

ICT Integration through Satellite Internet Connectivity To Improve Teaching and Learning Outcomes for Education

Avanti Communications was founded on the belief that technology would be an enabler to help the African continent develop. For 15 years, we have worked to launch satellites to deliver high throughput broadband internet to areas which are difficult to reach and is now the leading satellite capacity partner to the communications industry in Sub-Saharan Africa.

Through partnerships with governments and development organisations in Sub-Saharan Africa, Avanti is breaking down geographical and socio-economic barriers to opportunity. We provide vital connectivity, whether it be to schools, medical centres or refugee camps, when and where it is needed most no matter how remote. Our ubiquitous satellite coverage can connect over 1.17 billion people across 46 countries in Sub-Saharan Africa.

Our mission is to enable people, countries, and continents to Be More and education is one element of the journey to success. By encouraging education, we can help children to build a better future for themselves, their families and their communities allowing them to Be More.

Background

Education Technology (EdTech) is known to significantly improve quality of education for teachers and learners, bridge educational attainment gaps and prepare learners for the global job market. The Covid-19 pandemic further revealed the impact of established inequalities in access and use of EdTech in teaching and learning. Those hardest hit are teachers and learners in rural regions without access to online educational resources due to limited telecommunication infrastructure, lack of ICT tools and digital literacy skills gaps. At Avanti, we believe that every educational institution should be connected.

A growing proportion of jobs in sub-Saharan Africa are becoming ICT intensive*. Digitalization within the economy has prompted increased demand for digital literacy skills. As such, digital literacy is becoming a necessary component of the current primary and secondary school education systems in Sub-Saharan Africa.

EdTech will help improve global competitiveness of nations within Sub-Saharan Africa as it equips learners with timely knowledge, tools and resources needed to compete in a fast-changing technology-driven global economy.

Increasing levels of school connectivity by 10% can; increase the effective years of schooling for children by 0.6%, and GDP per capita by 1.1%**.

Challenges to Improving Educational Attainment

Despite efforts by governments and development organisations in Sub-Saharan Africa to improve educational attainment especially in rural regions, significant challenges remain. These include low school enrolment rates, substantial regional disparities in terms of access to education, outmoded teaching and learning methods, and lower levels of literacy. For girls in rural and marginalised communities especially, the challenges that exacerbate already limited educational attainment include widespread entrenched social norms such as child marriage, early pregnancy, child labour, lack of role models such female teachers and school leaders.

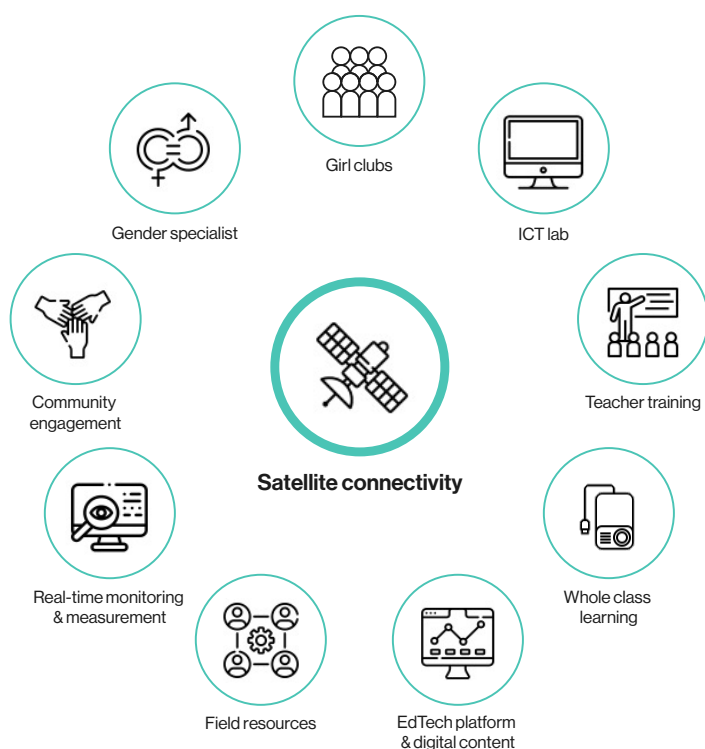


*World Economic Forum, 2017

** The Economist Intelligence Unit Limited, 2021

Our Solution and Approach to Delivering EdTech

Avanti understands the key elements that need to work in collaboration with each other to improve teaching and learning outcomes at scale. Our satellite-enabled internet combined with fully equipped 'Smart Classroom' ICT labs in each school comprising computers, projectors and other relevant equipment allows the most rural/remote schools to be connected. This enables teachers and learners in the connected schools to access digital educational resources and local Ministry of Education (MoE) approved content on subjects including numeracy, literacy, life skills, teacher training, and pedagogical content as well as teaching and learning encyclopaedias.



We understand the importance of teacher training to the success of an EdTech intervention. Thus in collaboration with our specialist education content partners and providers, we deliver training to teachers in; basic ICT skills, utilization of ICT in teaching and learning, address gaps in teaching capacity, pedagogy and alignment with the curriculum. Teacher training through Training the Trainer is an effective model that we utilise because it maximises skills dissemination cost-efficiently. Engagement and sensitization of key stakeholders including school management, parents, and the local community towards the advantages of these new teaching and learning modalities is critical and is a fundamental element of our approach.

Delivering systemic and sustained change in education through EdTech at scale requires collaboration with the local MoE and key local stakeholders. To that end, we work in close collaboration with the local MoE and all key stakeholders throughout the project design and implementation period - from determining the schools that will participate in the project, designing the solution that will be implemented, through to the equipment deployed and teacher training as well as Monitoring and Evaluation. Our project team, which comprises local technical field support staff, gender experts, safeguarding officers and project management staff, ensure that gender equity, gender norms and girls' challenges, continuous assessment and comprehensive technical support are a core part of the intervention.

Avanti's Activities in Education

Powered by our ubiquitous satellite coverage, Avanti in collaboration with our partners successfully led and delivered a first of its kind e-learning programme, iMlango, in 245 rural schools across Kenya targeting some of the country's most marginalised school population and reaching over 180,000 learners. Project iMlango has shown exceptional improvement in learning outcomes for these children, doubling their numeracy learning rates when compared with the baseline study. An independent study noted improvements in school attendance, student performance and enjoyment of learning, digital literacy and teachers' knowledge, skills and use ICT for teaching and learning. The girls clubs run by teachers in schools as part of the project were another key area of success; these educated girls on issues such as Early Marriage, child labour and school attendance.

In partnership with the Tanzanian Education Authority, Avanti led the iKnowledge project, which successfully delivered improved ICT literacy to primary and secondary school teachers in 300 schools across the country through satellite-enabled connectivity. The iKnowledge project was established to address limitations identified by the Tanzanian educational sector including the lack of connectivity, ICT resources and capacity of teachers to use and integrate ICT in the teaching and learning environment in primary and secondary schools. An independent impact assessment at the end of the project noted; 574 individual teachers trained with 90% reporting significant improvement in use of ICT in teaching and learning, 34,575 students directly reached through the project with 80% reporting integrating ICT in learning, and 100% of trained teachers reporting marked enhancement in ICT skills.

Avanti is a partner of the Global Partnership for Education (GPE) on the Girls' Education Awareness Programme (GEAP) - the first partnership GPE has entered into with Businesses. This program seeks to address barriers to girls' education through targeted, context-specific awareness and information campaigns. The objective of the Program is to enhance and add unique value to girls' education that ultimately strengthens efforts to and supports the achievement of Sustainable Development Goal (SDG) 4.

