IDATE Consulting

FTTH MENA Panorama

MENA Broadband Status

Market at September 2016

Roland MONTAGNE
Principal Analyst
+33 6 80 85 04 80
r.montagne@idate.org

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Agenda

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- **Status of Broadband in the region**
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- **MENA FTTH/B main trends**
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Study Background

Objectives, available results

Objectives

- Mission on behalf of the FTTH Council MENA
- Objective: to provide a complete summary of the status of FTTH/B in MENA at **Sept. 2016**
  - **17 countries analyzed** (1)
  - **Distinction between architecture: FTTH/B vs FTTN** (FTTN/C+VDSL, FTTx+Docsis 3.0)
  - **Information on the national Broadband market** (national program, regulation, overall figures)
  - **FTTH/B Definition by FTTH Councils Worldwide**(2)

Characterization of each project includes:

- Organization initiating the project
- Key parameters & Figures
- Technical parameters
- Financing & Business model

► Methodology used

- Desk research
- **Bottom up approach**
- **Direct contacts with FTTH players (questionnaires, phone interviews) & IDATE's partners in MENA**
- Information exchange with FTTH Council MENA members

(1): Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Tunisia and UAE
(2): FTTH/B definition available at : www.ftthcouncil.eu/documents/Publications/FCGA%20-%20Definition%20of%20Terms%20-%20Revisions2016.pdf

Available results for MENA

> About 48 projects listed in 17 MENA countries at September 2016

Quantitative

FTTH/B data	September 2016	
	Nb of Subscribers	Nb of Homes passed
Total FTTH/B in Kuwait	**24 600**	**55 000**
Zajil Telecom / KEMS	[redacted]	[redacted]
Others	[redacted]	[redacted]
MoC / NBN	[redacted]	[redacted]

All ISP provide FTTH services using the network deployed under the MoC' program

Qualitative

Maroc Telecom

Identification Operator/Organisation

Maroc Telecom is Morocco's incumbent, is owned by Etisalat since 2014.

Key parameters

In 2013, Maroc Telecom has signed, with the government, a convention to modernize and to expand telecoms infrastructure in the country. Total investment reached 10 billion MAD (around 880 million EUR). A part of the budget was oriented to the rollout of FTTH networks allowing up to 1 Gbps Internet access to end users.

In 2014, ANRT approved FTTH marketing in Maroc and therefore Maroc Telecom had to open its copper and fibre networks to other operators. In January 2015, ANRT asked Maroc Telecom to review its technical and financial terms for sharing its copper and fibre networks in order to guarantee fair competition.

In terms of FTTH deployment, Maroc Telecom implemented a pilot network covering 2 neighborhoods in Rabat and 2 others in Casablanca, representing 20,000 Homes Passed. After having received approval from telecom regulator to commercialize FTTH services in June 2014, it launched its offer named "Très Haut Débit Fibre Optique" in Casablanca and Rabat. Households concerned were able to opt for Internet connection of up to 50 Mbps and 100 Mbps for a monthly fee of 600 MAD (~55 EUR) and 1,000 MAD (~92 EUR) respectively. In June 2016, the operator announced that it has extended its FTTH network to every major city in Morocco, following trials in selected districts of Casablanca and Rabat.

Maroc Telecom does not want to deploy FTTH on a large scale and its FTTH network will only concern some dense areas. Then, on the national level, it will focus on FTTN+VDSL. This will also come later as there are still some unbundling issues to be solved before mass market rollout. But the operator has already "prepared" its copper network by implementing MSAN in all streets to have 500 customers par MSAN and decrease the lenght of the local loop.

