

Internet Monitoring Action Project

# iMAP Myanmar 2024 Internet Censorship Report

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## About iMAP

The Internet Monitoring Action Project (iMAP) aims to establish regional and in-country networks that monitor network interference and restrictions to the freedom of expression online in nine countries: Myanmar, Cambodia, Hong Kong, India, Indonesia, Malaysia, Philippines, Thailand, and Vietnam. Sinar Project is currently working with national digital rights partners in these nine countries. The project is done via Open Observatory Network Interference (OONI) detection and reporting systems, and it involves the maintenance of test lists as well as the collection and analysis of measurements.

More information is available at [imap.sinarproject.org](https://imap.sinarproject.org). Any enquiries and suggestions about this report can be directed to [team@sinarproject.org](mailto:team@sinarproject.org).

## About the Open Development Initiative (ODI)

The Open Development Initiative (ODI), a project of the [East-West Management Institute \(EWMI\)](#), stimulates public demand, builds coalitions, and offers a constantly evolving platform to support the transparent sharing and analysis of data. It aims to improve and inform constructive dialogue and decision making for sustainable and equitable development. The ODI manages the [Open Development Mekong Platforms](#), which covers Cambodia, Laos, Myanmar, Thailand and Vietnam. The platform serves as a model open data platform that promotes open standards for information sharing.

## About Sinar Project

Sinar Project is a civic tech initiative that uses open technology, open data, and policy analysis to systematically make important information public and more accessible to the Malaysian people. It aims to improve governance and encourage greater citizen involvement in the nation's public affairs by making the Malaysian Parliament and Government more open, transparent, and accountable. More information is available at <https://sinarproject.org>.

## How to use this report

This report provides an overview of the state of internet censorship in Myanmar. It is not meant to provide a comparison of measurements across countries or measurements among different website categories covered by the iMAP project.

Recommendations to audience:

- Learn about supporting evidence related to internet censorship in Myanmar by reviewing research and case studies.
- Understand the latest developments of internet censorship in the country, in terms of methods of blockings and the websites affected by censorship.
- Support or advocate for changes in laws and policies to improve internet freedom in Myanmar.
- Take action and get involved by spreading awareness, signing petitions, or joining initiatives that fight against internet censorship.

# Abbreviations

ALDR	Alcohol and Drugs
ANON	Anonymization and Circumvention tools
ASN	Autonomous System Number
COMT	Communication Tools
CTRL	Control Content
CULTR	Culture
DNS	Domain Name System
COMM	E-commerce
ECON	Economics
ENV	Environment
FILE	File-sharing
GMB	Gambling
GAME	Gaming
GOVT	Government
HACK	Hacking Tools
HATE	Hate Speech
HOST	Hosting and Blogging Platforms
HUMR	Human Rights Issues
HTTP	Hypertext Transfer Protocol
IGO	Intergovernmental Organisations
ICCPR	International Covenant on Civil and Political Rights
iMAP	Internet Monitoring Action Project
IP	Internet Protocol
ISP	Internet Service Provider
MMED	Media Sharing
MISC	Miscellaneous Content
NEWS	News Media
DATE	Online Dating
OONI	Open Observatory Network Interference

POLR	Political Criticism
PORN	Pornography
PROV	Provocative Attire
PUBH	Public Health
REL	Religion
SRCH	Search Engines
XED	Sex Education
GRP	Social Networking
MILX	Terrorism and Militants
TCP	Transmission Control Protocol
TLS	Transport Layer Security

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## Key Findings

Recently, internet censorship in Myanmar has intensified under military rule, with widespread internet shutdowns, website blockages, and severe restrictions on digital communication. The ongoing repression is leaving people in Myanmar cut off from the world and lacking in independent sources of information.

- The recent study analysis on 1 July 2023 to 30 June 2024 identified 131 new blocked websites. In addition, 104 websites remained blocked since the 2022 and 2023 report.
- Similar to the 2023 analysis, the top three website categories with the most confirmed blocked sites were Pornography, Social Networking, and Terrorism and Militants.
- Among 49 ISPs or ASN, the study found 8 ISPs that block 235 websites using the most common methods of HTTPs and DNS tampering. This aligns with the findings from the studies conducted in 2022 and 2023.
- Certain communication platforms, including Facebook Messenger, Signal, and WhatsApp, have faced potential disruptions through some ISPs. These platforms have been banned from February 2021.

The military junta has attempted to implement a unique "whitelist" strategy, blocking almost all websites, communication platforms, and circumvention tools except those it approves, which limits access to information and communication for the general population. After three years of Tamadaw or military (SAC) ruling, Freedom on the Net reported that "Myanmar had been described as the second worst country for Internet Freedom."



# Introduction

Myanmar, also known as Burma, is a Southeast Asian country that has experienced severe volatility in recent years. After decades of repressive Myanmar military rule from 1962 to 2011, Myanmar started transitioning away towards democratic reforms, only for military rule to be reinstated in February 2021. After democratic reforms and the military sharing power with elected lawmakers in 2011, Myanmar entered the digital revolution in 2012, and digital access has grown quickly since then. Increasingly affordable SIMs and smartphones, combined with more internet service providers and high-speed connection access points, led to an increase in the number of internet users in the country. However, even after nearly a decade of sharing power with elected leader Aung San Suu Kyi, the state of internet censorship remained uneven. At present, Myanmar is repeating the old system of censorship similar to the last decade, which largely prevented access to online information, particularly access to websites covering the many human rights abuses that have occurred over the past three years of military rule.

In this report, Independent Researchers through iMAP aim to explore the most recent internet censorship trends and events in Myanmar by examining the network interference measurements found in OONI data from 1 July 2023 to 30 June 2024. iMAP has been working in Myanmar for two years to gather evidence on internet censorship by using the OONI tool to identify blocked websites.

## Background

Myanmar is the second largest country in Southeast Asia, and it has an ethnically diverse population. Burman (Bamar) is the dominant ethnic group in Myanmar. The country is divided into seven states and seven regions, one union territory, one self-administered division, and five self-administered zones. States are generally divided by ethnic groups, such as Kachin, Shan, Mon, Kayan, Kayin, Chin, Rakhine, and Shan. Most people live in rural areas, which are largely dominated by ethnic minorities. The seven regions can be described as ethnically predominantly Burman. Since its independence, Myanmar has struggled with military rule, civil war, poor governance, widespread poverty, and rights' violations. Due to the military or Tatmadaw ruling that has been in place for the past three years, the country has again found itself in the throes of economic collapse, political crisis, and widespread human rights violations.

<b>Population</b>	54.58 million (2023) <sup>1</sup>
<b>Internet penetration (% of population)</b>	44.0% (2021) <sup>2</sup>
<b>Secure Internet servers</b>	765 thousand (2020) <sup>3</sup>
<b>Fixed broadband subscriptions (per 100 inhabitants)</b>	2.08(2022) <sup>4</sup>
<b>Mobile cellular subscriptions</b>	57.8 million (2022) <sup>5</sup>
<b>Social Media User (2024)</b>	18.50 million (33.8 %) <sup>6</sup>
<b>Freedom on the Net ranking (2024)</b>	9/100; Not free <sup>7</sup>

<sup>1</sup> World Bank. (2023). *Population, total - Myanmar*. World Bank.

<https://data.worldbank.org/indicator/SP.POPTOTL?locations=MM>

<sup>2</sup> World Bank. (2021). *Individuals using the Internet (% of population) - Myanmar*. World Bank.

<https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=MM>

<sup>3</sup> World Bank. (2020). *Secure Internet servers (per 1 million people) - Myanmar*. World Bank.

<https://data.worldbank.org/indicator/IT.NET.SECR.P6?end=2020&locations=MM&start=1960&view=chart>

<sup>4</sup> World Bank. (2022). *Fixed broadband subscriptions (per 100 people) - Myanmar*. World Bank.

<https://data.worldbank.org/indicator/IT.NET.BBND.P2?locations=MM>

<sup>5</sup> World Bank. (2022). *Mobile Cellular subscriptions - Myanmar*. World Bank.

<https://data.worldbank.org/indicator/IT.CEL.SETS?locations=MM>

<sup>6</sup> Kemp, S. (2024, February 23). *Digital 2024: Myanmar*. DataReportal.

<https://datareportal.com/reports/digital-2024-myanmar>

<sup>7</sup> Freedom House. (2024). *Freedom On The Net 2024: Myanmar*.

<https://freedomhouse.org/country/myanmar/freedom-net/2024>

<b>Religion (% of population)</b>	Buddhism (88%), Christianity (6%), Islam (4%), animism (0.8%), Hinduism (0.5%), and others (0.2%). <sup>8</sup>
<b>Ethnic Groups</b>	Burman (Bamar) (68%), Shan (9%), Karen (7%), Rakhine (4%), Chinese (3%), Indian (2%), Mon (2%), and others (5%). <sup>9</sup>
<b>Literacy rate</b>	89.1% (2019) <sup>10</sup>
<b>ICCPR Ratification</b>	No

Table 1: Myanmar country profile (Sources: [CFR](#), World Bank)

## Socio-Political Economic Landscape

### Social Landscape

According to the CIA Factbook and UNDP's HDI profile, the main language spoken in Myanmar is Burmese, the official language. This language is spoken by two thirds of the population. The minority languages are Shan, Karen, Kachin, Thamizh, Chin, and Mon. The urbanization rate in 2022 was 31.8% and the literacy rate in 2019 was 89.1% of the population aged 15 years and above.

Myanmar's social landscape is marked by its ethnic and cultural diversity, religious plurality, and rich traditions, juxtaposed with significant challenges such as economic inequality, ongoing ethnic conflicts, and political instability. Following the pandemic, Myanmar has now undergone a political crisis for three years. The people of Myanmar face several social issues, including poverty, income inequality, and inadequate access to education, healthcare, and basic services especially in rural areas and conflict zones following the coup. The country is also grappling with ongoing conflict and displacement in some regions, impacting social stability and well-being. According to the Myanmar situation report from UNHCR, approximately 1.35 million Myanmar citizens were displaced and had to flee into neighboring countries.<sup>11</sup>

<sup>8</sup> Government of Myanmar. (2016). *The 2014 Myanmar Population and Housing Census - The Union Report: Religion - Census Report Volume 2-C [EN/MY]*.

<sup>9</sup> Maizland, L. (2022, January 31). *Myanmar's Troubled History: Coups, Military Rule, and Ethnic Conflict*. Council on Foreign Relations.

<https://www.cfr.org/backgrounder/myanmar-history-coup-military-rule-ethnic-conflict-rohingya#chapter-title-0-1>

<sup>10</sup> World Bank. (2019). *Literacy rate, adult total (% of people ages 15 and above) - Myanmar*. World Bank.

<https://data.worldbank.org/indicator/SE.ADT.LITR.ZS?locations=MM>

<sup>11</sup> UNHCR. (2024). *Myanmar situation: Global appeal 2024*. United Nations High Commissioner for Refugees.

<https://reporting.unhcr.org/myanmar-situation-global-appeal-2024>

There has been significant growth in violence and insecurity around the country following the events of February 2021. Numerous civilians have been killed and injured. Several villages, including schools and religious infrastructures, have been damaged, particularly in the anti-SAC zones of Kachin, Karen, Karenni, Shan States and Magway, and Sagaing regions. The displaced populations have also been blocked from receiving humanitarian aid. UNHCR indicates that 1.35 million IDPs need urgent protection and humanitarian assistance.<sup>12</sup> Civilians also face a greater information gap as the SAC has blocked access to the internet and media outlets.

## Political Landscape

Myanmar (or Burma as it was previously known) has undergone significant political reforms in recent years. Here are some political milestones.

### Post 2010: Democracy Reforms

The military generals ruled the country from the early 1960s until 2011. During military rule, there were regular arrests of activists who defended information access, freedom of expression, and human rights. In 2012, the country transitioned to democratization, an event which seemed to mark the cessation of military rule. Thein Sein, a former president of Myanmar, became the country's first civilian president<sup>13</sup> in the first half of the century; however, the country was still under military influence. Hundreds of political prisoners were released from house arrest and media censorship, including the chairperson of NLD Aung San Suu Kyi. The NLD party began campaigning in 2011, with Aung San Suu Kyi leading the party in negotiations to attain multiparty democracy.

