Affordable Access Initiative Introduction

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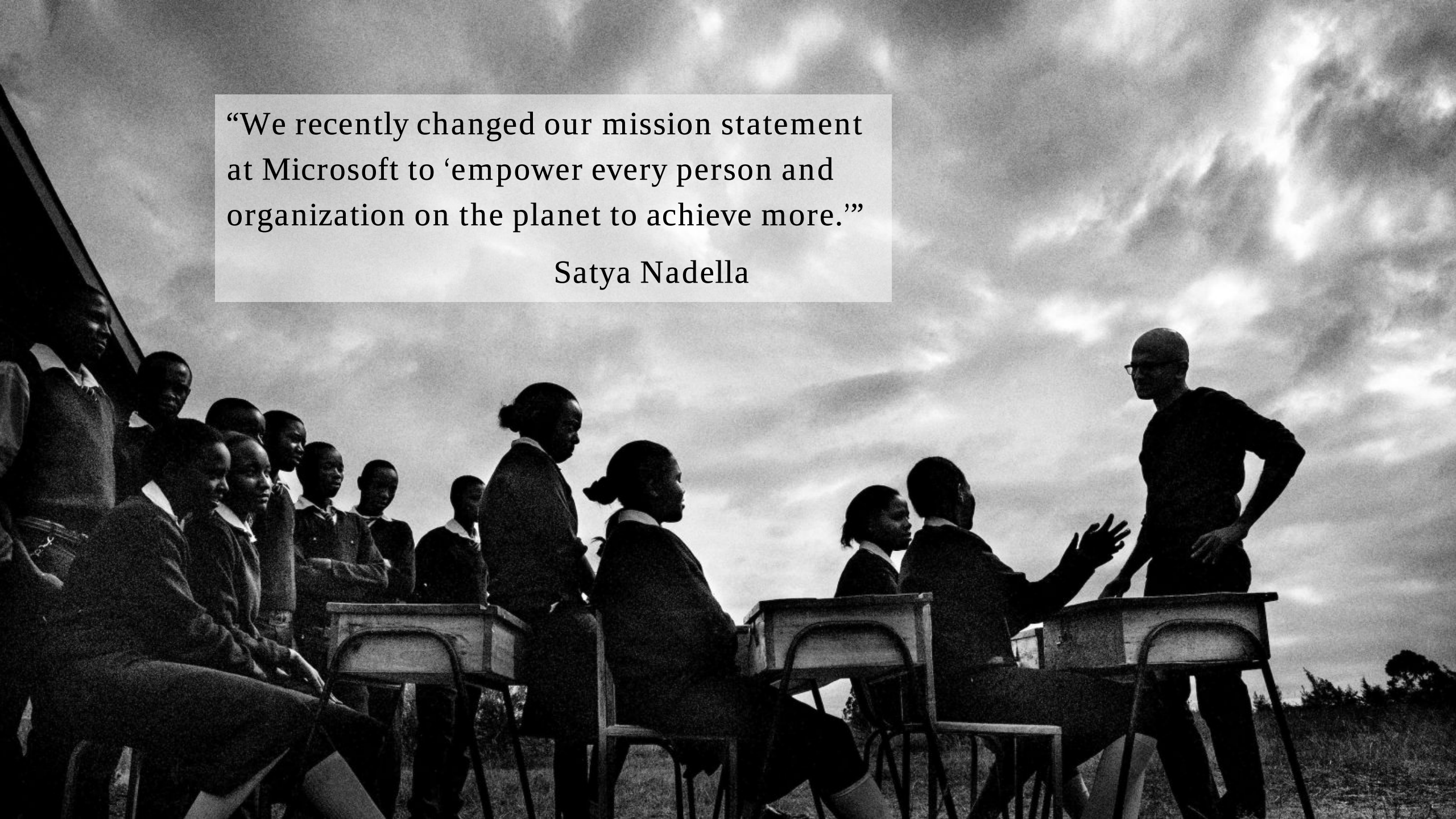
Paul Garnett, Director of Affordable Access Initiatives, Microsoft Corporation

Microsoft


“We recently changed our mission statement at Microsoft to ‘empower every person and organization on the planet to achieve more.’”
Satya Nadella

Microsoft's Affordable Access Initiative

In partnership with Internet access providers and other local entrepreneurs, we are looking to deploy new last-mile access technologies, cloud-based services and applications, and business models that reduce the cost of Internet access to grow the overall market and help billions more customers affordably get online.