Figures

Number of Households/Business Units passed	40,000 Homes Passed at September 2014 (IDATE estimates) Unchanged at September 2015 (IDATE estimates) **60,000 Homes Passed at September 2016 (IDATE estimates)**
FTTx subscriber base	2,100 subscribers at September 2014 (IDATE estimates) 2,200 subscribers at September 2015 (IDATE estimates) **2,500 subscribers at September 2016 (IDATE estimates)"**

Technical parameters

FTTH GPON

Source: IDATE for FTTH Council MENA

Status of Broadband in MENA

Leading access technologies – National programs

Leading access technologies

> More than 29,2 million fixed BB subscribers and 162 million Mobile BB subscribers in MENA at September 2016

ADSL access technology is still leading the Fixed Broadband market but FTTH/B is growing more rapidly now in some countries (Bahrain, Kuwait, Lebanon, Tunisia and Oman) or is already leading in others (UAE, Qatar).

Ratio: FTTH Subscribers / Total Fixed BB subscribers	
Kuwait	13%
Qatar (1)	96%
Saudi Arabia	16%
UAE (1)	92%

Source: IDATE for FTTH Council MENA

FTTH/B subscribers represent around 9% of total fixed BB subscribers in MENA by September 2016

Mobile BB is the leading choice for many end users in 12 over 17 analyzed markets.

In terms of 4G and 5G development, the region has extended the deployment of 4G networks. 5G deployment agreements have been observed in countries such as Kuwait, Qatar, Saudi Arabia and UAE.

National programs

> **Some countries are deploying or will deploy fiber networks based on a national Broadband Plan.**
>
> **Performance indicators have been defined to achieve results in the coming years. Some of these are based on coverage and take up rate objectives or by implementing dedicated companies responsible for the roll out of new infrastructure.**

The most significant programs have been launched:

- In **Qatar**, where, thanks to the QNBN stimulation, FTTH/B is clearly leading the access market (representing 95% of fixed BB subscriptions at September 2015)
- In **Oman**, where OBC is deploying a large neutral network, opened to all telcos
- Last year in **Lebanon**, where the program aims to cover the whole country with fiber based infrastructure by end 2022.
- In **Kuwait** the MoC is in the process to extend Fiber coverage in more than 67K homes by 2018 (phase 2 of the Program) and more of 100K homes in Phase 3.

In other countries, Broadband programs have been launched or announced but with few progression to date.

FTTH/B in MENA

Overview, overall results, main trends in MENA

> More nearly 48 FTTH/B projects in MENA at Sept 2016

Incumbents and Alternative operators are the main actors involved in FTTH/B rollout

National programs should boost FTTH/B market in MENA in the middle to long term

Total FTTH/B Homes passed in MENA at September 2015

Incumbents	National companies / Municipalities / Utilities	Alternative operators / ISPs	Housing companies / RE owners
4 546 776	137 700	901 600	152 100
79,2%	2,4%	15,7%	2,7%

Source: IDATE for FTTH Council MENA

FTTH/B in MENA – Overall Figures

In September 2016

> 2.57 Million FTTH/B subscribers

> 5.73 Million FTTH/B Homes Passed

Average Penetration Rate : 44.8%
(from 39 % at September 2015)

YoY growth

- **Subscribers: +25,4%**
- **Homes Passed: +8.5%**

Source: IDATE for FTTH Council MENA

Main trends in MENA's FTTH/B market

5 Significant and dynamic markets (UAE, KSA, Qatar, Oman, Kuwait)

2 High potential market (Iraq, Iran)

3 Markets with significant announcements and/or progresses (Lebanon, Tunisia, Bahrain)

4 Steady markets with few evolution nor significant announcements (Jordan, Egypt, Palestine, Algeria)

Incumbents in Tunisia and Morocco got involved significantly in enlarging FTTH/B coverage since mid-2014, but with some difficulties to enhance **switch** to FTTH from end users.
Players higher sensitiveness towards FTTH/B benefits in general but still to be transformed to concrete projects

