# Satcoms providing internet connectivity in South African rural schools

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Sway4edu2 – Satellite Way for Education – was set up by ESA's Advanced Research in Telecommunications Systems programme and Openet Technologies in partnership with Luxembourg's satellite broadband operator SESTechcom Services. Credit: ESA

Satcoms in rural primary schools in the Mpumalanga province of South Africa looks set to expand following the success of a pilot project.

Through ESA, the setup provides Internet connectivity and access to eLearning for teachers and students, media content and other online monitoring tools and information via satellite.

ESA's Davide Tomassini commented: "The system is reliable, easy to use and is well looked after by the schools. This makes it a sustainable setup that stands out as one of only a few among many distance education projects, that really seems to be taking off."

There are no terrestrial networks available to rural schools, which can be up to 100 km from the nearest city.

"These services, developed within ESA's ARTES Applications programme, can be used in the mornings to support teachers and students, in the afternoons to promote new teaching methods, and in the evenings to provide educational media and entertainment in the local language for the whole community," added ESA's Amnon Ginati. "Exploiting these facilities provides remote communities with new opportunities."

Currently, 12 schools with 6500 students in Mpumalanga benefit from the installation. In an expansion from the pilot, seven more schools will soon take delivery of satellite terminals, laptops, tablets, a projector with screen, and loudspeakers.

With 19 primary schools connected, the entire Ximhungwe district of Mpumalanga Province will be covered.

The Minister of Education of Mpumalanga, Mrs Makgabo Reginah Mhaule, is impressed with the benefits of the system and has

recommended that the service be continued after the pilot ends next year.

The Department of Education has committed to pay for the service for three years after the conclusion of the pilot expansion in the second quarter of 2017.

Potentially, the service could be rolled out nationally, with connectivity for 3000 primary rural schools.

The e-Learning platform and the Internet connectivity are offered by Italy's Openet Technologies, in partnership with Luxembourg's satellite broadband operator SES Techcom Services, which owns and manages the Astra Connect service.

Sway4edu2 – Satellite Way for Education – was set up by ESA's Advanced Research in Telecommunications Systems programme and Openet Technologies in partnership with Luxembourg's satellite broadband operator SESTechcom Services. It provides Internet connectivity and access to eLearning for teachers and students, media content and other online monitoring tools and information via satellite in rural primary schools in South Africa. Credit: ESA

Installation and maintenance are carried out by South African Internet provider LanlinkNetworking. The Department of Education and the Singita Community Development Trust supply the content for the online courses and train the teachers.

"When Openet conceived the project, the intent was to provide education communities in very remote areas with the opportunity to overcome isolation and improve their knowledge and learning skills thanks to satellite eLearning applications," commented Vito Gaudiano, CEO at Openet.

"We are very proud to be part of this project. It is extremely rewarding to see satellite technology improving both the speed and quality of education in in Africa," said Gerhard Bethscheider, Managing Director at SES Techcom Services.

Chairperson of the Singita Trust, Pam Richardson, observed: "Schools have shown great pride at being part of this programme. Reference books are a scarce resource in these schools and access to the Internet and a projector has helped them minimise this challenge.

"Emails and Skype are now commonly used. In essence, the schools feel they have joined the modern world and highly appreciate the support. It is wonderful to see."

Teachers and students are reporting positively on the immense benefits of the system.

Dianna Diamini, a teacher at the Babati Primary School for over 15 years, noted that technology was "one of her fears in life" until Teaching & Technology was introduced to her school, and 11 other primary schools in the Ximhungwe district, in January 2015.

Since then, she has become the Teaching & Technology administrator at her school, won the district-level Teaching Award 2015 for ICT and, in February 2016, was elected to represent Mpumalanga Province in the final round at national level.

After following the e-Learning modules at the heart of this programme, together with 226 other educators, Dianna started using the digital projector, screen and speakers to improve her lessons and helped her colleagues do the same.

ESA's Davide Tomassini commented: "Introducing an enriched educational environment in primary schools gives an excellent grounding that can have lasting benefits.

"Statistics gathered from the e-Learning modules indicate the progress of teachers and show that these courses have been highly successful."

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