### Post 2016: Power Sharing

In 2015, the NLD party won the general election and became the first non-military government, thus ending 54 years of military rule. The NLD government endeavored to maintain a friendly relationship with the junta after coming to power in 2016. In 2019, the international perception of Aung San Suu Kyi, the State Counselor, was profoundly impacted by the high-profile cases of persecution targeting the Rohingya ethnic minority in Rakhine State. She faced severe criticism for her denial of all accusations of genocide during the proceedings at the International Court of Justice.<sup>14</sup>

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<sup>12</sup> UNHCR. (2023). *Myanmar situation: Global Appeal 2023*. UNHCR.

<https://reporting.unhcr.org/global-appeal-2023>

<sup>13</sup> Chaudhury, D. R. (2021, February 1). *In points: A timeline of Myanmar's politics*. The Economic Times.

<https://economictimes.indiatimes.com/?back=1>

<sup>14</sup> Banerjee, S. (2023, August 14) *The Enduring Challenges to Democratic Transition in Myanmar*. *Observer Research Foundation*.

<https://www.orfonline.org/research/the-enduring-challenges-to-democratic-transition-in-myanmar>

## Post 2021: Dictatorship Return

On 1 February 2021, Senior General Min Aung Hlaing and other military leaders staged a coup, in which they detained and charged de facto civilian leader Aung San Suu Kyi who won the landslide general elections in November 2020. The military claimed that the election was irregular due to unfair voter turnout and detained several NLD party members. In the week after the coup, peaceful protests known as the Spring Revolution took place nationwide and called for the military to relinquish power.<sup>15</sup> Street demonstrations occurred throughout the country, and civil servants enacted a Civil Disobedience Movement through strikes. A flurry of images, print materials, and graffiti slogans against the military dictatorship were shared physically and via social media. After about three years of military operation, more than 30,000 civilian infrastructures have been destroyed, including schools in Magway and Sagaing Regions, as well as in Kachin, Shan, Karen, and Karenni States.<sup>16</sup>

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<sup>15</sup> Min Naing Soon. (2021, November 2). *The current crisis in Myanmar: The different political positions of the Mon people*. The Transnational Institute.  
<https://www.tni.org/en/article/the-current-crisis-in-myanmar-the-different-political-position-of-the-mon-people>

<sup>16</sup> Human Rights Watch (2023). *Myanmar Events of 2022*.  
<https://www.hrw.org/world-report/2023/country-chapters/myanmar>

An opposition party, consisting of ousted NLD lawmakers, protest leaders, and activists from several minority groups, was formed to counter the SAC and represent a civilian parallel government known as the National Unity Government (NUG). On 7 September 2021, the NUG declared war on the junta and formed an armed division known as the People's Defense Force (PDF).<sup>17</sup> By 2022, nationwide civil war between ethnic arms groups, PDF, and SAC was occurring not only in the ethnic territories but also in the cities.<sup>18</sup> Since the coup, the military has imposed martial law in several townships and severely targeted anti-SAC armed groups. Continued military rule threatens human rights and freedoms of expression and perpetuates persecution against ethnic minorities and women. Compared to before the coup, there is now a significant increase in the violence perpetrated against women and girls. Post coup, women and girls are more likely to become victims of emotional and physical abuse due to increased safety concerns.

Over the past three years of military rule, the widespread violence and conflict has forced thousands of civilians to flee into neighboring India and Thailand. The military takes completely arbitrary action. For instance, the junta controls all telecom sectors and has banned social media and media outlets including ethnic minority media. In fact, freedom of expression was already limited before the 2021 coup. Immediately after the coup, the old system of prior censorship gradually was reinstated, effectively preventing the media from publicizing the numerous human rights violations being committed. After three years of SAC ruling, freedom of information and expression continue to be further violated, which is a matter of life and death for the people in Myanmar. Overall, Myanmar's political situation remains volatile and uncertain, with ongoing tensions between the military and civilian forces, widespread human rights abuses, and a humanitarian crisis in many parts of the country.

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<sup>17</sup> Mathieson, D. S. (2021, September 7). *Myanmar's shadow government formally declares war*. Asia Times. <https://asiatimes.com/2021/09/myanmars-shadow-government-formally-declares-war/>

<sup>18</sup> Maizland, L. (2022, January 31). *Myanmar's Troubled History: Coups, Military Rule, and Ethnic Conflict*. Council on Foreign Relations. <https://www.cfr.org/backgrounder/myanmar-history-coup-military-rule-ethnic-conflict-rohingya#chapter-title-0>

## Economic Landscape

In recent years, Myanmar's economic landscape faces significant challenges, including limited infrastructure, political instability, and ongoing conflicts. Here are some key aspects of Myanmar's economy:

Indicator	Value			
	2020	2021	2022	2023
GDP (USD billion) <sup>19</sup>	79.01	66.35	62.25	64.82
GDP per capita (USD in thousand) <sup>20</sup>	1,479.6	1,233.2	1,149.0	1,187.6
GDP Growth (annual %) <sup>21</sup>	-9	-12	4	1
Unemployment (% total labor force) <sup>22</sup>	1.5	4.3	2.8	2.8

Table 2: GDP of Myanmar from 2020 to 2023 (source: [World Bank](#))

Majority of the Myanmar population depend on agriculture to make a living. Agriculture remains a crucial sector in Myanmar, employing a large portion of the population and contributing to the country's economy. Major export products include rice, pulses, beans, and other agricultural products. Myanmar is rich in natural resources that have attracted international attention, including natural gas, jade, and rubies that are directly controlled by the military.<sup>23</sup> With regards to connectivity and infrastructure, Myanmar's infrastructure, including roads, electricity, and telecommunication networks, has improved in recent years. But challenges still remain in terms of availability and reliability, particularly in rural areas where there are high rates of poverty.

<sup>19</sup>World Bank. (2023). *GDP (current US\$) - Myanmar*. World Bank. <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=MM&start=2020>

<sup>20</sup>World Bank. (2023). *GDP per capita (current US\$) - Myanmar*. World Bank. <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=MM>

<sup>21</sup>World Bank. (2023). *GDP growth (annual %) - Myanmar*. World Bank. [https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=MM&most\\_recent\\_year\\_desc=true&skipRedirection=true&year=2020](https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=MM&most_recent_year_desc=true&skipRedirection=true&year=2020)

<sup>22</sup>World Bank. (2023). *Unemployment, total (% of total labor force) (modeled ILO estimate)*. World Bank. [https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?locations=MM&most\\_recent\\_year\\_desc=true&skipRedirection=true&start=2020&year=2020](https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?locations=MM&most_recent_year_desc=true&skipRedirection=true&start=2020&year=2020)

<sup>23</sup> Maizland, L. (2022, January 31). *Myanmar's troubled history: Coups, military rule, and ethnic conflict*. Council on Foreign Relations. <https://www.cfr.org/background/myanmar-history-coup-military-rule-ethnic-conflict-rohingya#chapter-title-0>



Due to a combination of economic mismanagement, ongoing conflict, and the isolationist policies adopted by the military junta in the 1960s and 1970s, among other factors, Myanmar has historically faced greater financial challenges compared to its neighboring countries. A long period of isolationist military rule has left Myanmar economically underperforming. However, after the economic reforms in 2011, the gross domestic product (GDP) per capita rose to nearly double compared to 2008<sup>24</sup> as the country made liberal moves with global trade and investment. As a result, Myanmar experienced an influx of foreign direct investment (FDI) in sectors such as manufacturing, energy, telecommunications, and tourism. The country's poverty rate also significantly declined. In 2015, the economy significantly grew while the liberalization of product and factor markets, integration into regional markets, and modernization of economic and financial institutions and systems took place under the civilian government.<sup>25</sup>

Following the COVID-19 pandemic and political crisis on 1 February 2021, a state of emergency was declared. This led to economic collapse and resulted in almost half of the population living below the poverty line after two years of military ruling. Many foreign investors withdrew from Myanmar due to significant constraints, civil unrest, and foreign sanctions.<sup>26</sup> The tourism industry and banking systems are now near collapse. According to Richard Horsey of the International Crisis Group, Myanmar now “stands on the brink of state failure”.<sup>27</sup>

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<sup>24</sup> Maizland, L. (2022, January 31). *Myanmar's troubled history: Coups, military rule, and ethnic conflict*. Council on Foreign Relations.

<https://www.cfr.org/backgrounder/myanmar-history-coup-military-rule-ethnic-conflict-rohingya#chapter-title-0-1>

<sup>25</sup> World Bank. (2024, April 3). *The World Bank in Myanmar: Overview*.

<https://www.worldbank.org/en/country/myanmar/overview#1>

<sup>26</sup> Maizland, L. (2022, January 31). *Myanmar's troubled history: Coups, military rule, and ethnic conflict*. Council on Foreign Relations.

<https://www.cfr.org/backgrounder/myanmar-history-coup-military-rule-ethnic-conflict-rohingya#chapter-title-0-1>

<sup>27</sup> Kurlantzick, J. (2021, September 16). *Myanmar is a failing State—and could be a danger to Its neighbors*. Council on Foreign Relations. <https://www.cfr.org/in-brief/myanmar-failing-state-covid-19-crisis-global-response>



# Legal Environment

Since the military takeover on 1 February 2021, the military authority has been observed to often take completely arbitrary action. Freedom House 2021 reported that Internet freedom in Myanmar collapsed following the February 2021 military coup. Furthermore, several laws were amended and proposed, which both directly and indirectly affect the freedom of expression online, access to information online, online privacy, censorship, and surveillance in the digital space in Myanmar. The following laws are related to censorship in Myanmar:

- Constitution of the Republic of Myanmar (2008)<sup>28</sup>
- Draft Cybersecurity Bill (2022)<sup>29</sup>
- Electronic Transactions Law (2004,<sup>30</sup> amended 2021<sup>31</sup>)
- Telecommunications Law (2013)<sup>32</sup>
- Law Protecting the Privacy and Security of Citizens (2017,<sup>33</sup> amended 2020<sup>34</sup>)
- Right to Information Bill (2016)<sup>35</sup>
- Myanmar Penal Code (1861)<sup>36</sup>
- Broadcast Law (2015, amend 2021<sup>37</sup>)
- Official Secrets Act (1923)<sup>38</sup>
- Citizens Privacy and Security Protection Law (2017)<sup>39</sup>
- New Media Law (2014)<sup>40</sup>

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<sup>28</sup> Myanmar. Const. 2008.

<sup>29</sup> Draft Cyber Security Law. (2022).

<https://freeexpressionmyanmar.org/wp-content/uploads/2022/01/Cyber-Security-Bill-2022-EN.pdf>

<sup>30</sup> Electronic Transactions Law. (2004).

<https://freeexpressionmyanmar.org/wp-content/uploads/2017/07/Electronic-Transactions-Law-EN.pdf>

<sup>31</sup> Electronic Transactions Law 2004, Amendment. (2021).

<https://freeexpressionmyanmar.org/myanmars-new-electronic-transactions-law-amendment/>

<sup>32</sup> Telecommunications Law. (2013).

<https://freeexpressionmyanmar.org/wp-content/uploads/2017/07/telecommunications-law-en.pdf>

<sup>33</sup> Law Protection of the Citizen for the Personal Freedom and Personal Security. (2017).

<https://myanmar-law-library.org/law-library/laws-and-regulations/laws/myanmar-laws-1988-until-now/national-league-for-democracy-2016/myanmar-laws-2017/pyidaungsu-hluttaw-law-noo5-2017-protection-of-the-citizen-for-the-personal.html>

<sup>34</sup> Law Protection of the Citizen for Personal Freedom and Personal Security 2017, Amendment. (2020).

[https://www.myanmar-responsiblebusiness.org/pdf/Law-Protecting-Privacy-and-Security-of-Citizens\\_en\\_unofficial.pdf](https://www.myanmar-responsiblebusiness.org/pdf/Law-Protecting-Privacy-and-Security-of-Citizens_en_unofficial.pdf)

<sup>35</sup> Right to Information Bill. (2016).

<https://freeexpressionmyanmar.org/wp-content/uploads/2017/07/Right-to-information-bill-EN.pdf>

<sup>36</sup> The Penal Code. (1861). <https://freeexpressionmyanmar.org/wp-content/uploads/2017/06/penal-code.pdf>

<sup>37</sup> Broadcasting Law 2015, Amendment. (2021).

