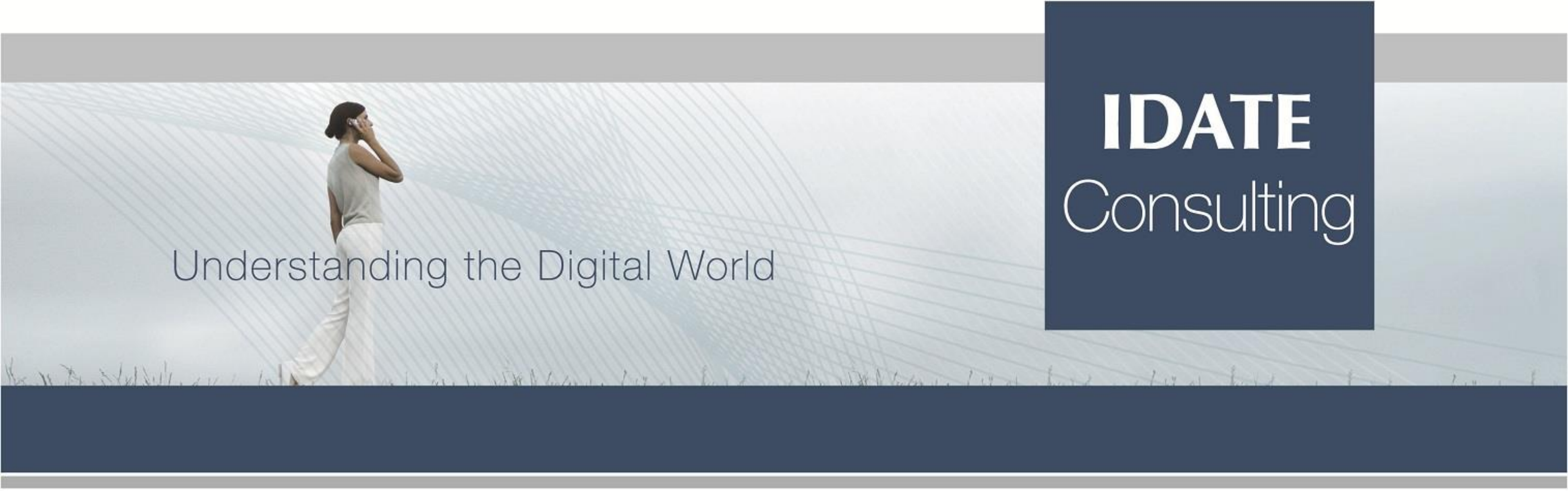

FTTH MENA Panorama

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Market at September 2013 and forecasts to 2018

–November 2013

DIGIWORLD by IDATE

Agenda

- Study Background
  - Objectives
  - Available results

- FTTH/B in MENA
  - Overview
  - Overall figures
  - Main trends in MENA's FTTH/B market

- MENA FTTH/B main trends
  - FTTH/B subscribers trends
  - FTTH/B Homes Passed distribution
  - FTTH/B technologies
  - FTTH/B Take Rates in MENA

- Services based on FTTH/B

- Forecasts to 2018

- Main observations / drivers for FTTH/B in MENA

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
  - **19 countries analyzed** (1)
  - **Distinction between architecture: FTTH/B vs FTTN** (FTTN/C+VDSL, FTTLA, FTTx+LAN)
  - **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
- Direct contacts with FTTH players (questionnaires, phone interviews) & IDATE's partners in MENA
- Information exchange with FTTH Council, MENA chapter members

(1): Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, UAE, Yemen

(2): FTTH/B definition available at : http://www.ftthcouncil.eu/documents/Publications/FTTH_Definition_of_Terms-Revision_2011-Final.pdf

Available results for MENA

> About 43 projects listed in MENA at September 2013

Quantitative

FTTH/B data	September 2013	
	Nb of Subscribers	Nb of Homes passed
Total FTTH/B in Egypt	**3 800**	**132 700**
Telecom Egypt	1 500	4 100
PHD	2 300	8 600
TMG	0	120 000

Source: IDATE for FTTH Council MENA Chapter

Qualitative

Telecom Egypt

Identification Operator/Organisation

Telecom Egypt, Egyptian incumbent, is owned at 80% by the Government.

Key parameters

In October 2009, Telecom Egypt has rolled out a FTTH network in one of the Cairo suburbs of Qatamiya. Telecom Egypt will expand its network in the rising new suburbs around Cairo and Alexandria. The deployment is continuing. But, as of September 2013, the coverage is still very limited. No specific schedule announced for the moment.

Initially, Telecom Egypt expected to provide Internet connection of up to 70Mbps and Triple play offers. But as of September 2013, the maximum speed rate marketed is 24Mbps and a cap of 160 GB for residential and business customers for LE1250 (~188USD) per month.
Businesses can also opt for an unlimited Internet connection with speed of up to 24 Mbps for LE1950 per month (~293USD).
The incumbent provides also TV service under the brand name TE-VU since November 2006. This offer includes thematiq TV channels (religion, news and entertaining), streaming and on-demand video and is available for all ADSL customers.