Main trends in MENA's FTTH/B market: subscribers

- UAE is the main FTTH/B market (1.52 million FTTH/B subs)
  - 2 players are involved in FTTH/B market
  - Etisalat is dominating the FTTH/B market:
    - with a growing market share of 87%
    - with a national coverage (the 2 main operators have a close 100% fiber network)
  - Good take up rate (subs/HP): 88,8%, which confirms the great commercial success of FTTH

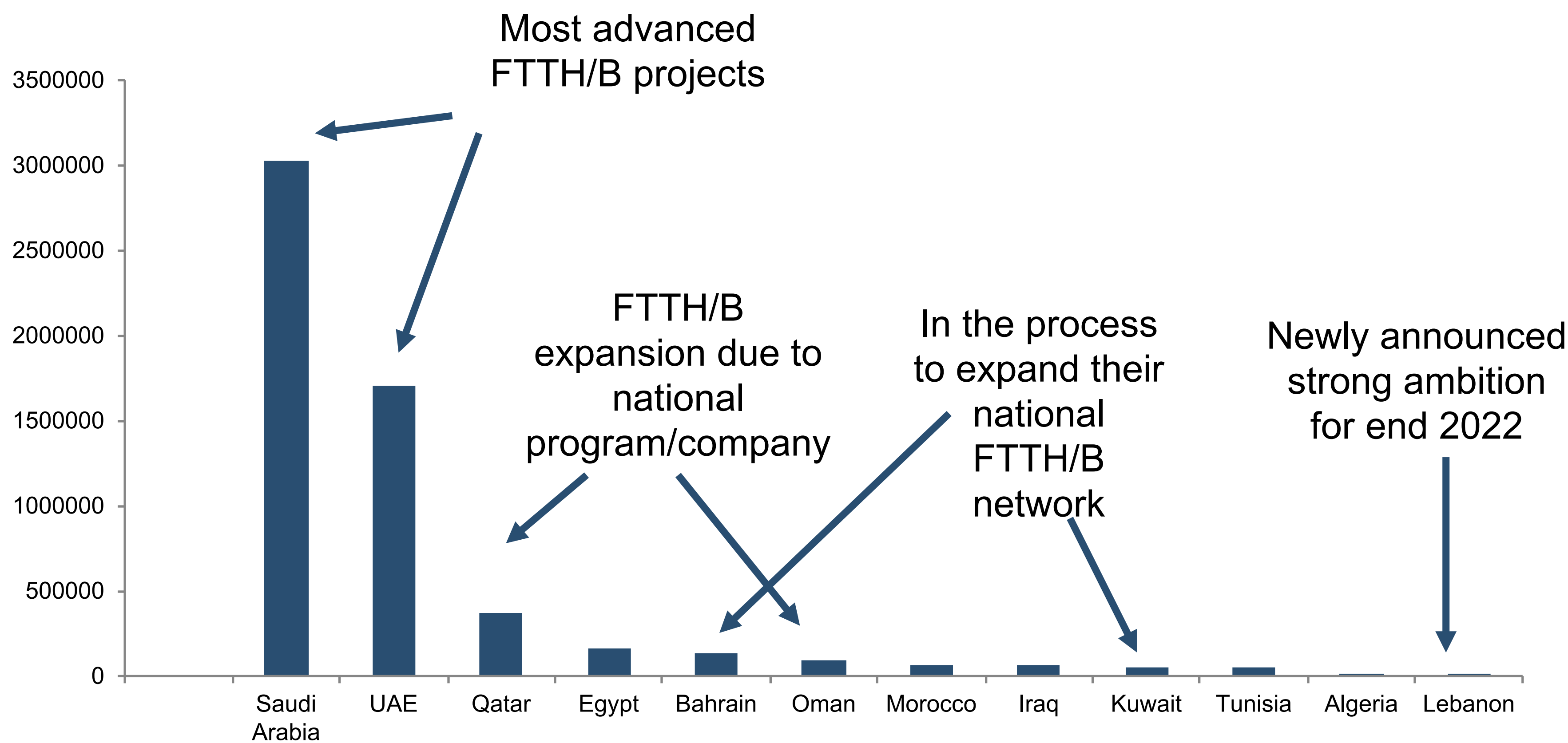
UAE is leading the Global Ranking!!