<https://myanmar-law-library.org/law-library/laws-and-regulations/laws/myanmar-laws-1988-until-now/state-administration-council-2021/myanmar-laws-2021/state-administration-council-law-no-63-2021-second-amendment-law-to-the.html>

<sup>38</sup> Official Secrets Act. (1923). [https://www.icnl.org/wp-content/uploads/Myanmar\\_secrets.pdf](https://www.icnl.org/wp-content/uploads/Myanmar_secrets.pdf)

<sup>39</sup> Law Protection of the Citizen for Personal Freedom and Personal Security 2017, Amendment. (2020).

[https://www.myanmar-responsiblebusiness.org/pdf/Law-Protecting-Privacy-and-Security-of-Citizens\\_en\\_unofficial.pdf](https://www.myanmar-responsiblebusiness.org/pdf/Law-Protecting-Privacy-and-Security-of-Citizens_en_unofficial.pdf)

<sup>40</sup> Media Law. (2014). <https://freeexpressionmyanmar.org/wp-content/uploads/2017/07/News-Media-Law-EN.pdf>

- Peaceful Assembly and Peaceful Procession Law (2011,<sup>41</sup> amended 2014,<sup>42</sup> and 2016<sup>43</sup>)
- Printing and Publishing Enterprises Law (2013, amended 2023<sup>44</sup>)

While information restrictions in Myanmar are not unusual, they have been formalized and integrated into the legal system through numerous amendments to the criminal laws.<sup>45</sup> Since the coup, a few existing laws have been amended including the Penal Code and Electronic Transactions Law. Sections 5, 7, and 8 of the Law Protecting the Privacy and Security of Citizens have been suspended. A new Cybersecurity Bill has also been drafted. Largely exercised since the coup, these laws affect the freedom of expression.

## Constitution of the Republic of Myanmar (2008)

Among other rights, the 2008 constitution<sup>46</sup> somewhat guarantees all citizens the right to freedom of expression under Articles 354 and 365. However, the constitution does not fully protect the right to freedom of expression, and Articles 354<sup>47</sup> (liberty of expression and publication) and 365<sup>48</sup> (freedom of artistic expression) do not comply with international standards. Furthermore, Human Rights Watch has stated that it threatens the freedom of expression for journalists and human rights defenders.<sup>49</sup>

## Penal Code (1861, Amended 2016, 2019, and 2021)

The Penal Code (also known as the Criminal Code) law was tentatively created under a colonial government. It was amended in 2016, 2019, and most recently in 2021.<sup>50</sup> Many articles, including ones on defamation, sedition, offense, religion, and incitement, are easily used to suppress debate and punish those who criticize the government. Right after the coup, the SAC amended the Penal Code by adding a new provision for section 505A, broadening section 124A, and adding new sections 124C and 124D. The new amendments attempt to prohibit the rights of free expression, peaceful assembly, and association. Since

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<sup>41</sup> Peaceful Assembly and Peaceful Procession Law. (2011).

<https://freeexpressionmyanmar.org/wp-content/uploads/2018/02/Peaceful-Assembly-and-Peaceful-Procession-Law-EN.pdf>

<sup>42</sup> Peaceful Assembly and Peaceful Procession Law. (2014).

<https://freeexpressionmyanmar.org/wp-content/uploads/2018/02/Peaceful-Assembly-and-Peaceful-Procession-Law-Amendment-2014-EN.pdf>

<sup>43</sup> Peaceful Assembly and Peaceful Procession Law. (2016).

<https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/108183/133587/F-1886991084/MMR108183%20Bur.pdf>

<sup>44</sup> Myanmar Printing and Publishing Law. [Amendment 2023](#).

<sup>45</sup> Das, O. P. (2023, July 14). *The media landscape in Myanmar: A post-coup analysis*. Manohar Parrikar Institute for Defence Studies and Analyses. <https://idsa.in/issuebrief/the-media-landscape-in-myanmar-opdas-140723>

<sup>46</sup> Myanmar. Const. 2008.

<sup>47</sup> Myanmar. Const. 2008.

<sup>48</sup> Myanmar. Const. 2008.

<sup>49</sup> Human Rights Watch. (2019, April 11). *Myanmar: Guarantee the right to free expression in the constitution*.

<https://www.hrw.org/news/2019/04/11/myanmar-guarantee-right-free-expression-constitution>

<sup>50</sup> The Penal Code. (1861).

<https://myanmar-law-library.org/topics/myanmar-labour-health-and-safety-law/penal-code-1861.html>

the military coup, most detainees, including ethnic minority Rohingyas, have been charged under the amended section 505A. Anyone who “causes fear,” spreads “false news, [or] agitates directly or indirectly a criminal offense against a government employee” is punishable by up to three years in prison.<sup>51</sup> On 3 May 2023, the State Administrative Council (SAC) released 2,153 political prisoners under the charge of Penal Code Act 505 A.<sup>52</sup>

## Electronic Transactions Law (2004, 2014, and Amended 2021)

Originally enacted in 2004, the Myanmar Electronic Transactions Law<sup>53</sup> was amended in 2014 to remove certain problematic provisions. On 15 February 2021, after the military coup, the SAC amended this law again without forewarning and opportunity to consult. The new amendment mostly copies the 2021 Draft Cybersecurity Bill, including Articles 9/38, 38a, 38d and 38e, and it further restricts digital rights.

The 2021 amendment extends criminalizing anti-regime statements, which curbs information access and freedom of expression. The new crimes and their long prison sentences will create significant risk to the right to freedom of expression, especially in the digital space. Dozens of journalists have been forced to flee following the military’s crackdown on press freedoms. According to the Committee to Protect Journalists (CPJ), more than 100 journalists were arrested under criminal charges in 2021.<sup>54</sup>

## Draft Cybersecurity Bill (2021)

A draft Cybersecurity Bill was first introduced in 2019,<sup>55</sup> but it was abandoned. This Cybersecurity Bill (1.0) was again proposed by the State Administration Council a week after the coup in 2021. On 28 January 2022,<sup>56</sup> the military revised the draft law (Law 2.0) by requesting feedback from a few stakeholders. Based on the analysis done by Free Expression Myanmar (FEM), the new draft Cyber Law (2.0) repeats and adds on the repressive provisions of previous drafts (2021), seriously threatening the safety and security of Myanmar’s digital space.<sup>57</sup> This amendment further threatens privacy, information access,

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<sup>51</sup> Human Rights Watch. (2021, March 2). *Myanmar: Post-coup legal changes erode human rights*.

<https://www.hrw.org/news/2021/03/02/myanmar-post-coup-legal-changes-erode-human-rights>

<sup>52</sup> Amnesty. (2023, May 3). *Myanmar: Follow ‘long overdue’ pardons by releasing all those unjustly detained*.

<https://www.amnesty.org/en/latest/news/2023/05/myanmar-release-all-unjustly-detained-prisoners/>

<sup>53</sup> Electronic Transactions Law. (2004).

<https://freexpressionmyanmar.org/wp-content/uploads/2017/07/Electronic-Transactions-Law-EN.pdf>

<sup>54</sup> Freedom House. (2022). *2022 Myanmar Country Report*.

<https://freedomhouse.org/country/myanmar/freedom-world/2021>

<sup>55</sup> Draft Cyber Security Law. (2022).

<https://freexpressionmyanmar.org/wp-content/uploads/2022/01/Cyber-Security-Bill-2022-EN.pdf>

<sup>56</sup> Gan, A., & See, K. (2022, February 12). Myanmar: The introduction of a prohibition on the use of virtual private networks. *Global Compliance News*.

<https://www.globalcompliancenes.com/2022/02/12/myanmar-the-introduction-of-a-prohibition-on-the-use-of-virtual-private-networks250122/>

<sup>57</sup> Free Expression Myanmar. (2022, January 22). *Military’s cyber security bill worse than their previous draft*.

<https://freexpressionmyanmar.org/militarys-cyber-security-bill-worse-than-their-previous-draft/>

and freedom of expression. The legal adviser for Asia at Human Rights Watch, Linda Lakhdhir, told Human Rights Watch that the proposed cybersecurity law would consolidate the junta's ability to conduct pervasive censorship and surveillance and hamper the operation of businesses in Myanmar,<sup>58</sup> as this law does not only apply to social media and other content-sharing platforms, but it also applies to digital marketplaces, search engines, financial services, data processing services, and communications services providing messaging or video calls and games.

## Printing and Publishing Enterprises Law (2013, Amended 2023<sup>59</sup>)

The Union Parliament enacted this Act in 2013, in order to protect the printing, publishing and news industries from abuses of power. On 6 March 2023, the ruling military issued amendments to the Printing and Publishing Enterprises Law (PPEL). Overall, the new amendment aims to strengthen the Minister of Information the power to ban publications simply by publishing decent contexts. This is part of a broader trend of the deteriorating freedom of expression and rule of law analyzed by the Centre for Law and Democracy (CLD)<sup>60</sup>.

## Other Associations

- Revenge pornography can be charged under the Section 66(d) of the 2013 Telecommunications Law and Electronic Transactions Law, which bans revenge porn. Following the coup, SAC used revenge porn as a political weapon to discredit and shame young female activists opposing the coup.<sup>61</sup>
- Same-sex sexual activity is prohibited under the Penal Code 1861. This law has been in place since the colonial period. After two years of military coup, several LGBT people have been arrested and detained.<sup>62</sup>
- Referring to the military using the terms “junta”, “regime”, and “coup” is prohibited. This can be charged under a new Cybersecurity Law as “misinformation and disinformation that causes public panic”.
- The use of Virtual Private Networks (VPN) is illegal under the new draft of the Cybersecurity Law.

The Myanmar military, known as the Tatmadaw, exerts control over online and offline information and content through various legal provisions.

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<sup>58</sup> Human Rights Watch. (2022, February 15). *Myanmar: Scrap Draconian Cybersecurity Bill*. <https://www.hrw.org/news/2022/02/15/myanmar-scrap-draconian-cybersecurity-bill>

<sup>59</sup> Myanmar Printing and Publishing Law. [Amendment 2023](#).

<sup>60</sup> Centre for Law and Democracy. (2023 July 24). [Myanmar: Note on Printing and Publishing Enterprises Law Amendments](#).

<sup>61</sup> Thiha, A. (2021, August 9). Revenge Porn Has Become a Political Weapon in Myanmar. *The Diplomat*. <https://thediplomat.com/2021/08/reveng-porn-has-become-a-political-weapon-in-myanmar/>

<sup>62</sup> Human Dignity Trust. (n.d.). *Types of criminalisation*. <https://www.humandignitytrust.org/country-profile/myanmar/>

## Reported Cases of Internet Censorship

This section discusses a few instances of internet censorship and surveillance in Myanmar. As detailed in the following sections, Myanmar has faced instances of internet censorship and restrictions on freedom of expression, particularly in the aftermath of the coup. These reports of internet censorship, especially the blocking of social media sites, are found to persist even during the period of study from July 2023 to June 2024.

### Social Media Blackouts

Since the SAC asked all service providers to block social media sites in February 2021, Facebook and Twitter remain blocked. Other social media platforms such as Instagram, YouTube, WhatsApp, LinkedIn, Viber, and Zoom appear to be accessible.<sup>63</sup>

### Blocking of Websites

In the aftermath of the coup, the military SAC ordered all mobile services providers to block all the websites, with the exception of 1,500 military approved websites.

- Athan Myanmar reported that the Ministry of Information (MoI) under the SAC revoked Mekong News' license on December 24, 2023.<sup>64</sup> After the coup, the military revoked the licenses of fifteen media outlets in Myanmar as shown in Table 3.<sup>65</sup> In other words, these media outlets are literally blocked.

