

COHERE TECHNOLOGIES

- Founded 2011 in Santa Clara, CA (USA)
- Software based solution significantly improves spectrum and capacity performance for 4G, 5G and Multi-G O-RAN
- Cohere software can be deployed on any x86-based platform. Cohere can be integrated into existing base stations or be deployed next to existing base stations through defined interfaces. Cohere's software is consistent with the O-RAN architecture and can also be deployed as an xApp within any Telco Cloud.
- Patents: 200+ covering 4G, 5G and OTFS
- Major Investors: Koch Investments Group, NEA, Lightspeed, Telstra Ventures, Bell Ventures, Intel, VMware and Juniper

EXECUTIVE TEAM

Ray Dolan

Chairman & CEO
Flarion Technologies (Qualcomm)
Board member American Tower

Shlomo Rakib

CTO & Co-founder
Co-founder Terayon (Motorola)
and Gainspeed (Nokia)

Dr. Ronny Hadani

Chief Science Officer & Co-Founder
Associate Professor - UT Austin

Ram Prasad

COO/CFO
Gainspeed (Nokia)

Ronny Haraldsvik

CMO/SVP Business Development
SpiderCloud (Corning), BelAir
(Ericsson), Flarion
Technologies (Qualcomm)
Shasta Networks (Nortel)
Bay Networks (Nortel)

BUSINESS MODEL

- Direct, or indirect via partners, to licensed mobile operators
- Partner with cloud service providers, system integrators and OEM vendors

HEADQUARTERS

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COMPANY OVERVIEW

When Cohere first started the company, it built a proprietary wireless system, Orthogonal Time Frequency Space (OTFS), which demonstrated superior cellular performance in field trials. However, the company was ahead of its time with a next generation waveform. In 2018 the company changed its focus to bring its innovation around the use of Delay-Doppler-based channel detection, estimation and prediction, as well as precoding software to improve 4G and 5G wireless systems. This innovative technology is agnostic to any modulation scheme and is fully compliant with 3GPP.

UNIVERSAL SPECTRUM MULTIPLIER (USM) FOR 4G, 5G AND MULTI-G O-RAN

The pioneering work in the Delay-Doppler domain enables robust channel estimation and accurate channel prediction into the future. It leverages geometric reciprocity and reduces computation complexity through concise channel representation. Additionally, Cohere software takes advantage of existing UE feedback for channel measurement. Cohere's software delivers a significant spectrum multiplier effect for mobile networks in both FDD and TDD with Spatial Multiplexing for any generation network.

Cohere's software-based solution offers significant MU-MIMO benefits with no changes to existing handsets, radios and antennas. Cohere's software works in all available spectrum and enables true 4G, 5G and Multi-G coexistence via a vendor neutral approach to Dynamic Spectrum Sharing (DSS) with Cohere Spatial Multiplexing.

The Delay-Doppler channel representation is predictable into the future given that its geometric nature is slow changing. This allows further disaggregation of RAN functions and enables Cohere's USM Cloud Scheduler to reside in the Edge Cloud and creates the foundation for improving cell edge performance via intercell coordination (CoMP).

OTFS Delay-Doppler channels are immune to doppler effects. OTFS communications exhibit outstanding performance while operating within the high velocities of Hypersonic objects. The same Delay-Doppler principles that enable the Universal Spectrum Multiplier effect are applied to schedule orthogonal beams from multiple DUs in the same spectrum.

DEPLOYMENT OPTIONS FOR 4G, 5G NETWORKS AND BEYOND

Cohere software can be deployed on any x86-based platform. The software can be integrated into existing base stations or be deployed next to existing base stations through defined interfaces. Cohere's solution is consistent with the O-RAN architecture. Within a Telco Cloud, Cohere channel estimation and scheduler can run on near real-time RAN Intelligent Controller (RIC) as an xApp.

PATENTED INNOVATIONS

Cohere has 200+ patents which cover 4G, 5G, Multi-G and OTFS

