# HIGH-TECH TERMINAL RISES FROM THE ASHES

**News / Airports / Routes**



**Murtala Muhammed Airport Terminal Two (MMA2), in Lagos, is the first and only privately-funded terminal in Nigeria. Keith Mwanalushi spoke to the terminal's chief executive to see how new technology has transformed operations.**

MMA2 rose from the ashes of a terminal that was engulfed in flames back in May 2000. After the inferno, the Nigerian Government made a decision to redevelop the airport using private sector investment under a public- private partnership (PPP) scheme.

The plan completely transferred all development and operating risks to the private sector, specifically on a build-operate-transfer (BOT) arrangement.

The new terminal eventually began operations in May 2007, designed to cater for domestic traffic operating alongside a much older and technologically challenged international terminal.

“There were competitive bids by several companies for the project,” recalled Christophe Penninck, CEO at Bi-Courtney Aviation Services, which operates MMA2.

Royal Sanderton emerged as the preferred bidder, while Bi-Courtney Limited, a wholly indigenous conglomerate and the parent company of Bi-Courtney Aviation Services Limited (BASL), was the reserve bidder.

“Owing to the prolonged delay in starting the project, the federal government invited Bi-Courtney to

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take up the responsibility," Penninck explained. Consequently, in 2003, the Nigerian Government awarded the concession to design, build and operate MMA2 and ancillary facilities to Bi- Courtney Limited.

"We changed all the check-in counters and scales and increased their number from 31 to 45. The design and manufacturing was done by INTOS, the same company involved with Amsterdam Schiphol and various other major international airports. We chose them for their quality of workmanship and product," Penninck said.

New technology innovations include the common-use passenger processing system (CUPPS), the self-service check-in kiosks, automated access gates and the baggage reconciliation system (BRS).

"MMA2 is the only airport terminal in Nigeria to have solely installed the latest version of a computer system that enables the passengers and terminal users to experience a fast, secure, and safe customer-friendly way to board a flight," Penninck said.

Check-in desk computers have all changed and each is now connected to new boarding pass and baggage tag printers. Each airline has a ticket barcode scanner to accelerate the check-in process. "For passengers travelling without bags, we have installed four self-check-in kiosks. We have also increased the security features at MMA2 by installing e-gates before the security screening point," Penninck reported.

Based on extensive research, BASL selected RESA as the system provider. "The system we have is the same as that installed in major international airports like Charles De Gaulle, Bangkok International, the new airport terminal in Mauritius and more than 200 airports worldwide," Penninck added.

Introducing new technologies to old airports in Africa takes more than just installing new systems. "We had to get the critical stakeholders to understand and appreciate the technology," explained Penninck, adding that a further challenge was obtaining a steady and uninterrupted supply of power.

"Also, because of the peculiar regulatory environment, where the main actors have very little appreciation of these innovations, we didn't get the desired level of regulatory support that would have made our job easier. Such support could have guaranteed lower tariffs on imports, as well as discretionary visa approvals for visiting technicians."

Another stumbling block was getting some of the airlines to adapt wholly to the new innovations, with most unwilling to make the extra, but ultimately profitable, investment required to bring their systems and processes up-to-date.

"Because the technology is new, local engineers have no expertise in handling this equipment. We are, therefore, compelled to bring in expatriates for routine repairs and maintenance. This sometimes takes a while. We also continue to incur costs on training and retraining our staff," he added.

Changing the mind-set of staff to embrace the new technology was initially a challenge. He said the majority of airport staff were comfortable with the old system because it had loopholes for fraud and inefficiency. "So, naturally, they resisted but were eventually convinced of its overall and long-term benefits."

The domestic airlines needed some convincing too. "Our airlines needed to understand that we had to modernise and we had to invite RESA to Lagos to explain to the airlines the advantages they'd have.

"Airline staff were also not keen and it took a long time to convince them it was a positive evolution," Penninck recalled.