No	Media outlets	Date of revoked	URL
1	Mizzima	March 8, 2021	<a href="https://eng.mizzima.com">https://eng.mizzima.com</a>
2	DVB	March 8, 2021	<a href="https://english.dvb.no">https://english.dvb.no</a>
3	Myanmar Now	March 8, 2021	<a href="https://myanmar-now.org/en/">https://myanmar-now.org/en/</a>
4	Khit Thit	March 8, 2021	<a href="https://yktnews.com">https://yktnews.com</a>
5	7 Days	March 8, 2021	Not found

<sup>63</sup>Freedom House. (2023). *Freedom on the net:*

*Myanmar*.<https://freedomhouse.org/country/myanmar/freedom-net/2023>

<sup>64</sup>Athan Myanmar. (2023). *Reporting from the Darkness: Journalism and Media in Myanmar*. Athan Myanmar. [https://athanmyanmar.org/wp-content/uploads/2024/02/FINAL-2023-Q4-and-Annual-Report-on-Journalism-and-Media-Safety-in-Myanmar\\_Jan31-blue-Updated-one.pdf?fbclid=IwAR0O8DJWXPmjj-wcRjOrObMauH7IONv\\_Eu\\_qeHQQ-JpiuPMKNybhLhYpjwU](https://athanmyanmar.org/wp-content/uploads/2024/02/FINAL-2023-Q4-and-Annual-Report-on-Journalism-and-Media-Safety-in-Myanmar_Jan31-blue-Updated-one.pdf?fbclid=IwAR0O8DJWXPmjj-wcRjOrObMauH7IONv_Eu_qeHQQ-JpiuPMKNybhLhYpjwU)

<sup>65</sup>Myanmar Election Watch. (2023). *List of media outlets whose licenses have been revoked by the Myanmar Junta*. Myanmar Election Watch.

<https://myanmarelectionwatch.org/mm/news/list-media-outlets-myanmar-licenses-revoked-junta>

6	Tachileik News Agency	April 29, 2021	<a href="https://www.tachileik.net/mm">https://www.tachileik.net/mm</a>
7	Myitkyina News Journal	April 29, 2021	<a href="https://www.myitkyinanewsjournal.com">https://www.myitkyinanewsjournal.com</a>
8	74 Media	April 29, 2021	<a href="https://www.the74media.com">https://www.the74media.com</a>
9	Zayar Times	July 1, 2021	Not found
10	Delta News Agency	October 4, 2021	<a href="https://deltanewsagency.com/">https://deltanewsagency.com/</a>
11	Kantarawaddy Times	August 29, 2022	<a href="https://www.kantarawaddytimes.org">https://www.kantarawaddytimes.org</a>
12	Independent Mon News Agency	October, 2022	<a href="https://monnews.org">https://monnews.org</a>
13	The Irrawaddy	October 22, 2022	<a href="https://www.irrawaddy.com">https://www.irrawaddy.com</a>
14	The Ayeyarwaddy Times	June 10, 2023	<a href="https://ayartimes.com">https://ayartimes.com</a>
15	Mekong News	December 24, 2023	<a href="https://mekongnewsmm.com/en/">https://mekongnewsmm.com/en/</a>

Table 3: List of media outlets that had their licenses revoked by the military junta (source: Myanmar Election Watch).

## Surveillance

Following the three-year coup, the military uses multiple approaches to enhance their authority by forcing biometric SIM-card registration,<sup>66</sup> hacking,<sup>67</sup> collecting identity cards (UID smart cards),<sup>68</sup> and heavy public inspection. Moreover, additional laws and regulations with heavy punishment have increased the state of internet surveillance significantly.

- In addition, the ruling military has conducted extensive public inspections, threatening and arresting people who criticize the military. Since July 2023 until July

<sup>66</sup> Myanmar National Portal. (2022, September 20). *Statement on systematic purchases and registration of SIM cards*. Ministry of Information. <https://www.moi.gov.mm/moi:eng/news/8218>

<sup>67</sup> The New York Times. (2021, March 1). *Myanmar's Military Deploys Digital Arsenal of Repression in Crackdown*. <https://www.nytimes.com/2021/03/01/world/asia/myanmar-coup-military-surveillance.html>

<sup>68</sup> Radio Free Asia Burmese. (2024, May 20). *Myanmar now requires biometric 'smart card' to exit country by border*. Radio Free Asia <https://www.rfa.org/english/news/myanmar/smart-card-border-pass-05202024164811.html>



2024, more than 11 cases<sup>69,70</sup> were detained and arrested due criticizing the military on social media posts across the regions and State, as reported by the Myanmar Internet Project.<sup>71</sup> Since the coup, about 1,500 individuals have been detained for criticizing the military on social media.

- Furthermore, those found using VPNs and engaging with any news or content related to anti-military junta risked the possibility of detention.<sup>72</sup> On 4 June 2024, Khit Thit Media stated that with Mascot's company support, SAC attempted to block access to popular VPN services in order to block social media sites especially Facebook.<sup>73</sup>
- Due to internet disruption, some of the conflict zones installed satellite internet services like Starlink. On 22 November 2023, the local news outlet Popular News Journal published that satellite internet usage without a license is illegal according to the Ministry of Transport and Communications (SAC).<sup>74</sup>

## Internet Outages

Following the coup, the ruling military frequently shut down internet access across the state.<sup>75</sup> Since August 2021, 31 townships across seven regions and states have reportedly experienced internet shutdowns.<sup>76</sup> Furthermore, the UN reports that in June 2022, 23 townships experienced the throttling of internet speeds.<sup>77</sup> It has been three years since the coup, and Internet connectivity disruptions have been occurring more frequently across several states and regions, especially in the conflict zones. After 3 years and 5 months of military rule, Kachin State and Sagain continue to face the most frequent internet shutdowns (see Figure 1).

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<sup>69</sup> Myanmar Internet Project. (2024, February 5). *Myanmar Digital Coup Quarterly November 2023 - January 2024*. Myanmar Internet Project. [https://www.myanmarinternet.info/post/quarterly\\_report\\_012\\_nov23\\_jan24-1](https://www.myanmarinternet.info/post/quarterly_report_012_nov23_jan24-1)

<sup>70</sup> Myanmar Internet Project. (2024, May 5). *Myanmar Digital Coup Quarterly February 2024 - April 2024*. Myanmar Internet Project. [https://www.myanmarinternet.info/post/quarterly\\_report\\_013\\_feb24\\_apr24](https://www.myanmarinternet.info/post/quarterly_report_013_feb24_apr24)

<sup>71</sup> <https://www.myanmarinternet.info/>

<sup>72</sup> Lehmann-Jacobsen, E., & Myat The Thitsar. (2022). "News is life and death to us" Understanding media audiences in post-coup Myanmar. *International Media Support*. Retrieved August 14, 2023, from <https://www.mediasupport.org/publication/news-is-life-and-death-to-us-understanding-media-audiences-in-post-coup-myanmar/>

<sup>73</sup> Khit Thit Media. (June 3, 2024). Ban VPN in Myanmar. Facebook <https://www.facebook.com/khitthitnews/posts/pfbid0qrprMZriYgVzZ7jLZYDPUIrPsHkL2sgL5FCmd5KUubTsqhbvPQ5viE4o7dQdY8D5l>

<sup>74</sup> Popular News Journal. (2023 November, 22). Inform the Ministry of Communications that it is necessary to obtain a license as a satellite. Facebook. <https://www.facebook.com/photo.php?fbid=727163206119076&set=a.613530660815665&type=3&mibextid=WC7FNe>

<sup>75</sup> Access Now. (2022, March 18). Update: *internet access, censorship, and the Myanmar coup*. Access Now. <https://www.accessnow.org/press-release/update-internet-access-censorship-myanmar/>

<sup>76</sup> United Nations. (2022, June 7). *Myanmar: UN experts condemn military's "digital dictatorship"*. <https://www.ohchr.org/en/press-releases/2022/06/myanmar-un-experts-condemn-militarys-digital-dictatorship>

<sup>77</sup> United Nations. (2022, June 7). *Myanmar: UN experts condemn military's "digital dictatorship"*. <https://www.ohchr.org/en/press-releases/2022/06/myanmar-un-experts-condemn-militarys-digital-dictatorship>

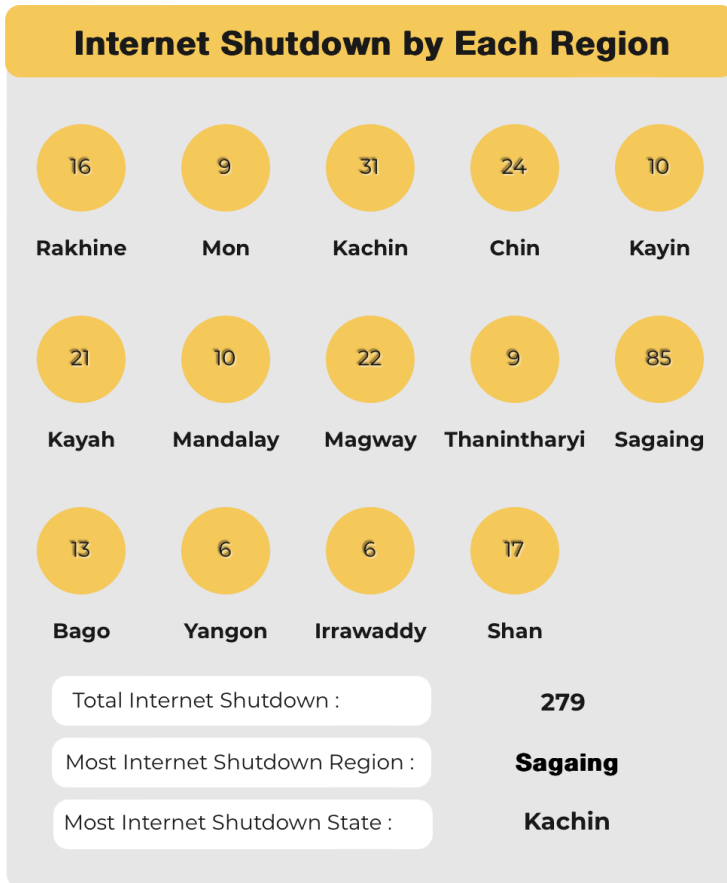
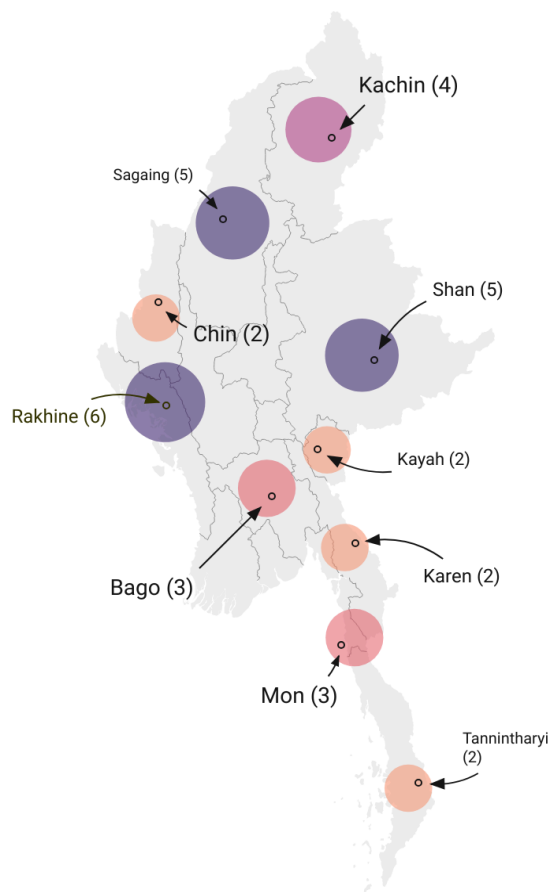


Figure 1: Number of internet shortage by regions and state since the coup (source: Myanmar Internet Project).



## Number of internet shutdowns in Myanmar

Rakhine State faced the most frequent internet shutdowns during the period of July 2023 to July 2024.



Map: ODI: Khun Win • Source: Myanmar Internet Project • Created with Datawrapper

Figure 2: Number of internet shutdowns during the period of July 2023 to July 2024 (source: Myanmar Internet Project).

From July 2023 until the first week of July 2024, the Myanmar Internet Project records that Rakhine is found to have the most frequent internet shutdowns, followed by Sagaing and Shan, where fighting between SAC and ethnic armed groups occur. These internet shutdowns are done in various ways, such as full internet shutdowns, service-based internet shutdowns, and regional-based internet shutdowns. Additionally, infrastructure damage causes internet shortages.