Figures

Number of Households/Business Units passed	3,500 homes passed at Dec. 2011 (IDATE estimates) 3,800 homes passed at September 2012 (IDATE estimates) **4,100 homes passed at September 2013 (IDATE estimates)**
FTTx subscriber base	1,000 FTTH subscribers at Dec. 2011 (IDATE estimates) **1,500 FTTH sucribers at September 2012 (IDATE estimates)**

Technical parameters

FTTH GPON

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FTTH/B in MENA

Overview, overall results, main trends in MENA's FTTH/B market

FTTH/B in MENA – Overview

> More than 43 FTTH/B projects in MENA at Sept 2013

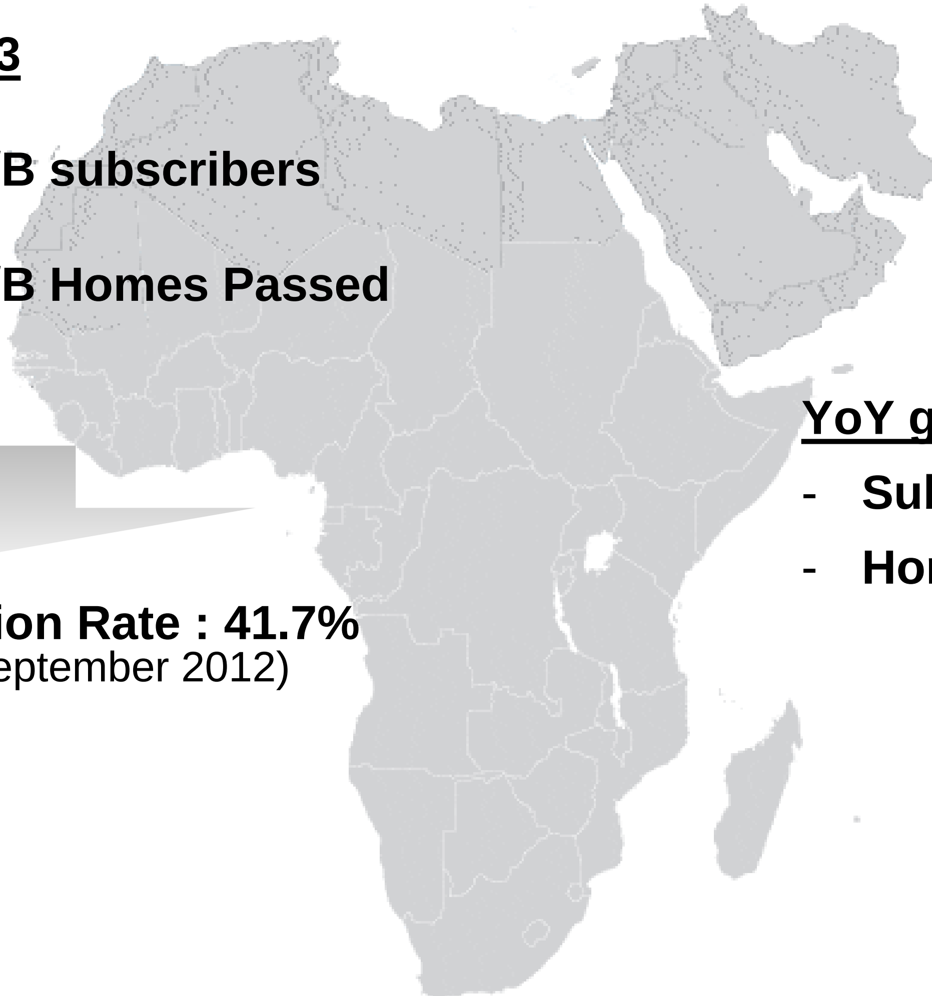
Incumbents and Alternative operators are the main actors involved in FTTH/B rollout

National programs should boost FTTH/B market in MENA

Total FTTH/B Homes passed in MENA at September 2013			
Incumbents	**Municipalities / Utilities**	**Alternative operators / ISPs**	**Housing companies / Nat. Prog.**
2 502 000	**150 000**	**315 400**	**134 300**
80.7%	**4.8%**	**10.2%**	**4.3%**

Source: IDATE for FTTH Council MENA

FTTH/B in MENA – Overall Figures



<u>In September 2013</u>

> 1,295,090 FTTH/B subscribers

> 3,106,000 FTTH/B Homes Passed

Average Penetration Rate : 41.7%
(from 43.5% at September 2012)

<u>YoY growth</u>

- **Subscribers: +65.5%**
- **Homes Passed: +72.5%**

Source: IDATE for FTTH Council MENA

Main trends in MENA's FTTH/B market

- **4** significant and dynamic markets (UAE, KSA, Qatar, Oman)
- **2** high potential markets (Iran, Iraq)
- **3** markets with significant announcements at a local scale (Morocco, Tunisia, Algeria)
- **5** steady markets with few evolution nor significant announcements (Kuwait, Jordan, Lebanon, Bahrain, Egypt)
- **5** markets with no relevant FTTH projects (Libya, Sudan, Syria, Yemen, Palestine)

From September 2012 to September 2013: significant changes in less than half studied markets in the region!