- … followed by Saudi Arabia (more than 684K FTTH/B subs)
  - Market dynamism confirmed from one year to another (+3,9% subscribers growth between Sept 15 and Sept 16) with 2 players involved in national rollouts
  - This dynamism has to be confirmed on the commercial side
  - STC is the leader among FTTH/B players:
    - with a growing market share of 68% => followed by Mobily that owns 25% of the market.
    - the largest coverage

- FTTH/B market is growing in Qatar (279K FTTH/B subs)
  - Ambitious objective from incumbent Ooredoo:
    - National FTTH coverage: reached in 2014!
  - A positive growth in the number of subscribers (+13% sep15-16) and in the number of homes passed (+9% - Sep15-16)
    - Ooredoo is pushing its end users to switch to FTTH

Main trends in MENA's FTTH/B market: Homes Passed

> 2 countries with significant rollouts, more than 1 million Homes Passed and this year it reached 3 million in KSA



Source: IDATE for FTTH Council MENA Chapter

Main trends in MENA's FTTH/B market

> High Take up Rates *(1)* in MENA

UAE: 88.8%
Qatar: 74.4%
Kuwait: 44.7%

→ **Average Take up Rates in MENA: 44.8%**

> **In September 2016, the main architecture deployed is pure FTTH**

Main architecture deployed (subscribers segmentation)	September 2016
FTTH	94%
FTTB	6%

> **In terms of technology , MENA players have chosen PON**

Main technology deployed (subscribers segmentation)	September 2016
PON	93%
Ethernet	7%

Source: IDATE for FTTH Council MENA

(1) Number of subscribers in total Homes Passed

FTTH/B services and tariffs in MENA

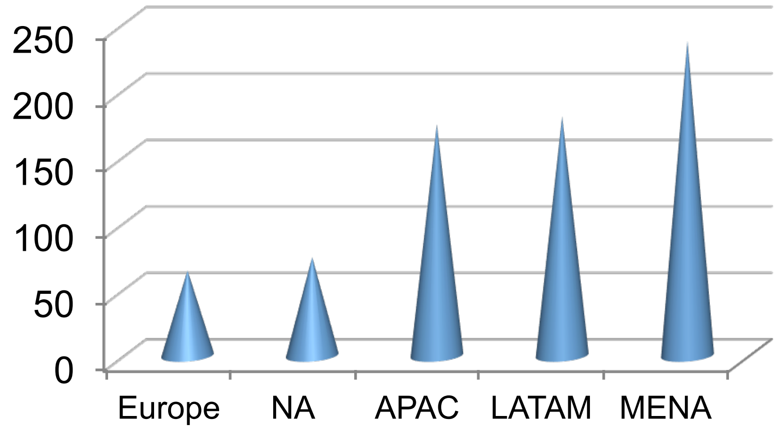
> The region is trying to enter into the Gigabit race…

- Highest speed rate available reaches 1Gbps in UAE, Bahrain
- The most widespread speed rate is 100 Mbps, available in Oman, Qatar, Jordan, UAE, KSA, Tunisia…
- Most telcos in GCC provide new converged and **innovative TV and video services** available on their new networks

> FTTH tariffs are relatively expensive compared to other regions

- End users can to pay up to 600 USD per month for a 100 Mbps FTTH connection

Average monthly cost for a 100 Mbps FTTH connection (USD)