## Network Landscape

In Myanmar, the internet was first introduced in the early 2000s when former president Thein Sein rejected almost all forms of censorship by opening internet access for all. Under the new regime of a civilian government, the first internet connection was established.<sup>78</sup> After 2011, internet accessibility in Myanmar seemed relatively positive until 2019, when ongoing conflict between the military junta and ethnic armed groups in Rakhine state specifically targeted the Rohingya ethnic group. Since then, Free Expression Myanmar reports that digital freedom of expression in Myanmar declined from 2018 to 2020.<sup>79</sup> After the coup, internet freedom Myanmar in 2023 is ranked 10 out of 100 or “not free at all”.<sup>80</sup>

Digital access has grown quickly in Myanmar since its relatively recent entry into the digital revolution in 2011. Increasingly affordable SIM cards and smartphones, combined with more internet service providers and high-speed connection access points has led to an increase in connectivity. In January 2021, there were 69.43 million mobile SIMs connections<sup>81</sup> and 23.65 million internet users<sup>82</sup> compared to the total population of Myanmar of 54.61 million, amounting to half the population of Myanmar before the military coup. There were 29 million social media users, equivalent to 53.1% of the total population in January 2021. After three and half years of military ruling, the status of social media users and mobile connection has declined, even if internet users have increased. The network landscape is illustrated in Figure 3.

### The state of digital in Myanmar in 2021 and 2024

About half of Social media users drop after three years of military ruling.

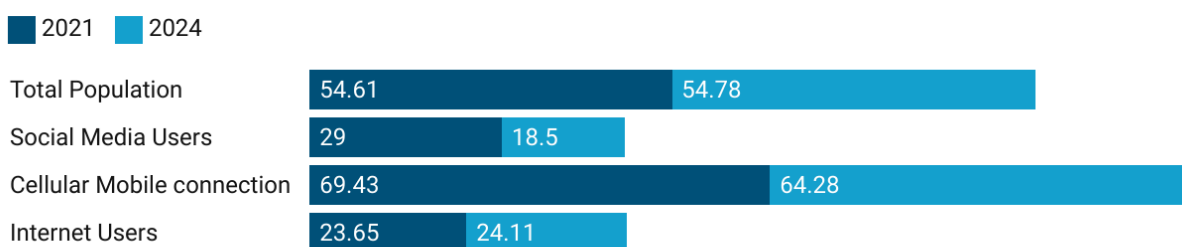


Chart: Khun Win:ODI • Source: DATAREPORTAL • Created with Datawrapper

Figure 3: The state of digital in Myanmar in 2021 and 2024 (population in millions).

<sup>78</sup> Beech, H. (2021, March 3). Myanmar’s military deploys digital arsenal of repression in crackdown. *The New York Times*. <https://www.nytimes.com/2021/03/01/world/asia/myanmar-coup-military-surveillance.html>

<sup>79</sup> Freedom House. (2020). *Freedom in the world 2020: Myanmar*. <https://freeexpressionmyanmar.org/freedom-of-the-net-2020/>

<sup>80</sup> Freedom House. (2023). *Freedom in the world 2023: Myanmar*. <https://freedomhouse.org/country/myanmar/freedom-net/2023>

<sup>81</sup> Freedom House. (2021). *Freedom in the world 2021: Myanmar*. <https://freedomhouse.org/country/myanmar/freedom-net/2021>

<sup>82</sup> Kemp, S. (2021, February 12). *Digital 2021: Myanmar*. DataReportal. <https://datareportal.com/reports/digital-2021-myanmar>

Myanmar has four main telecommunications network operators, all of which are under either direct or indirect military control. These four operators cover a wide range of internet services across Myanmar, including mobile data, broadband, and fiber optic connections. Telenor and Ooredoo, sold their Myanmar operations to the company related to the military. Similarly, while there are more than 30 internet service providers<sup>83</sup> licensed under the Ministry of Transport and Communications (MoTC), the market is dominated by four main ISPs: Myanmar Net, Myanmar MPT, MyTel, and 5BB.<sup>84</sup> Furthermore, Freedom House reported that fixed-line internet speeds are slower than average after the coup.<sup>85</sup> Since February 2021, all media, internet, and mobile connections have been fully controlled by the State Administrative Council (SAC),<sup>86</sup> affecting internet speeds and social media platform access, and websites have been banned.<sup>87</sup> During the military coup that has been ongoing for over three years, 44 ISPs have been operating in Myanmar based on OONI data (see Annex II).

Even though the number of internet users had rapidly increased in the previous years, the unexpected transition back to high censorship and Internet restrictions has seen periodic blackouts of the internet, inability to use VPNs, reductions in internet speeds, increases in price for mobile data and SIMs cards, poor telecommunication infrastructure, and electricity supply shortages; all of these factors largely affect internet users. The overall impact is a general reduction of online usage, mainly due to increased fear and insecurity. Additionally, pro-democracy defender or Civil Disobedience Movement (CDM) advocates proactively discourage the use of mobile connections using telco-services that are associated with the military junta, further reducing internet usage and online activities. As a result, according to Freedom House's Freedom on the Net report, Myanmar is described as the second worst country for internet freedom.

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<sup>83</sup> News Media Lists. (n.d.). *Internet providers in Myanmar*. <https://www.newsmedialists.com/isp/myanmar>

<sup>84</sup> Dataxis. (2023). *Fixed broadband and voice - Myanmar*. Dataxis. <https://dataxis.com/product/market-report/fixed-broadband-and-voice-myanmar/>

<sup>85</sup> Freedom House. (2021). *Freedom in the world 2021: Myanmar*. <https://freedomhouse.org/country/myanmar/freedom-net/2021>

<sup>86</sup> Lehmann-Jacobsen, E. (2021). The military tightens its grip on access to information in Myanmar. *The Diplomat*. <https://thediplomat.com/2021/02/the-military-tightens-its-grip-on-access-to-information-in-myanmar/>

<sup>87</sup> Lehmann-Jacobsen, E. (2021). The military tightens its grip on access to information in Myanmar. *The Diplomat*. <https://thediplomat.com/2021/02/the-military-tightens-its-grip-on-access-to-information-in-myanmar/>

# Findings on Internet Censorship in Myanmar

## Blocking of Websites

Throughout the period, 719,115 measurements from 2,610 websites were tested through 49 Internet Service Providers (ISPs) on OONI, as shown in Annex II. The current test list at time of writing (30 June 2024) contains [1,666 websites](#) in the Global Test List and [829 websites](#) in the Myanmar Test List. Based on OONI measurements, we will generally use the terms as follows in this report:

- **Measured or Measurement Counts:** Refers to the total number of measurements collected through the OONI Probe.
- **Blocked:** Refers to Confirmed Blocked in OONI, which are measurements from automatically confirmed blocked websites (e.g. a block page was served).
- **Likely Blocked:** Refers to Anomaly and Failures in OONI measurements. Anomalies are measurements that show signs of potential blocking; however, [false positives](#) can occur. Failures refer to failed experiments in OONI testing, although they can sometimes be [symptomatic of censorship](#).

In this research paper, both “Blocked” and “Likely blocked” websites are discussed as blocked websites.

	Jul-Sep 2023	Oct-Dec 2023	Jan-Mar 2024	Apr-Jun 2024	Total
Measured	191,198	145,557	209,688	172,672	719,115
Blocked	1,499	1,130	336	230	3,195
Block rate	0.78%	0.78%	0.16%	0.13%	0.44%
Input	2,447	2,468	2,476	2,501	2,610
ASNs	24	30	23	34	49

Table 4: Summary of OONI web connectivity measurements for [Myanmar](#) from 1 July 2023 to 30 June 2024.

These measurements were analyzed using heuristics as in Annex IV. Out of the 2,610 websites tested, 235 were blocked throughout the eight ISPs, as highlighted in red in the Annex II. There were 89 confirmed blocked and 146 likely blocked or inaccessible websites. The full list of these blocked websites is stated in Annex I.

# Blocked or likely blocked, 2023 vs 2024

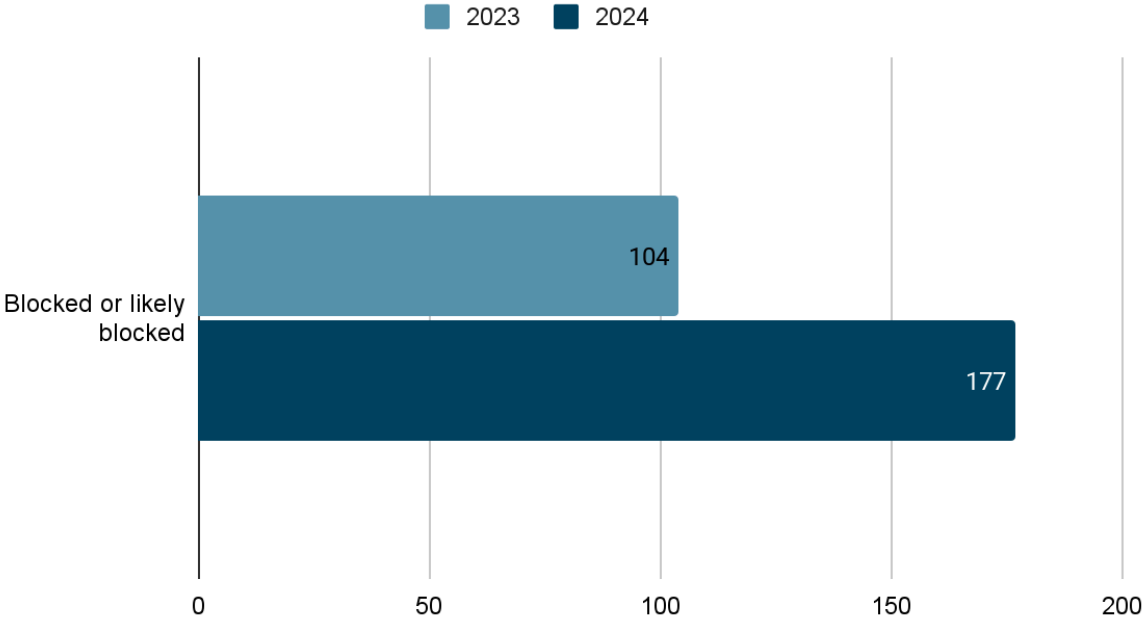


Figure 4: Confirmed blockings in 2024 as compared to in 2023

Compared with last year's findings, there were 177 confirmed blocked websites across the eight ISPs or ASNs. As a result, 104 confirmed blocked websites were among the 177 confirmed blocked websites from last year. This means that 131 new websites were found as blocked in the study. Overall, it can be concluded from the data that the number of blocked websites is increasing. Table 5 shows the 31 categories of blocked websites and the number of websites that were tested, blocked, and likely blocked.

Category	Number of websites tested	Number websites blocked	Percentage of websites blocked	Number websites likely blocked or inaccessible	Percentage of websites likely blocked or inaccessible
ALDR	41		0.00%	1	2.44%
ANON	121	5	4.13%	10	8.26%
COMM	98		0.00%	9	9.18%
COMT	136		0.00%	3	2.21%
CTRL	26		0.00%		0.00%
CULTR	158		0.00%	9	5.70%
DATE	21		0.00%		0.00%
ECON	56		0.00%	1	1.79%
ENV	59		0.00%	4	6.78%
FILE	77		0.00%	5	6.49%
GAME	35		0.00%	1	2.86%
GMB	40		0.00%	1	2.50%
GOVT	122	1	0.82%	18	14.75%
GRP	86	17	19.77%	2	2.33%
HACK	47		0.00%	5	10.64%
HATE	10		0.00%		0.00%
HOST	175		0.00%	7	4.00%
HUMR	240	6	2.50%	24	10.00%
IGO	22		0.00%		0.00%
LGBT	93		0.00%	4	4.30%
MILX	13	2	15.38%		0.00%
MISC	8		0.00%		0.00%
MMED	64		0.00%	3	4.69%
NEWS	251	33	13.15%	14	5.58%
POLR	114	4	3.51%	11	9.65%
PORN	54	21	38.89%	1	1.85%
PROV	16		0.00%	1	6.25%
PUBH	66		0.00%	1	1.52%
REL	99		0.00%	6	6.06%

Category	Number of websites tested	Number of websites blocked	Percentage of websites blocked	Number of websites likely blocked or inaccessible	Percentage of websites likely blocked or inaccessible
SRCH	50		0.00%	2	4.00%
XED	41		0.00%	3	7.32%

Table 5: Summary of OONI web connectivity measurements for Myanmar from 1 July 2023 to 30 June 2024 by [categories](#). Note: Blocked and likely blocked measurements include Confirmed Blocked, Anomaly and Failures on OONI measurements.

