

# Experts share ideas on harnessing AI opportunities

By Aloysius Kasoma

Uganda's artificial intelligence (AI) ambitions are steadily gaining traction, but regulatory uncertainty and fragmented digital systems continue to slow progress, limiting innovation and the country's broader digital transformation.

Speaking at the Uganda DeepTech Summit held at Four Points by Sheraton on Thursday, one of the key speakers, James Byaruhanga, the Managing Director of Roke Clouds, emphasised that access to high-performance computing infrastructure remains limited.

## CONNECTIVITY CHALLENGE

"We still have very limited access to advanced computing and storage infrastructure, and the last-mile connectivity challenge remains significant, especially in rural areas," Byaruhanga said.

He noted that while urban centres are benefiting from fibre-to-the-home expansion, rural and peri-urban communities remain underserved, adding that this deepens the digital divide and slows inclusive growth among the citizenry.

**Uganda's artificial intelligence ecosystem and other technological projects have created over 150,000 jobs**



Beyond infrastructure, Byaruhanga highlighted systemic challenges such as high lending rates, limited data centre capacity and what he described as "GPU poverty," referring to the shortage of advanced computing hardware needed for AI development.

"We still have very few neutral data centres to support ecosystem growth. Cloud, data centres and AI are interdependent—if one layer is weak, the entire stack struggles," Byaruhanga explained.

Uganda's artificial intelligence ecosystem is showing strong promise, but according to Arthur Mukembo, Founder and CEO of Sankofa Future Lab, regulatory uncertainty and fragmented systems continue to slow innovation—particularly for start-ups seeking to scale.

"The real opportunity lies in building a unified, multi-sector sandbox framework that allows innovators to test AI solutions across industries with clear guidance," he said.

## SIGNIFICANT MILESTONES

Uganda Has Made Some Progress. Dr Monica Musenero, the Minister of Science and Technology, said Uganda has made progress in leveraging science and innovation for development, but structural gaps persist.

"A 2022 baseline assessment revealed low performance across key STI indicators, which she attributed to a "Black Box" challenge—limited understanding of how science translates into economic value.

In response, government introduced the STI Economic Highway to link research with commercialisation, driving investments in sectors such as mobility, pharmaceuticals and agro-processing.

Projects like Kiira Motors, Dei BioPharma and Uganda's first satellite mark significant milestones," the minister stated.

Musenero revealed that these initiatives have created over 150,000 jobs and assets worth more than \$1.5.

However, funding remains low at 0.17% of GDP, highlighting the need for stronger investment, coordination and infrastructure to unlock Uganda's full innovation potential.

## CONSTRAINTS TO AI

According to Gilles Q. Hacheme, the biggest constraint to AI growth in Africa is not a lack of talent or ideas, but foundational infrastructure gaps.

He noted that while AI is advancing rapidly worldwide, adoption across developing markets is being slowed by limited connectivity, inadequate computing capacity and insufficient investment.

"Technology is important and we want every country to have the capability to use it," Hacheme said. "But the expansion of AI is not happening as fast as we often assume. There is a need to find sustainable ways to reverse that paradox."

## GAPS BEYOND CONNECTIVITY

Echoing similar concerns, Dr Prince Abudu said Africa's infrastructure gaps go beyond connectivity and extend into data access, computing power, and system integration.

"It's not just about AI or GPUs," Dr Abudu noted. "Infrastructure is a much bigger part of the conversation. We only have a few countries with advanced cloud and data centre ecosystems, even those are often built for specific use cases."