



NGINO

UiO : **Department of Technology Systems**
University of Oslo

NGINO project workshop, 10Mar2022, Kjeller

Scalability of Access - rethinking Next Generation Internet

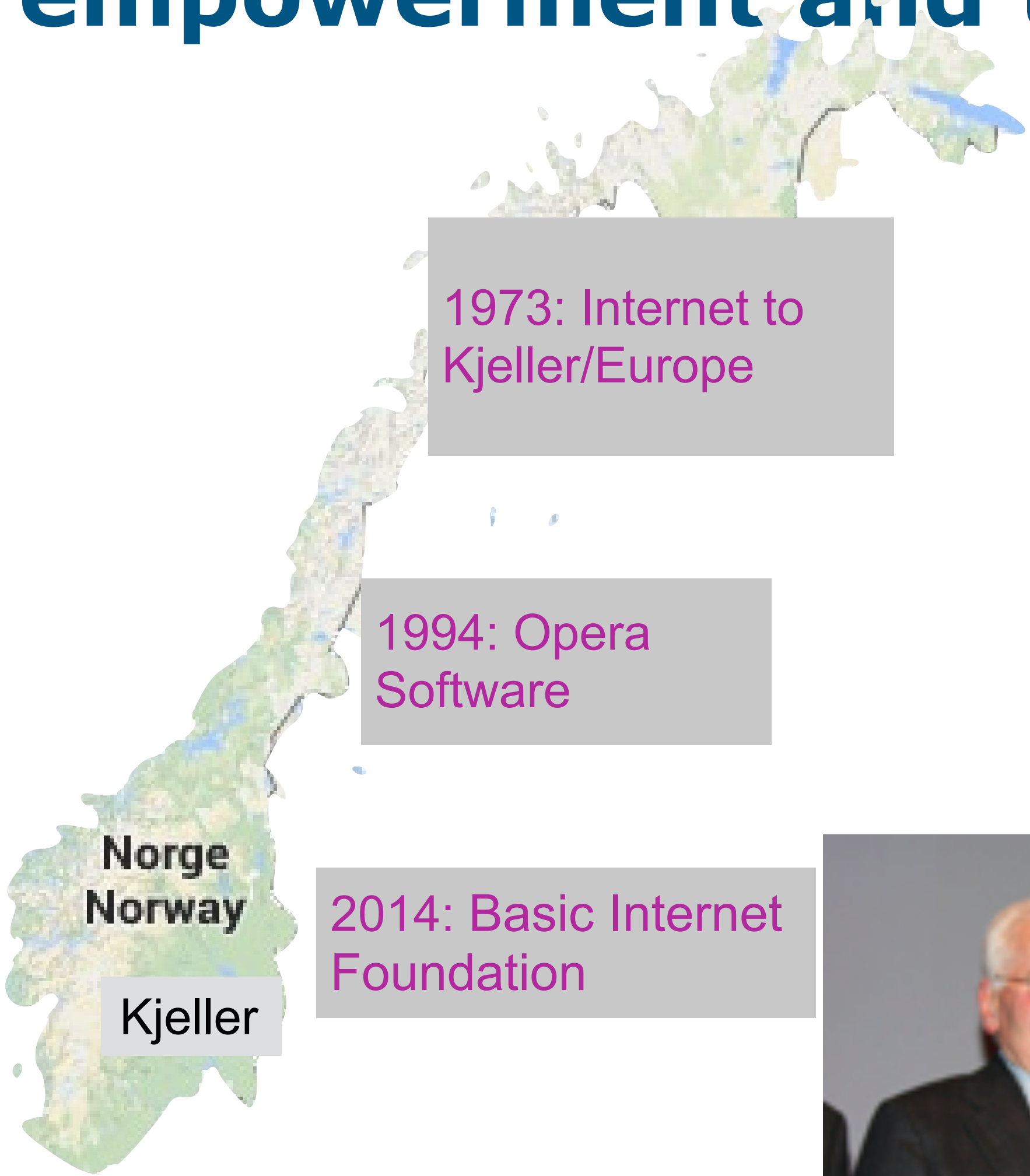
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Next Generation Internet as based on empowerment and trust