In this study, the blocked websites are categorized into confirmed blocked and likely blocked. During the study, eight categories were found to be confirmed blocked. Among them, Pornography (39%), Social Networking (20%), Terrorism, and Militants (17%)<sup>88</sup> and News Media (13%)<sup>89</sup> were the top four categories of blocked websites percentage over the study period, while Government (15%), Hacking Tools (11%), and Human Rights Issues (10%) categories were the three most likely to be blocked within 25 categories. The most common methods of censorship used to block websites were DNS and HTTPS tampering.

This year, 104 blocked websites remain blocked under the 9 categories from the 2023 report, which had 177 blocked websites on 23 categories. The top three categories of blocked websites last year were Government (27%) Social Networking (23%), and Terrorism and Militants (18%). In comparison to this year's study, News Media and Social Networking categories remain the top three categories of blocked websites. The findings below highlight the further blocking of websites by certain categories and events relevant in Myanmar.

## Social Media Websites Or Social Networking

Name	Websites	Weighted anomaly rate (%)	Link	Note
Meta	www.facebook.com	90.17%	<a href="#">Link</a>	Since February 2021, Myanmar's military has ordered ISP to block these social media websites.
Twitter	twitter.com	87.93%	<a href="#">Link</a>	
Instagram	www.instagram.com	83.18%	<a href="#">Link</a>	

<sup>88</sup> 7 out of 1 blocked websites.

<sup>89</sup> 6 out of 1 blocked websites.

Table 6: Social media websites that were blocked or likely blocked during the period of coverage.

On 5 February 2021 right after the military seized power, all mobile operators, international gateways, and internet service providers in Myanmar received a directive from the Myanmar Ministry of Transport and Communications (MoTC) to block the social media platforms, including Facebook (Meta), Twitter and Instagram. Based on the OONI test results, Facebook, Twitter and Instagram remain blocked, making it difficult to access these platforms in Myanmar. Over the study period, 19 out of 236 blocked websites fell into the Social Networking category including Meta, Twitter, and Instagram as shown in Table 6. They continue to remain inaccessible in Myanmar (Annex I).

## News Websites

Websites	Weighted anomaly rate (%)	Blocked or Likely blocked
www.7day.news	94.54%	BLOCKED
www.barnyarbarnyar.com	0.56%	BLOCKED
www.burmachannel.website	0.00%	BLOCKED
www.burmavj.net	94.94%	LIKELY
www.burmese.dvb.no	94.36%	BLOCKED
www.burmese.monnews.org	91.37%	LIKELY
www.celemedia.club	53.78%	BLOCKED
www.english.dvb.no	92.73%	BLOCKED
www.karennews.org	97.37%	BLOCKED
www.koshwehtoo.wordpress.com	96.73%	LIKELY
www.maharmedianews.com	4.13%	BLOCKED
www.mc.warnaing.website	1.22%	BLOCKED
www.medicalsharing.website	4.82%	BLOCKED
www.mizzima.com	90.73%	BLOCKED
www.mmrednews.com	3.60%	BLOCKED
www.monnews.org	84.64%	BLOCKED
www.mrattkthu.com	88.19%	BLOCKED
www.myanmar-now.org	91.78%	BLOCKED
www.nenow.in	18.31%	BLOCKED
www.rohingyakhobor.com	76.67%	BLOCKED
www.santhitsa.net	30.38%	BLOCKED



Websites	Weighted anomaly rate (%)	Blocked or Likely blocked
www.shwebadailynews.com	100.00%	LIKELY
www.ssppssa.org	20.00%	BLOCKED
www.thatinhman.com	0.29%	BLOCKED
www.tipsmyanmarnews.com	35.43%	BLOCKED
www.trend.lwinpyin.com	98.44%	BLOCKED
<a href="http://www.bnionline.net">www.bnionline.net</a>	96.83%	BLOCKED
<a href="http://www.boommyanmar.com">www.boommyanmar.com</a>	97.74%	BLOCKED
<a href="http://www.chinlandguardian.com">www.chinlandguardian.com</a>	96.74%	LIKELY
<a href="http://www.dmediag.com">www.dmediag.com</a>	96.57%	LIKELY
<a href="http://www.dmgburmese.com">www.dmgburmese.com</a>	99.01%	BLOCKED
<a href="http://www.frontiermyanmar.net">www.frontiermyanmar.net</a>	91.58%	LIKELY
<a href="http://www.irrawaddy.com">www.irrawaddy.com</a>	93.26%	BLOCKED
<a href="http://www.kantarawaddytimes.org">www.kantarawaddytimes.org</a>	93.23%	BLOCKED
<a href="http://www.m-mediagroup.com">www.m-mediagroup.com</a>	96.31%	LIKELY
<a href="http://www.mizzima.com">www.mizzima.com</a>	97.74%	LIKELY
<a href="http://www.mizzima.tv">www.mizzima.tv</a>	97.80%	LIKELY
<a href="http://www.mizzimaburmese.com">www.mizzimaburmese.com</a>	95.63%	LIKELY
<a href="http://www.monnews.org">www.monnews.org</a>	98.43%	LIKELY
<a href="http://www.narinjara.com">www.narinjara.com</a>	66.04%	BLOCKED
<a href="http://www.newsvsinformation.com">www.newsvsinformation.com</a>	15.64%	BLOCKED
<a href="http://www.phothutaw.com">www.phothutaw.com</a>	81.30%	BLOCKED
<a href="http://www.realornotmm.info">www.realornotmm.info</a>	100.00%	LIKELY
<a href="http://www.rohingyanewsbank.com">www.rohingyanewsbank.com</a>	79.69%	BLOCKED
<a href="http://www.thefarmermedia.com">www.thefarmermedia.com</a>	100.00%	LIKELY
<a href="http://www.thestateless.com">www.thestateless.com</a>	10.09%	BLOCKED
<a href="http://www.thithtoolwin.com">www.thithtoolwin.com</a>	80.91%	BLOCKED

Table 7: News media websites that were blocked or likely blocked during the period of coverage.

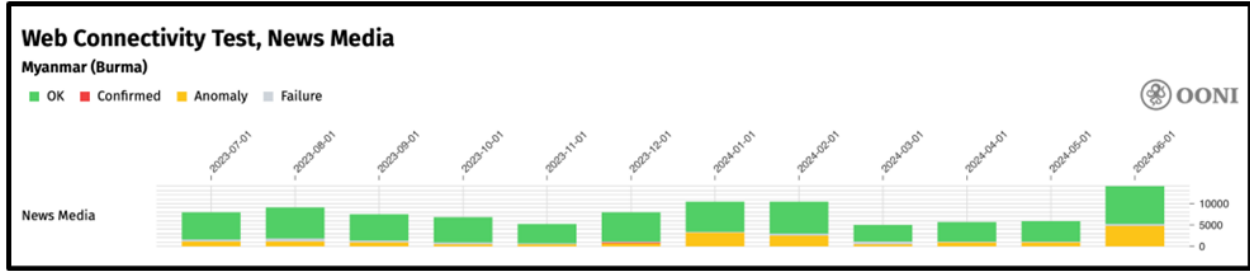


Figure 5: News Media websites test results during the period of July 1, 2023 to June 30, 2024.

Following the 2021 military coup, many news media outlets had their licenses revoked by the SAC due to the anti-military movement’s publication. Since staging a coup, the SAC has banned 15 independent news media outlets. Among the 15 news media outlets licenses revoked, the Irrawaddy, Kantarawaddy Times, Independent Mon News Agency, DVD, MYANMAR NOW, and Mizzima were noted to have high percentages of weighted anomaly rates. In other words, these websites are likely blocked. However, the media outlets continued publishing despite the ban, as the license-revoked websites are blocked literally inside Myanmar. In the list of 236 blocked sites, 47 websites including ethnic independent news are under the New Media category, which is marked as "blocked" and "likely blocked" (see details in Annex I).

## Human Rights Websites

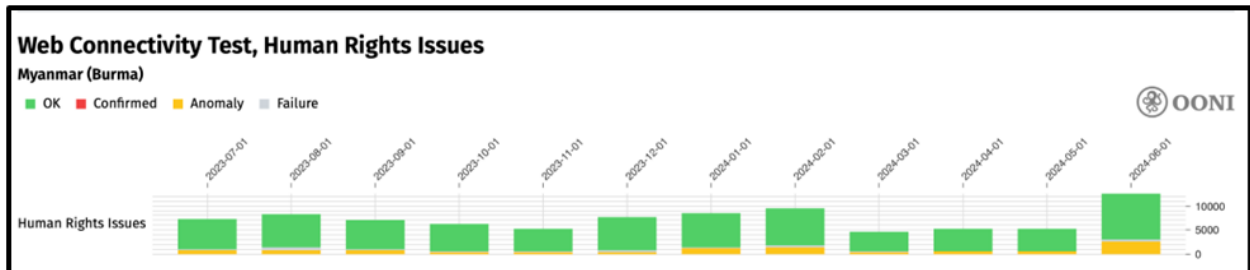


Figure 6: Human Rights Issues websites test results during the period of July 1, 2023 to June 30, 2024

Entity Name	Websites	Weighted anomaly rate (%)	Notes
Women’s League of Burma	<a href="http://womenofburma.org">womenofburma.org</a>	100%	
Phandeeyar	<a href="http://www.phandeeyar.org">www.phandeeyar.org</a>	100%	
Save Myanmar	<a href="http://www.savemyanmar.org">www.savemyanmar.org</a>	100%	

Refugees International	<a href="http://www.refugeesinternational.org">www.refugeesinternational.org</a>	98.0%	
Free Expression Myanmar	<a href="http://freeexpressionmyanmar.org">freeexpressionmyanmar.org</a>	97.0%	
Progressive Voice Myanmar	<a href="http://progressivevoicemyanmar.org">http://progressivevoicemyanmar.org</a>	97.0%	
Justice for Myanmar	<a href="http://www.justiceformyanmar.org">http://www.justiceformyanmar.org</a>	81.0%	Directed to block since August 2020 for spreading “fake news” related to corruption in the military.

Table 8: Human Rights Issues websites that were blocked or likely blocked during the period of July 1, 2023 to June 30, 2024

Freedom of Expression is ranked at 153 out of 161 in Myanmar, i.e., there is no freedom of expression at all in Myanmar. Aftermath of SAC, The junta targets human rights defenders, journalists and democracy activists. Among 236 blocked sites, 30 websites are under the Human Rights Issues categories which are found “blocked” and “likely blocked” (See detail in Annex I).

## Government Websites

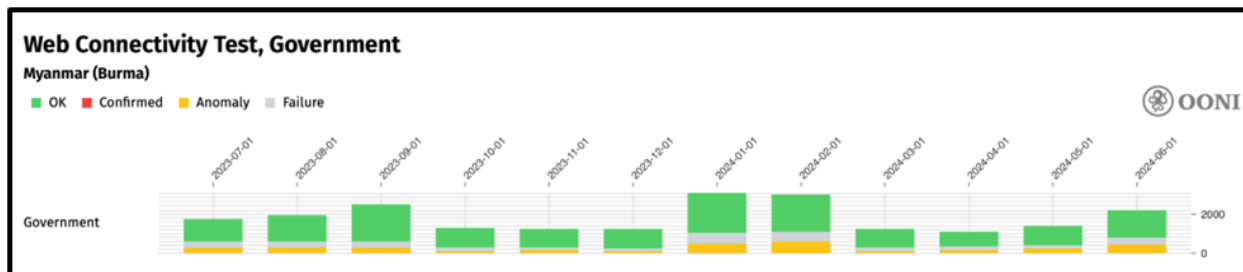


Figure 7: Government websites test results during the period of July 1, 2023 to June 30, 2024

Entity Name	Websites	Weighted anomaly rate (%)	OONI link	Description
Committee Representing Pyidaungsu Hluttaw	<a href="http://crphmyanmar.org">crphmyanmar.org</a>	100%		In April 2022, SAC ordered all ISPs in Myanmar to block anti-resistance sites, especially NUG websites.
Ministry of Education   National Unity Government	<a href="http://moe.nugmyanmar.org">moe.nugmyanmar.org</a>	100%		
Ministry of Women, Youth and Children Affairs I NUG	<a href="http://mowycanugmyanmar.org">mowycanugmyanmar.org</a>	100%		

Table 9: Government websites that were blocked or likely blocked during the period of July 1, 2023 to June 30, 2024

After the Myanmar military took control in February 2021, another side of the exile government emerged called the National Unity Government (NUG). Myanmar military coup opponents (NUG) established about 20 websites in the respective ministries. In April 2022, the Ministry of Telecommunications (MoTC), instructed by the SAC, ordered ISPs to block websites associated with opposing government entities.<sup>90</sup> Thus, throughout the study period, 19 out of 236 websites in the government category remained inaccessible in Myanmar (see details in Annex I).

