End of Year Review 2021

Two New Focus Areas:

- Internet Centralization
- Internet Resiliency

Internet Shutdowns Tracker:

49 Artificial Internet limitations recorded on the Pulse tracker
- 17 full national shutdowns
- 26 regional disruptions
- 6 service limitations

1,076 Total days of disruption

Disruptions tracked in:

- **Africa:** Burkina Faso, DR Congo, Niger, Nigeria, Senegal, South Sudan, Sudan, Tchad, Uganda, Zambia
- **Asia-Pacific:** Bangladesh, India, Myanmar, Pakistan
- **Latin America and the Caribbean:** Cuba
- **Middle East:** Iran, Palestine, Syria
- **Europe:** Kazakhstan
- **Latin America and the Caribbean:** Cuba
- **Middle East:** Iran, Palestine, Syria
- **Europe:** Kazakhstan

Enabling Technologies

- **Tracking:** IPv6, HTTPS, DNSSEC, HTTP3, TLS1.3
- **Tracking of routing security metrics added in 2021:**
  - Adoption of route origin validation (globally)
  - Route origin attestations as a percentage of IP space

12 Enabling Technology blogposts published

- **IPv6**
- **HTTPS**
- **DNSSEC**
- **HTTP3**
- **TLS1.3**

Internet Resilience

- Internet Society Internet Resiliency Index (IRI) published.
- Measuring Internet Resilience in Africa (MIRA) Project Overview published.

54 African countries tracked on:

- Overall resilience
- Security
- Infrastructure
- Market readiness
- Performance

35 Blog Posts | 12 Media Mentions

21 New Data Partners in 2021

pULSE.internetsociety.org