Main trends in MENA’s FTTH/B market

- UAE is the main FTTH/B market (880 000 FTTH/B subs)
  - 2 players are involved in FTTH/B market
  - Etisalat is dominating the FTTH/B market:
    - with a market share of 74%
    - with a national coverage
  - Good penetration rate (subs/HP): 59%

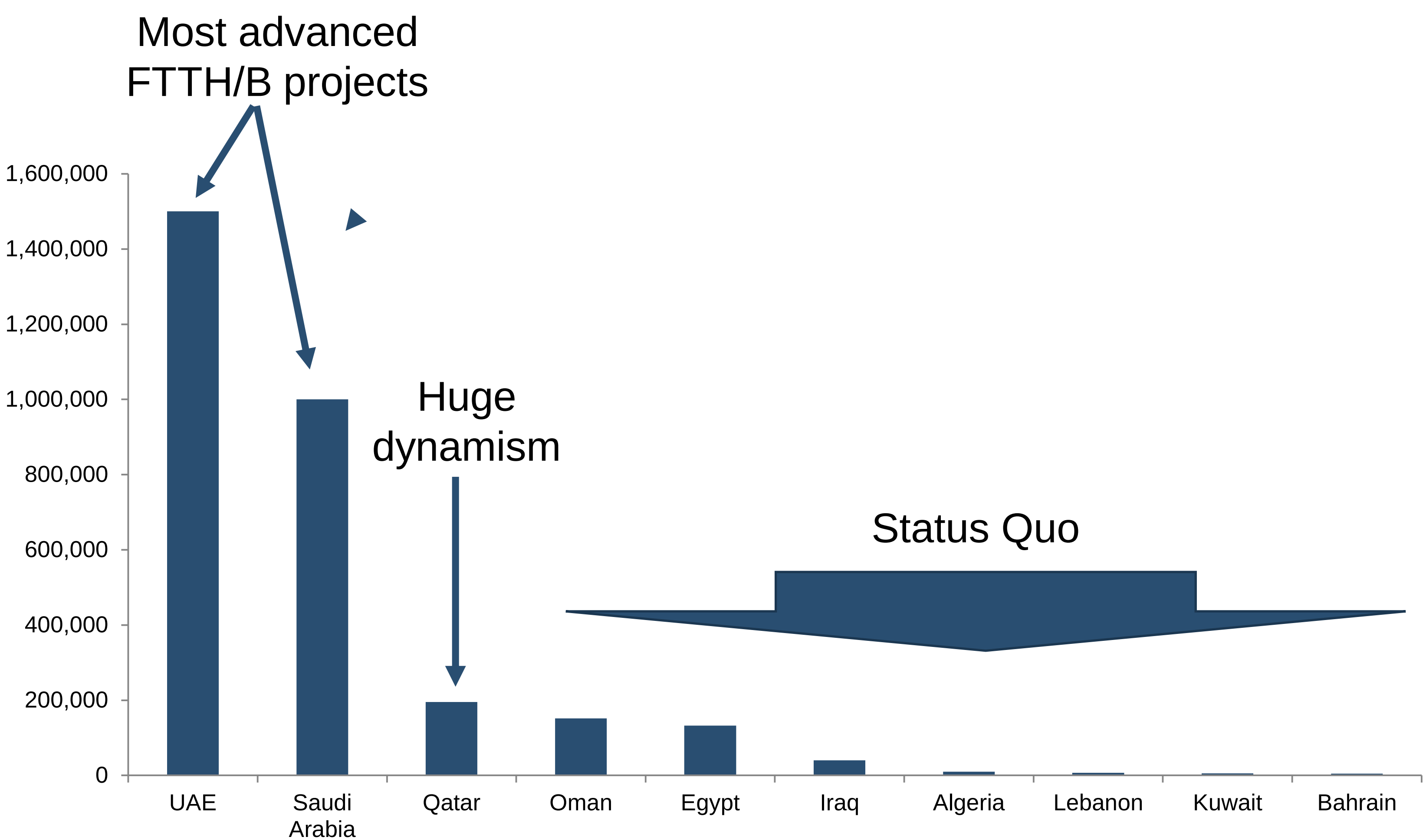
UAE is leading the Global Ranking!!

- … followed by Saudi Arabia (281 000 FTTH/B subs)
  - Important growth compared to last year: +181%
  - STC is the more important FTTH/B players:
    - with a market share of 73%
    - the largest coverage

- FTTH/B market is growing in Qatar (110 000 FTTH/B subs)
  - Ambitious objective from incumbent Ooredo (Qtel):
    - National FTTH coverage by 2014
  - Success of Ooredoo product:
    - Commercially launched in January 2012
    - Important growth: +189.5% in Sept 2013 compared to Sept 2012

Main trends in MENA's FTTH/B market

> 2 countries with significant rollouts, more than 1 million Homes Passed



Source: IDATE for FTTH Council MENA Chapter

> High Take Rates (1) in MENA

UAE: 58.7%
Qatar: 51.2%
Bahrain: 35.6%
Saudi Arabia: 28.1%

Average Take Rates in MENA: 41.7%

The take up rate of FTTH/B will regularly grow from 33% worldwide at end 2012 to 40% at end 2017