<sup>90</sup> <https://imap.sinarproject.org/reports/2023/imap-myanmar-2023-internet-censorship-report>

## Methods of Blocking of Websites

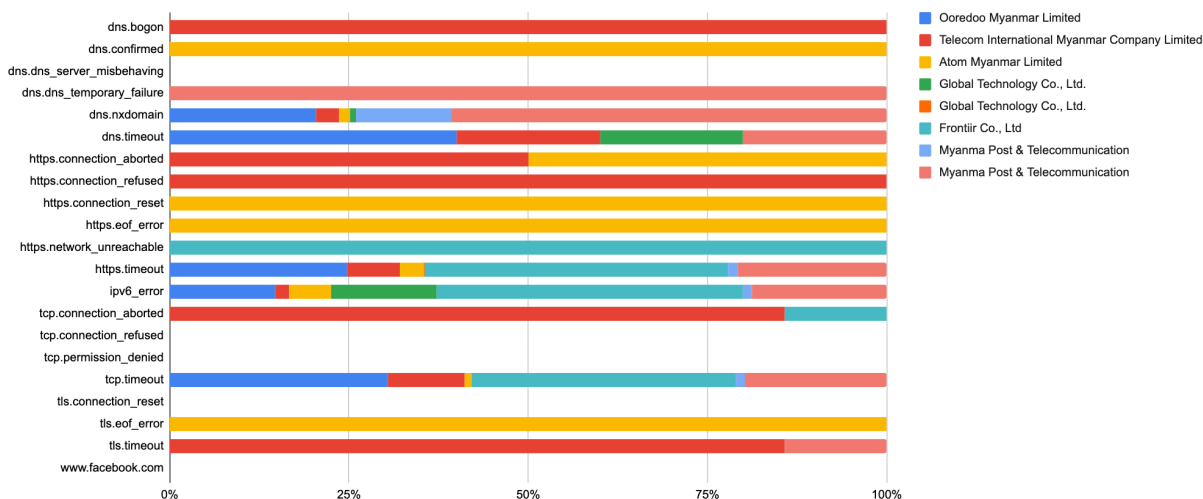


Figure 8: Methods of blockings used to block [www.facebook.com](https://www.facebook.com) in Myanmar.

During the study period, spanning 49 ASNs or ISPs, the research identified interference at the DNS, HTTPS, TCP, and TIS levels. When examining Facebook specifically, we found that 7 ISPs had blocked access, with the highest rates of interference occurring through DNS and HTTP tampering. It can be concluded that the majority of blocking methods across 235 websites are HTTP and DNS tempering.

## Blocking of Instant Messaging Apps

	Telegram	WhatsApp
Total Measurements	8,423	8,427
Percentage of blocked and likely blocked	14.3%	46.8%

Table 10: Instant Messaging Apps test results during the period of July 1, 2023 to June 30, 2024

Note: Due to issues reported on the OONI tests for Facebook Messenger and Signal throughout the coverage period, they have not been reported in this table.

Following the military coup, the military ordered ISPs to block access to social media platforms including instant messaging apps<sup>91</sup> in order to block the flow of information in Myanmar. However, people sought to use tools to circumvent these blocks and access these apps. In May 2024, the military further restricted the use of instant messaging apps,

<sup>91</sup>

<https://www.theguardian.com/global-development/2021/feb/04/myanmar-coup-army-blocks-facebook-access-as-civil-disobedience-grows>

particularly Signal, Whatsapp, and Facebook Messenger, by blocking the accessibility of virtual private networks (VPNs).<sup>92</sup>

Based on the OONI measurement results across 44 ISPs, Facebook Messenger, Whatsapp, and Signal appeared to be highly inaccessible in Myanmar with high percentage values of “Blocked” measurements. However, Telegram appeared to be reachable during the study period.

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<sup>92</sup> <https://www.frontiermyanmar.net/en/cat-and-mouse-myanmar-netizens-find-cracks-in-draconian-vpn-ban/>

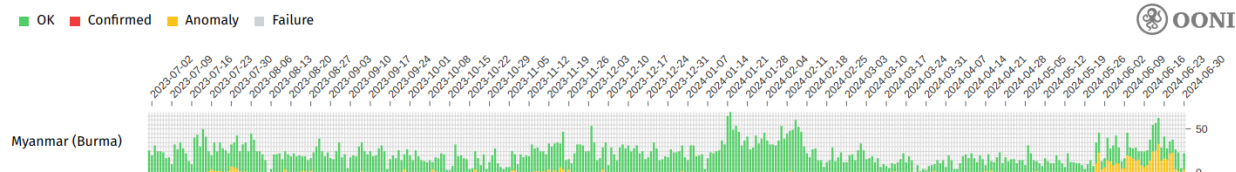
## Blocking of Circumvention Tools

	Psiphon	Tor
Total measurements	8,258	8,027
Percentage of blocked and likely blocked	7.4%	18.8%

Table 11: Circumvention Tools test results during the period of July 1, 2023 to June 30, 2024

Since the coup, the military has attempted to limit online access including banning the use of many VPNs. The SAC or military junta has restricted the use of VPNs under the new draft of the Cybersecurity Law since 2022, but millions of people in Myanmar still have access to social media and instant messaging by utilizing VPNs. VPNs are the only remaining way for people in Myanmar to access blocked social media apps, messaging platforms, and thousands of blockage websites. Justice for Myanmar (JFM) reported that the military began to increase the blocking of VPNs by installation of a new web surveillance and censorship system at the end of June 2024.<sup>93</sup> Many VPNs, including Psiphon and Nord, have been banned recently by the junta.

### Psiphon Test



### Tor Test

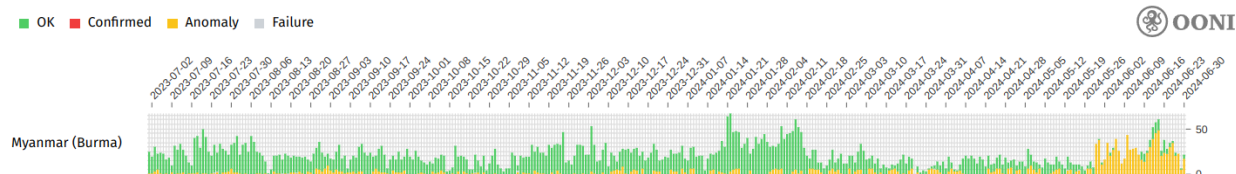


Figure 9: Psiphon and Tor Test recorded during the period of coverage, July 2023 - June 2024

Upon further investigation, OONI measurement data examined that Tor and Phiphon are likely blocked in Myanmar.

<sup>93</sup><https://www.justiceformyanmar.org/stories/the-myanmar-juntas-partners-in-digital-surveillance-and-censors-hip>

# Findings on Internet Shutdowns

Based on IODA data from July 2023 to June 2024, it seems that there has been **abnormal behavior from 1 April to 31 May 2024 on BGP and Active Probing**. Abnormal behavior was also recorded for **Telescope signals from 2 May to 21 June 2024**.

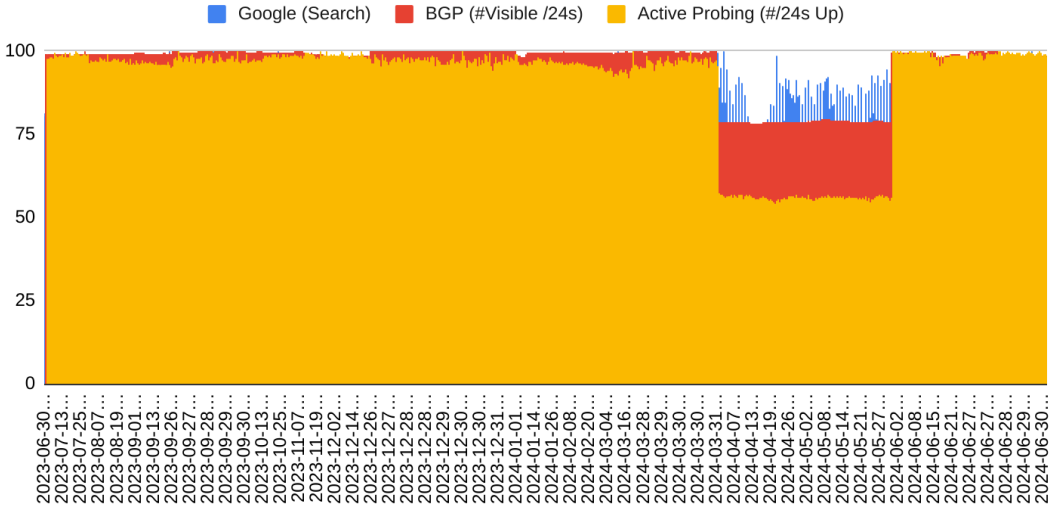


Figure 10: IODA data collected from Google Search, BGP and Active Probing between 1 July 2023 to 30 June 2024.

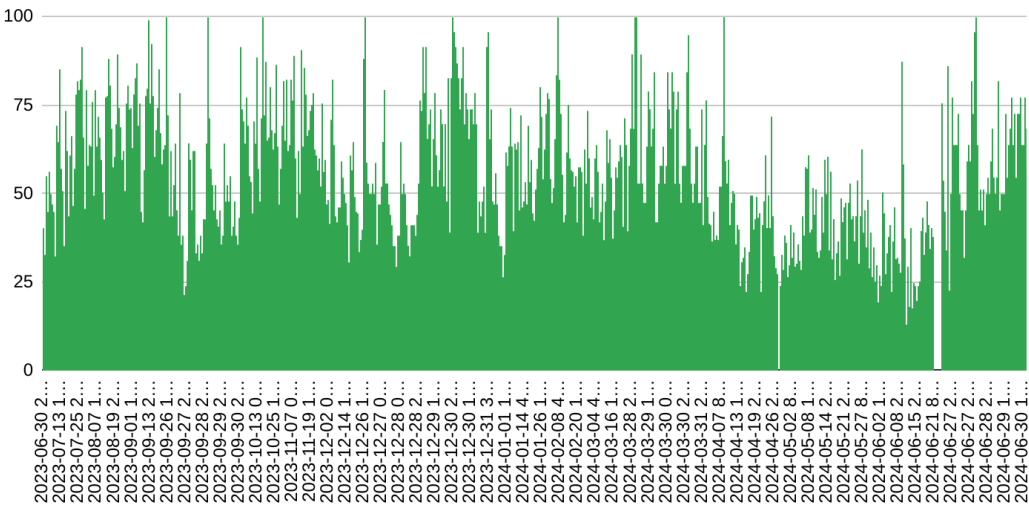


Figure 11: IODA data collected from Telescope signals between 1 July 2023 to 30 June 2024.

However, based on the [timeline of internet shutdowns stated by the Myanmar Internet Project](#), it seemed that there were multiple shutdowns in various regions in Myanmar from November 2023 onwards.



# Acknowledgement of Limitations

- **Period of study**

The examination of the findings of this study is limited to network measurements that were collected from 1 July 2023 to 30 June 2024 to examine the most recent censorship trends and events.

- **Vantage points**

Although the network measurements were collected from 49 vantage points in Myanmar, the running of OONI software testing was not consistent across all networks.

- **Use of domain as a unit of measurement of websites**

In general, “URL” (or in OONI’s terms – input) and “domain” are interchangeable terms used to refer to a website. In the OONI test list, the full URLs are input in the probe to be tested for censorship, similar to a URL starting with “https” or “http” in a browser. The URLs are measured for censorship by [OOONI Probe](#) with the [Web Connectivity experiment](#), which is designed to measure whether access to tested URLs is interfered with through DNS tampering, TCP/IP blocking, an HTTP transparent proxy, or through TLS interference. However, when analyzing results on OONI, the reader should be aware that there are differences in the numbers concerning the specific input or domain, as a different volume of measurements may have been collected for a URL (e.g. <https://www.hrw.org/asia/cambodia>) in comparison to a domain (e.g. [www.hrw.org](http://www.hrw.org)).

