Africa Internet Summit, AIS'21
Shaping Africa's Internet Future

Internet
Society

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Israel Bionyi, Communications and Outreach Manager, Africa, Internet Society
(nyoh@isoc.org)

COVID-19 and the Internet in Africa

Internet resilience during COVID-19

- Discussions on African Internet resilience

- Only about half of Africa can access the Internet

- Internet economy projected to contribute roughly 180 Million USD to Africa's GDP by 2025

- ?

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Overview of our work

We need to make the Internet stronger.
The Internet needs our help to maintain its critical properties and be there for everyone.
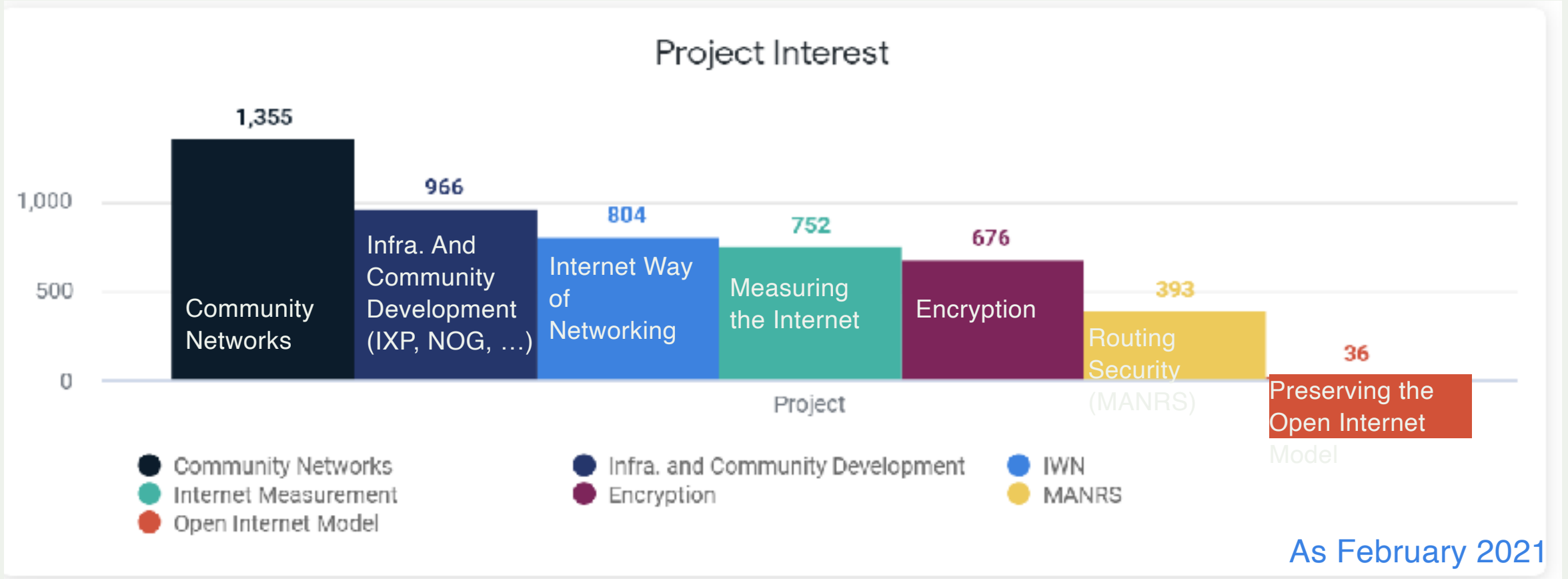
We need to grow the Internet.
Nearly half the world's population is not connected.

We need to empower people.
Attract, engage, and strengthen our community.

Africa Region (Individual members) interests in the 2021 projects

Project Interest

Bar chart values:
- Community Networks: 1,355
- Infra. And Community Development (IXP, NOG, …): 966
- Internet Way of Networking (IWN): 804
- Measuring the Internet: 752
- Encryption: 676
- Routing Security (MANRS): 393
- Preserving the Open Internet Model: 36

Legend:
- Community Networks
- Internet Measurement
- Open Internet Model
- Infra. and Community Development
- Encryption
- IWN
- MANRS

X-axis: Project

As February 2021

To express your your interest in the Internet Society 2021 projects, follow the instructions at:
https://www.internetsociety.org/take-action/2021-projects/

Growing
the Internet

Understanding Community Networks in Africa

- A survey identified 37 community network initiatives in 12 African countries in 2017.

Community Networks in Africa

Murambinda Community Network
Zimbabwe

Zenzeleni & Zuri Networks
South Africa

Fantsuam
Nigeria

TunapandaNET
Kenya

BOSCO Uganda
Uganda

Infrastructure and Community Development in Africa

- **Develop**.

- **Build**

- **Knowledge sharing**

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Measuring the Internet

- **pulse.internetsociety.org**

- Launched December 2020.