> **In September 2013, the main architecture deployed is pure FTTH**

Main architecture deployed (subscribers segmentation)	September 2013
FTTH	**99%**
FTTB	**1%**

> **Regarding technology, players have mainly chosen PON**

Main technology deployed (subscribers segmentation)	September 2013
PON	**83%**
Ethernet	**17%**

Source: IDATE for FTTH Council MENA

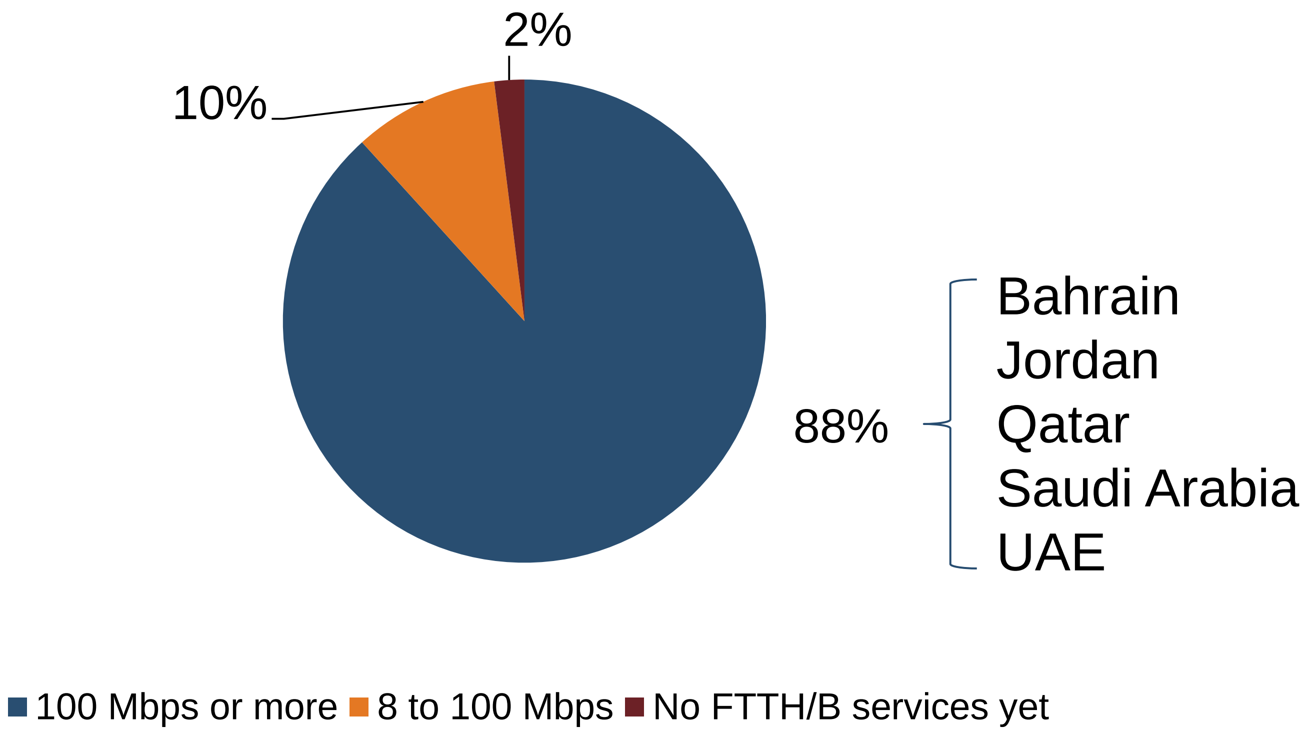
(1) Number of subscribers in total Homes Passed

Services based on FTTH/B

> Various approaches as regards speed rates

- Speeds up to 100 Mbps and more are only available in 5 countries

% of HP per FTTH/B speed rate



> Few bundles

- Triple Play services available in Oman, Qatar, UAE, Saudi Arabia, planned in Algeria
  - Competition between 2 leading players in UAE (Etisalat, DU) and KSA (STC, Mobily) might enhance the market and lower tariffs at terms
  - From 50 to 200 TV channels in the packages
  - At least national calls included

- Double play is available in Kuwait, then in other countries, services are proposed on a standalone basis

- Monthly caps still a trend in the region

> Tariffs in MENA are comparable to those proposed in North America, making the region one of the most expensive

100 Mbps access monthly cost (July 2013)

Mostly < EUR 60 / month | Mostly EUR 60 to 80 / month | Mostly > Eur 100 / month

Source: IDATE

FTTH/B services

Some examples of BB tariffs ranges in MENA

	bundles offered				Max. headline speed (Mbps)	BB price range (EUR/month)
	1	2	3	4		
	✓	✗	✗	✗	100	19-253
orange	✓	✓	✗	✗	24	18-120
Maroc Telecom	✓	✗	✓	✗	20	9-34
ooredoo	✓	✓	✓	✗	100	41-141
STC	✓	✓	✓	✓	200	20-158
etisalat	✓	✓	✓	✗	500	39-1049

