

# CAPITAL MARKETS DAY BOUYGUES TELECOM

6 OCTOBER 2015



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6 October 2015

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# Mobile and fixed infrastructure: best in class, future proof and cost & capex effective

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3



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## Agenda

**Mobile: long-term competitive edge thanks to 4G**

**Fixed: leapfrogging with own infrastructure**

4



# Mobile: long-term competitive edge thanks to 4G

Fixed: leapfrogging with own infrastructure



## Leading mobile network quality

Best in class ✓  
Future proof  
Cost & capex effective

- Bouygues Telecom's **recognised network quality**

- 4Gmark data survey
- Arcep overall survey: Bouygues Telecom is ahead of NC-SFR and Free for the second year running

Downstream speeds in Top 14 agglomerations as measured by 4Gmark<sup>a</sup> (Mbit/s)



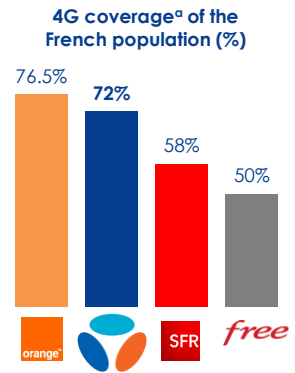
- **Change in the market's perception of the network since the launch of 4G**

- Level of satisfaction in the network up significantly
- Increase in customer loyalty



## Leading coverage with a wide and dense network

- Best in class ✓
  - Future proof
  - Cost & capex effective
- **72%** of the French population with 4G coverage at end-June 2015
  - A historically **dense** network via the use of 1800 MHz frequencies, allowing much wider indoor coverage than competitors
  - **More than 15,000 mobile sites** of which 8,200 in less dense areas



7

(a) Outdoor coverage - Source: operators' publications at end-June 2015



## State-of-the-art and scalable mobile network

- Best in class ✓
  - Future proof
  - Cost & capex effective
- Complete **modernisation** started in 2011
  - **Single RAN** multi-standard base stations
    - Allowing each site to support all existing mobile communication standards (from GSM to LTE)
  - In partnership with the **best equipment suppliers**
  - **State-of-the-art, homogeneous and highly secured** core network
  - Future proof backhaul with **microwave links**
    - Speeds of more than 2Gbit/s via simple software upgrade
    - Already supporting three times the theoretical speeds of the next 5 years
  - **Densification** of optical fibre network underway with many points of presence shared between fixed and mobile networks across France

8

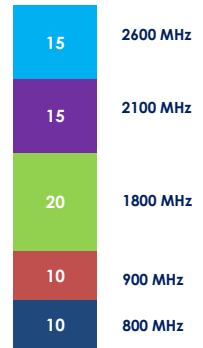


## Optimum spectrum to cope with the explosion of data usage

Best in class  
 Future proof ✓  
 Cost & capex effective

- **The best range of frequencies per customer**
  - Bouygues Telecom has the capacity to cope with the growth of its customer base and usages
- **Complete range of frequencies delivering performance and quality**
  - Low frequencies for coverage
  - High frequencies for capacity and speed
- **Spectrum optimisation with Single RAN technology**
  - 1 base station
  - 3 technologies
  - 5 frequencies...and more

Bouygues Telecom' spectrum post 1800 MHz refarming and pre 700 MHz auction (MHz duplex)



Bouygues Telecom's share of spectrum: 26%



9

## Maintaining our advance with a wider, deeper and innovative network

Best in class  
 Future proof ✓  
 Cost & capex effective

- **Wider: rolling out to improve coverage and capacity further**
  - Constantly anticipating on processes for obtaining new sites and all administrative approvals for base stations
  - Roll-out of new sites in very dense areas and in less dense areas, targeting **20,000 mobile sites by 2018**
  - An increase in national 4G coverage from 72% to **99% in 2018**, with major progress from 2016
- **Deeper: densify for even more capacity**
  - Continued roll-out of **4G+**, particularly for better indoor coverage
  - Operational launch of **triple 4G frequency aggregation** for maximum speeds and capacity (4G++)
- **Innovative: new technologies currently tested (VOLTE, Cloud RAN, MIMO, etc.) in order to carry more and more traffic**



