FONDAZIONE BRUNO KESSLER
MAGAZINE

“MADE IN FBK” 5G TECHNOLOGY AT B-APCO 2019

November 18, 2019

This year, 5G is at the center of the important international event as far as public safety is concerned. Also FBK has participated with the 5G-ESSENCE project and the 5G-EmPOWER asset

Last year, we focused our attention on artificial intelligence and how it will transform our lives in the coming years. Although it is hard to make predictions, we can say for sure that AI, like all prior technologies and revolutions, is to be considered just as a tool, neither good nor bad, which depends on the use we make of it.

If technical advance is responsible and respectful of human beings, it can make us achieve incredible goals: reduce the number of motor vehicle accidents, protect personal information, allow workers to focus on their goals by applying critical/strategic thinking to the end of leaving repetitive tasks to machines.

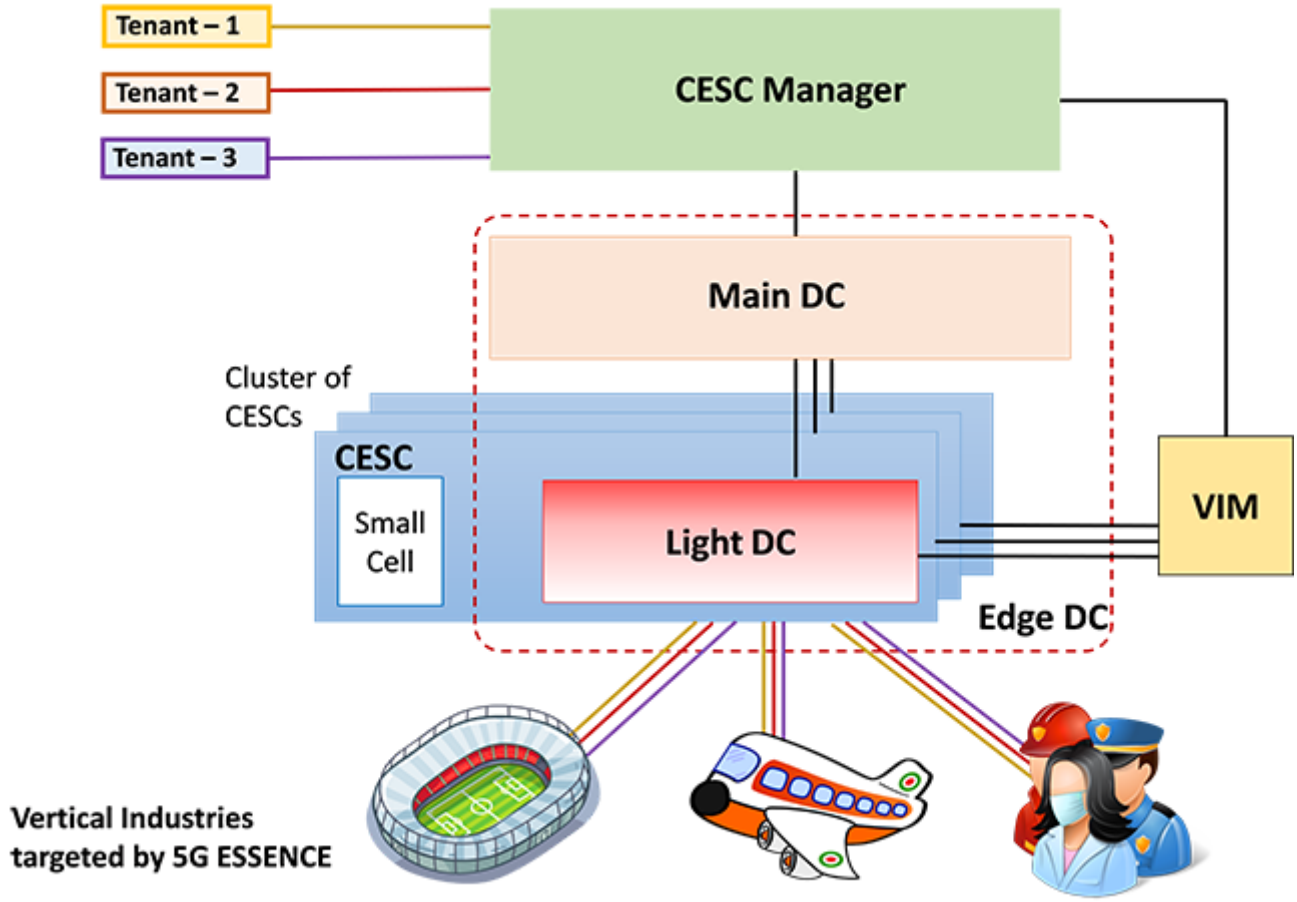
According to a Pwc study, in 2025 connected cars will be 168 million and, 5 years later, they will be 274 million. Each will have a sim and will be connected at all times. These advances are based on an ever-increasing calculation and data transmission capacity. The stage we are going through right now is characterized by the transition to a 5G world.

