



# DuoSIM 5G

The world's most powerful gNB Load & Stress Tester



Future-proof your O-RAN gNB

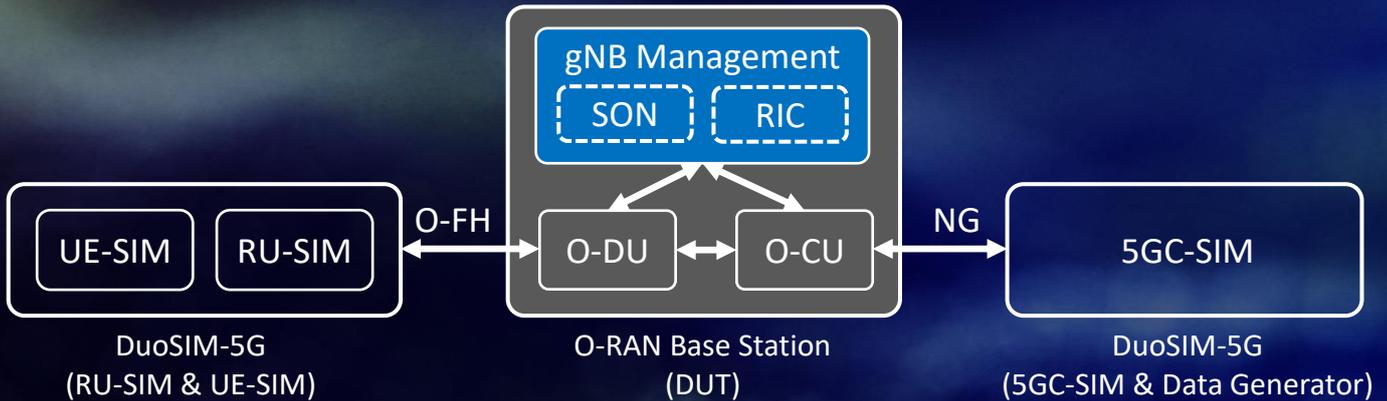
# DuoSIM-5G: Made For Scale

Testing the performance of the O-RAN gNB at scale in the lab before deployment is vital! Why?

Hidden stability and performance issues are often a result of traditional and insufficient approaches such as:

- Estimating performance metrics based on Functional Testing results
- Functional Testing and Basic Load Testing only
- Performance Testing for modules in isolation only (O-CU / O-DU / RIC)

High-capacity Load and Stress Testing is required to expose hidden issues before they cause problems. With its unmatched scalability DuoSIM-5G identifies critical bottlenecks that otherwise stay undetected.

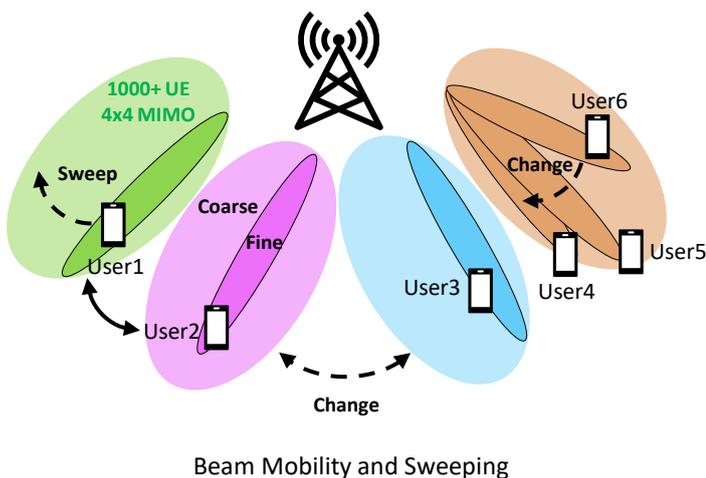


DuoSIM-5G wrap-around testing configuration

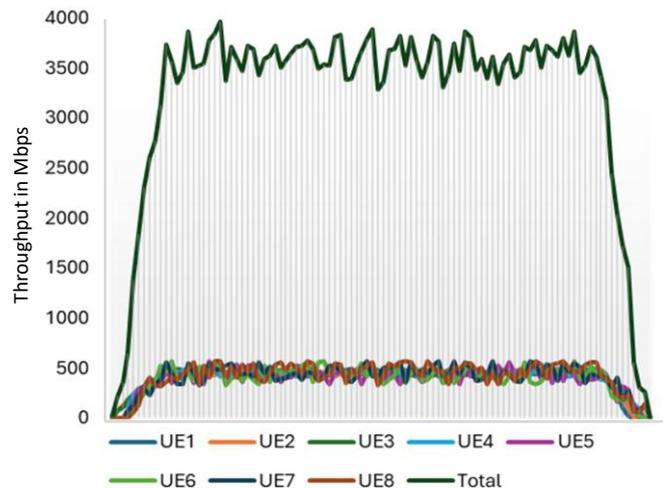
## Testing Massive & MU-MIMO

Massive and MU-MIMO are critical to 5G efficiency and scalability. Their gains depend on complex scheduling and beamforming behavior that must be validated at scale.

