



Unlock efficiency  
in C-RAN with  
Ericsson RAN  
Connect

# Unlock efficiency in C-RAN with Ericsson RAN Connect

Centralized RAN (C-RAN) architectures enable operators to consolidate compute resources, reduce site footprint, and improve efficiency and scalability. As 5G and cloud-native technologies accelerate, communications service providers (CSPs) need solutions that can aggregate, synchronize, and manage traffic from distributed radio sites to centralized compute hubs. Ericsson RAN Connect is purpose-built to meet these needs, empowering CSPs to deliver high-performance, resilient, and future-ready C-RAN networks.

## Meeting CSP needs in C-RAN deployments

Centralized architecture presents new challenges and opportunities. C-RAN offers the potential for greater efficiency, simplified operations, and better resource utilization—but only if the infrastructure can meet the demands of high-capacity aggregation,

precise synchronization, and operational agility. Addressing these needs is crucial for unlocking C-RAN's full potential and enabling a smooth transition to cloud-native and open RAN environments.

Key requirements include:

### High-capacity aggregation:

C-RAN architectures demand the ability to aggregate traffic from multiple distributed radio sites into centralized hubs. This requires high-density, high-capacity interfaces that can handle today's and tomorrow's traffic needs.

### Synchronization and resilience:

Precise timing and synchronization are critical for C-RAN. Solutions must provide robust sync capabilities, including Grandmaster functionality, adaptive holdover, and strong filtering to ensure network stability—even in the event of GNSS (Global Navigation Satellite System) loss.

### Operational flexibility:

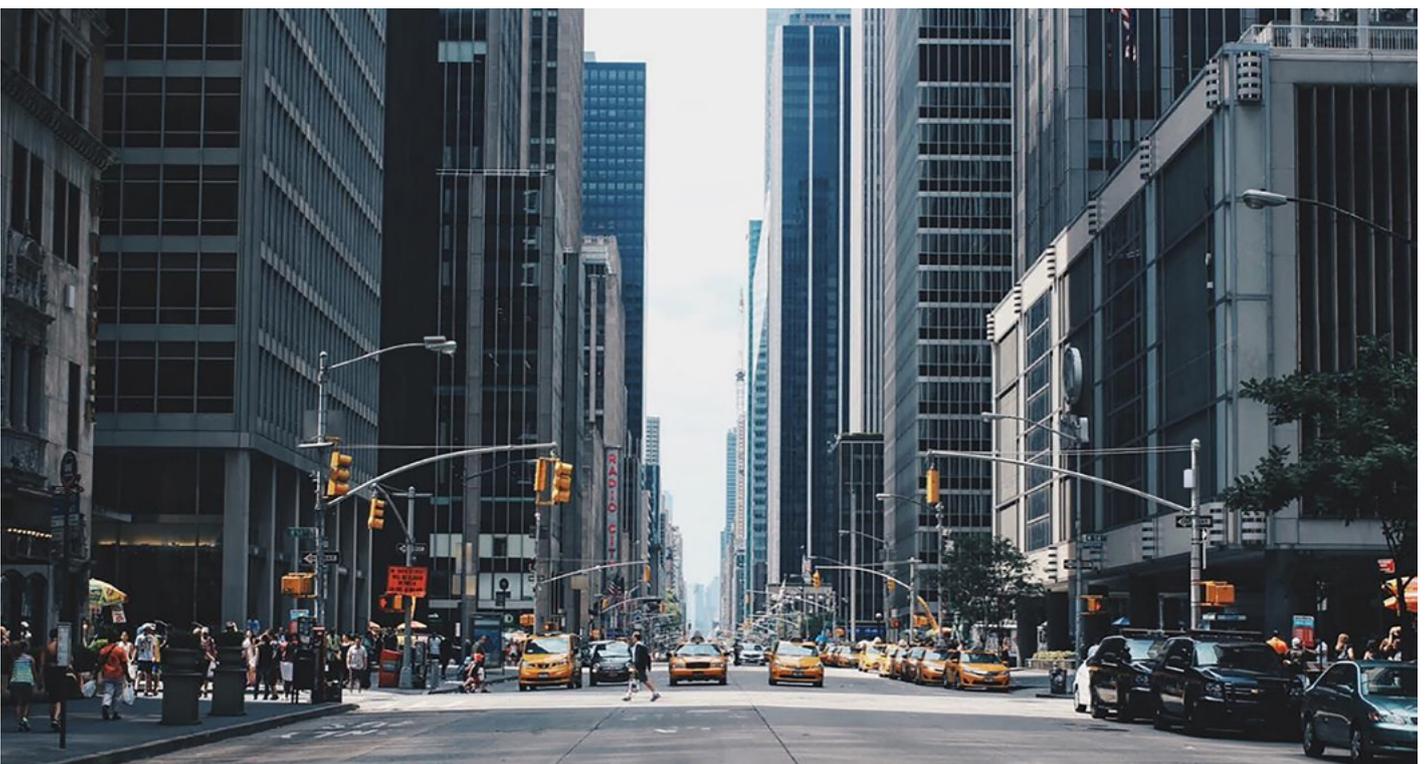
CSPs need to be able to reconfigure, scale, and optimize their networks without costly site visits or service interruptions while supporting both purpose-built and cloud-native compute environments.