Source: IDATE

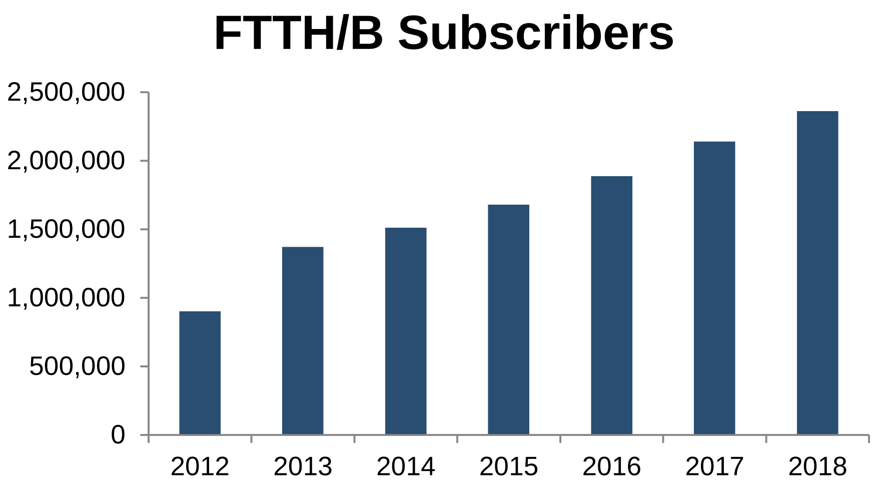
Forecasts to 2018

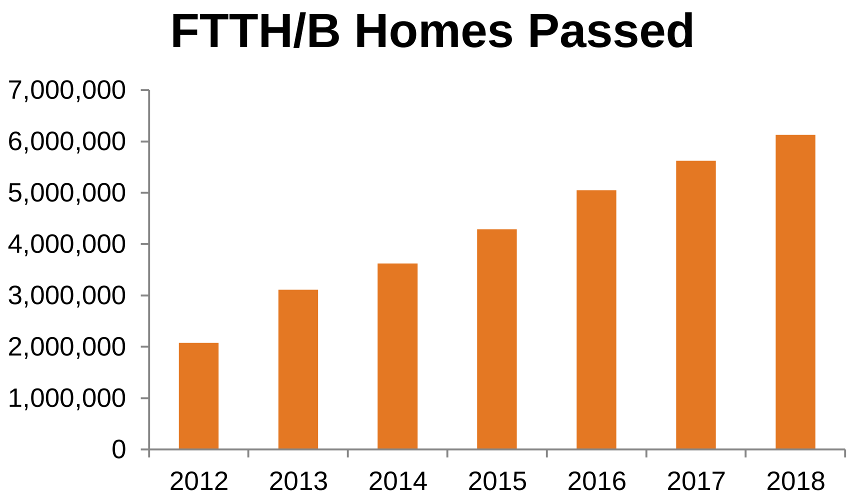
FTTH/B MENA market Forecast: Methodology

Criteria		Possible impact
Country features	Urbanisation level	Can give an idea on the **potential** coverage of FTTH/B among studied countries
	State policy	
	Regulatory situation	
	Broadband penetration (DSL, Cable)	
	FTTH/B Penetration	
	Consumer demand	
Players' strategies	Incumbents (objectives)	Can give an idea on **when and at what speed** players will implement FTTH **Competition being the main driver for FTTH/B**
	CLECs and cablecos (objectives)	
	Local Bodies and New players	
	<u>Level of competition on Broadband Market: ULL and platforms competition</u>	
Access network topology	Local loop and Sub Local Loop length	Can give an idea on the **willingness** of operators to switch to FTTH or keep DSL as the main technology in the near future
	Number of MDF & Street Cabinet across the country	
	Availability of ducts (ILEC, Munis)	
	3G LTE timing (FTTH backhaul)	
Consumers Demand	By Country Households Equipment (multi device equipment: fixed and Mobile, connected TV, 3D TV)	Can give an idea on **what speed** players will implement FTTH
	Status of the "Copper" Quality	

MENA's FTTH/B market from 2012 to 2018

> More than 2.3 million subscribers for 6.1 million Homes Passed in 2018 [(1)]



