The Metropolitan Area’s approach towards 5G

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5G is the new generation of mobile communications with disruptive technological innovations such as high speed connectivity, low latency, wide bandwidth, new frequency bands and new access technologies.

✓ Improved broadband: to achieve higher speed and better coverage in all types of environments (indoor, urban, rural…)

✓ Mass communications between devices: complete connectivity of objects through machine-to-machine (M2M) applications (sensors and actuators that are part of the Internet of Things)

✓ Low latency and high reliability communications: aimed at the industrial IoT
Main objectives of the implementation of 5G in the Metropolitan Area:

- **Smart Cities**: Greater capacity in the services that the Metropolitan Area offers to municipalities, companies and citizens
- **Digital Government**: More efficient management, gaining proximity to the citizen
Some of the **most important challenges** in implementing 5G in smart city building:

- It is difficult to implement smart urban planning 5G as a whole, it must be focused "down up" and build micro-units of smart cities.

- Operators need to redesign their role in the model, focusing on the use of all resources, their integration and the provision of high quality services.
5G at AMB - Pilot test Metropolitan beaches

The AMB aims to carry out a pilot test of the implementation of 5G technology in public spaces, in an area of high concentration of users at a specific time of the year.

Gavà beach: 1700m long
5G at AMB – Pilot test Metropolitan beaches

• Same equipment on public roads shared by all operators (Technical Room).
• Same antenna shared by all operators, integrated in the Integral Modular Column AMB.
• Lower visual impact of implementation.

5G Module (Technical Room)
IMC AMB. Integral Modular Column
Technical Closet
5G at AMB - Summary of technical data

- **Area of action**: Gavà Beach - 1700m delimited by a beach promenade and dunes
- **IMC**: The 5G antenna will be integrated in one of every 2 columns (300m) sending a one-way signal and avoiding overlap and interference. 12 IMCS will be placed.
- **5G cells**: 116Mbps capacity with an actual capacity of 1.4Mbps for each user on a busy summer weekend.
- **Technical room**: In this room the teams of operators will be concentrated, connecting to a Master Unit that is in charge of managing the multioperator service. 4 Fiber Optic cables will come out of this room for each remote unit in the technical cabinets that will be located every 300m.
- **Fiber optic cabling**: The extension of the cabling will be carried out by a ditch in the sand, avoiding the lifting of pavements with a minor impact of civil works.
- **Technical closet**: There are two remote units and an electrical panel, from where a ditch will be run through the sand to the column, with a pull of 6 coaxial cables of FO of ½” and the power supply. The maximum distance between these remote units and the 5G antenna will be 50 m.
5G at AMB

Barcelona Ring Roads
5G at AMB

Industrial estates Connectivity
5G at AMB

Thank You