

# Council for Development of Connectivity and Communication Technologies

## Funding Opportunity Title:

### "Design and Development of Open Radio Access Network Components"

## Introduction:

On behalf of the Vice-Presidency for Science, Technology, and Knowledge-Based Economy Affairs (ISTI) of Iran, the Connectivity and Communications Technology Development Council (CCTDC) and the Mustafa Prize Investment and Endowment Fund (MPIEF), are announcing call for collaborative research projects in the field of modern communications technologies. This opportunity is open to Iranian researchers affiliated with higher education or research institutions and distinguished Muslim researchers from high-ranked universities worldwide. The focus of this call for proposal is to design and develop Open Radio Access Network (ORAN) components to be used in already established 4G LTE networks and also to be planned for applications in 5G infrastructure and beyond.

## Goals and Research Themes:

The primary objective of this research call is to foster and enhance interdisciplinary collaboration among Iranian and global Muslim researchers in the field of ORAN studies and applications. It also aims to facilitate knowledge transfer and the development of services and tools in the field of advanced connectivity and communications for Islamic nations. Research proposals related to the design and implementation of open radio unit (ORU), open central unit (OCU), and open distributed unit (ODU). Research themes include but not limited to:

- Network Automation and Performance Prediction Software
- Dynamic Cloud-based Telecom Radio Resource Allocation Algorithms
- Energy-efficient Cloudlets for ORAN
- RAN intelligence in 5G NR and beyond by accelerating AI/ML framework and logic design
- Flexible, Efficient and High-Performance 5G NR (ORAN) elements (Flex-5G) by Processing Intensive assets (Chip sets and FPGAs)
- Coordinated Multipoint ORAN Capabilities
- Development of Flex-ORAN for specific applications:
- Machine learning-based xApps for ORAN
- ORAN Security

Moreover, technical developments in the radio access networks (RAN) such as active antenna unit (AAU), remote radio unit (RRU), as well as base-band unit (BBU) are welcomed.

## Funding Details:

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- ✓ Selected projects will receive joint funding from ISTI and CSTC of 10,000 USD.
- ✓ MPIEF will also fund projects with an additional 10,000 USD.
- ✓ The funding period for projects is one year, with the possibility of a 3-month extension without extra funding.

Researchers interested in this funding opportunity are encouraged to prepare research proposals in line with the specified research themes and sub-topics. This call for proposal aims to support innovative research in the field of RAN and ORAN, and promote collaboration among researchers in the Islamic world and beyond.