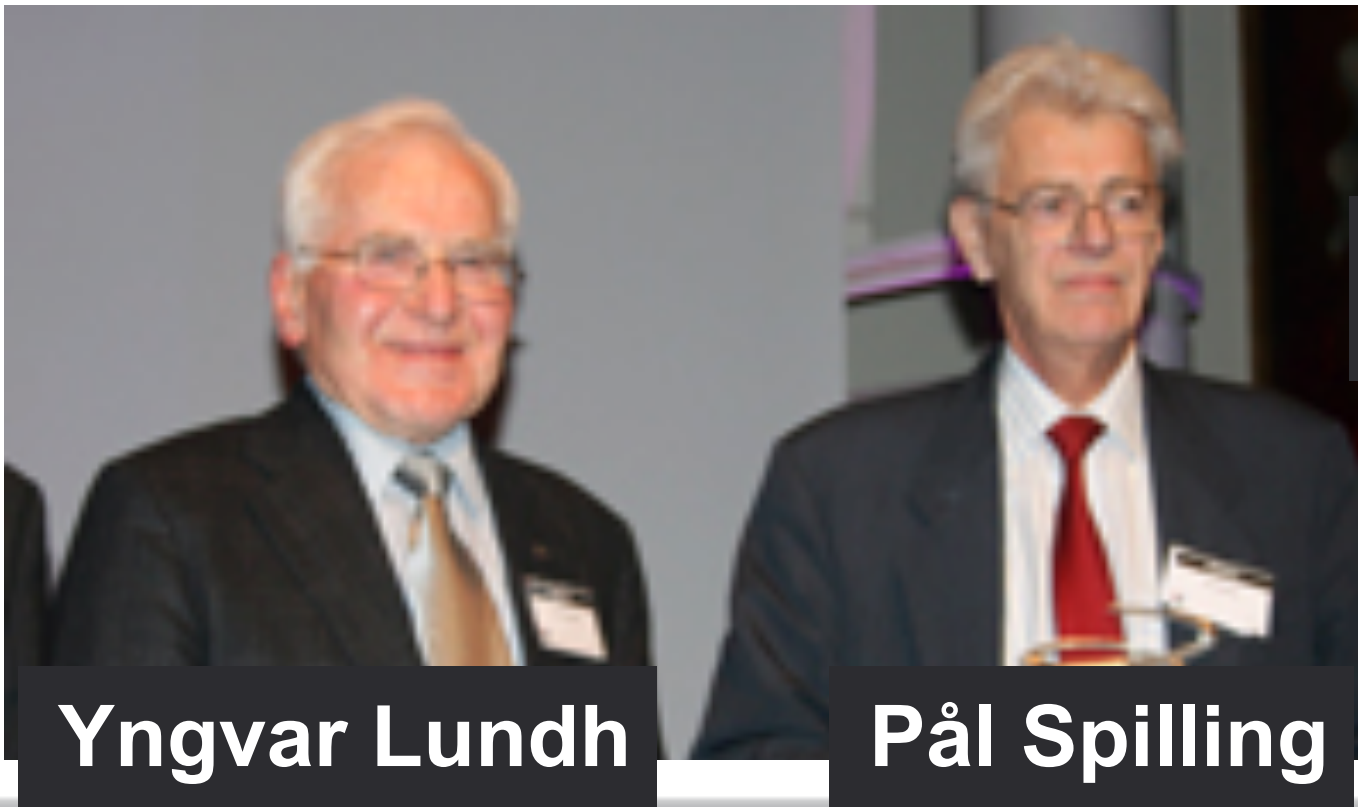


1973: Internet to Kjeller/Europe

1994: Opera Software

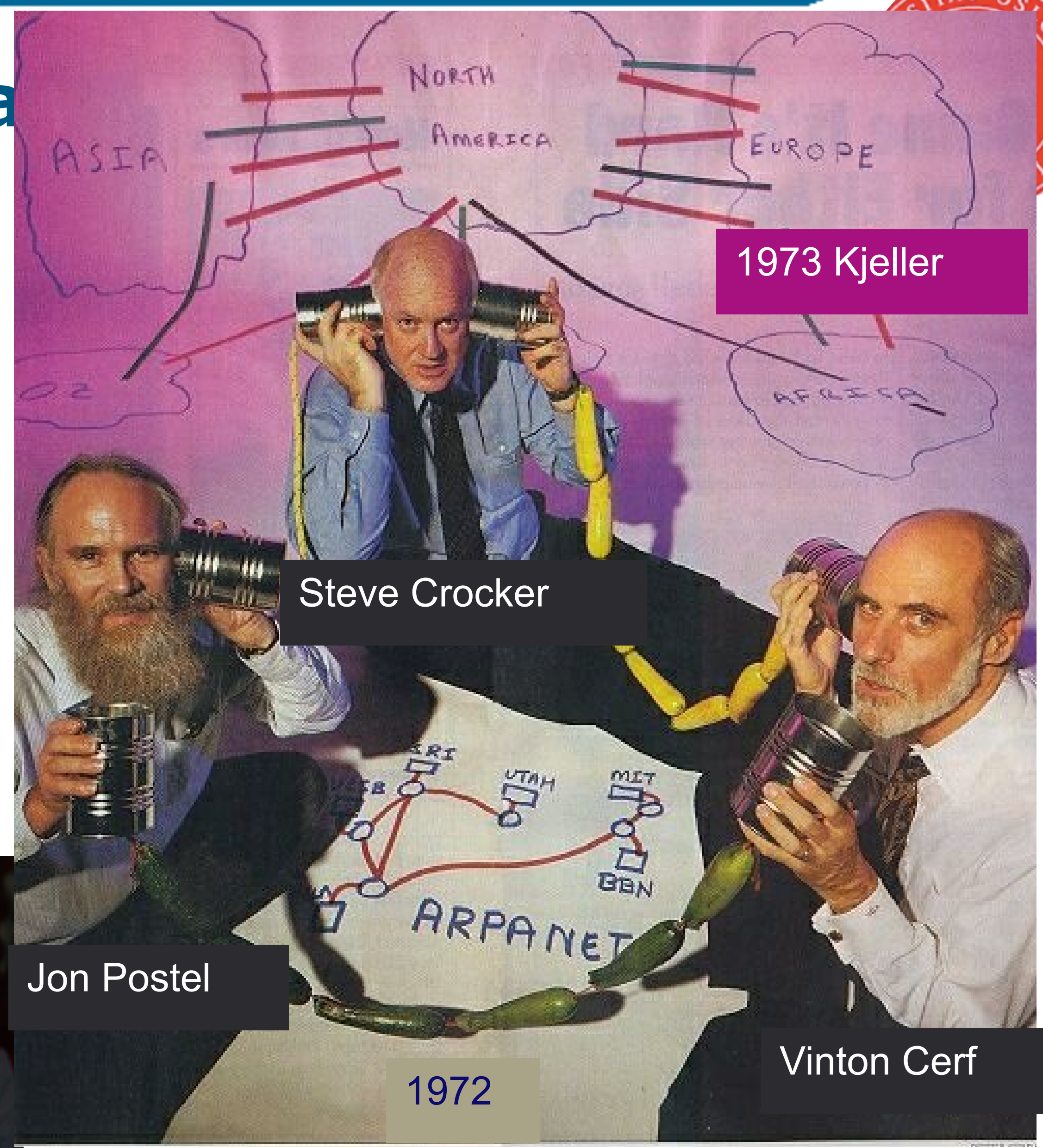
2014: Basic Internet Foundation

Norge
Norway
Kjeller



Yngvar Lundh

Pål Spilling



1973 Kjeller

Steve Crocker

Jon Postel

Vinton Cerf

1972

Source: <http://www.michaelkaul.de/History/history.html>

Addressing the Challenges of an Inclusive Internet



Norwegian Ministry of Foreign Affairs

Summary

Meld. St. 11 (2019–2020) Report to the Storting (white paper)
Digital transformation and development policy



- ➔ Access for meaningful connectivity
- ➔ Skills: digital literacy and local content
- ➔ Regulations:
- ➔ Inclusion: Gender divide “boys have the toys”



Beyond infrastructure: Complementary initiatives are needed to connect people already covered by broadband networks. These include programs to increase and support **device affordability, affordability of data and services, digital skills programs and content**, with a special focus on **closing the digital gender gap**.

Must secure affordable meaningful connectivity

The high cost to connect is excluding billions from the digital revolution:

Nearly half of the world's population is still offline

And a significant percentage of those online have unreliable and poor connections.

We have meaningful connectivity when we can use the internet every day using an appropriate device with enough data and a fast connection.



Source: Eleanor Sarpong, A4AI, Mar2021

Meaningful Connectivity & Gender Divide



36% of the population in Central and Eastern Europe is unconnected (19% Western Europe)

ITU 2020, A4AI/Xalam Analytics

42% school-age children 3-17 years old in Easter Europe & Central Asia are unconnected at home

UNICEF 2020

Women are 65% of European employees, but only 17% of European ICT workforce

WEF 2020

75-80% of all connections in the Tanzania mobile network are 2G based

Vodacom Foundation Tanzania, May2021

A key barrier to women and girls' digital inclusion is lesser access, compared to men and boys.

This includes access to devices, to data, and to networks.

UNICEF, what we know about the gender divide.

