Connecting the unconnected: How next-generation satellites are powering humanitarian resilience across Africa

As next-generation satellite constellations revolutionise connectivity, even Africa's most remote and conflict-affected regions are gaining access to high-speed, reliable communications. Gwenael Loheac, Partner and Chief Procurement Officer, President Europe and West Africa, IEC Telecom Group, tells us how LEO technology is transforming humanitarian operations, bridging the digital divide and driving inclusive growth across the continent.

How are next-generation satellite networks transforming connectivity in Africa's most remote or conflict-affected regions?

Next-generation satellite constellations have changed the very foundation of humanitarian communication. In areas where terrestrial networks are destroyed or non-existent, LEO satellites such as Starlink provide fibre-like performance at a fraction of traditional costs. This new layer of resilience ensures that aid convoys, mobile hospitals and co-ordination hubs can maintain real-time communication even during blackouts or natural disasters. For the first time, organisations operating in remote or conflict-affected areas can synchronise data, access cloud platforms and run digital co-ordination tools as reliably as in major cities. This shift is transforming how humanitarian operations are managed – from reactive emergency response to continuous, technology-enabled resilience.

What are the main challenges that humanitarian organisations face when trying to establish reliable communications in these areas?

In many developing regions across Africa, terrestrial communication networks remain limited, particularly outside urban centres. According to the International Telecommunication Union (ITU), about 14 % of Africa's population still lacks access to any mobile broadband network, and in rural areas, around 25 % of people remain completely unconnected. Even where service exists, bandwidth is often constrained to low-speed networks, insufficient for data-intensive operations such as telemedicine, cloud-based co-ordination, or real-time video monitoring. Power instability and the absence of reliable backhaul infrastructure further compound these challenges. As a result, humanitarian organisations frequently struggle to maintain consistent communication links, which delays co-ordination, limits situational awareness, and impacts the effectiveness of life-saving missions.

How has the arrival of LEO constellations such as Starlink changed the economics and accessibility of satellite connectivity across Africa?

LEO technology has been a real game changer. Before Starlink, bandwidth was limited and priced at a premium, which meant humanitarian agencies often had to limit satcom data only to critical communications. Starlink's high-speed, low-latency service now offers a scalable and affordable alternative, enabling near-instant deployment across multiple field locations. The accessibility of plug-and-play terminals drastically reduces setup time and logistical overhead. Combined with flexible subscription models and shared data pools, this innovation has democratised connectivity, empowering smaller NGOs and community organisations to participate in global co-ordination systems that were once out of reach.

In what ways is IEC Telecom helping UN agencies and NGOs overcome bandwidth and cost limitations in the field?

At IEC Telecom, we offer a wide portfolio of Starlink-powered solutions designed to overcome bandwidth

constraints and deliver high-speed connectivity across the full spectrum of humanitarian operations – from fixed systems for long-term deployments to vehicular terminals supporting mobile missions. This year we introduced our proprietary RDK 2.0, a compact and autonomous communications hub that enables humanitarian corps to stay connected in the line of duty, even off-grid.

Beyond connectivity, we help organisations optimise usage and control costs. Through our OptiView management platform, every gigabyte is accounted for – data allowances can be redirected from inactive sites to teams operating in the field, ensuring efficient resource allocation. Smart filtration guarantees that bandwidth is reserved for mission-critical applications, while a dedicated voucher-based welfare network allows each field worker to use personal credits for private calls or streaming in their free time. In this way, NGOs can plan connectivity expenditure confidently without exceeding their budget.

IT PROFESSIONALS BELIEVE AIOPS WILL LEAD TO INCREASED EFFICIENCY, FASTER REMEDIATION, IMPROVED USER EXPERIENCE AND REDUCED OPERATIONAL COMPLEXITY.

How do satellite networks contribute to building more resilient and inclusive digital infrastructure across Africa?

Connectivity is the backbone of inclusion. Satellite networks bridge the gap between urban command centres and isolated communities, ensuring that digital tools for education, healthcare and administration can reach everyone. Through LEO-enabled connectivity, schools in rural areas can access distance learning, clinics can use telemedicine platforms, and local governments can participate in digital reporting systems. This ecosystem creates transparency and accountability while strengthening the capacity of local actors to lead their own development. In that sense, satellite technology is not just enabling communication – it's building the foundations for long-term digital resilience across the continent.