- We curate Internet measurement data from trusted sources to help everyone gain deeper, data-driven insight into the Internet.

- Helps to assess whether our efforts to ensure that the Internet remains open, globally connected, secure, and trustworthy are working.

Pulse is available to everyone, everywhere including network operators, researchers, policymakers, journalists, and civil society groups.

HTTPS   IPv6   DNSSEC TLDs
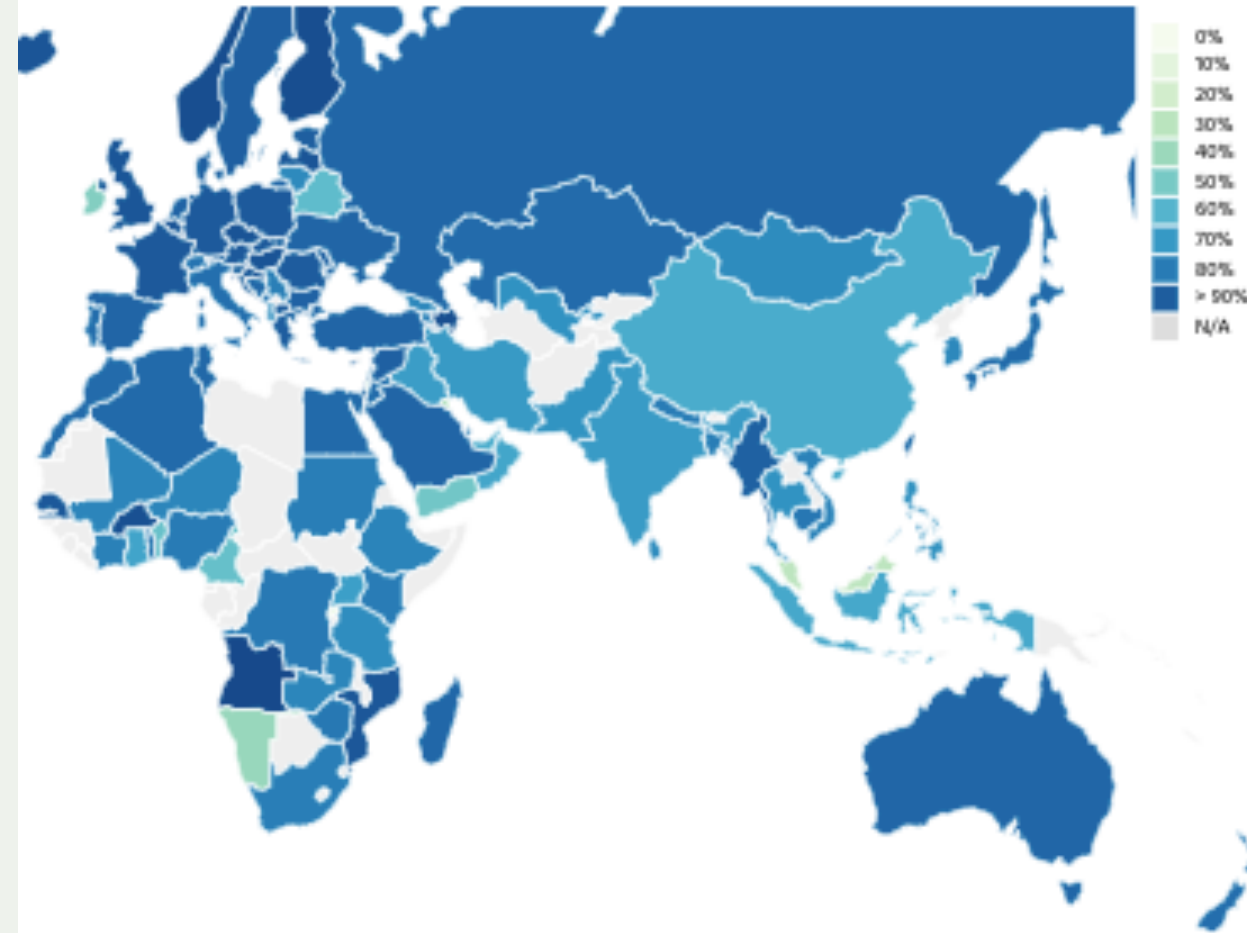
Global Growth of Enabling Technologies

pulse.internetsociety.org

Our Work in the Region

- **Tracking Internet shutdowns:**
  - 2021: Congo Brazzaville and Niger (March), Uganda, (January)
  - 2020: Cameroon and Ethiopia (November), Tanzania and Guinea (October), Sudan and Algeria (September)

- **Internet Resilience**
  - Focus on Africa.
  - Measuring Internet Resilience in Africa (MIRA) Project Overview - together with AFRINIC: ***pulse.internetsociety.org/blog/5847***
  - Measurement probes (MIRA Pods) already installed in Cameroon🇨🇲, Kenya🇰🇪, Rwanda🇷🇼 and Mauritius🇲🇺.
  - Four Chapters also hosting measurement probes: Benin🇧🇯, Ethiopia🇪🇹, Madagascar🇲🇬 and Tunisia🇹🇳.
  - Initial data to be published soon.