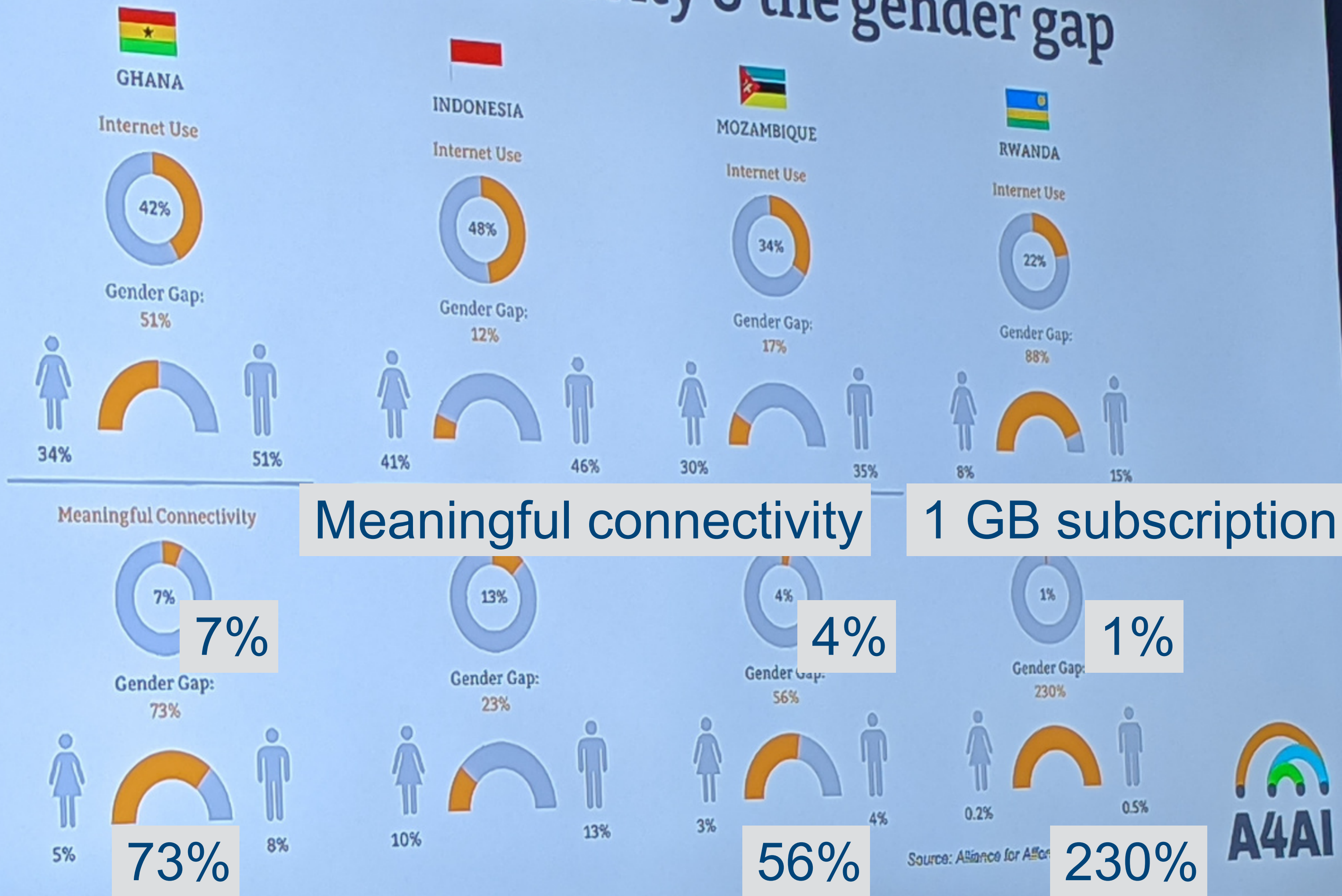


Basic Internet access is improving for women but a hidden digital gender divide persists according to new WWF report

digwatch, Geneve Internet Platform, 2020

Reality in Africa

Meaningful connectivity & the gender gap



Ana Maria Rodriguez, A4AI

IGF 2021, Katowice

Scalable connectivity for meaningful access tailored towards the needs & capabilities

Self-actualisation
Entertainment

Empowerment, Work
Digital Transformation

Explore, Affection
Opportunities

Value creation
Trust & confidence



Mobile Broadband
20 USD/month/person



Community network
50-100 Mbps
200-500 USD/month



Narrowband
~5 Mbps
58 USD/month



InfoSpot
10 GB/month
<20 USD/month

Village/Community Portal Skills & Value for the Community



The website will contain locally stored information on

- Health
- Entrepreneurship
- Education
- Agriculture
- Financial inclusion (e.g. via Women Community Centers)