This means addressing all potential barriers including suitable consumption models and payment methods, relevant applications and services, reliable Internet access, access to power, and access to capital.

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Affordable Access Initiative: 20+ Active Projects

104 K-12 Schools Connected	45,000 K-12 Students Connected	9 University Campuses Connected	143,000 University Students Connected	500,000+ Population Under Coverage

Microsoft Affordable Access Initiative Grant Fund

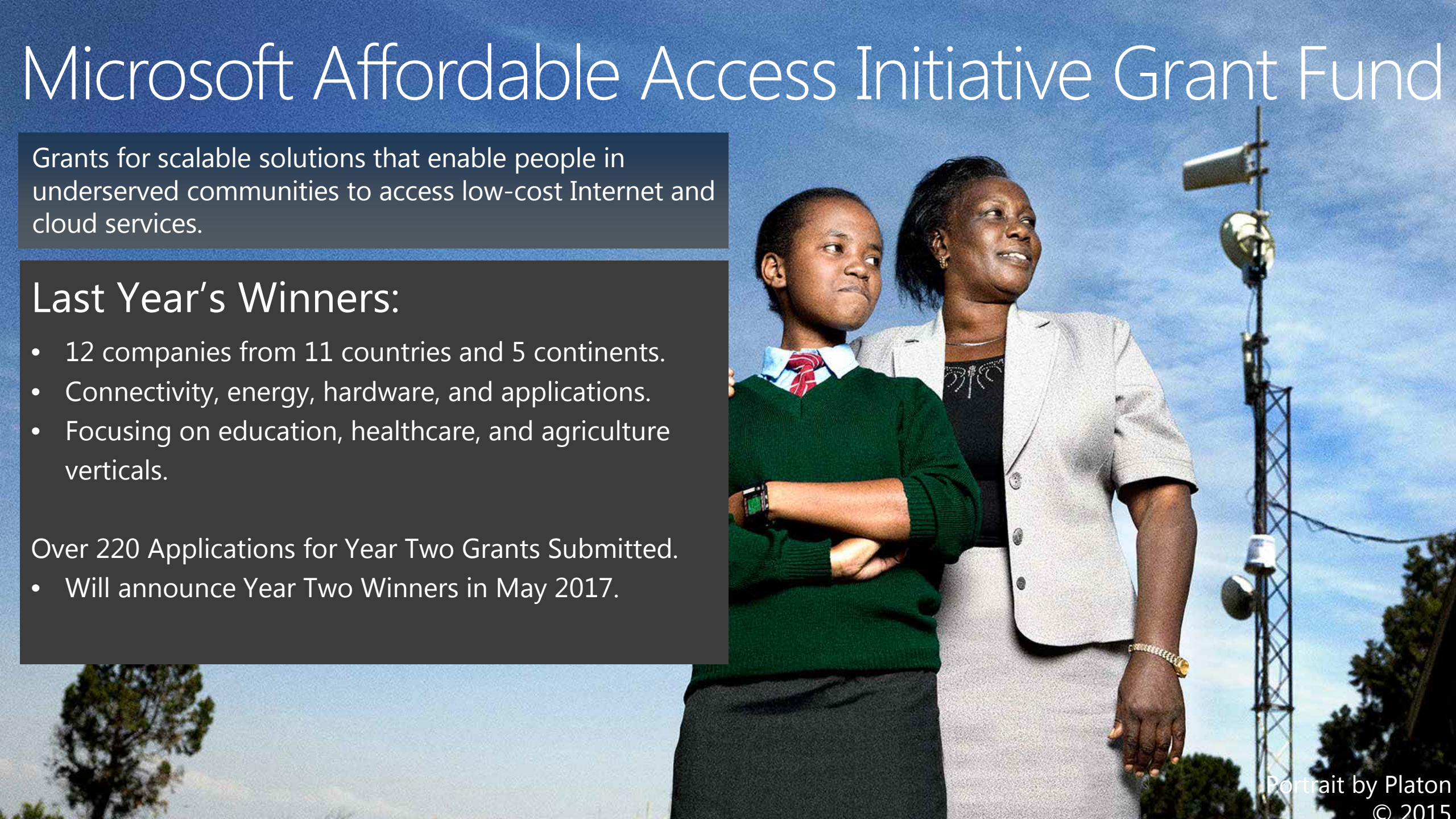
Grants for scalable solutions that enable people in underserved communities to access low-cost Internet and cloud services.