Strengthening the Internet

200 Train 200 individuals

4 See the IIAT used to assess the impact of new or existing policies in at least 4 policymaking processes

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Extending Encryption

The Internet is under threat - governments around the world are finding new and unique ways to undermine the use of strong encryption.

10% Increase adoption of e2e encryption by 10% globally

8 Mitigate government attacks on encryption in 8 target countries

© Elliot Adombila, Internet Society Ghana Chapter

Securing Global Routing

Mutually Agreed Norms for Routing Security (MANRS) are vital to our trust of the Internet.

10% 10% decrease in routing incidents

10% 10% increase in ROA (Route Origin Authorization) by MANRS participants

30% 30% improvement in MANRS participants' conformance

5% Implement ROV (Route Origin Validation) by 5% of MANRS participants

MANRS Actions – Network Operators Programme

Launched November 2014. Actions 1, 3 and 4 are mandatory. Action 2 is optional.

Filtering
Prevent propagation of incorrect routing information

Ensure the correctness of your own announcements and announcements from your customers to adjacent networks with prefix and AS-path granularity

Anti-spoofing
Prevent traffic with spoofed source IP addresses

Enable source address validation for at least single-homed stub customer networks, their own end-users, and infrastructure

Coordination
Facilitate global operational communication and coordination between network operators

Maintain globally accessible up-to-date contact information in relevant RIR database and/ or PeeringDB

Global Validation
Facilitate validation of routing information on a global scale

Publish your routing data, so others can validate

Registering number resources in an IRR and/or creating ROAs for them

MANRS Actions – IXP Programme

Launched April 2018. Actions 1 and 2 are mandatory, plus at least one additional action is required.

Action 1	Action 2	Action 3	Action 4	Action 5
Prevent propagation of incorrect routing information	Promote MANRS to the IXP membership	Protect the peering platform	Facilitate global operational communication and coordination	Provide monitoring and debugging tools to the members.
This mandatory action requires IXPs to implement filtering of route announcements at the Route Server based on routing information data (IRR and/or RPKI).	IXPs joining MANRS are expected to provide encouragement or assistance for their members to implement MANRS actions.	This action requires that the IXP has a published policy of traffic not allowed on the peering fabric and performs filtering of such traffic.	The IXP facilitates communication among members by providing necessary mailing lists and member directories.	The IXP provides a looking glass for its members.

MANRS Actions - CDN & Cloud Programme

- Was launched on 1 April 2020 to complement existing Network Operators and IXP programme.
- Principles developed by large industry players including Akamai, Azion, Cloudflare, Comcast, Facebook, Google, Microsoft, Nexica Oracle, Redder, Telefonica, TORIX, Verisign.
- Conformance with Actions 1-5 is mandatory. Action 6 is optional.

Action 1	Action 2	Action 3	Action 4	Action 5	Action 6
Prevent propagation of incorrect routing information	Prevent traffic with illegitimate source IP addresses	Facilitate global operational communication and coordination	Facilitate validation of routing information on a global scale	Encourage MANRS adoption	Provide monitoring and debugging tools to peering partners
Egress filtering Ingress filtering – non-transit peers, explicit whitelists	Anti-spoofing controls to prevent packets with illegitimate source IP address	Contact information in relevant RIR database and/or PeeringDB	Publicly document ASNs and prefixes that are intended to be advertised to external parties	Actively encourage MANRS adoption among the peers	Provide monitoring tools to indicate incorrect announcements from peers filtered by CDN & Cloud

Preserving the Open Internet Model

Open standards are as critical now as they were in the early development of the Internet.

We will protect the open standards that underpin the open Internet model by

- Taking a proactive approach to the World Telecommunication Standardization Assembly (WTSA)
- Advocating for greater openness, transparency, and collaboration
- Getting the message out to our community and partners

4 In the lead-up to or during WTSA, we aim to have 4 governments or governmental agencies express support for our positions

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Empowering People to Take Action

Supporting
Community Participation

5000 Total Individual Members participating in Internet Society activities

500 Equip 500 Chapter members with essential information related to our 2021 projects

5 Establish 5 topics for 2022 as identified through SIG Community Consultations

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Building Expertise and Capacity