If your O-DU scheduler or beamforming logic breaks at scale, DuoSIM-5G will expose it before your customers do!



Beam Mobility and Sweeping



Test result of 8UE x 2 DL Layer MU-MIMO

### What do we cover?

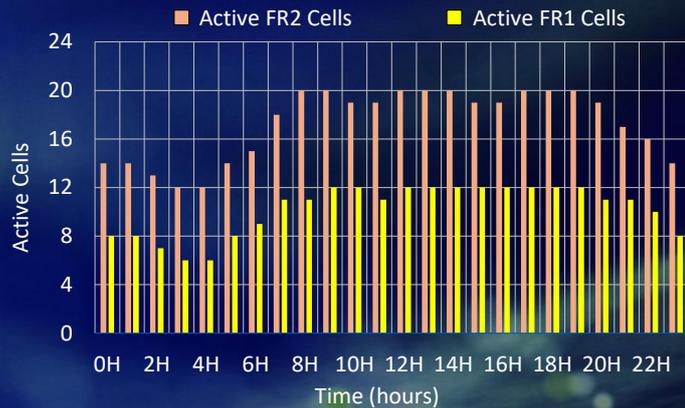
- 64T64R antenna array
- Up to 32 User MU-MIMO (32 Co-scheduled users)
- Up to 4 DL layers, 2 UL layers per user
- Open-Fronthaul interface with C/U/S/M-Planes
- Per layer statistics for coarse and fine beams

# AI & RIC Optimization

With the integration of AI, mobile networks are expected to become more efficient, ultimately leading to increased scales that can be realized.

DuoSIM-5G already supports testing at scales well-suited to effectively validate the AI-enhanced RAN.

- AI-enabled SON performance validation
- RIC app (xApp/rApp) impact analysis
- AI model training with realistic traffic data

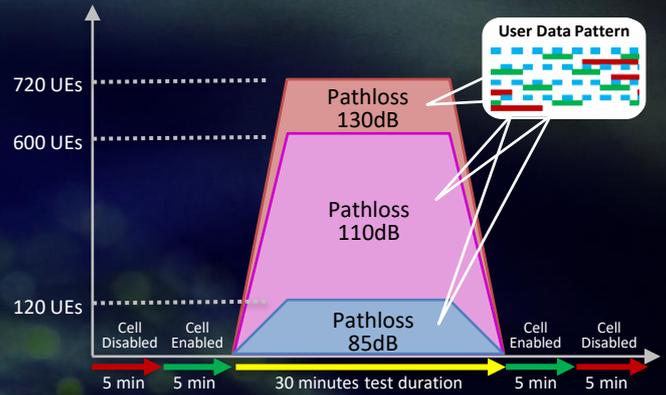


24-hour test result of RIC traffic steering feature

# Verifying Energy Efficiency

Energy efficiency is a top priority for MNOs, driven by rising costs and sustainability goals. DuoSIM-5G verifies that energy-saving features remain effective under realistic and extreme network conditions.

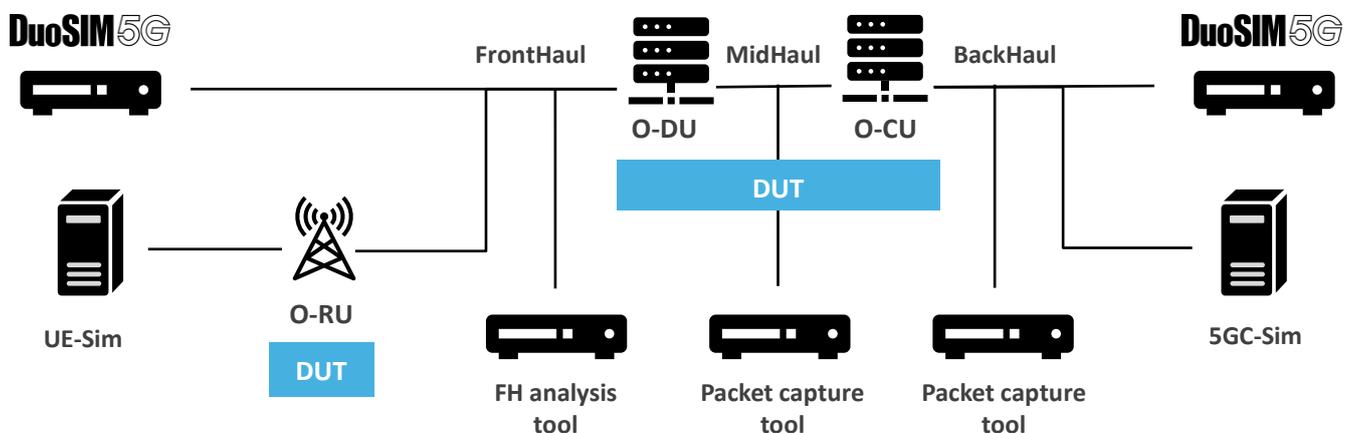
- Validation of energy efficiency at scale
- Identification of hidden inefficiencies
- Heavy synthetic traffic generation