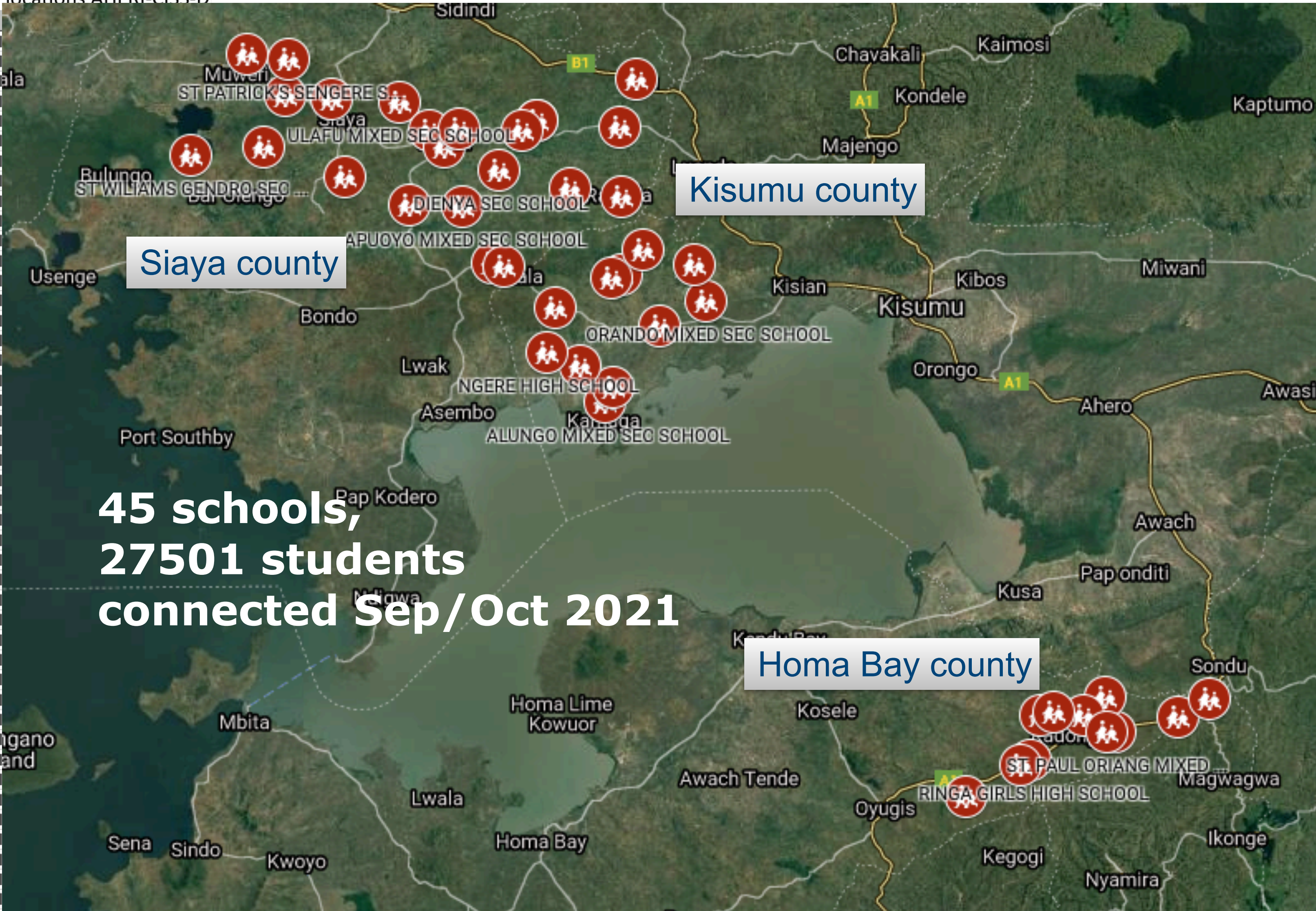


Results in TZ: **Knowledge increase**
 Cysticercosis (TSCT) 60%
 Tuberculosis 30%
 HIV/AIDS 13%