Last Year's Winners:

- 12 companies from 11 countries and 5 continents.
- Connectivity, energy, hardware, and applications.
- Focusing on education, healthcare, and agriculture verticals.

Over 220 Applications for Year Two Grants Submitted.

- Will announce Year Two Winners in May 2017.



Portrait by Platon

Use of TV White Spaces Can Open Up New Opportunities

- TV white space spectrum (unused UHF & VHF channels) is a global band and is available today on an unlicensed (*i.e.*, free and open access) basis in the U.S., Canada, UK & Singapore.
  - Pre-Regulation, partners operating in other countries under commercial licenses and other types of authorizations.

- Radios operating in TV white spaces spectrum provide point-to-multipoint connectivity of 10+ kilometers.
  - Can complement 2.4 and 5 GHz Wi-Fi. Can also complement LTE, fiber and satellite, where economics are challenging.

- Spectral efficiency on par with other leading wireless access technologies (throughput of 16 Mbps in 8 MHz UHF channel; with ASICs and 2 and 4 channel bonding/aggregation coming in 2017).

- Can reduce the cost of deploying wireless networks (CAPEX and OPEX), enabling new business models and differentiation. Equipment is cheap and easy to deploy. According to a recent analysis by TechMahindra, TVWS network infrastructure cost is no more than 40.8% the cost of LTE on a per GB delivered basis.

Southern Virginia, USA – Closing the "Homework" Gap

Extending fiber connections at schools to get TVWS & Wi-Fi connections to students at home

Collaboration between Mid-Atlantic Broadband Communities, Microsoft, and Commonwealth of Virginia.

Delivering Office 365 to 7,500 primary and secondary school children in 18 schools. Providing Internet access to unconnected students (50% of school children in these areas).

First deployment of wireless technology leveraging the TV white spaces & Wi-Fi to deliver high-speed Internet access to enable students in rural counties to do their online assignments while at home.

A second phase could provide access to 40K more students at 183 K-12 schools across rural Southern Virginia. Potential to help 250,000 unconnected students in Virginia alone.

Northern Namibia Project

- Partnership led by MyDigitalBridge, a Namibian not for profit focused on digital inclusion
- Currently connecting 38 rural sites to fixed wireless broadband
- 30 schools and 8 education circuit offices connected
- Covering three regions – Oshana, Ondangwena, and Omusati
- Network deployed over a 62Km x 152Km (9,424 KM2) area
- Initially funded with support from Millennium Challenge Corporation