10

## Smart solutions to deploy the best and most cost effective network

Best in class  
 Future proof  
 Cost & capex effective ✓

- **Joint-investment** with NC-SFR in less dense areas as part of the RAN sharing agreement (57% of the population)
  - Major savings generated as early as 2018 (~€100m opex and capex savings /year)
  - First zones already opened with guaranteed deadlines and a high level of QoS
  - Maintaining the competitive edge: own network in dense areas and separate spectrum in shared areas
- **Optimised costs** thanks to microwave links

11



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**Fixed: leapfrogging with own infrastructure**

12

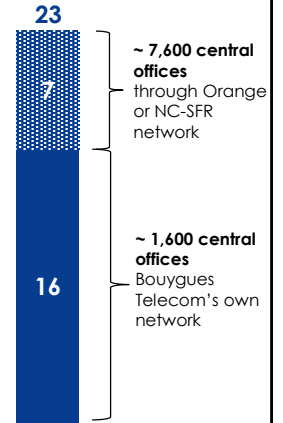


## A strong footprint in DSL...

Best in class ✓  
 Future proof  
 Cost & capex effective

- **Access to all the DSL connections of the French market**
- **Roll-out of DSL network in strategic zones**
  - At end-2014, 12.3m households covered by directly-owned network, with over 700 central offices
    - ✓ Half of DSL fixed customers on directly-owned network
  - End-2015, 16m households to be covered by directly-owned network, with over 1,600 central offices
    - ✓ 3/4 of DSL fixed customers on directly-owned network

**Bouygues Telecom's access to households in DSL unbundled areas at end-2015**  
 (millions)

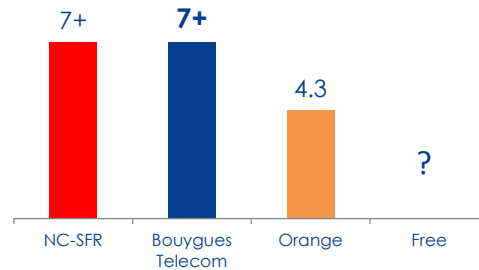


## ...and in Very-High-Speed

Best in class ✓  
 Future proof  
 Cost & capex effective

- **One of the best Very-High-Speed coverages in French market**
  - The Very-High-Speed network can be accessed by 7m households via cable and FTTH
  - VDSL can be accessed by 25% to 30% of our customers

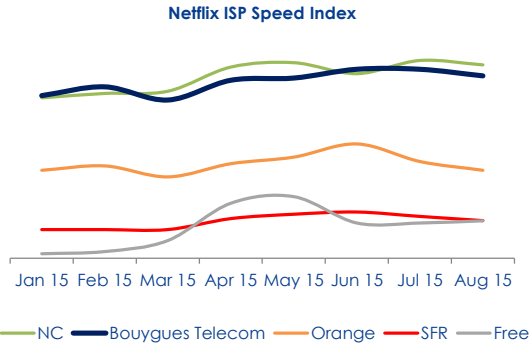
**Accessible market for Very-High-Speed connections at end-June 2015<sup>(a)</sup>**  
 (millions)



## A quality network for maximum usage (1/2)

- Bouygues Telecom's recognised network quality
  - N°1 in **Arcep survey**<sup>a</sup>
  - Joint n°1 in the **Netflix index**<sup>b</sup>

Best in class ✓  
 Future proof  
 Cost & capex effective

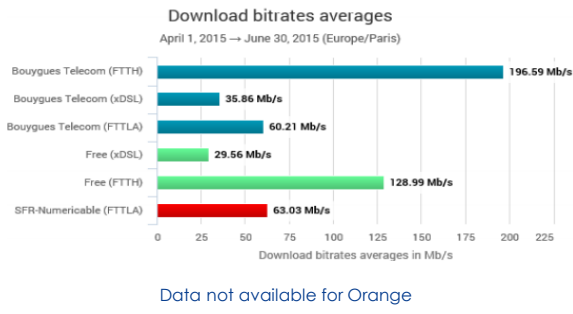


15 (a) Published in May 2015 (b) The Netflix ISP Speed Index is a measure of prime time Netflix performance