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Cost is certainly a major consideration for all airports, especially in Africa and particularly for those that are looking to attract major international carriers. “Those airlines have an expectation that common-use facilities will be available,” commented Matthys Serfontein, VP for airport solutions at transport communications and information technology specialist SITA.
In the past few years, SITA has introduced a number of cloud-based services to minimise or negate the start-up costs associated with larger systems deployed directly into budget or financially constrained airports. “For example, we have done this with our baggage reconciliation and our common use (CUTE/CUPPS/CUSS) solutions.
“In fact, large airports can also benefit from our cloud services and we are currently in discussion with several to incorporate cloud- based services into their IT infrastructure,” Serfontein continued.
A number of airports globally are turning to cloud-based common-use platforms to provide a cost-effective approach to customised and flexible passenger processing. Whereas previous solutions ran off local servers, cloud-based systems leverage resource pooling and are typically hosted in a single centralised data processing facility, therefore eliminating the need for costly on-site hardware.

Yannick Beunardeau, director, global head of sales and marketing, airport IT, at Amadeus, said outsourcing IT and using cloud environments could be a good choice for many airports, pointing out that airports would pay for what they consume, rather than paying to maintain a potentially excessive number of services.
“What’s more, dedicated cloud providers can typically obtain and operate a server with the latest technology much more affordably than airports. A real world example of this is Amadeus’ airport IT systems, which can also be priced on a transaction-based model, meaning customers only invest more when their businesses are progressing,” explained Beunardeau.
Similarly, by outsourcing IT to the cloud, costs and responsibilities relating to system maintenance and upgrades lay with the cloud provider rather than the airport. “Software-as- a-service solutions enable airports with lower IT budgets and limited IT staff to bypass high license and installation costs, thereby enjoying the same high-level of IT services as larger airports,” he said.
Some airports look to update applications and infrastructure fairly often, which can be a time-consuming and expensive process when dealing with inherited hardware systems.
“However, the ease of updating cloud-based resources, which can be done remotely at the push of a button, is a significant benefit and cloud providers also often have plug-ins that allow them to easily integrate with other providers,” Beunardeau added: So what are the challenges of deploying new technologies in old airports, especially in Africa?
Firstly, Beunardeau is hesitant to refer to them as ‘old airports’.
“I am not sure what an ‘old airport’ means in our Amadeus IT world,” he said. “Most of the legacy airports reside in an environment where Wi-Fi or 3G and 4G are already available. If internet is available in a so-called ‘old airport’, then our solutions are possible to operate. As a matter of fact, the ‘old airports’ do not need to modernise by implementing expensive local servers. In terms of IT, they can directly leapfrog from being an ‘old airport’ to being an advanced airport.” However, Beunardeau acknowledged that whenever an industry began to consider new technology adoption there would be natural hesitations “and this is particularly true regarding a reticence to move to the cloud”.
Back at MMA2, the terminal is the only on in Nigeria providing baggage tags and boarding passes and the equipment was installed by the local team using a system wholly owned by the airport. Penninck admitted that the installation of the system was expensive and a challenge for the teams involved.
Typically, in other Nigerian domestic terminals, the airlines install their own printers and provide their own consumables. “When the traffic is not high enough to equip the airport, usually where they have only one flight a day, they sometimes issue manual boarding passes and baggage tags.

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This is like travelling back in time," he said.
He was eager to do things differently from the norm in Nigeria. "Our philosophy was to bring the available technology in our terminal to the benefit of all the stakeholders. The aim was to have a passenger experience at the same level of service and have similar technology as airports in more developed regions."

Recently, MMA2 emerged from a survey by Phillips Consulting as the best airport terminal in Nigeria. The survey, described as the first in the domestic aviation industry, examined the state of the industry with a view to identifying the gaps in the provision of adequate services to customers.
In the area of airport experience and most frequented airports, MMA2 scored 43%; with Nnamdi Azikiwe International Airport, Abuja, scoring 21%, followed by the General Aviation Terminal (GAT), Lagos with 14% Port Harcourt International Airport had 10%.
In terms of accessibility, including adequacy of parking facilities, customers of Benin Airport and MMA2 expressed the highest levels of satisfaction, rating the terminals 64.00 and 63.33% respectively. Nnamdi Azikiwe International Airport in Abuja scored 51.11%.
On ground transport to and from airport, frequent users of Benin Airport and MMA2 emerged the most satisfied, with scores of 63.03 and 62.17% respectively.
Other criteria include shuttle services to and from aircraft and availability of baggage carts and trolleys. In this regard, customers of the six airports provided lukewarm scores, indicating that trolleys are either not readily available to passengers or are in poor condition. Only MMA2 received a score above 60% according to the survey.

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