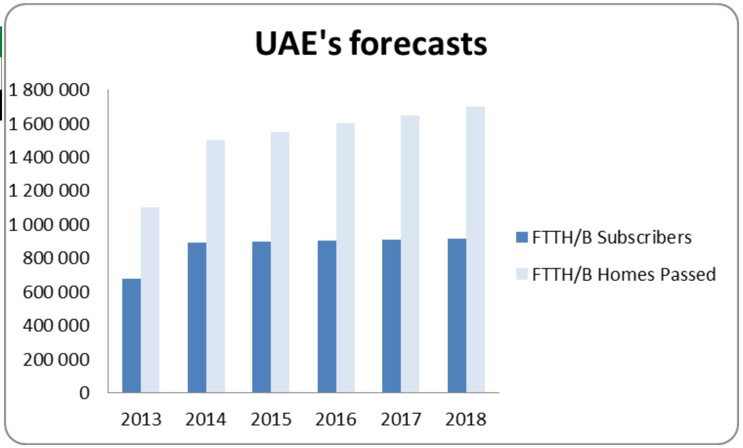


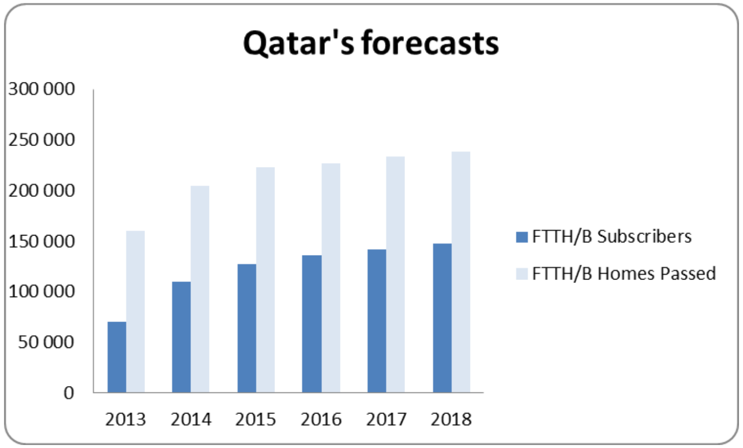
(1): Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, UAE, Yemen

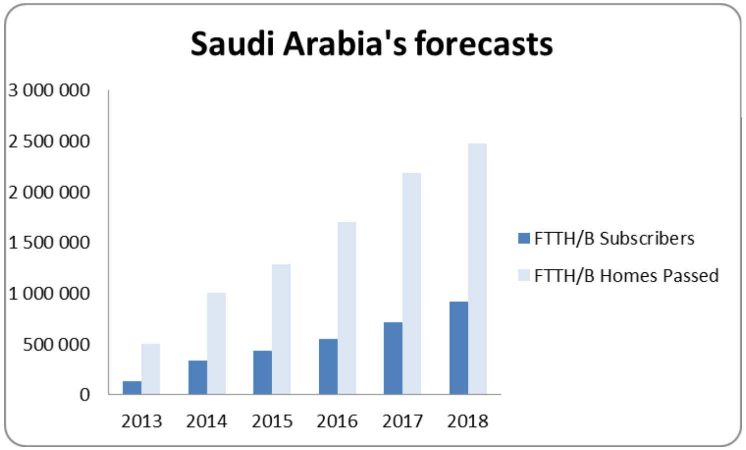
Source: IDATE for FTTH Council MENA Chapter

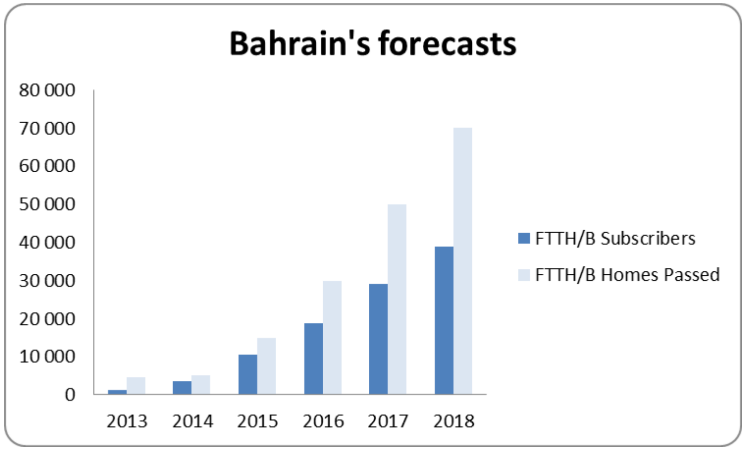
MENA’s FTTH/B market from 2012 to 2018

> Some countries (GCC) have already reached FTTH maturity and the market will be steady in the coming years



