

## COHERE TECHNOLOGIES

- Founded 2011 in Santa Clara, CA (USA)
- Software based solution significantly improves spectrum and capacity performance for 4G and 5G networks.
- 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: 100+ covering 4G, 5G and 6G
- Major Investors: Koch Investments Group, NEA, Lightspeed, Telstra Ventures, VMware, Juniper and Intel

## 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  
Chief Science Officer &  
co-founder, Associate  
Professor – UT Austin

### Ram Prasad

COO  
Gainspeed (Nokia)

### Ronny Haraldsvik

SVP Business Development & Marketing  
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 "6G" technology. 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 & 6G

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 and 5G 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).

## 3GPP REFERENCE MODELS AND COMPLIANCE

Cohere has completed numerous 3GPP simulations and field capture of live network traffic for mobile operators – confirming scalability and the impact of Cohere's channel detection, estimation prediction, and precoding software on mobile networks and Cloud RAN. System simulations and operator lab trials show material spectrum and capacity improvements compared to current 3GPP methods. Cohere is conducting several 4G and 5G field trials on several continents.

## DEPLOYMENT OPTIONS FOR 4G, 5G NETWORKS AND CLOUD RAN

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 100+ patents which cover 4G, 5G and 6G