## A quality network for maximum usage (2/2)

- Bouygues Telecom's recognised network quality
  - N°1 in **nPerf FTTH download bitrates averages**<sup>a</sup>

Best in class ✓  
 Future proof  
 Cost & capex effective



16 (a) nPerf barometer, Q2 2015



## Scalable FTTH regulatory framework

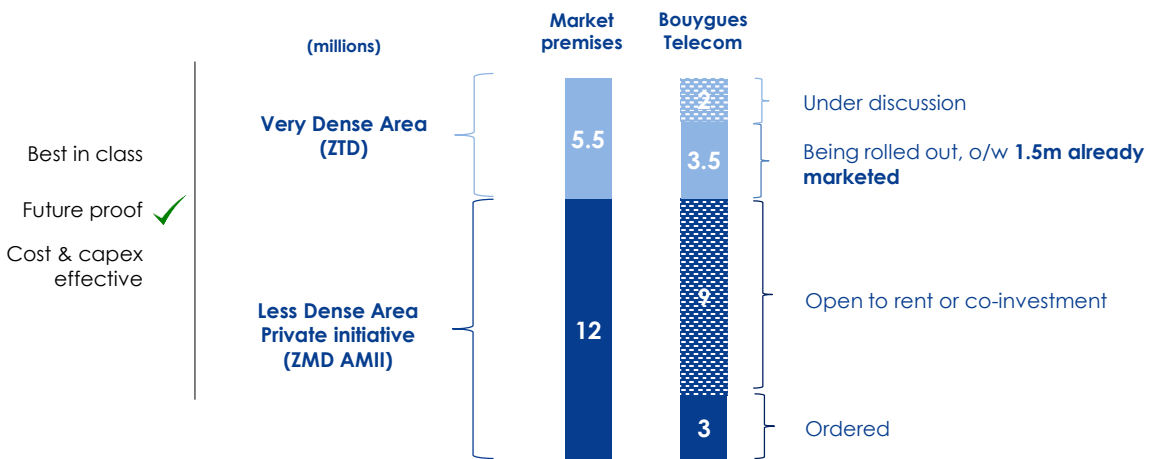
		Horizontal	Vertical
Best in class Future proof ✓ Cost & capex effective	<b>Very Dense Area (ZTD)</b> 5.5m premises	No regulation	Regulated Rental or co-investment
	<b>Less Dense Area Private initiative (ZMD AMII)</b> 12m premises	Regulated and scalable	
		IRU <sup>a</sup>	Rental, or co-investment by steps of 5% connections per district
<b>Less Dense Area Public initiative (ZMD RIP)</b> 15m premises	Regulated and scalable		
	Rental or IRU <sup>a</sup>	Rental, or co-investment by steps of 5% connections per area	

17

(a) IRU: Indefeasible Right of Use



## Full access to FTTH network



18



## Flexibility and leeway for Bouygues Telecom on less dense area PIN (ZMD RIP)

Market shares on PINs<sup>a</sup> – August 2015

Best in class  
 Future proof ✓  
 Cost & capex effective



- The less dense area PIN zone is regulated and accessible to all
- The Bouygues group is investing in less dense area PIN zones via Bouygues Construction (Axione)

19

(a) PIN: Public Initiative Networks



## Optimum management of opex and capex

Best in class  
 Future proof  
 Cost & capex effective ✓

- Long-term vision of the market in order to **smooth out investment** over time
  - A major part of 4G investment has already been completed
  - Leaving the way clear for roll-out of fixed network in years to come
- **Optimisation** of costs related to roll-out of **DSL...**
  - Unbundling of the directly-owned DSL network in the profitable zones
  - Optimisation of opex by avoidance of wholesale margins
  - Partnership with Orange in zones with no directly-owned network
- **....and related to roll-out of FTTH**
  - Joint investment with Orange and NC-SFR
  - Roll-out of FTTH network in zones already covered by directly-owned DSL network
    - ✓ Savings on local loop rental, backhaul, central offices/optical distribution frame costs
  - Bbox Miami is half as expensive to produce and is FTTH-ready

20



# Conclusion

	Mobile network	Fixed network
Best in class	✓	✓
Future proof	✓	✓
Cost & capex effective	✓	✓

# FTTH regulatory framework