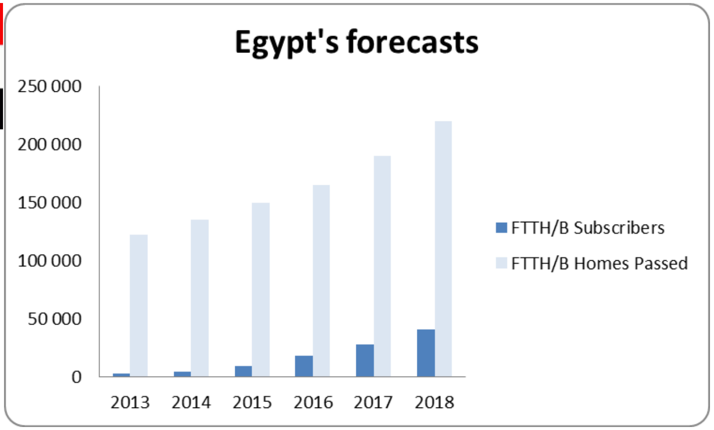


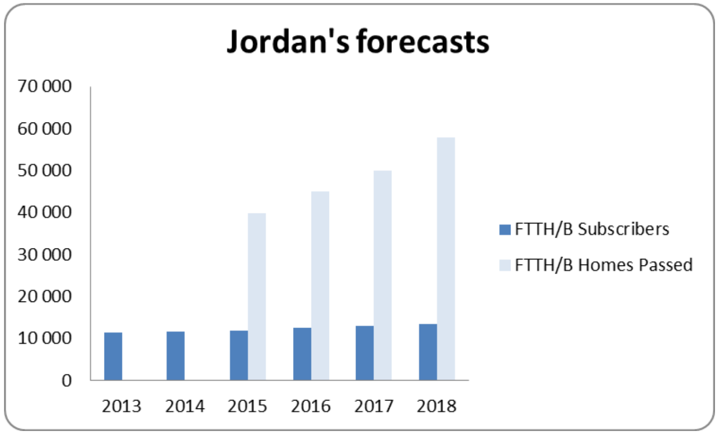


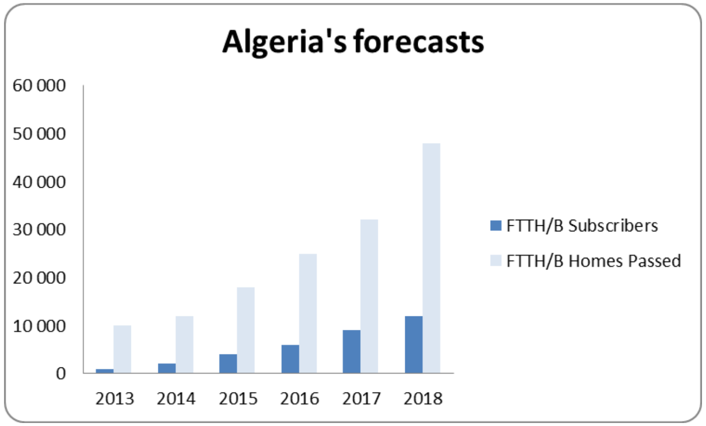


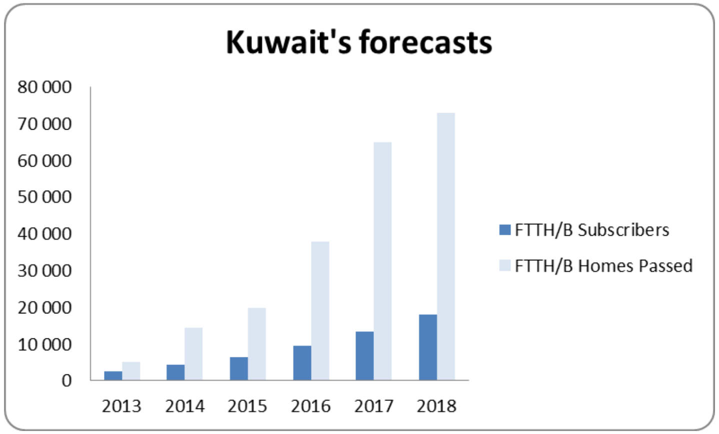
MENA's FTTH/B market from 2012 to 2018

> In other countries, the growth will be significant in terms of coverage first

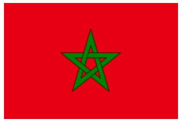


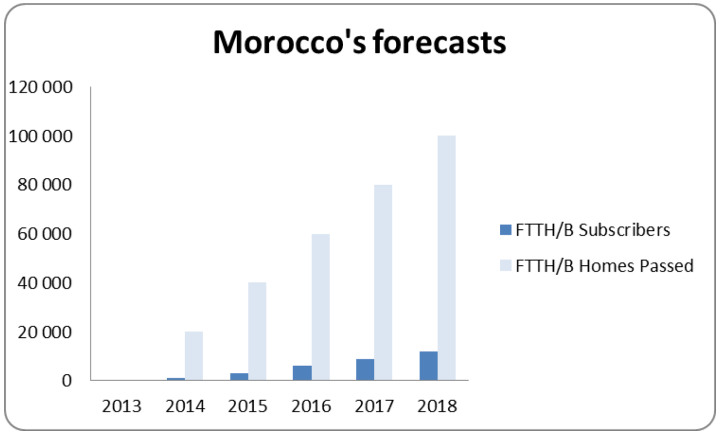


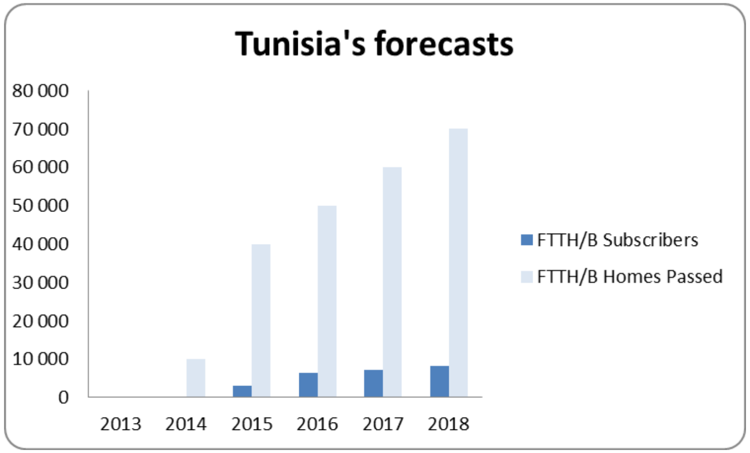


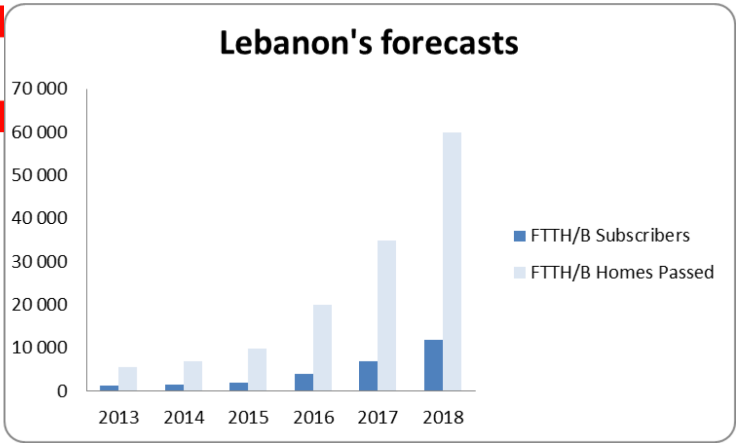


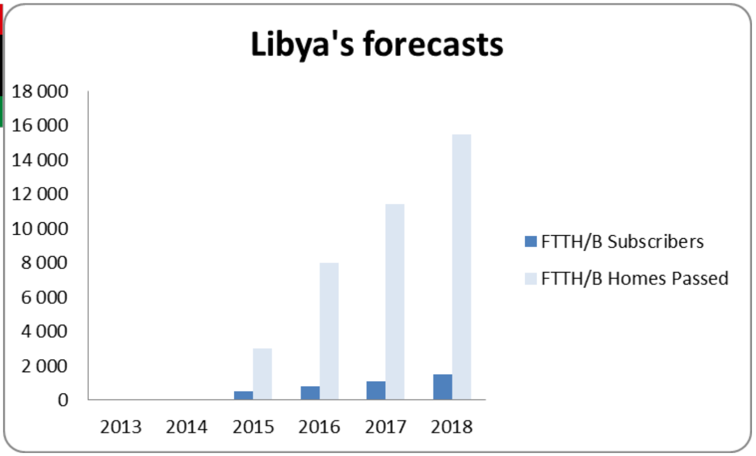
MENA’s FTTH/B market from 2012 to 2018











Main observations / drivers for FTTH/B in MENA

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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
- In other countries, the announcements are not always followed by concrete rollouts yet
- The low Broadband penetration is not strong enough to require rapid deployment of NGNs

But there are some significant and ambitious FTTH/B projects

- In UAE: Etisalat covers its entire country with its FTTH network
- In Saudi Arabia: STC wants to cover 2 million homes via FTTH by end 2013 (~38% of HH)
- In Qatar: Qtel wants to cover the entire country via FTTH by end 2014, and the QNBN project aims to expand Fibre network to 95% of the country by 2015
- In North Africa, Morocco and Tunisia present a strong potential due the involvement of incumbents and alternative players (respectively Meditel and Tunisiana, both willing to deploy and operate FTTH networks in dedicated neighboroods)

Main outputs

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

- Most projects, operational or announced, tend to focus on FTTH rollouts
- Some players are also targeting FTTN+VDSL to ensure a nationwide NGA availability (Maroc Telecom)