Source: IDATE for FTTH Council MENA Chapter

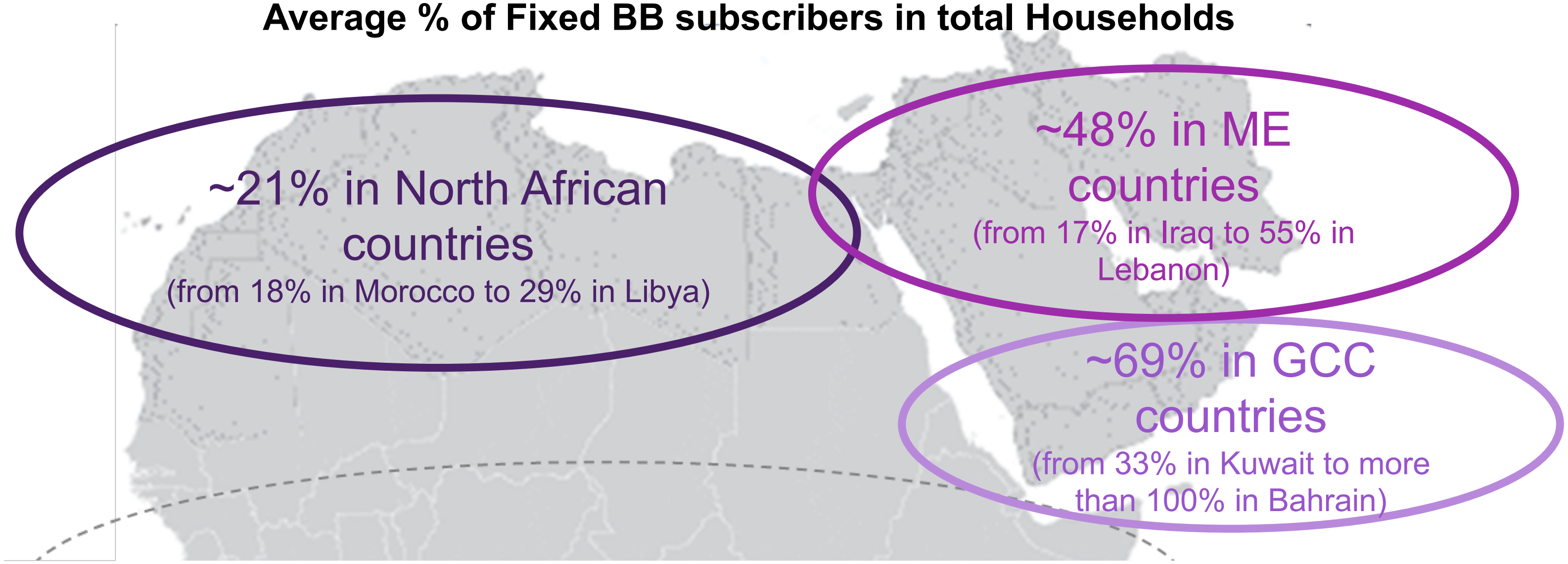
Conclusion – Main outputs

Main outputs

No take off for the global Fixed Broadband market

- The growth in FTTH/B coverage and take up rate is led by the dynamism of GCC countries, and notably UAE and KSA markets
- But the Broadband penetration is still low and current demand for Fixed BB does not always require rapid deployment of Fibre based networks

Average % of Fixed BB subscribers in total Households



Source: IDATE for FTTH Council MENA Chapter

Main outputs

An increase of the adoption of FTTH/B technology

- MENA region has improved during last 12 months
- Fiber take up rate: At 3Q 2016, nearly **45%** of Homes passed by Fiber have subscribed to this technology vs 39% at 3Q2015 and **9.2%** of the Fixed BB subscribers are using fiber in comparison to 7% at 3Q2015.