MILLENNIUM CHALLENGE CORPORATION
UNITED STATES OF AMERICA

ADAPTRUM

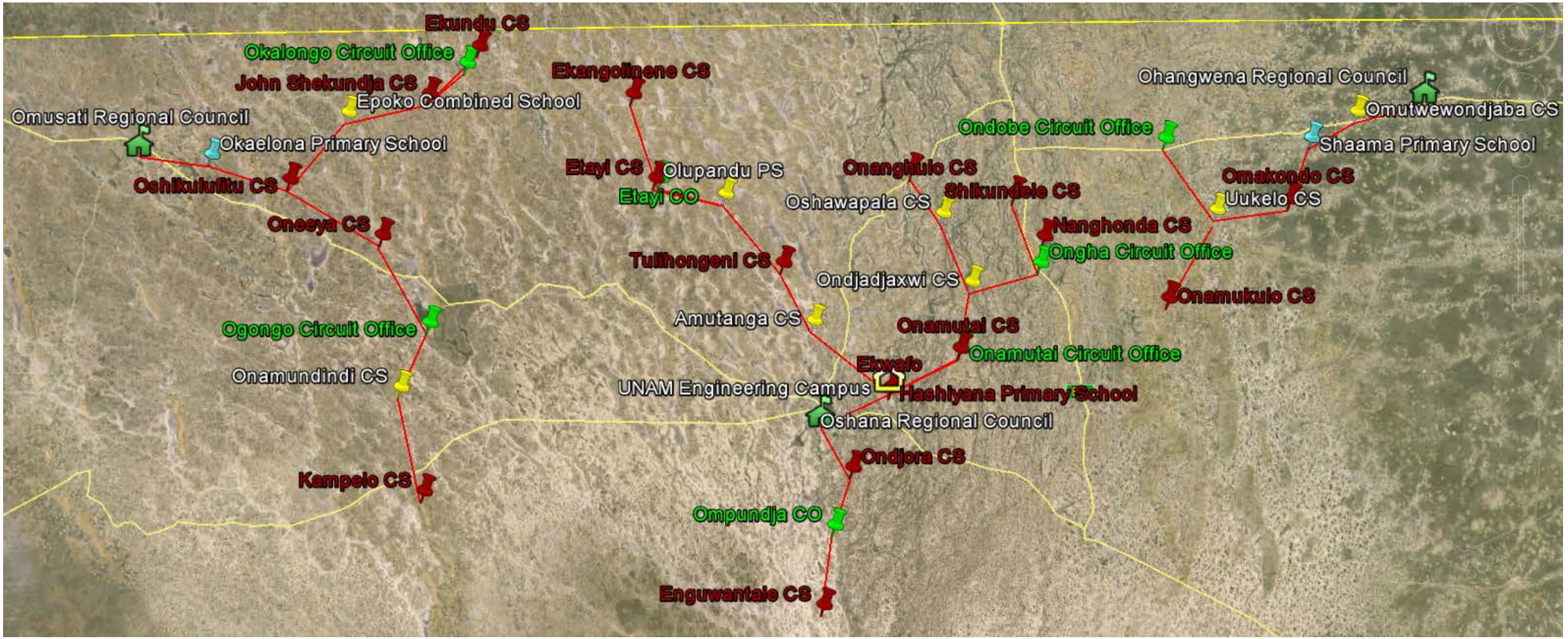
UNIVERSITY OF NAMIBIA

AFRIKA Microsoft

MILLENNIUM CHALLENGE ACCOUNT MCA NAMIBIA

PARLIAMENT REPUBLIC OF NAMIBIA

MyDigitalBridge – Namibia Network



Jamaica - Internet Access & O365 for Unserved Communities

Using TV White Space Technology to Connect Rural Schools, Police Stations & Healthcare Clinics

Collaboration between FLOW, Microsoft, Jamaican Universal Service Fund, and USAID.

Extending broadband connectivity to more than 30 rural schools, community centers, police stations, and healthcare clinics, enabling access to content and cloud based applications and services.

Microsoft provides Office 365 software and services, Partners in Learning teacher training, technical and regulatory support. ISP deploys the TV white space network and provides the broadband access.

Project enabled through cash grants from the USAID and the Jamaican Universal Service Fund. Builds upon the Vision 2030 Jamaica National Development Plan, which focuses on expanding affordable broadband into rural communities.

Microsoft WHITESPACES DATABASE

WHITE SPACES FINDER

SEARCH BY LOCATION | PROTECTED AREAS

DEVICE TYPE

Choose a device and search for white spaces at a given location

- ○ Wireless Microphones (Max power Level: 50 mW)
- ◉ Fixed White Spaces Device (Max power Level: 1 W)
- ○ Portable White Spaces Device (Max power Level: 100 mW)

ENTER A LOCATION

Kingston

ANTENNA HEIGHT (m)

30

(Height above ground level)

Search

- Select an available channel to view the details and actions.
- Select an occupied channel to view contours on the map.

2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21
22	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	41
42	43	44	45	46	47	48	49	50	51

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