

Before the
DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration
Washington, DC 20230

In the Matter of)	
)	
Public Wireless Supply Chain Innovation Fund)	Docket No. 221202-0260
Implementation)	RIN 0693-XC05
)	

COMMENTS OF COHERE TECHNOLOGIES

Cohere Technologies is pleased to present these comments to the National Telecommunications and Information Administration. As a member of the Open RAN Policy Coalition and a frequent participant in the Coalition’s domestic and global activity, we understand the importance of continued advocacy and educating governments and industry representatives on the many benefits of Open RAN solutions. Cohere Technologies believes the Public Wireless Supply Chain Innovation Fund (the Fund) will significantly benefit and enhance research, development, and deployment of this game-changing architecture and in doing so, promote a sustainable supply chain and more quickly advance innovative solutions within the network.

Cohere Technologies was founded in 2011 in Santa Clara, CA. We are the innovator of software that improves spectrum and user experience with channel detection, estimation, prediction and precoding deployed within a standard-compliant 4G, 5G or open Cloud RAN environment. Today we are headquartered in San Jose, CA and backed by leading investors such as NEA (New Enterprise Associates), Lightspeed Venture Partners, Telstra Ventures, Koch Investments Group (KSP), VMware, Intel Capital and Juniper — among others.

6G is on the horizon. In fact, Cohere is bringing 6G innovations to mobile operators today with Orthogonal Time Frequency Space (OTFS) via the Universal Spectrum Multiplier. These technologies together enable the doubling of spectral capacity on today’s installed base of 4T4R antennas. This 5G to 6G upgrade allows mobile operators to layer their new 6G infrastructure into existing spectrum without disrupting 5G operations.

The Wireless Innovation Fund presents an opportunity for NTIA to promote innovation, research and development, testing and investment in the next generation of technologies. To that end, our comments outline several recommendations for the Fund, namely that it should:

- **Target monies toward powering technologies that are truly open and interoperable**
- **Encourage participation in standards bodies and organizations that facilitate testing**
- **Support workforce development**

- **Restore U.S. technology leadership by sponsoring disruptive innovation**
- **Prioritize research and development projects that will be transformational to 6G**
- **Prioritize projects that will broadly benefit the Open RAN ecosystem**
- **Complement private investment in Open RAN**

The Public Wireless Supply Chain Innovation Fund

Open RAN and the standardization of interfaces has encouraged a shift to a telecommunications ecosystem that is vibrant and competitive, while also supporting supply chain resiliency. Innovators like Cohere Technologies will significantly benefit from the aims of the Fund laid out by Congress in the Chips and Science Act of 2022. We believe that the best use of the Fund will be to bolster research and development efforts and signal to the broader global market that Open RAN is the future standard. In particular, we advise that the Fund should:

1) Target monies toward powering technologies that are truly open and interoperable

The Fund has a tremendous opportunity to create a multiplier effect within the broader telecommunications industry. NTIA should consider the types of companies it chooses to invest in; it should focus these limited sources on companies that genuinely want to expound open and interoperable interfaces to further the needs of the telecommunications industry.

2) Encourage participation in standards bodies and organizations that facilitate testing

Smaller companies are the driving forces behind many of the dynamic innovations we see today. A portion of the Fund should be dedicated to allowing for continued education and giving smaller players the ability to participate in organizations like the ORAN Alliance and the Telecom Infra Project.

3) Support workforce development

Open RAN is part of a larger technological transformation that includes a shift towards cloud, artificial intelligence and machine learning as central components of network operation. Keeping pace with the latest innovation will require a change in skillset in the telecommunications workforce. As we promote the shift to networks that are open and interoperable, we should also encourage and fund projects that facilitate the sharing of knowledge and education in the workforce.

4) Restore U.S. technology leadership by sponsoring disruptive innovation

It is critical for the U.S. to restore technology leadership, which cannot be done without sponsoring disruptive innovation. Disruption is a very capital-intensive process that warrants the support of innovative startups and pre-revenue companies that can't afford matching funds; it is

also necessary to change the rules in a way that favors U.S. companies in software, cloud, and silicon.

5) Prioritize research and development that will be transformational to 6G

While 5G deployments continue to drive the global ecosystem, attention is already turning to 6G, what future fast-speed services will look like, and how they could unlock new revenue streams for mobile network operators.

One compelling vision for 6G is new supersonic to hypersonic services that can maintain robust communications regardless of frequency. This can mean connecting satellites in orbit traveling at 20,000 MPH to connect subscribers in remote areas. It can mean managing fleets of fast-moving vehicles on the ground and in the air. And it unlocks new verticals such as the global defense industry—as well as accelerates enterprise use cases such as industrial automation and remote medicine. This will ultimately lead to significant and sustainable revenue growth for carriers.

6) Prioritize projects that will broadly benefit the Open RAN ecosystem

NTIA should focus funds on Open RAN technologies that can help improve and build on 5G network performance and economics. By improving existing network functions and available spectral resource efficiencies, we will inadvertently be supporting next-generation technology development, thereby furthering a multi-generation platform that takes advantage of cloud economics and new technology advances which could support supersonic to hypersonic speeds in the very near future.

7) Complement private investment in Open RAN

A significant matching requirement would be cumbersome and unduly impact start-ups and small businesses. Instead, NTIA should take into account outside private investment in a company. For instance, Cohere has expansive financial backing from NEA (New Enterprise Associates), Lightspeed Venture Partners, Telstra Ventures, Koch Investments Group (KSP), VMware, Intel Capital and Juniper — among others, proving that some of the most notable venture backers in the world believe in the technologies Cohere drives.

Conclusion

Cohere Technologies appreciates the opportunity to participate in NTIA's RFC on implementing the Wireless Innovation Fund, and we urge NTIA to begin funding key projects as soon as possible.

Ray Dolan

CEO, Cohere Technologies