3-traffic pattern, 3-location UE emulation

# TaaS – Expert Testing Without Upfront CAPEX

Setting up and running a full-featured 5G lab requires significant investment in equipment, facilities, and skilled engineers. With Artiza's TaaS, you can quickly and cost-effectively validate your O-RAN gNB while ensuring smooth deployment.



## What to expect

- No CAPEX, no queue: Start in days, not months
- Faster time-to-market: Shorten development cycles and speed up deployment
- Elastic scale: Rapidly scale test capacity up or down
- Actionable reports: Gain insights from our experts across all protocol layers

# Why DuoSIM-5G? A Case Study



## Background

A customer's vRAN base station experienced multiple crashes after initial deployment. If not addressed, the consequences are reputation damage and subscriber churn.



## Problem

The crashes could not be reproduced, and therefore resolved, using other UE/RU simulators.



## Solution

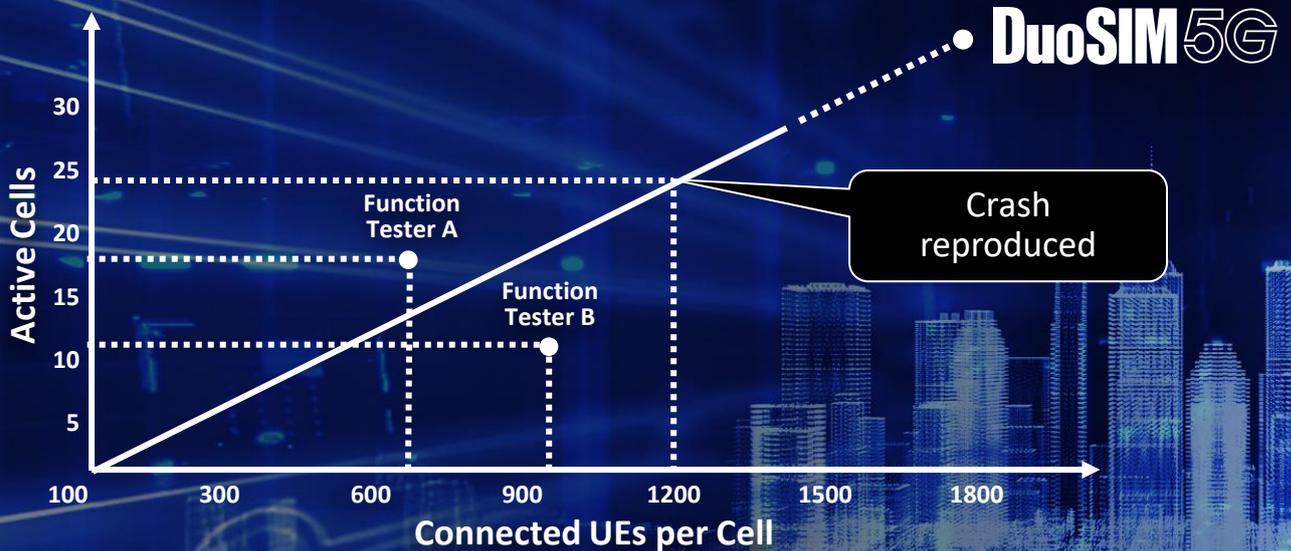
Only DuoSIM-5G was able to recreate the problem!

- vRAN resource management issues that could not be validated beforehand because of test environment limitations were identified as the root cause
- Testing at a higher scale exposed additional hidden issues within the gNB



## Impact

Using DuoSIM-5G, the customer was able to resolve the problem, avoiding severe consequences.



DuoSIM-5G  
Key Impact

**DuoSIM-5G identifies hidden performance issues  
invisible to other testers!**

**Unlock your gNB's true potential.  
Find and eliminate what holds it back!**

Get in touch

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February 2026

