ST Engineering

CASE STUDY: ST ENGINEERING IDIRECT SUPPORTS PARATUS AND KNS FOR MINING SHIP CONNECTIVITY

The challenge

Africa's largest producer of aluminum-rich bauxite is Guinea, which sits on the minerally wealthy West African coast, looking outwards to the Atlantic Ocean to its West and curving inland to border with Mali, Cote D'Ivoire and Liberia. Its extensive mineral resources – the largest untapped high-quality iron ore deposits in the world are found here – make it a nation with enticing potential for the mining industry. The bauxite mining vessels moving from the mouth of the river Pongo in Guinea to the capital's Port of Conakry and back require constant and reliable communications to stay in permanent contact with their headquarters on land, as well as with other shipping vessels during operations at the Boffa port. 3G and 4G connectivity is lacking and internet services are limited - messaging apps like WeChat are vital yet poorly served. ST Engineering iDirect, with long-term customer Paratus, a pan-African telecommunications group which provides satellite connectivity across Africa, and manufacturer and integrator KNS Inc., was contracted to deliver reliable, high-speed connectivity to mining ships based in Guinea, West Africa.

Solution

The ships were installed with the iDirect modem and KNS 1.2m Maritime Antenna Z12Mk2 to enable bandwidth-intensive applications including video, email and WeChat. Navigating the project was tricky, but by no means beyond the capabilities of ST Engineering iDirect and its partners, even amidst a global pandemic. As the Paratus team was unable to visit the site, the first vessel's installation involved remotely guiding a local VSAT installer with little experience of maritime VSAT to install the modems. Installation of the antennas on the second and third vessel was carried out in Shanghai during the pandemic. Modem installation,

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Chief Development Officer at Paratus

commissioning and LAN using routers and APIs was completed in the port of Guinea during the early stages of COVID-19. Connectivity is supplied by geostationary (GEO) satellites and the handover between satellites managed through OpenAMIP-enabled hardware and ST Engineering iDirect's built-in advanced Mobility capabilities. OpenAMIP is an IP-based protocol for the interchange of information between an antenna controller and a satellite modem for seamless connectivity.

Recognized as the gold-standard in the mobility sector, ST Engineering iDirect's solutions are optimized for small to large-scale, multi-beam networks. The Evolution system incorporates a number of integrated mobility management technologies that enable seamless connectivity when a vessel automatically switches between satellite beams as it moves from one geographic footprint to another based. This beam switch is based on a best-in-class Quality of Service engine. With the ease of installation and management of the Evolution system, service providers can reduce ship visits, installation, and modem updates, and optimize their networks for higher efficiency, performance and scalability.

ST Engineering iDirect can help your business to expand into **new business segments, provide cost-effective terminal solutions for all regions and segments** and **ensure easier commissioning and operations**.
Visit www.idirect.net/maritime-connectivity/ to discover more.

Results

Crewmen onboard the vessels installed with ST Engineering iDirect modems now have the capability to communicate with the HQ and other vessels. The work undertaken has more than satisfied our customer, and the company is looking to implement further connectivity for its offices in the future.
Colwyn van Rensburg, Chief Development Officer at Paratus, said: "It is essential for us to work together with partners that understand the ever-changing dynamics within the maritime satellite space. We are always prepared and constantly looking towards innovative solutions that address the direct needs of our customers, no matter their location - on land or at sea".
EZ Gao, Manager of Asia and MENA at KNS, said: "We already have plans in place to expand our collaboration to the market, building upon this very strong foundation to drive expansion towards more price-sensitive customers in certain market segments and regions to enable this kind of mission-critical connectivity at sea."
As cellular is quite limited in rural Africa and rural Coastal Africa, further projects in the maritime industry and other verticals are on the horizon.

Paratus is already utilizing ST Engineering iDirect platform to power connectivity in Angola, Namibia and South Africa. This collaboration further demonstrates how satellite is an effective and reliable form of connectivity for traditionally hard-to-reach locations, with the versatility to serve diverse markets and applications. As digitalization in the maritime environment increases, leading to more functions taking place in the cloud, more automated processes are likely to step onboard the vessel. And with the ever-growing need for crew connectivity, a variety of communications solutions will be required to work in harmony to create the most robust connectivity solution. Companies like Paratus, using ST Engineering iDirect solutions, are well-placed to manage the overall network to meet each of their customers' unique needs.

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