

## Speech delivered to KPMG World meeting, Lisbon, 18<sup>th</sup> September 2019

Ladies and Gentlemen

It is a pleasure to be here with such a distinguished and influent audience of consultants of KPMG.

Decisions from CEOs and politicians are always better when they are qualified by consultant's expertise and advise.

Some "naïve" politicians and citizens still believe they have the power to decide people's life. As we know in this room, it is not exactly the case. Indeed, most part of those decisions is given by consultant's work, your assessment, the benchmark you provide, the risks you anticipate, the predictions you build.

Briefly, companies and governments strategy and decisions would, for sure, be worst without you, even if, most likely, it would be cheaper... Well, except when you deliver tax planning against my colleagues of Finance Minister... Seriously, sound political decisions request data quality and high-level assessment.

So, today it's an excellent opportunity to share with you the Portuguese government views on 5G, the new generation of mobile communications.

5G it is a fantastic technologic exploit: to increase speed by hundred times, reduce latency 50 times and to raise connectivity by km square meter until one million devices it's, obviously, a formidable step which opens a reality, still hard to imagine. The most challenging issue is to evaluate what will be the consequences of this enormous potential in our economy and in our life's. One thing is the technological achievement, other, more interpellant are the strategic decisions. What should we do with this potential?

5G will move digital society to another dimension. For instance, on automate and intelligent cars: 4G is too slow to activate car brakes and prevent a collision: the latency is too high. On the contrary, with 5G, cars will be able to stop faster than human drivers get. Computers don't sleep

or look at mobile phones while driving. Car's accidents will be therefore dramatically reduced. It is difficult to impose limits to imagination: we will see major steps forward in health sector, industrial management, energy, infotainment, smart cities and smart buildings, ports and logistics, etc.

The societal challenge is enormous, though it is not clear yet which sector will be the first to take the opportunities to monetize the technological availability.

Ladies and Gentlemen

Portugal is aligned with the European framework. On 14 September 2016, the Commission launched the 5G Action Plan to boost EU efforts for the deployment of 5G infrastructures and services across the Digital Single Market by 2020, and comprehensive coverage by 2025. The action plan sets out a clear roadmap for public and private investment on 5G infrastructure in the European Union. This Action Plan was confirmed by the Member States in December 2017, targets ensuring commercial rollout of 5G in at least one major city in every Member State by the end of 2020 and uninterrupted coverage of all urban areas and major terrestrial transport paths by 2025.

Hence, despite some pessimistic news Portugal is still on the calendar. In Europe some countries have already assigned the necessary spectrum (Italy, Austria, UK, Switzerland, Spain, and Germany), and few began their so called commercial offers. Nevertheless, until now still limited operations either on coverage scope, either on services diversity.

Trials are being made all over Europe, including Portugal, with some very impressive examples – like the on live 3D hologram of a public TV pivot on stage, on a rock concert, hundreds of miles away. However, in the entire world just North Korea is really ahead and everybody is waiting for mobile phones technically and commercial prepared to deal with 5G.

So, Portugal is not on the front line of spectrum deployment, but Portuguese companies are not sleeping, and they even are world pioneers on some trials.

Notwithstanding, we have a Portuguese spectrum peculiarity: both frequencies who were defined to be assigned to 5G have some problems

that must be settled upfront. First, on the 700 MHz, we need to withdraw the TDT (Terrestrial Digital Television) from that range. Hence, beginning in January and until May 2020 TDT will be migrated to other ranges in order to make 700MHz available for 5G. Second, on 3,5 Ghz Portuguese Regulator must take decisions on how to deal with legacy, because part of the spectrum which is necessary for 5G was in the past attributed to a private company. The same “level playing field” must be granted.

So, there is still a lot of work to do and some challenges to overcome until the frequencies can be used for 5G.

Meanwhile the Portuguese government is prepared to approve a national strategy on 5G and is aware of main regulatory issues. For instance: spectrum will be assigned by auction or by beauty contest? Who may submit a proposal? All the existing spectrum will be allocated or not? 700MGz and 3,5Ghz, will be attributed simultaneously or not? How many blocks will be necessary and available by candidate? What will be coverage obligations and objectives? What about infrastructure share and wholesale operators? It seems that Portugal have not enough economic scale to admit vertical operators.

The Portuguese Government is prepared to approve a national strategy. Even if not yet formally I can share with you some major trends on the procedure and on strategic options.

In what concerns the procedure: (a) most likely it will be an auction and all candidates should have equal opportunities concerning the spectrum type and amount, in order to bid in accordance with their technical needs and market strategies. (b) Simultaneous attribution of 700 MHz and 3,5Ghz with reserve of part of existing spectrum; until now, 26 Ghz seems not to be a priority to the market. (c) the price should be in line with European previous auctions;

In what concerns strategy: (a) Coverage obligations will be imposed: main highways and railways, Lisbon and Oporto suburban lines and METRO underground lines, 5 ports and international airports, all public Hospitals and Health Centres, all public Universities and Institutes, all secondary public schools, all public services, all industrial zones, urban centres, most

likely beginning by former District capitals and Metropolitan areas of Lisbon and Oporto. The timeline will be adapted to each sector until the 2025 deadline, when all population should be served. (b) Incentives to wholesale, to net sharing solutions, to national roaming. (c) Support to R&D apps to 5G on Transports, industry, smart cities, smart buildings, health sector, urban security, agricultural, and environment.

Ladies and Gentlemen

We need your critical and qualified contribution to this debate, and I am sure that you will advise your clients on verticals sectors, telecom investors and operators, providing them with benchmarking of the entire world, which you know better than governments and bringing useful insights about the future. 5G is just a tool - an extraordinary one - of digital transformation which is shaping our times, where we are privileged witnesses and agents.

Thank you for your attention.

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