The 5G mobile network will change our lives through increased connectivity, augmented reality and millions of “things” connected to the Internet of Things. Telcos have started to challenge each other with their communication campaigns, in Italy and abroad. Networks are starting to light up, starting from the major cities where the first tests have kicked off.

5G is the latest evolution in technological standards for mobile networks. In the beginning… came the analog Tacs. 2G was the first digital standard, the Gsm. After that came 3G (UMTS), with which, as of 2000, we talk about mobile broadband. 4G is Lte, with which the band expands beyond 10 megs. With 5G we reach one GB now. The connected world is a push to redesign an entire society based on knowledge, information, the ability to find and evaluate it.

There are numerous opportunities worldwide for in-depth analysis of new technologies and projections of their jobs in the various economic sectors and social contexts. B-APCO (acronym for British Association of Public Safety Communications Officials) is one of the most important annual events for public safety. Thanks to the H2020 project “5G-ESSENCE”, this year as well FBK took

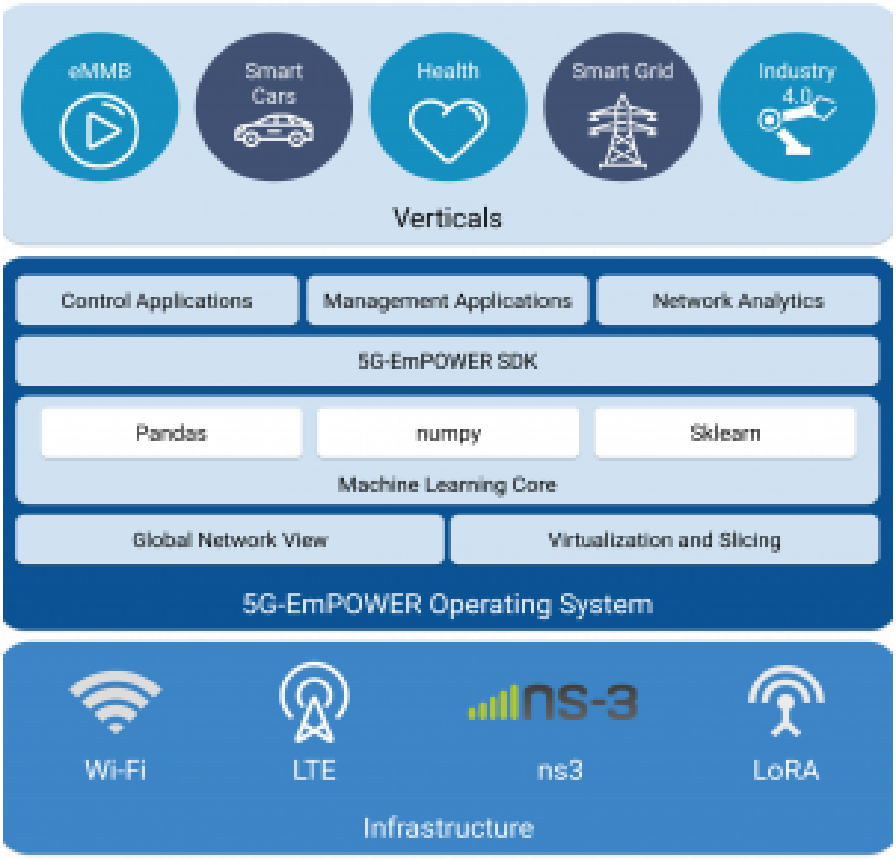
part in the November 13 and 14 sessions of the event, which was held in Newcastle (UK).



