



## 5TONIC Successfully Tests Cohere Technologies' OTFS

### ***New radio waveform tested to assess the suitability of OTFS to support 5G fixed wireless access***

**SANTA CLARA, Calif. and MADRID — Oct. 3, 2017** – 5TONIC partners Telefónica, IMDEA Networks, University Carlos III Madrid, and Cohere Technologies announced today the companies have cooperated in a number of successful trials to test Cohere Technologies' OTFS waveform, a new radio technology that has been proposed for 5G radio interface in 3GPP.

Orthogonal Time Frequency and Space (OTFS™) is a new wireless modulation technology developed by Cohere Technologies that implements a 2-dimensional representation of the wireless channel, making all wireless transmission under any conditions resilient to channel dynamics.

The tests conducted by 5TONIC were mainly intended to assess the suitability of OTFS based radio equipment for supporting fixed wireless access, a potential 5G use case that Telefónica and other operators are actively exploring.

For these purposes, 5TONIC administered tests during four days where several links with different lengths and propagation conditions were established at different locations including IMDEA Networks premises, University Carlos III, Leganés Campus, and Telefónica headquarters at Distrito Telefónica, which are expected to be representative of different operational conditions.

Additionally, indoors measurements were also carried out in order to assess OTFS capacity to cope with rich multipath propagation conditions. These tests demonstrated that OTFS is compliant with the regulation on potential interference on users of adjacent spectrum. The results obtained fulfilled the targets set up by the participants and set the basis for further cooperation between them.

“Cohere has been a member of 5TONIC since 2016,” said Shlomo Rakib, Chief Executive Officer at Cohere Technologies. “Working jointly with our 5TONIC partners, Cohere continues to demonstrate the full diversity of use cases where OTFS excels, making it an ideal candidate for 5G and beyond.”

5TONIC is committed to continue testing the new OTFS developments carried out by Cohere, including the 16 x 16 MIMO configuration with 16 simultaneous streams over the air that was demonstrated in testing in Santa Clara in early September (<https://www.cohere-technologies.com/resources/videos/>). New tests will focus on high mobility and ultra-reliable 5G use cases, where OTFS has been shown to be advantageous over current waveforms being standardized for NR (New Radio) interface at 3GPP.

## **ABOUT 5TONIC**

5TONIC was initiated by Telefonica and IMDEA Networks Institute with a clear vision to create an open research and innovation ecosystem laboratory in which industry and academia come together to boost technology and business innovative ventures. The laboratory promotes joint project development, joint entrepreneurial ventures, discussion fora, events and conference sites, all in an international environment of the highest impact. 5TONIC serves to show the capabilities and interoperation of pre-commercial 5G equipment, services and applications, by leading global companies in the 5G arena.

## **ABOUT COHERE**

Cohere Technologies is solving the most pressing challenges in wireless communications with its groundbreaking Orthogonal Time Frequency and Space (OTFS) technology. This new patented 2D modulation scheme will revolutionize the industry as it prepares to deliver on the promise of 5G with 100 percent coverage, 10x spectral efficiency and a 50 percent cost savings over existing solutions. OTFS can also enhance traditional modulation schemes with its greater capacity and coverage to make 5G mobility a reality. Carriers around the world have tested OTFS, and the company is developing solutions for fixed wireless access and 5G applications. Founded in 2009, Cohere Technologies is headquartered in Santa Clara, California. The Company completed A, B and C financing rounds and is led by a seasoned team of telecom and wireless industry veterans. Cohere Technologies is a 5TONIC member since 2016.

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