

# Adaptrum

MyDigitalBridge  
Namibia, Africa



## Project: Citizen Connect

Using Adaptrum's ACRS2.0 to rapidly build a rural broadband network in remote parts of Namibia.

Namibia is a large country with a small population, known for its magnificent scenery and its vibrant diversity of peoples. While the country has a good healthcare system, as well as a sound primary and secondary education system, both of these social sectors are hampered by the vast distances that need to be covered by health care and education providers. Technologically the country has access to modern telecoms infrastructure. However, an innovative approach to affordably extending broadband to rural communities and citizens was needed.

The MyDigitalBridge (MDB) Foundation in partnership with Microsoft successfully piloted a Namibian TV White Spaces (TVWS) pilot project to bring broadband connectivity to schools in Northern Namibia. Called 'Citizen Connect', the pilot consists of a network deployed over a 62km x 152km (9,424 km<sup>2</sup>) area covering three regional councils: Oshana, Ohangwena, and Omusati, and connecting 28 schools in northern Namibia. This makes it the biggest TVWS project of its kind in terms of area coverage. The intention of the pilot was to provide a blueprint for broadband internet connectivity countrywide.

MDB engaged with relevant stakeholders, such as the Communications Regulator, Telecom Namibia, and the ministries of education and ICT to procure, deploy, and commission the broadband network.

Although the north is Namibia's most densely populated region, it is still characterized by a dispersed population. The low population density made TVWS wireless broadband the ideal fit for connecting schools across vast distances. Adaptrum ACRS2.0 radios were selected to provide the TVWS wireless links. Using ACRS2 radios, the network was deployed with links covering distances of 8 to 12 km. In addition to long range non-line-of-sight links, the network employed a relay topology to extend connectivity across multiple links.

With links providing up to 10Mbps connectivity, the completed system provided schools with voice, video, and data communications including

### Summary

The MyDigitalBridge foundation partnered with Microsoft to bridge digital divide in rural Namibia using TVWS network covering the largest geographic area to date

### Requirements

A broadband solution that could affordably span the large geographic area of northern Namibia

### Solution

MDB deployed Adaptrum's ACRS2 system in both a last-mile and relay network configuration

### Benefits

- Long-range Non-Line-of-Sight (NLOS) broadband connectivity
- Support for network extension using radio relays
- Simple installation facilitating rapid network build

### Results

MDB connected 28 rural schools with internet service and piloted voice, video, and data services to enhance educational



high-resolution, 3-way Skype video conference to provide remote learning. The reliable delivery of these services over the large area of the network demonstrate that the new rural network can be used to deliver many different broadband-enabled offerings to the remotest areas of the country. As this is the first time that high-speed data will be available in these areas, the impact of these services is likely to be transformative in many respects.

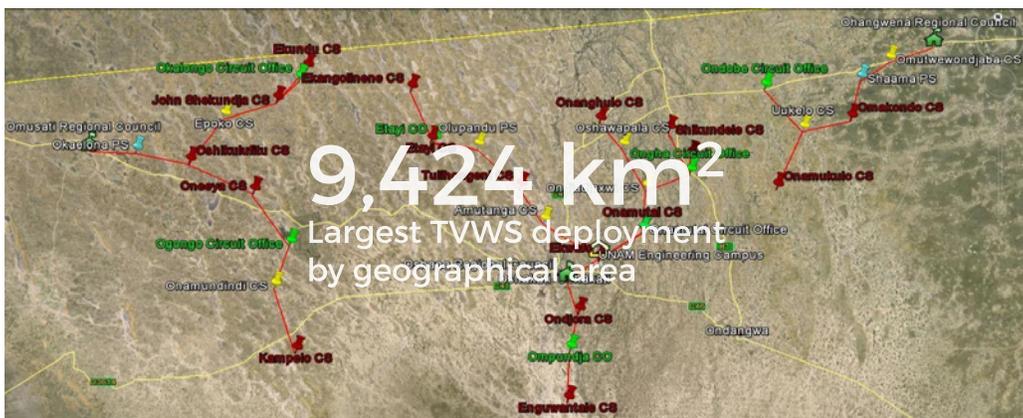
In selecting its equipment supplier, MDB engaged several leading vendors evaluating their product suitability and their capacity to provide pre- and post-installation support. Adaptrum came out as a clear leader and was subsequently chosen by MDB. From the onset Adaptrum committed its self to the success of our project, assisting with the network design, providing 24-hour technical support throughout the project.

**“ Without Adaptrum MDB would not have achieved what it did and would not have met the stringent timelines set by its regulator. ”**

Paul Rowney, Technical Director, MyDigitalBridge

With the large geographic scale of the network, the construction demonstrated many of the beneficial characteristics of TVWS technology that are salient for a nationwide rural TVWS network for Namibia. First, the network was built very quickly. All the endpoints were connected over a period of weeks by a local team newly installing this technology. In addition, the network was built at a low cost, proving the cost benefit of the TVWS equipment approach.

Namibia is one of a first countries in the world where a network of this scale was designed and successfully built and operated. The experience of the Citizen Connect project provides a fascinating glimpse of the practicalities and outcomes of the proposed new network. In the next phase of building out the network, rural communities and citizens that



Network Map of Citizen Connect Project

previously had no hope of joining their urban peers in the benefits of internet availability, can now hope to access not just digital education, but digital health, government, parliament, environmental, and financial services. These services along with public Internet access could be delivered first via community knowledge centres, planned for larger rural settlements, and second via Wi-Fi hotspots set-up at community knowledge centres in smaller settlements that cannot feasibly support a hub, and at other rural locations where people congregate.



### About Adaptrum

Driving both technical and regulatory innovations, Adaptrum has pioneered the use of previously underutilized TV White Space spectrum. Founded by leading experts in wireless communications, our creative and experienced team is committed to fundamentally changing the wireless industry and enabling universally affordable broadband.