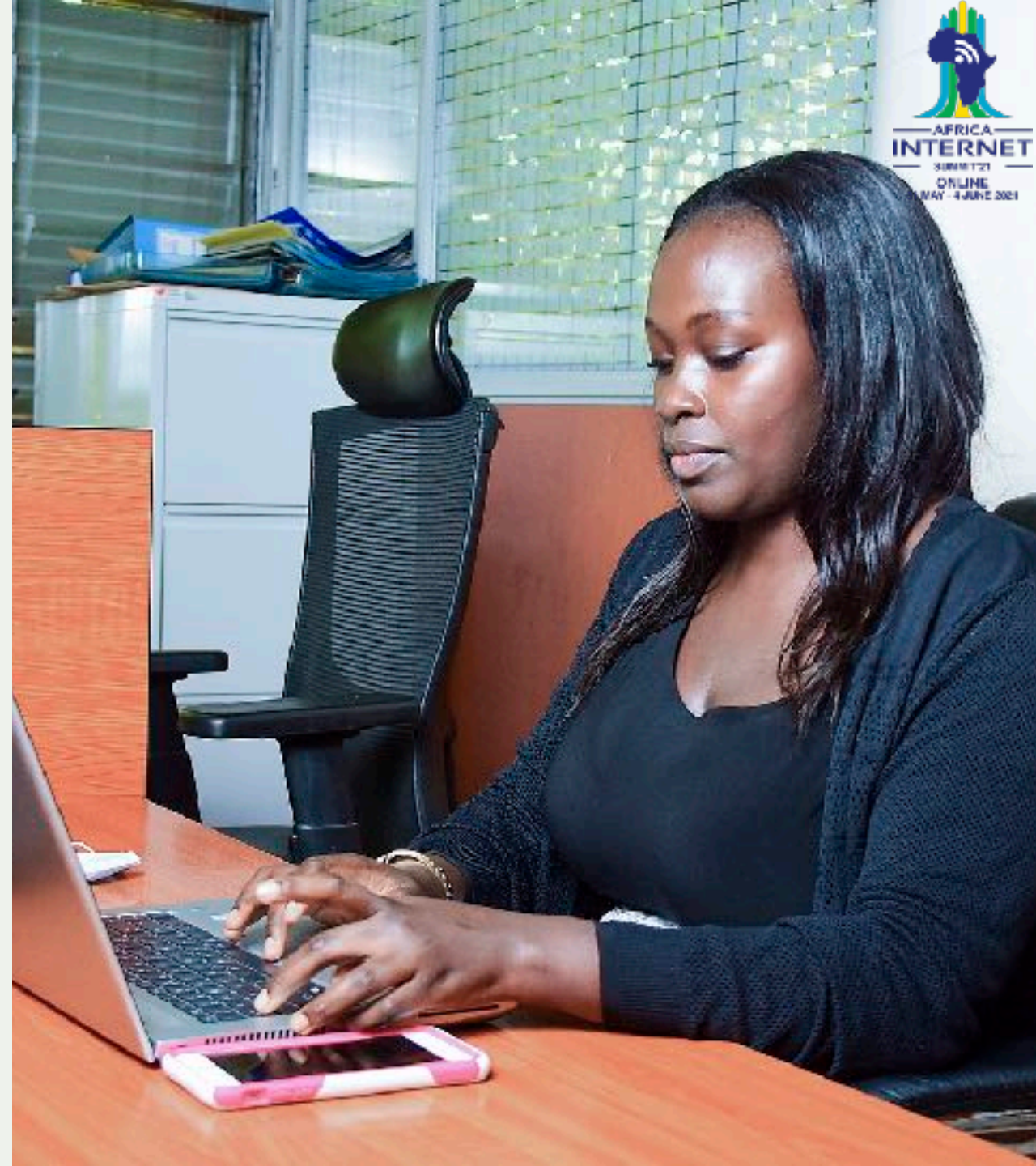30 Offer 30 e-learning courses

1 Facilitate 1 collaboration between NDSS research community and open standards community

2 Secure 2 partners to help with course accreditation

4 Secure 4 partners to support Fellowships

Securing Resources for Growth and Greater Impact

By cultivating broader financial support for the work of the Internet Society, we can do more, include more people, and ensure our work responds to people's needs.

- Targeting outreach for new, diversified funding and partnership

60 Through this outreach, which complements our member contributions, we will secure 10 new funding sources and 50 new partners who actively participate in our work.

We will do more for the Internet.

And we will work with, and alongside our global community, building our reputation as a movement of people who are driven by the shared vision:

The Internet is for everyone.

Thank you.

Rue Vallin 2
CH-1201 Geneva
Switzerland

Rambla Republica de Mexico
6125
11000 Montevideo,
Uruguay

Science Park 400
1098 XH Amsterdam
Netherlands

11710 Plaza America
Drive Suite 400
Reston, VA 20190, USA

66 Centrepoint Drive
Nepean, Ontario, K2G 6J5
Canada

3 Temasek Avenue, Level
21
Centennial Tower
Singapore 039190

internetsociety.org
@internetsociety