FROM ANALOGUE TO DIGITAL: MODERNISING MAPPING OPERATIONS IN KENYA

While economies across the globe have staggered in recent years, Africa has seen a rapid growth. As recently as 2015, Africa had 11 of the top 20 fastest growing economies. This has largely come as a direct result of investment in technology like smartphones and other technological upgrades.

As the populations of these countries become more technically proficient, the governments of countries must keep pace. They must upgrade their systems, processes, and tools to become more accurate, agile, and productive. While this sounds simple, it is a daunting task, and needs a guiding hand. Such was the case with Survey of Kenya.

An honoured history

The Survey of Kenya was established in 1903 and is responsible for the mapping needs for the entire country. As part of the Ministry of Lands & Physical Planning, Survey of Kenya employs approximately 1,500 personnel across eight divisions: Land Survey; Cartography; Geospatial Data Management; Photolithography; Photogrammetry; Hydrography; and the Geodetic, Technical, National and International Boundaries.

Survey of Kenya focuses on assisting the government with the establishment of boundaries, adjudication of land, mapping of resources for exploitation or conservation, and hydrographic surveys in support of the shipping lines. They provide data to government bodies, universities and research institutions as well as creating maps for the general public.

From analogue to digital

Survey of Kenya needed to move from an outdated and time-consuming analogue mode of producing and consuming geospatial data. They needed to modernise the operations in order to keep up with the demands from other departments within the Ministry of Lands, the government, and general public.

They needed powerful solutions along two separate needs. First, as with many national mapping agencies, they manage terabytes of data, including constantly updated aerial photography, satellite imagery, LiDAR data, and vector data sets. They needed a way to store, secure and locate all of this data online, so they implemented an online cataloguing system that allows them the ability to catalogue all of their data. With it, they can perform spatial and metadata searches, and they can deliver the data both through streaming and clip, zip, ship mechanisms. They also can make use of role-based permissions to manage access to the data.

Their second need was to modernize operations by implementing Digital Photogrammetry workstations with 3D support for over 50 photogrammetrists. Using a variety of the newest photogrammetry, terrain editing, and remote sensing tools, Survey of Kenya was able to convert from analogue photogrammetric workstations to digital photogrammetric workstations to support fast data capture. Not only did this improve the accuracy of their operations, but it significantly increased their productivity and decreased the time required to respond to requests from other departments.

Success through partnership

But perhaps the most important factor in their rapid success was through partnership with Oakar Services, Hexagon Geospatial's Nairobi-based distributor. By teaming with a knowledgeable, dedicated, and local partner, Survey of Kenya gained strong confidence in their ability to quickly get up to speed with these drastic upgrades. Through their support, troubleshooting, and answers to technical queries, Survey of Kenya was able to confidently make the leap to a digital workflow.

"The key to our success was the partnership with local companies. Hexagon Geospatial and their partner Oakar Services made it easy for us to embrace this new technology," said Cesare Mbaria, Director of Surveys. "They helped us make the transition smoothly and continue to offer us world-class support."

Since the implementation, Survey of Kenya has improved both the speed and convenience of their data production and exchange.

Hexagon Geospatial and Oakar Services were happy to help Survey of Kenya succeed. They are now able to efficiently meet all mapping requirements for the sustainability of the country, and are poised to expand this project in the future in order to keep up with the changing technology and their country's demands.