FTTH/B evolution in MENA – 1Year Forecast

- Based on the deployment of the different FTTH/B projects in the region and the commercial evolution from operators and organisms, it can be inferred that for 2017:
  - The number of FTTH/B **subscribers** will increase **15%** in order to reach 2.9 M subscribers
  - While the FTTH/B homes passed will increase to 5.9 M, representing an increase of **6.8%.**
  - This evidences a focus that is centered in the commercial development of the fiber networks instead of its rollout.
  - Political or economic situation still a concern (Algeria, Egypt,…)

Incumbents are leading the markets

- But the involvement of alternative players is growing and could enhance rollouts (Tunisia, Morocco)
- As in other regions, few other players show a strong interest in FTTH/B rollouts (some ROEs in Egypt, small telcos in Jordan or Palestine)

Main outputs

There are some significant and ambitious FTTH/B projects

- In **UAE** and **Qatar**: FTTH coverage over total households near to be reached
- In Qatar: Ooredoo and QNBN program => QNBN is focusing now on Public Sites and is lightly used by Vodafone and Ooredoo.
- In **Lebanon**: It can be observed that there is a plan to increase the number of FTTH Homes Passed to 1.300 by the end of 2016 and a plan to cover 600.000 at the end of 2017.
- **Kuwait**: There is a national plan (MOC) that will increase the FTTH Homes Passed to 67.000 by 2017 and a third phase will be implemented in 2018 to increase to 100.000 homes passed.

FTTH/B is a priority: no noticeable FTTN projects announced to date

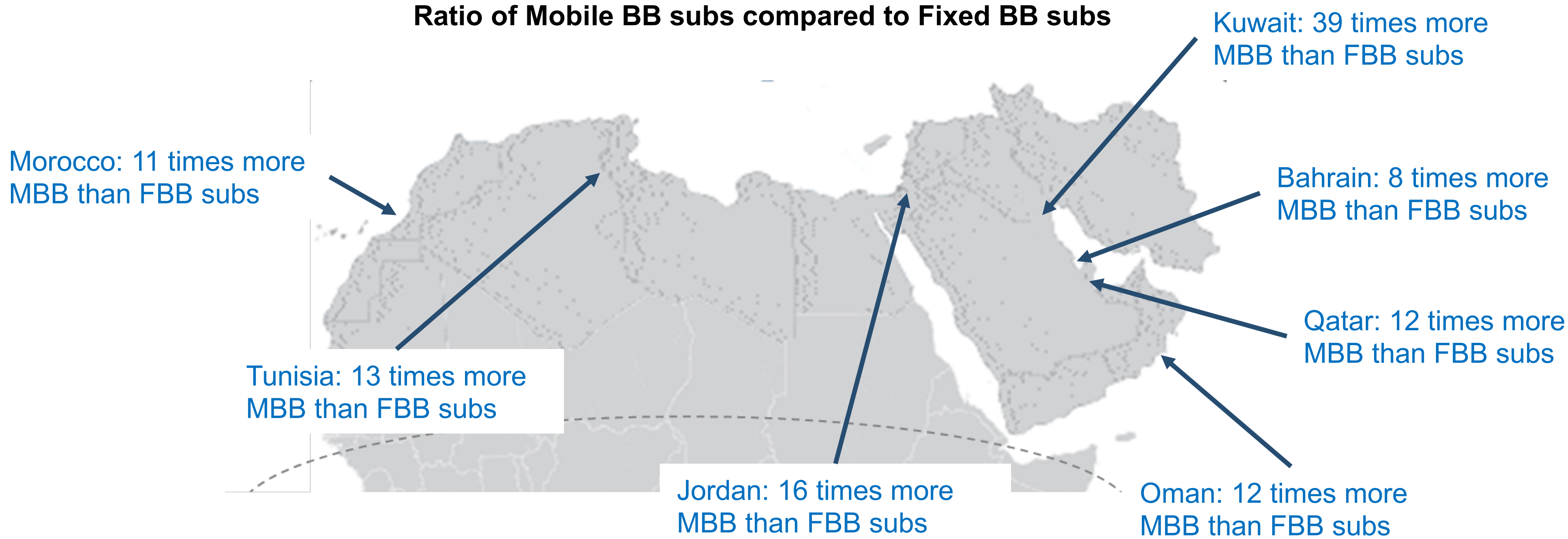
- Most projects, operational or announced, tend to be FTTH rollouts
- However, FTTN + VDSL is still a good solution for players in countries where the Broadband market is not mature yet and the economical context still has to get improved (Morocco, Jordan): the objective of telcos there is to be able to provide higher speed rates to end users, whatever the architecture.