### Energy and space efficiency:

Centralized sites must maximize rack space and minimize power consumption. Efficient aggregation reduces the need for excess hardware, lower operational costs, and supports sustainable network growth.

### Unified management:

Radio, transport, and IP teams require unified management and automation tools that provide end-to-end visibility, streamline workflows, and enable coordinated operations across the entire network.



# Create site flexibility

Ericsson RAN Connect is engineered to address the unique demands of C-RAN with a suite of advanced capabilities that streamline aggregation, synchronization, and management across centralized architectures.

## How it works:

### Centralized aggregation:

Ericsson RAN Connect aggregates traffic from multiple remote radio sites—using models like RAN Connect 6681 at the edge and RAN Connect 6682 at the hub—onto high-capacity interfaces and a switching capability up to 1.2 Tbps. This enables efficient, scalable connectivity between distributed radios and centralized compute resources.

### Statistical multiplexing and fronthaul optimization:

By aggregating fronthaul traffic based on real-time user demand, RAN Connect enables statistical multiplexing, reducing overall bandwidth requirements and optimizing the use of colored optics and fiber infrastructure.

### Remote reconfiguration:

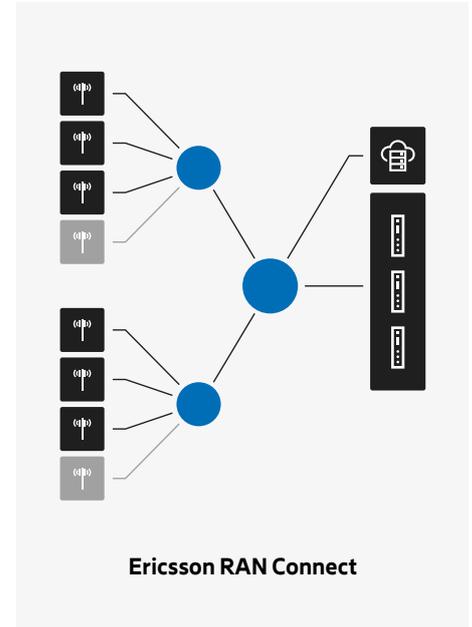
Radios can be reassigned or rehomed to different compute nodes remotely, without the need for on-site interventions. This flexibility enables CSPs to adapt quickly to changing traffic patterns, maintenance needs, or network upgrades, all while minimizing service disruption and operational costs.

### Intent-based and automated operations:

Integration and configuration are streamlined with intent-based automation, reducing manual steps and enabling rapid deployment and scaling. Automated radio unit identification and unified management tools simplify operations for all network domains.

### Resilience and advanced sync:

Built-in Grandmaster synchronization, adaptive time holdover, and strong filtering ensure robust synchronization and network resilience. Features like 1+1 fiber path diversity, hub switch redundancy, and N+1 compute redundancy further enhance reliability and uptime.



# Benefits with Ericsson RAN Connect

Deploying Ericsson RAN Connect in C-RAN delivers tangible advantages and benefits:

## Industry-leading synchronization and resilience

Featuring Ericsson's leading RAN Compute synchronization solution, Ericsson RAN Connect delivers superior noise filtering and up to 15 times (1-5 hours instead of 5-15 min) longer timing holdover for TDD radio equipment – giving you improved resilience and higher capacity gains.

## Industry-leading energy efficiency

Ericsson RAN Connect delivers up to 75 percent proven energy savings in the field compared to other leading market alternatives. This is achieved through its advanced silicon, which also contributes to a more compact form factor and lower site footprint.

## High capacity

Ericsson RAN Connect has the means to deliver the capacity required today and in the future for all site types and deployment scenarios. With a high density of high-capacity ports up to 400 GE and a switch fabric of 600 Gbps to 1.2 Tbps, our portfolio provides the scale and flexibility you need.

## Remote reconfiguration and operational efficiency

Ericsson RAN Connect opens new possibilities for remote radio rehomeing and reconfiguration directly from the operations center, contributing to fewer site visits and significant cost savings across your operations.

## Unified Management and observability

Advanced automation and analytics tools are designed to extend your network's uptime, including functionalities such as AI/ML-powered network monitoring and predictive maintenance, real-time service assurance, and granular circuit telemetry monitoring. Unified operations simplify management for radio, transport, and IP domains, supporting a holistic approach to network evolution.

## Conclusion

Ericsson RAN Connect is a foundational enabler for efficient, scalable, and future-ready C-RAN deployments. By delivering unmatched aggregation, synchronization, and operational efficiency, RAN Connect empowers CSPs to centralize compute resources, optimize network performance, and prepare for the next wave of mobile innovation—while keeping costs and complexity under control.

