (Δ+14%)
FTTH/B Subscribers in MENA: A region that is represented by 3.46 million FTTH subscribers, led by UAE and followed by Saudi Arabia.

FTTH/B Subscribers in the 4 main MENA Fibre markets, September 2019:

- **Saudi Arabia**: 919k FTTH/B subscribers
- **Qatar**: 394k FTTH/B subscribers
- **Kuwait**: 103k FTTH/B subscribers
- **UAE**: 1.675 million FTTH/B subscribers
FTTH/B Take-up rate*: UAE and Qatar as leaders in the region and also in the world with a very high adoption of fibre services

Source: IDATE for FTTH Council MENA

*Take-up rate = FTTHB Subs / FTTHB Homes Passed

Data not available
MENA : FTTH/B Technical trends
Technical evolution of the FTTH/B networks in Middle East and North Africa

How has been the deployment of FTTH/B networks in these countries?

- Methodology: Interviews
- Quantitative variables
- Different variables defined
Focus on upgrading to FTTH/B technology and architecture: MENA is highly deploying FTTH solutions over PON technology

**FTTH vs FTTB Technologies**
- FTTH is mainly promoted by those countries where there is a high densification of fibre services (UAE, Qatar).
- Many countries in the region have followed the same strategy as leaders, in order to deploy full FTTH solutions to each premise.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTTH</td>
<td>93%</td>
</tr>
<tr>
<td>FTTB</td>
<td>7%</td>
</tr>
</tbody>
</table>

**PON vs Ethernet P2P**
- fibre deployment in MENA has been recently implemented and investment efforts are focused on the scalability of the network.
- XGPON is being highly deployed in the region, making P2P Ethernet solutions not so common among MENA countries.

<table>
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<tr>
<td>PON</td>
<td>96%</td>
</tr>
<tr>
<td>Ethernet P2P</td>
<td>4%</td>
</tr>
</tbody>
</table>

**SDU vs MDU**
- While the FTTH/B solutions have been mainly deployed in green field areas with new buildings. Now the main focus in the region is also to reach single households.

<table>
<thead>
<tr>
<th>Technology</th>
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<tbody>
<tr>
<td>MDU</td>
<td>68%</td>
</tr>
<tr>
<td>SDU</td>
<td>32%</td>
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</tbody>
</table>

Source: IDATE for FTTH Council MENA
MENA: FTTH/B Ranking at September 2019
## Indicators affecting the FTTH adoption

### Positive criteria

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Demand for data and bandwidth continues to grow, thus operators have to adapt their networks to robust technologies able to provide those speeds. FTTH allows this.</td>
</tr>
<tr>
<td>2</td>
<td>Currently many governments are working closely with incumbents in the region in order to accelerate fibre deployments and copper migration.</td>
</tr>
<tr>
<td>3</td>
<td>Players have found a new revenue model based on the delivery of high definition services, low latency and add on services that increase average ARPU</td>
</tr>
<tr>
<td>4</td>
<td>Mutualized networks as well as sharing agreements tend to push FTTH development</td>
</tr>
</tbody>
</table>
## Indicators affecting the FTTH adoption

### Negative impacts

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<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>![WiFi icon]</td>
<td>A region with strong presence of wireless connections and copper based networks, that could satisfy current data demands for a huge population.</td>
</tr>
<tr>
<td>2</td>
<td>![Clock icon]</td>
<td>New variants or mixed-build architectures, FTTC or DOCSIS 3.1, could delay FTTH investments by operators. These options tend to be economically more feasible in the short term.</td>
</tr>
<tr>
<td>3</td>
<td>![5G icon]</td>
<td>Future 5G technology used in high spectrum bands (26 GHz) could directly challenge FTTH in the fixed residential market.</td>
</tr>
<tr>
<td>4</td>
<td>![Government icon]</td>
<td>Public funding initiatives may not be enough to effectively encourage FTTH growth, since a lack of coordination between government, incumbents and alternative ISPs.</td>
</tr>
</tbody>
</table>
Key Conclusions
## Key conclusions

### 1. Government Involvement
- New strategic fibre deployment plans are now sponsored in the region by local governments.
- Governments are working closely with incumbents and utilities companies to extend fibre networks such as in Egypt.
- Governments are allocating public funds in order to support fibre deployment to deliver FTTH services but also to back up 5G networks.