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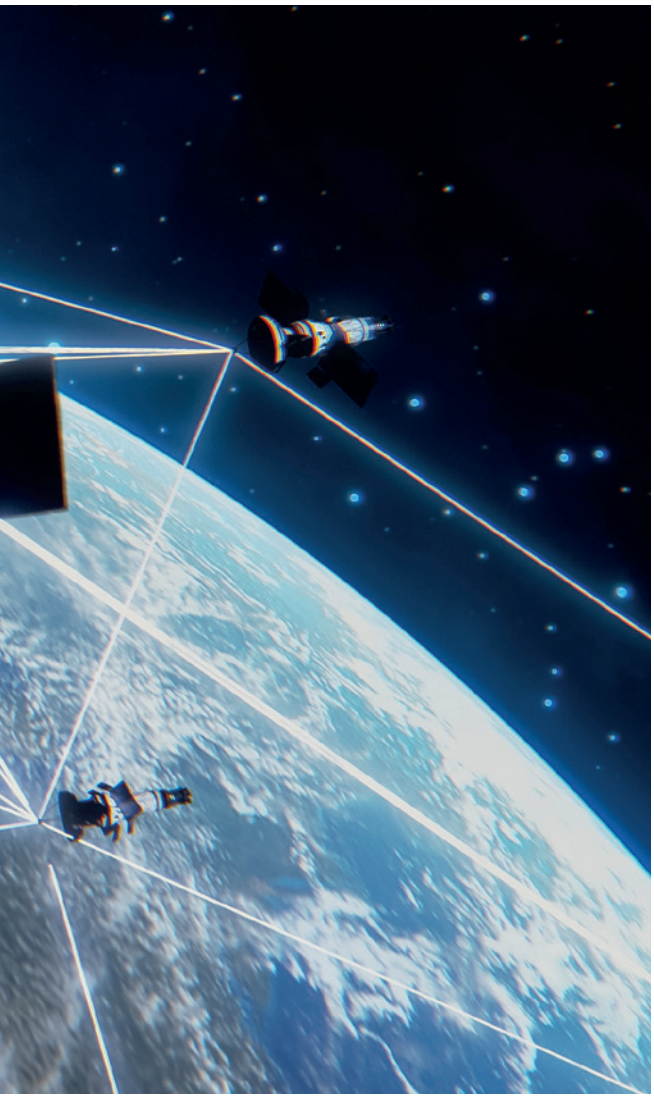
What security and reliability measures are essential when deploying satellite connectivity for humanitarian or emergency response operations?

Visibility and situational awareness are critical for field security. With personnel often dispersed across vast and isolated areas, humanitarian organisations need tools that enable them to track deployments in real time and respond instantly when conditions change. Satellite-enabled tracking systems make this possible, allowing co-ordination centres to monitor team movements, establish geofences, and send push notifications or alerts whenever staff enter or leave designated zones. Two-way messaging via satellite channel ensures immediate communication, even when terrestrial networks fail, enabling teams



to acknowledge alerts and receive mission updates without delay.

At AidEx, Europe's leading humanitarian exhibition, IEC Telecom showcased its comprehensive safety ecosystem: advanced tracking through the Gramin GPS range and group management via the Traksat platform – together providing a reliable, connected framework for safer and more co-ordinated operations.

How do you see partnerships between the public and private sectors accelerating digital inclusion through satellite technology?

Satellite communication is a powerful example of how collaboration between the public and private sectors can help close the digital divide between urban centres and remote regions. By combining governmental initiatives with private-sector expertise, advanced connectivity can reach areas where terrestrial networks are limited or non-existent. Through satcom

Gwenael Loheac, Partner and Chief Procurement Officer, President Europe and West Africa, IEC Telecom Group

infrastructure, authorities can deliver e-learning, telemedicine and digital-government programmes nationwide. Importantly, each connected site – such as a rural school, clinic, or local administration office – can serve as a connectivity hub for the surrounding community, providing visitors with access to e-government services, public grant portals, and other essential online resources. This approach ensures that even the most isolated populations can participate in the digital ecosystem and benefit from national development programmes.

Looking ahead, what innovations do you expect to define the next phase of Africa's satellite communications landscape?

I believe the future of connectivity in Africa is connected to the rise of LEO networks. Satcom operators are now working closely with national governments to obtain licensing and accelerate penetration across the continent. By 2025, Starlink services are available in more than 20 African countries, with many more expected to join the list in 2026. These new-generation networks are not only high-performing but also cost-effective – a decisive advantage for the cost-conscious African market. This new leap in satellite communications will open the door to a major phase of digital transformation, where even the most remote communities will gain access to reliable, high-speed connectivity and become part of the continent's expanding digital economy. ◻