In particular, the culmination of the project was the demonstration of the system in three use cases:

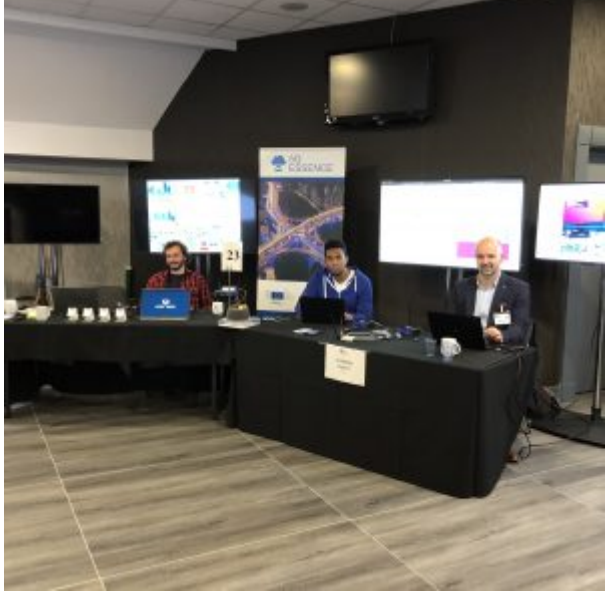
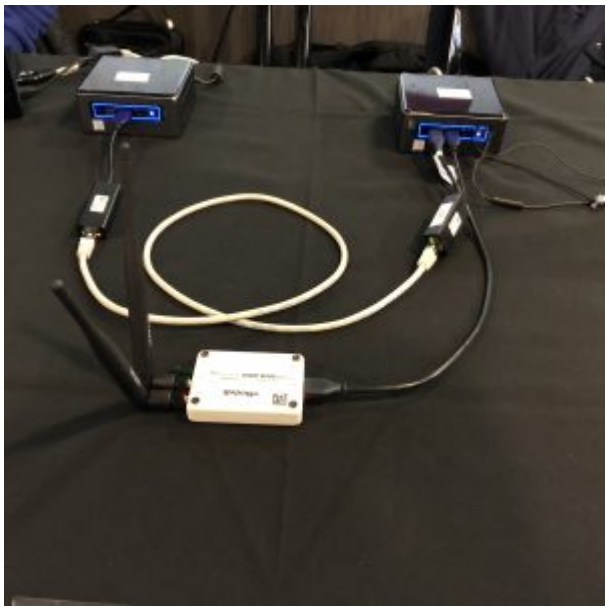
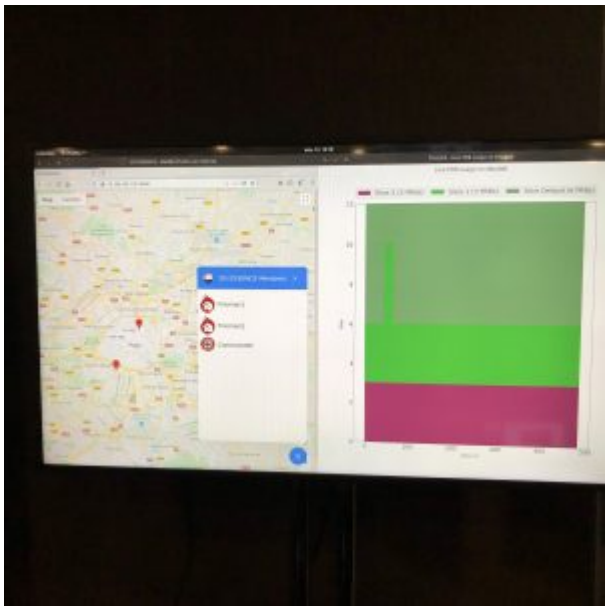
1. acceleration of the edge network in a crowded event;
2. mission-critical applications;
3. in-flight communications.

An FBK asset developed for the WIN Unit led by Roberto Riggio was used for the demonstration. The name of the tool is 5G-EmPOWER and was created by **Estefania Coronado**.



At first sight, the subject may appear niche but it actually has a very direct application and this is consistent with the event in which it has been inserted, little oriented to research and much to practical relevance.

T**he system presented allows public safety officers to use the commercial cellular network even in cases of emergency**. While currently law enforcement agencies often adopt proprietary systems, solutions such as those presented at the conference enable them to have a “dormant” virtual network (slice). This slice can be activated in emergency events (e.g. an earthquake) and all its resources can be associated, for instance, with the first intervention. The main advantage consists in not needing a dedicated public security network (which would be used for a fraction of time) since one can rely on the commercial network. All this without affecting the reliability of the first intervention.

- 
- 
- 

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TAGS

- #5G
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