

# CONNECTING THE CENTRAL AFRICAN REPUBLIC

## Industry

Telecommunications

## Location

The Central African Republic

SES and Orange CAR partner to overcome communications network challenges





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**38%**

of the population have mobile service

**11%**

of residents have Internet access

**22.5 Mbps**average download speed on  
fixed connections

Located between Cameroon and South Sudan, the Central African Republic (CAR) is a country with a rich culture and natural beauty.

However, providing reliable broadband communications and Internet connectivity throughout this landlocked country, and between the CAR and the rest of the world, has been challenging for the country's social and economic development.

While CAR has interconnected its broadband network with that of its neighboring country Cameroon as part of the Central African Backbone (CAB) initiative, more than half of the country's population lives in rural areas where terrestrial connectivity is too costly and time-consuming to deploy.

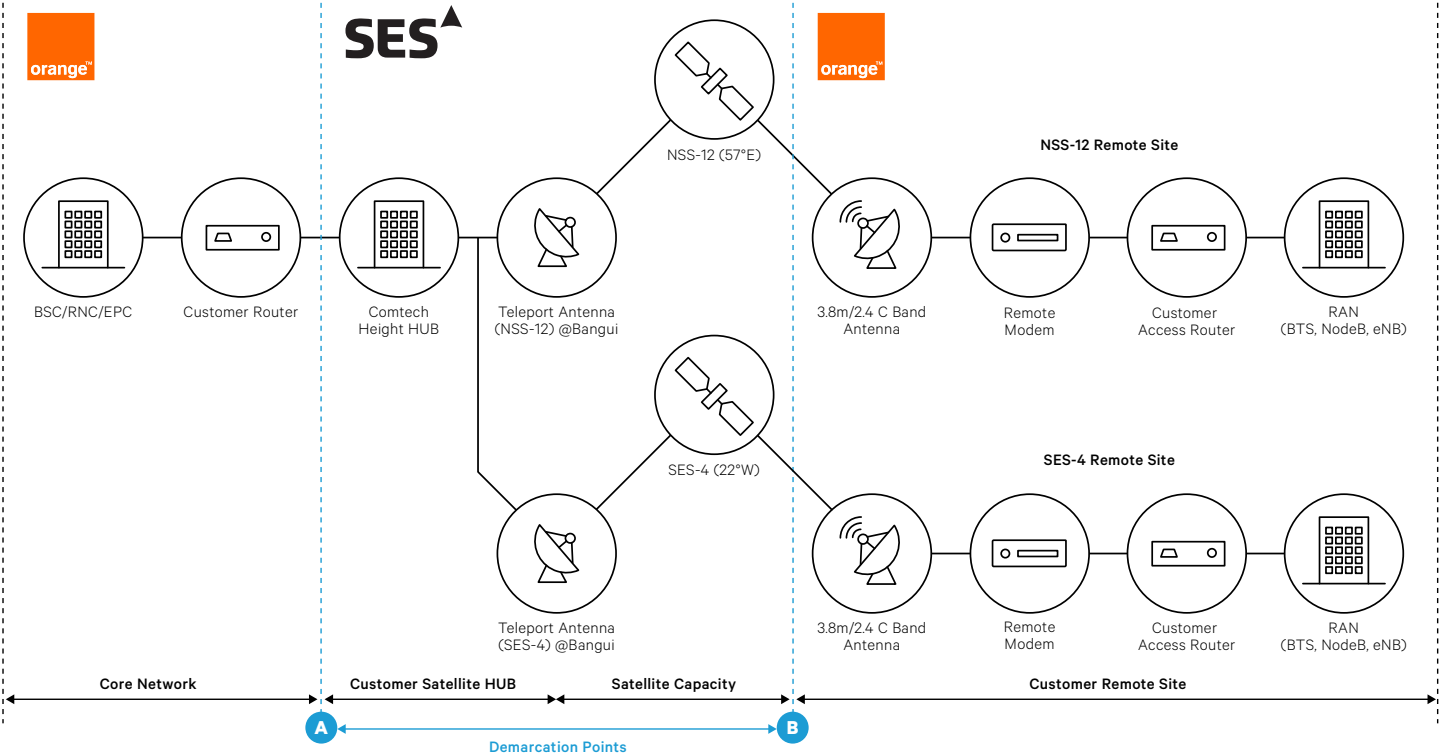
Prior to 2017, Orange CAR, one of the largest communications providers serving the CAR, found that delivering reliable services to its customers was problematic. "Cable is not a viable solution because it is difficult to secure fibre and terrestrial links in the Central African Republic," said Samy Bouabdallah, head of Satellite Capacity and Business Development for Orange. "It would take years to get enough redundancy to connect and provide full

speed connectivity through terrestrial networks."