Mobile BB as a competitor for FTTH in the region ?

A real leadership for mobile BB access technologies

- 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 technologies could compete with Fixed BB services)

Ratio of Mobile BB subs compared to Fixed BB subs



Source: IDATE for FTTH Council MENA

- But this could be also an interesting opportunity for FTTH: not only because of the need for interconnecting base station with fiber will increase (**5G**) , but also because there is a trend to demand higher bandwidth that fiber only can manage (**Netflix 4K** is coming in MENA !!)

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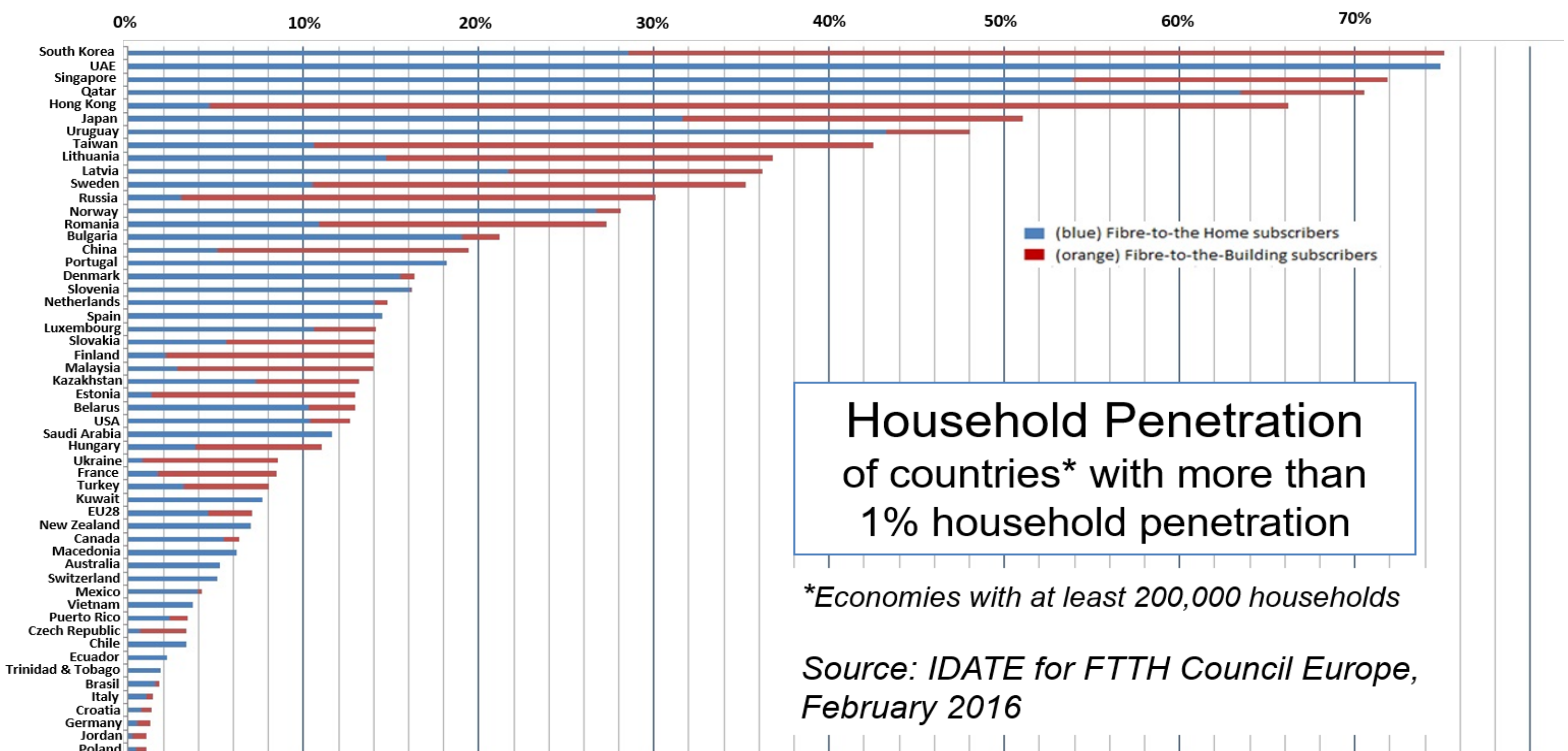
MENA is progressing in the global ranking !!