45 schools connected Sep/Oct 2021

School locations AHERI-CISS-D

#	name	location
1	ST. PAUL ORIANG MIXED SCHOOL	http://p
2	ORANDO MIXED SEC SCHOOL	http://p
3	MALELE MIXED SEC SHOOL	http://p
4	ULAFU MIXED SEC SCHOOL	http://p
5	BISHOP OKOTH GIRLS MBAGA SEC SC	http://p
6	PALA MIXED SEC SCHOOL	http://p
7	KOLWENY KINGSWAY SEC SCHOOL	http://p
8	KIT MIKAYI MIXED SEC SCHOOL	http://p
9	NDURU MIXED SEC SCHOOL	http://p
10	DANIS OBARA SEC SCHOOL	http://p
11	ATELA MIXED SEC SCHOOL	http://p
12	WANG'APALA BOYS HIGH SCHOOL	http://p
13	APUOYO MIXED SEC SCHOOL	http://p
14	AGORO OYOMBE SEC SCHOOL	http://p
15	RINGA GIRLS HIGH SCHOOL	http://p
16	ORERA MIXED SEC SCHOOL	http://p
17	DUDI GIRLS SEC SCHOL	http://p
18	BORO MIXED SEC SCHOOL	http://p
19	ST BARNABAS SEC SCHOOL	http://p
20	SINAGA GIRLS SEC SCHOOL	http://p
21	DIENYA SEC SCHOOL	http://p
22	RAMULA MIXED SEC SCHOOL	http://p
23	DHENE MIXED SEC SCHOOL	http://p
24	ST WILIAMS GENDRO SEC SCHOOL	http://p
25	ST PATRICK'S SENGERE SEC SCHOOL	http://p
26	ST MAR'YS YALA SCHOOL	http://p
27	NGIYA MIXED SEC SCHOOL	http://p
28	OBAMBO MIXED SEC SCHOOL	http://p
29	SENATOR OBAMA SEC SCHOOL	http://p
30	ST MATHEW NYASIDUO MIXED SCHOL	http://p
31	ST PATRICK'S SENGERE SEC SCHOOL	http://p
32	ST PATRICK'S SENGERE SEC SCHOOL	http://p
33	ST PATRICK'S SENGERE SEC SCHOOL	http://p
34	ST PATRICK'S SENGERE SEC SCHOOL	http://p
35	ST PATRICK'S SENGERE SEC SCHOOL	http://p
36	ALONGO MIXED SEC SCHOOL	http://p
37	ST PATRICK'S SENGERE SEC SCHOOL	http://p
38	ALONGO MIXED SEC SCHOOL	http://p
39	MAGWAGWA MIXED SEC SCHOOL	http://p
40	RINGA GIRLS HIGH SCHOOL	http://p
41	NO	http://p
42	ST PATRICK'S SENGERE SEC SCHOOL	http://p
43	BIS	http://p
44	AK	http://p



**45 schools,
27501 students
connected Sep/Oct 2021**

sponsored by our premium partner



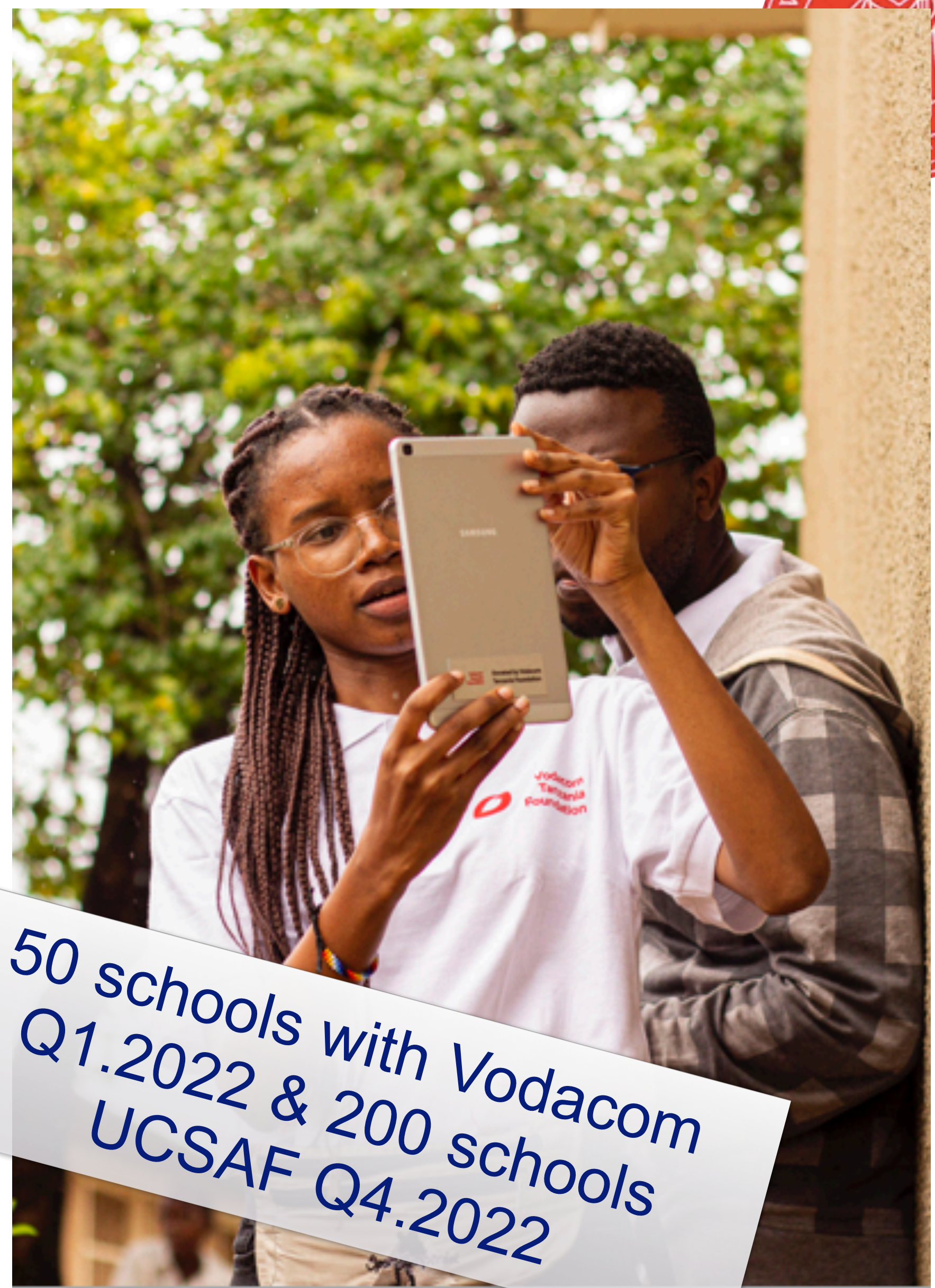
- parallel to GIGIconnect first phase
- **5 Mbit/s over LTE** (dedicated SIM cards)
- 58 USD/month

