

Transforming lives through 5G networks

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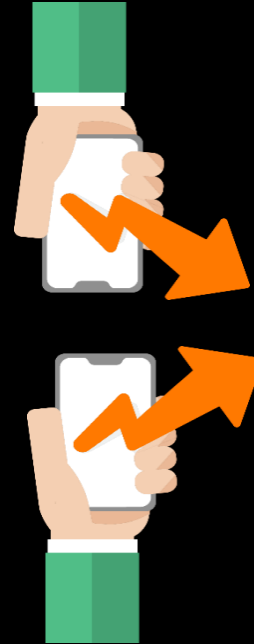
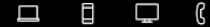
The 3rd Annual European 5G Conference
22 January 2019
Brussels, Belgium

5G is landing in a turbulent market

Market trends

Convergence, unlimited data

All you need is
Love



Prices

falling

Capex

flat or decreasing

Usages

Traffic **x3**
every 2 years






3 main applications :

1. Improved high-speed mobile broadband
2. Very high-speed fixed broadband access
3. New applications to support the digital transformation of businesses



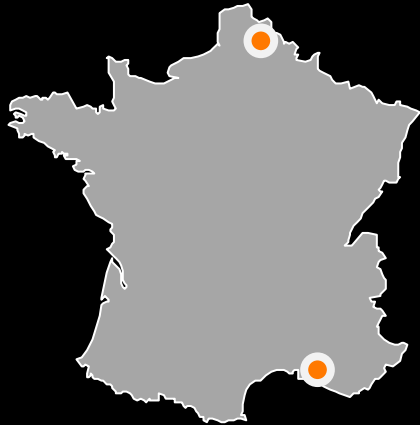
Orange 5G roadmap targets the 3 applications

	2018	2019	2020	2021	2022 +
 eMBB (enhanced Mobile Broadband)	E2E trials	Orange 5G Cities first smartphones	Commercial launch		
 FWA (Fixed Wireless Access)	Trial in 1 city	5G districts		Commercial launch	
 New businesses	Trials 5G Standalone + V2X	Customer projects	First verticals		Ramp up