- **UAE and Qatar still among World Leaders**
- **Two countries entering global ranking at September 2016:**
  - **Bahrain : 12,5%**
  - **Oman :** 2%
- **6 MENA countries in total**

MENA COUNTRIES	Ratio Subs / Households
UAE	79,6%
Qatar	75,6%
Saudi Arabia	12,7%
Bahrain	**12,5%**
Oman	**2,0%**
Jordan	1,1%



Source : IDATE

Thank you!

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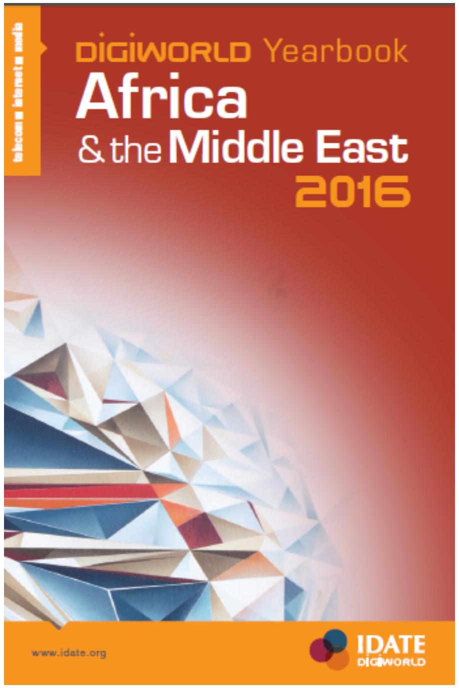
Format	Type deliverable	Title	Publication date	Pages	Bundle rate	Unit price	Product Code
		Wireline 2016 & prior publications			12 000		
xls	Dataset	**World FTTx Market** - data & forecasts up to 2020	July/Dec. 2016	*n.r.*		6 000	M 16505DB
ppt	Report	**State of FTTx worldwide**	July/Dec. 2016	*30-50*		3 000	M 16505SR
doc + ppt	Report	***Connected Cities***	Nov. 2016	*20-40*		2 000	M 16505IN1
doc + ppt	Report	***First lessons from new UFB technologies (G.Fast/Docsis3.1)***	Nov. 2016	*20-40*		2 000	M 16506MR
doc + ppt	Report	**FTTx Vendors**	02/10/2016	*19*		2 000	M 16505IN2
doc + ppt	Report	**Digital Agenda Europe**	20/07/2016	*25*		2 000	M 16507MR
doc + ppt	Report	**Public Policies for ultra-fast broadband**	03/06/2016	*96*		3 000	M 16408MR
doc + ppt	Report	**LTE vs Fiber**	18/12/2015	*48*		3 000	M 15506MR
doc + ppt	Report	**Cable dynamics**	30/11/2015	*57*		3 000	M 15507MR
doc + ppt	Report	**FTTx Services & Pricing**	09/10/2015	*30*		1 000	M 15505IN3
doc + ppt	Report	**Gigabit Race**	15/09/2015	*40*		1 000	M 15505IN1



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FTTH for ZZZ Generation !!!

**Jules Montagne
Born on
August 28th, 2016**