Scale-up Tanzania

Catherine connects schools



50 schools with Vodacom
Q1.2022 & 200 schools
UCSAF Q4.2022




Conclusion

NGI for an empowered society

- Access:
 - Freemium model for access (*Internet Lite*)
 - InfoSpots & connected schools
- Skills: Decentralised (regional/local) Internet of value-creation
- Regulations: "Road model"- free access for text & pictures
- Inclusion: information access is free

Tanzania School Connectivity

The Framework to get our Children Empowered for the Digital World

-  Saturday, 2Apr2022 - 10 am to 2 PM, Dodoma
- Purpose: Scale-up from stakeholder initiatives (UCSAF, Vodacom, Tigo, Halotel, Basic Internet Foundation, African Child Projects, UDSM, DIT, Univ. Dodoma, ISOC,...) towards a national framework

Participants - 40 people

1. Hon Minister Education
2. PS Education
3. Hon. Minister ICT
4. PS ICT
5. UCSAF
6. ICT Commission
- 7 to 21. MP Champions 15



Forskningsrådet
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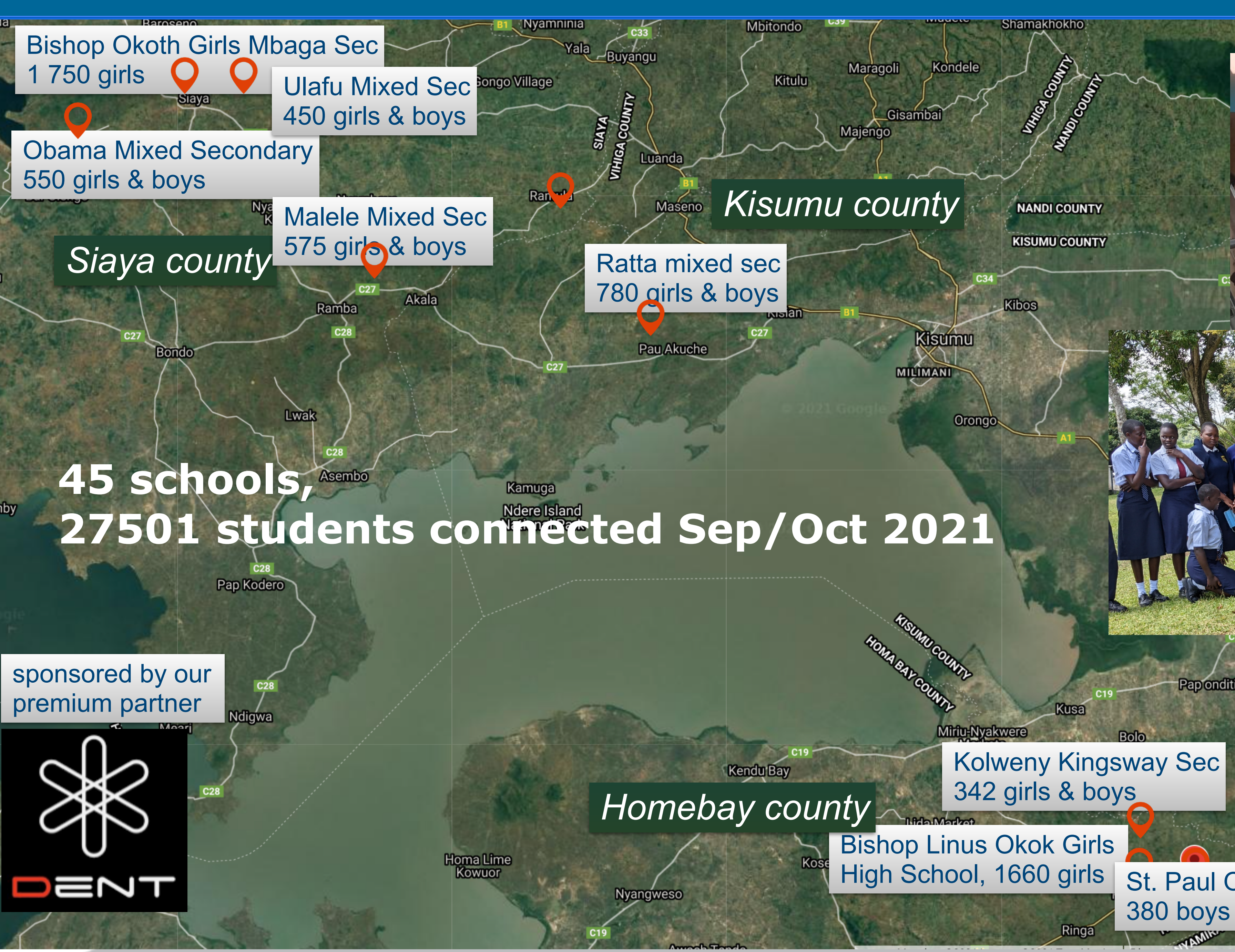
Rotary
Distrito 4400, Ecuador
Zona 23B, 2019-2020





