**OPINION ARTICLE**

**SEACOM's strategy for enabling AI-ready, multi-terabit connectivity in Africa**

By Prenesh Padayachee, Group Chief Digital Infrastructure Officer at SEACOM

Africa's digital future hinges not only on laying more fibre, but on building smarter networks. As artificial intelligence reshapes how businesses consume data, the demands on our infrastructure are evolving at an unprecedented pace. At SEACOM, we are designing a network that not only keeps up – it scales, adapts, and anticipates. One that is, in every sense of the phrase, AI-ready.

Over the past quarter, our team has delivered critical upgrades across subsea and terrestrial infrastructure. These improvements are not incremental. They represent a strategic pivot toward elastic bandwidth, multi-terabit scalability, and an infrastructure model built for AI's real-world requirements – from inference bursts to training throughput.

**Connecting Mombasa to Mtunzini – and beyond**

Let us start with the subsea foundation. We have significantly upgraded capacity on two major routes: the omnibus route, which connects Mombasa to Mtunzini via several coastal countries, and the express route, which runs directly from Mombasa to Mtunzini.

Both have been scaled into the multi-terabit range, not just to meet rising regional demand, but to support the rapid growth of data flowing between East and Southern Africa, encompassing not only bandwidth but also meeting the need for uncompromising resilience and unwavering readiness.

As geopolitical instability in the Red Sea intensifies—with multiple vessels attacked in recent weeks—there is a real risk that subsea cables in the region could face ongoing disruptions. Our southern capacity expansion ensures that should the Red Sea corridor become impassable, traffic from East Africa can seamlessly reroute through South Africa and exit via the Equiano cable to Europe.

But subsea is only part of the story. In Kenya, we have just lit up new dark fibre routes between Nairobi and Mombasa, offering a high-capacity terrestrial corridor between the landing station and Kenya's economic core. This route includes two diverse paths and, crucially, solar-powered repeater stations in areas without access to grid electricity. That means the entire chain (from equipment to cooling) runs on renewable energy. It's not just a 'green' system; it's practical. In regions where utility power is unreliable or unavailable, energy independence is the only way to ensure uptime.

Phase two of this build will extend capacity from Nairobi to Kampala, Uganda, creating an end-to-end SEACOM-managed route from subsea landing to landlocked capital. It ensures both control and scalability across critical corridors.

These upgrades are tightly aligned with where hyperscalers are concentrating their infrastructure: South Africa, Kenya, and Nigeria. SEACOM's investment in connecting all new data centres in Kenya means we now offer DC-to-DC connectivity on-net, enabling customers to operate across iColo (Kenya), Raxio (Uganda), and Teraco (South Africa) without relying on third parties.

**The hyperscaler for hyperscalers**

What makes this infrastructure "AI-ready"? It starts with how we provision and manage capacity. Large Language Models (LLMs) and training datasets demand consistent, long-duration bandwidth. In contrast, inference workloads—what powers real-time responses in AI applications—generate short, high-capacity bursts of data. A network built for AI must be able to handle both. That's where elastic provisioning comes in.

We moved away from traditional models, where clients purchase fixed capacity. Instead, we are pioneering an elastic bandwidth model: clients gain access to a larger pipe. They can dynamically adjust their usage on an hourly, daily, or even minute-by-minute basis. It is fast, flexible, and designed for modern workloads. However, this model isn't easy. You need infrastructure that can expand capacity at speed. That's where our OnNet model shines:

1. We own and light our own fibre.
2. Lease dark fibre and light it with our own equipment.
3. Purchase spectrum on third-party fibre and control both endpoints.

This layered strategy enables us to control scale, performance, and cost. It allows us to rapidly increase capacity without relying on third-party capital expenditure cycles.

**Outpacing the AI curve**

AI is accelerating faster than telecommunications have ever done. Traditional fibre and transmission upgrades follow seven-year planning cycles. AI chipsets? They iterate every 12 to 14 months. That mismatch creates an urgent need for networks that can keep pace with the rapid development of AI.

Take spectrum utilisation. Not long ago, 50 GHz of spectrum could deliver 10 Gbps. Today, with modern technology, the same spectrum yields 400Gbps, and soon will provide speeds of 800Gbps to 1.6Tbps. By building a network that can evolve in step with those advances, SEACOM ensures we don't just meet today's demands – we're ready for what comes next.

Being AI-ready is not just about carrying AI traffic. It's also about applying AI to run the network. We are designing systems that will enable application-aware networking. That means the infrastructure will know what kind of traffic is being sent and automatically adapt latency, capacity, or prioritisation to suit the application. A video stream requires a specific type of service. A digital twin simulation needs another.

We're also exploring programmatic, AI-driven management of pricing, routing, and traffic shaping. This is part of a broader industry shift toward autonomous networks, and SEACOM is not just participating; we're helping lead the way. Through the TM Forum, a global body focused on telco innovation, SEACOM chairs two working groups focused on AI in networking and autonomous infrastructure. We're in conversation with industry giants like Microsoft, helping shape the frameworks and standards that will define the next era of digital infrastructure.

**Enablers, not sellers**

SEACOM is not trying to become an AI company. We don't build models. We're not developing end-user AI products. What we do is provide the infrastructure foundation—the bandwidth, the resilience, the intelligence—that makes AI possible.

We may never sell an AI product. But we will sell the building blocks to help our customers become AI-enabled. That means high-capacity subsea links. That means elastic, renewable-powered terrestrial routes. That means data centre neutrality and independence. And that means applying AI inside our own network, to make it smarter, faster, and more adaptive. In short, SEACOM is the trusted enabler of Africa's AI future, and we're just getting started.

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