5G enhanced mobile – ongoing trials

100 MHz TDD
in 3.6-3.7 GHz

Lille - Douai



Marseille

100 MHz TDD
in 3.7-3.8 GHz

End to end
testing
with various
partners

Testing the reuse of
existing radio grid

Testing radio network
virtualisation

Testing new equipment:
antennas and devices

10Gbits/s fibre
backhaul



Network
virtualisation



massive
MIMO
antennas



5G
devices



5G FWA to complement fibre access

Orange FTTH connectable households

France



22 M

over
34 M
households

Spain



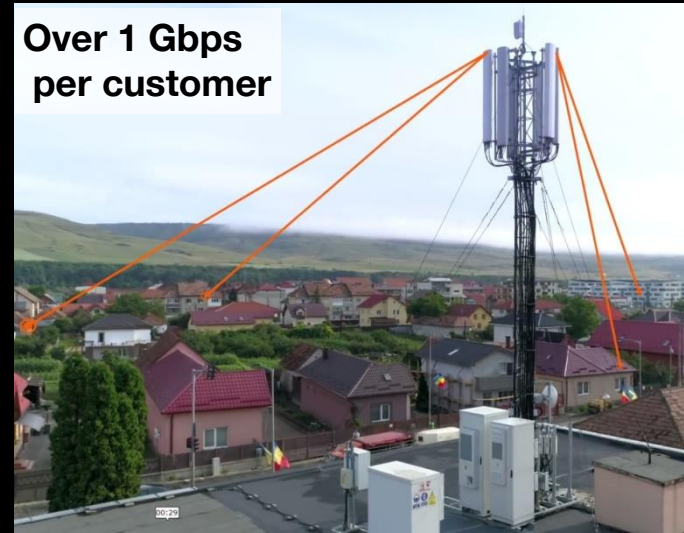
16 M

over
26 M
households

5G FWA trialled at 26 GHz in Romania

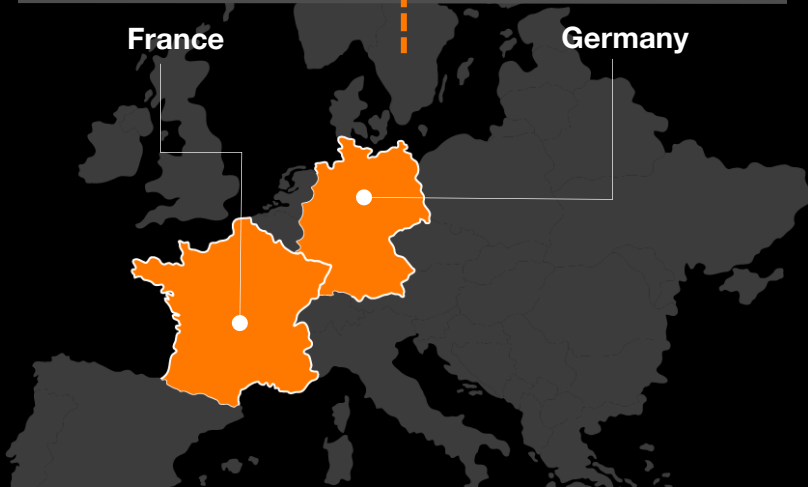
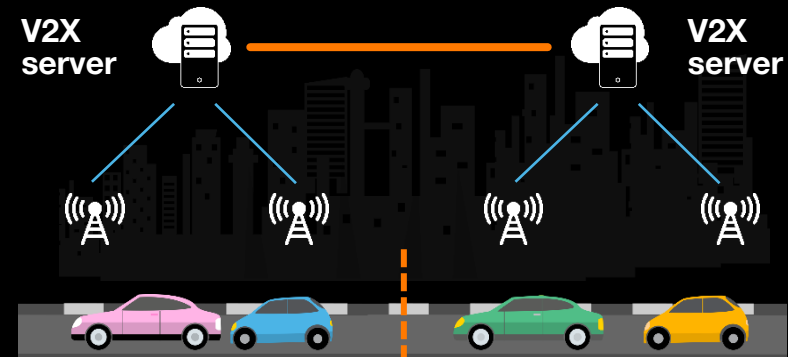
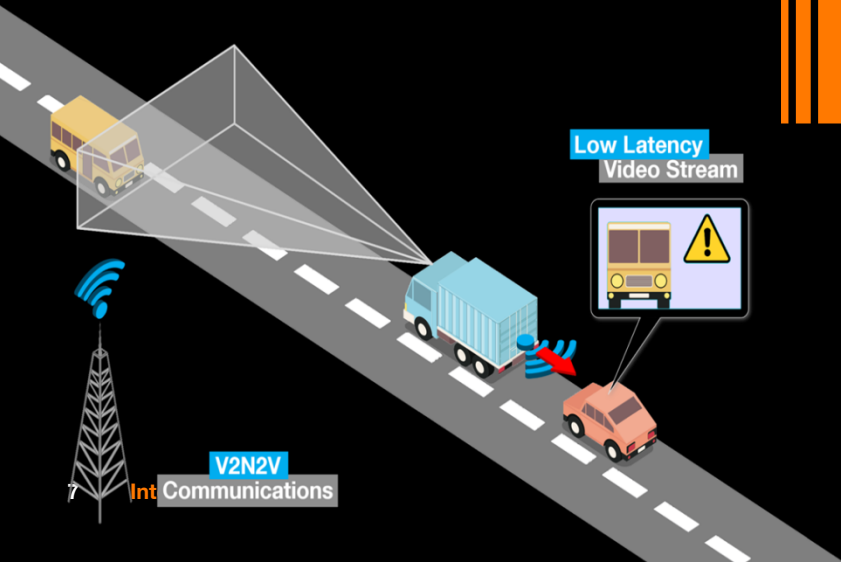


Over 1 Gbps
per customer

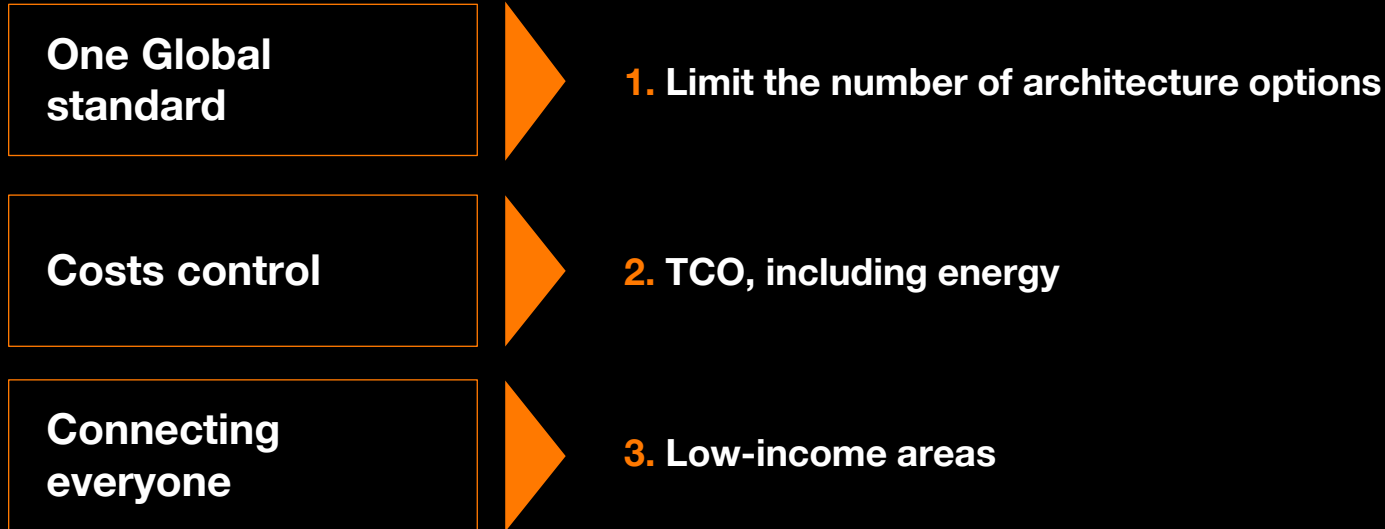


Interworking for all services, including slicing

V2x tests using slicing
15 ms latency reached



Some key challenges are still to be addressed



Delivering full 5G promise

From 2020

Enhanced mobile

Fixed wireless access

Specialised services

Ultra low cost

Massive IoT



Thank you