Incumbents are leading the markets

- The involvement of alternative players is growing and could enhance rollouts (Tunisia)
- As in other regions, few other players show a strong interest in FTTH/B rollouts (some ROEs in Egypt, Lebanon)

Players are mainly focused on Mobile markets

- Mobile Broadband subscriptions overpass fixes Broadband subscriptions in several countries (Egypt, Bahrain, Morocco, Sudan), and this trend might not change even with the rollout of new networks
- But this could be an interesting opportunity for FTTH (interconnection of base stations)

> Several drivers might impulse MENA's FTTH/B market

Mobile backhaul

- Fibre will be necessary to deal with the development of new mobile networks
- Leapfrog from 2G to LTE is possible, such as it could happen in other regions

New housing programs

- The growth of the Real Estate market is one of the highest, notably in GCC countries
- FTTH networks are more and more often considered as a commodity

National plans

- MENA's government are becoming more and more aware of the benefits of NGN
- Their involvement is a way to compensate and stimulate the current lack of large scale private initiatives

Low quality of existing networks

- The copper networks are generally not efficient enough to support the provision of value-added services such as TV and video

Cloud services

- SMEs and SOHOs are heavy users of new and innovative services among which cloud storage solutions
- The trust in networks is a key parameter and FTTH/B infrastructure is a good answer

Higher competi-tion

- Some players are beginning to adopt a regional strategy in terms of Broadband and superfast Broadband
- As an example, Zain is already present in Jordan, Iraq, Kuwait…

Thank you!