### 2. FTTH Growth and Copper Transition
- Countries like **Saudi Arabia, Lebanon, Algeria, Kuwait and Jordan** have made consistent progress in their FTTH evolution during the last year.
- Now some countries have delimited a road map to migrate all their existing copper based networks towards fibre. We expect more countries will join this list in the coming 2 years.

### 3. Emerging Tech
- **5G implications:** 5G will be a key factor for the promotion of fibre deployments and therefore will boost investments from public and private players.
- **Wireless Solutions:** One of the big **challenges** operators have to deploy fibre is the presence of wireless technologies that are present in each MENA Country offering services with an affordable price and with a bandwidth that is accepted by many users.
Mobile BB as a competitor for FTTH in the region?

Mobile broadband is very present in the region… and this is the main challenger for FTTH/B services

- Mobile Broadband subscriptions overpass fixed Broadband subscriptions in several countries (Egypt, Morocco, Jordan,…), and this trend might not change even with the rollout of new networks (The deployment of 4G and 5G technologies could compete with Fixed BB services)

However the evolution and launching of 5G are promoting FTTH deployments in the region

- The need for interconnecting base station with fiber will increase (5G)… and also a bigger demand of higher bandwidth and low latency that fiber only can manage

Bahrain: 16 times more MBB than FBB subs
Kuwait: 35 times more MBB than FBB subs
Morocco: 14 times more MBB than FBB subs
Qatar: 10 times more MBB than FBB subs
Tunisia: 11 times more MBB than FBB subs
Oman: 17 times more MBB than FBB subs
Jordan: 24 times more MBB than FBB subs
FTTx & Gigabit Society – IDATE DigiWorld Research

Our key strengths

World reference with FTTH Council chapters for data and rankings

- 70+ Countries covered
- Up to 10 players per country

Hands on assistance for FTTx deployment

- Public Initiative Networks
- Competitive Analysis
- Business Modelling

National Broadband Plans

Dataset includes subscribers, home passed, breakdown per player and per technology (FTTH, FTTN, Docsis), since 2014 and forecasts up to 2023
### FTTx & Gigabit Society – IDATE DigiWorld Research

Reports & Datasets

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<tr>
<th>Type of deliverable</th>
<th>Title</th>
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<tr>
<td>Upcoming publications - 1st half 2019 (additional titles for the 2nd half to be announced)</td>
<td></td>
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<tr>
<td>Report</td>
<td>NGA and PPP plans in Europe*</td>
<td>Q3 2019</td>
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<tr>
<td>Report</td>
<td>Copper network switch-off</td>
<td>Q4 2019</td>
</tr>
<tr>
<td>Dataset</td>
<td>World FTTx Markets - 2H2019</td>
<td>Q4 2019</td>
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<td>Available publications</td>
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<td>Internet access in South Africa</td>
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<tr>
<td>Report</td>
<td>The potential of 5G Fixed Wireless Access*</td>
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<td>Dataset</td>
<td>FTTx markets in Middle East &amp; Africa</td>
<td>Q3 2019</td>
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<td>Report</td>
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<tr>
<td>Dataset+Report</td>
<td>From network virtualisation to 5G slicing</td>
<td>Q2 2019</td>
</tr>
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<td>FTTx markets in Asia-Pacific</td>
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<td>Dataset+Report</td>
<td>Telco &amp; OTT Investment challenges - CapEx dynamics</td>
<td>Q1 2019</td>
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* Disponible également en version française

Titles and scheduling of upcoming publications are indicative – details for available publications can be accessed online