Background slides





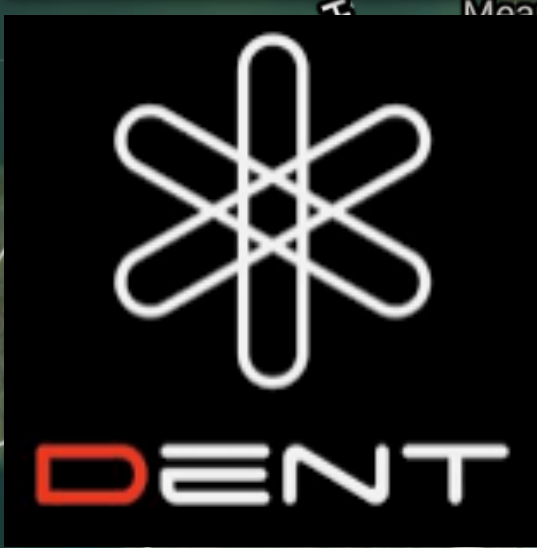
45 schools, 27501 students connected Sep/Oct 2021



Ratta mixed sec
780 girls & boys



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Policy actions to tackle digital inequality

Increase partnerships to fund infrastructure & encourage new connectivity models

- Shared Rural Network
- Connecting Europe BB fund
- Community networks

SRN -£1bn joint initiative between UK Gov. & UK's 4 mobile network operators to extend overall 4G coverage to 95% of the UK landmass by Dec 2025.

Connecting Europe Broadband

Fund (CEBF) - Expected EUR 550- 600 (June 2021) - so far, invested in seven very-high capacity network projects in rural and semi-rural areas across

Cooperatives: Guifi.net Catalan/Spain

Push for Targeted interventions on access and skills

- vouchers
- social tariffs
- Subsidies

WiFi4EU Programme- A voucher of €15,000 is granted to municipalities to install free public Wi-Fi in public spaces.

EC €200m voucher scheme for Italy Helps low-income families buy high-speed broadband services (download speeds of at least 30 Mbps) & devices

Grand Ecole du Numérique, - Inclusive Digital talent accelerator; provides subsidies for ICT skills training

Improve Inclusive Data Collection for policy planning

- New and improve data sets to monitor digital inclusion across user groups, gender, geography, race, etc.

Collaboration across statistical agencies and EuroSTAT on inclusive data sets and indicators

Consider data to track access and use by traveler communities, migrants, refugees, senior citizens, young people, persons with disabilities, rural populations

Establish clear monitoring and evaluation of projects and programs Including those focused on digital skills.

The building blocks for Digital Empowerment

“Our vision is to improve the life of **every human** through **free access to information** on the Internet...”