At that time, 2G and 3G mobile services were the norm in the country, and 4G had not yet been deployed. Approximately 2 million residents – just 38% of the population – had mobile service, with 3G penetration accounting for about 60%, with 2G serving the remainder. Only a small fraction – 11% or approximately 600,000 residents – had Internet access, with an average download speed of 22.5Mbps on fixed connections. Orange CAR was able to address these problems and accelerate the deployment of services to the CAR by making use of SES's multi-orbit network of MEO and GEO satellites.



SES and Orange CAR network overview



RELIABLE IP AND INTERNATIONAL TRUNKING VIA MEO

The limits of terrestrial connectivity to support IP trunking and international traffic led Orange CAR to look to the sky. Orange International Networks Infrastructures and Services (OINIS), a group that advises Orange service provider affiliates on the best technologies to leverage in network deployments around the world, evaluated a variety of solutions. Ultimately, OINIS recommended SES because we offered the best technical and commercial satellite solutions to address the unique issues faced by Orange CAR.

In 2017, Orange CAR began using SES's O3b medium Earth orbit (MEO) satellite constellation to deliver 300Mbps of trunking services. Because of SES's unmatched scalability, Orange CAR was able to quickly increase throughput to 3Gbps to support growing international traffic.

SES not only provided reliable day-to-day trunking, but it also offered effective and quick service restoration when other connections experience problems. For example, in November 2023, Orange CAR experienced an outage on a microwave link coming from Cameroon. Within a few days, SES was able to reestablish the link, providing 1Gbps of low latency and secured connectivity using MEO.

With the success of this solution, Orange CAR is looking to future expansion, moving to SES's next-generation MEO constellation, O3b mPOWER. The transition to O3b mPOWER will provide Orange CAR with a seamless experience, and the high-throughput, low-latency connectivity it requires as demand for IP and international trunking continues to grow in CAR.



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SES enables Orange to speed its time to market compared to terrestrial alternatives and provides fast recovery of services when faced with natural and manmade disasters.





## EXTENDING INTO MOBILE BACKHAUL VIA GEO

The positive experience of using SES for trunking led Orange CAR to look at satellite for mobile backhaul, given the poor reliability of the terrestrial fixed network.

In 2020, the companies extended their partnership. SES began serving 78 of Orange CAR's mobile sites, providing backhaul services to support its 2G and 3G network. Using SES's geostationary Earth orbit (GEO) satellites, Orange was able to gain flexibility and control of its mobile network, and expand into hard-to-reach and remote areas. Now Orange CAR is easily handling 700Mbps of traffic, securely bringing the Internet from the core to sites throughout the country.

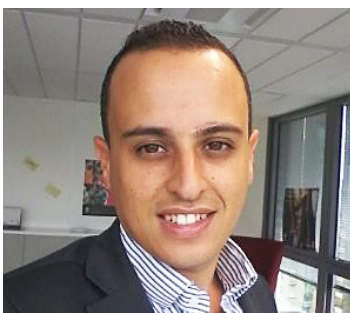
SES has been instrumental in addressing mobile backhaul outages as well, restoring service within just a few days after a fire at one of Orange CAR's hubs in 2021. Another outage occurred in early 2024 when 13 sites went down. In this case, SES re-established service to these sites within a few hours.

As Orange CAR looks to transition to 4G and 5G in the future, SES will play a critical role. Orange CAR will be one of the first mobile operators to capitalise on SES's

next-generation

MEO constellation, O3b mPOWER, which will enable the mobile operator to deliver high-performance, low-latency services throughout Africa, including the CAR.

With the industry's first multi-orbit satellite network, we provide Orange CAR with unparalleled scalability and resilience. SES enables Orange to speed its time to market compared to terrestrial alternatives and provides fast recovery of services when faced with natural and manmade disasters. Orange CAR has improved connectivity across the country with SES's high-throughput GEO satellites, and created a seamless path to deliver next-generation communications services by leveraging the O3b MEO constellation. The powerful partnership between Orange CAR and SES has dramatically improved connectivity within the country and from CAR to the rest of the world.



[www.orange.com](http://www.orange.com)

“SES offered the best solution solution we have found to date that is reliable, providing SLAs, low latency and high bandwidth. It's an important asset for us to continue to grow and provide services to customers that need Internet access and connect the landlocked country to the rest of world.”

### SAMY BOUABDALLAH

Head of Satellite Capacity and Business Development at Orange



For additional information  
on this project, please visit  
[ses.com](https://ses.com)

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**SES HEADQUARTERS**

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