In the 2023 [report](#), we based our analysis primarily on URLs because they were thought to provide more context on the reason why the web page was blocked and could be categorized more similarly to the [Citizen Lab test lists](#), which are URL format. However, in this 2024 report, we based our analysis on domains, so readers will need to be cautious about making year-to-year comparisons.

- **Confirmed blockings vs Likely blockings or Inaccessible**

The confirmed blocked websites are based on the data where the testing result shows a trace to a government or ISP block page. This typically means that there is a block page served when the user tries to access the website on a particular network, or that DNS resolution returns an IP address associated with censorship. These cases are automatically annotated as “confirmed blocked” based on fingerprints added to OONI’s database. When a website is found confirmed blocked, it may only be blocked on specific networks and still remain accessible on the rest. Confirmed blockings may also be specific based on the URL; for example, <https://abc.com/> may be censored but not <https://www.abc.com/>.

In this 2024 report, confirmed blockings and likely blockings were consolidated based on the country. See [Verifying OONI measurements](#).

- **Test lists**

The websites tested for censorship on OONI are either from the [Citizen Lab test lists](#) or additional websites tested by [OONI Probe](#) users. While the websites in the test lists are categorized based on specific [standardised categories](#), the percentage of blocked or likely blocked cases may not necessarily reflect the entire state of internet censorship in the country, as only sampled websites are included in the testing.

- **Differences in numbers with OONI data**

The findings in this report were obtained after further processing the data from OONI. This involved obtaining more confirmed blockings and eliminating false positives through additional heuristics and manual verification by iMAP researchers based on country or local context. While these heuristics will eventually be added to OONI's fingerprints, OONI will only process them for future testing.

Additionally, iMAP researchers have categorized blocked websites that were not part of the Citizen Lab test lists but were tested on OONI via custom test lists. Hence, the figures in this report may differ from the results on [OONI Explorer](#).

- **Testing of instant messaging apps and circumvention tools**

The instant messaging apps and circumvention tools are limited to those tested on OONI. Therefore, the results may not reflect the state of censorship of apps more commonly used in individual countries.

- **Security concerns in Myanmar**

Due to security concerns related to running the OONI Probe App, the study might not account for all new websites that surfaced during the political turmoil, particularly in anti-SAC zones, where accessing websites is inherently risky. Hence, insufficient data collection may have potentially impacted the findings of this study.

## Conclusion

In recent years, internet censorship has become a major concern in Myanmar, especially following political and civil unrest. The government has increasingly used various forms of digital repression, particularly after the military coup in February 2021.

In this study, we analyze the OONI measurement database to comprehensively understand overall internet censorship by looking at blockade websites, instant messaging, and circumvention tools in Myanmar and ongoing digital access challenges, particularly from the period of 1 July 2023 to 30 June 2024. OONI measurement has proven an invaluable tool in highlighting the internet interference across the ISPs in Myanmar.

The study revealed that out of a recent total of 2,610 websites were tested through 49 Internet Service Providers (ISPs), 235 were identified as blocked websites using the largest DNS and HTTP blocking methods. The blocked websites are classified by confirmed and likely blocked. Among the 235 blocked websites, the number of confirmed blocked websites was 89, with an additional 146 likely to be blocked. The study discovered that Pornography, Social Networking, Terrorism, and Militants and News Media were the top three confirmed blocked website categories, with the three top likely blocked categories being Government, Hacking Tools, and Human Rights websites. By comparison from last year blocking websites, there are 131 new blocked websites found in this recent study. Out of last year's 177 blocked websites, 104 of them are included in the current list. Looking at the OONI measurement database following the coup, the blocking websites are increasing every year. The 2024 study revealed a significant increase in website blocking, with 112 websites blocked in 2022, 177 in 2023, and 235 in the current year. It can be concluded that internet censorship in Myanmar is increasing year by year.

Post 2021 brought an increase of internet censorship across the region and state in Myanmar. The military coup continues to increase the restriction of online access by blocking access to websites, instant messaging, banned circumvention tools like VPNs, and shutting down the internet. According to the OONI measurements analysis study, Instant Messaging Apps such as Facebook Messenger, Whatsapp remained blocked since the coup while Signal is likely blocked recently. However, Telegram appears to be reachable. In regards to circumvention tools like Tor and Psiphon have been recently identified as potential targets of interference. Internet shutdown occurs across the regions and states. IODA data shows several shutdowns in different regions of Myanmar since November 2023.

While efforts to censor the internet have been aggressive, the people of Myanmar continue to resist through the use of VPNs, encrypted messaging apps, and other digital tools. However, the overall environment for digital freedom remains uncertainty, with the military junta continuously finding new ways to impose control over the internet and digital

communication channels. Therefore, it is important to work together to identify internet interference through blocked websites, instant messaging tools, and circumvention tools by running OONI Probe App. We encourage every citizen who is especially inside Myanmar to volunteer running the OONI Probe. There are multiple ways to volunteer. Together, we can help identify internet interference by contributing to this study.

## Contribute to the Study

If you would like to contribute to the OONI measurements, there are several ways to get involved:

- Perform testing on [various platforms](#), both on Mobile (iOS and Android) and Desktop, including on the CLI on Linux platforms. The domains you test can be either randomly selected from the [Citizenlab Test Lists](#) or custom test lists specific to your needs.
- Contribute to the test lists on GitHub or on [OONI](#).
- Translate the OONI Probe to your local language [here](#).
- Participate in community discussions on the [OONI Slack channel](#) or our Volunteers Telegram Channel.

## Acknowledgements

Firstly, we would like to thank the Open Observatory of Network Interference for providing us with this information.

Secondly, we would like to express our deepest gratitude to the partners, activists, academicians, researchers, and anonymous users in Myanmar, who have contributed to this endeavor. Your unwavering dedication and insightful contributions have been instrumental in advancing this research finding. Each of you has played a crucial role in making an insight for this research. We are profoundly thankful for your valuable input, collaboration, and your passion that drives us all toward a better analysis of this research.

We would like to thank Khairil Yusof (Sinar Project) for his supervision and advisory support on the overall iMAP project, as well as Numan Afifi (Sinar Project) for his valuable contributions in copyediting and report design.

## Annex I: List of Confirmed Blockings

Blocked Websites	Categories	ASN	Details
<a href="http://1221cd.org">http://1221cd.org</a>	Political Criticism	AS133385	<a href="#">Link</a>
<a href="http://7day.news">7day.news</a>	News Media	AS133385	<a href="#">Link</a>
<a href="http://abs.twimg.com">abs.twimg.com</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="http://anonymouse.org">anonymouse.org</a>	Anonymization and circumvention tools	AS133385	<a href="#">Link</a>
<a href="http://arab xnxx.org">arab xnxx.org</a>	Pornography	AS136255	<a href="#">Link</a>
<a href="http://aungsanu.com">aungsanu.com</a>	Political Criticism	AS133385, AS136255	<a href="#">Link</a>
<a href="http://barnyarbarnyar.com">barnyarbarnyar.com</a>	News Media	AS136780, AS133385	<a href="#">Link</a>
<a href="http://bestfreetube.xxx">bestfreetube.xxx</a>	Pornography	AS136255	<a href="#">Link</a>
<a href="http://burmacampaign.org.uk">burmacampaign.org.uk</a>	Political Criticism	AS133385	<a href="#">Link</a>
<a href="http://burmachannel.website">burmachannel.website</a>	News Media	AS136780, AS133385	<a href="#">Link</a>
<a href="http://burmese.dvb.no">burmese.dvb.no</a>	News Media	AS133385	<a href="#">Link</a>
<a href="http://cdn.fbsbx.com">cdn.fbsbx.com</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="http://celemedia.club">celemedia.club</a>	News Media	AS136780, AS133385	<a href="#">Link</a>
<a href="http://crphmyanmar.org">crphmyanmar.org</a>	Government	AS133385	<a href="#">Link</a>
<a href="http://dailyporn.club">dailyporn.club</a>	Pornography	AS136255	<a href="#">Link</a>
<a href="http://edge-chat.instagram.com">edge-chat.instagram.com</a>	Social Networking	AS133385, AS58952, AS9988	<a href="#">Link</a>
<a href="http://edge-mqtt.facebook.com">edge-mqtt.facebook.com</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="http://english.dvb.no">english.dvb.no</a>	News Media	AS136255	<a href="#">Link</a>
<a href="http://external.xx.fbcdn.net">external.xx.fbcdn.net</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="http://fbcdn.net">fbcdn.net</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="http://hiburma.net">hiburma.net</a>	Human Rights Issues	AS133385	<a href="#">Link</a>
<a href="http://hola.org">hola.org</a>	Anonymization and circumvention tools	AS133385	<a href="#">Link</a>
<a href="http://i.instagram.com">i.instagram.com</a>	Social Networking	AS133385, AS58952, AS9988	<a href="#">Link</a>
<a href="http://iimm.un.org">iimm.un.org</a>	Political Criticism	AS133385	<a href="#">Link</a>
<a href="http://join.allpornsitespass.com">join.allpornsitespass.com</a>	Pornography	AS136780	<a href="#">Link</a>
<a href="http://karen.kicnews.org">karen.kicnews.org</a>	Human Rights Issues	AS133385	<a href="#">Link</a>
<a href="http://karennews.org">karennews.org</a>	News Media	AS136780, AS133385	<a href="#">Link</a>
<a href="http://kicnews.org">kicnews.org</a>	Human Rights Issues	AS133385	<a href="#">Link</a>

Blocked Websites	Categories	ASN	Details
<a href="https://lookaside.facebook.com">lookaside.facebook.com</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="https://maharmedianews.com">maharmedianews.com</a>	News Media	AS136780, AS133385	<a href="#">Link</a>
<a href="https://manporn.xxx">manporn.xxx</a>	Pornography	AS132167, AS136255	<a href="#">Link</a>
<a href="https://mc.warnaing.website">mc.warnaing.website</a>	News Media	AS136780, AS133385	<a href="#">Link</a>
<a href="https://medicalsharing.website">medicalsharing.website</a>	News Media	AS136780, AS133385	<a href="#">Link</a>
<a href="https://mizzima.com">mizzima.com</a>	News Media	AS133385	<a href="#">Link</a>
<a href="https://mmrednews.com">mmrednews.com</a>	News Media	AS136780, AS133385	<a href="#">Link</a>
<a href="https://monnews.org">monnews.org</a>	News Media	AS133384, AS136255	<a href="#">Link</a>
<a href="https://mrattkthu.com">mrattkthu.com</a>	News Media	AS133385	<a href="#">Link</a>
<a href="https://myanmar-now.org">myanmar-now.org</a>	News Media	AS133384, AS136255, AS137424	<a href="#">Link</a>
<a href="https://myporngay.com">myporngay.com</a>	Pornography	AS136255	<a href="#">Link</a>
<a href="https://nenow.in">nenow.in</a>	News Media	AS136780	<a href="#">Link</a>
<a href="https://openvpn.net">openvpn.net</a>	Anonymization and circumvention tools	AS212238	<a href="#">Link</a>
<a href="https://pbs.twimg.com">pbs.twimg.com</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="https://pornhub.com">pornhub.com</a>	Pornography	AS136255	<a href="#">Link</a>
<a href="https://privatevpn.com">privatevpn.com</a>	Anonymization and circumvention tools	AS212238	<a href="#">Link</a>
<a href="https://progressivevoicemyanmar.org">progressivevoicemyanmar.org</a>	Human Rights Issues	AS133385, AS212238	<a href="#">Link</a>
<a href="https://protonvpn.com">protonvpn.com</a>	Anonymization and circumvention tools	AS133385, AS212238	<a href="#">Link</a>
<a href="https://rohingyakhobor.com">rohingyakhobor.com</a>	News Media	AS136780, AS133385	<a href="#">Link</a>
<a href="https://santhitsa.net">santhitsa.net</a>	News Media	AS136780, AS133385	<a href="#">Link</a>
<a href="https://scontent.cdninstagram.com">scontent.cdninstagram.com</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="https://scontent.xx.fbcdn.net">scontent.xx.fbcdn.net</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="https://ssppssa.org">ssppssa.org</a>	News Media	AS136780	<a href="#">Link</a>
<a href="https://static.xx.fbcdn.net">static.xx.fbcdn.net</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="https://staticxx.facebook.com">staticxx.facebook.com</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="https://thatinhman.com">thatinhman.com</a>	News Media	AS136780	<a href="#">Link</a>
<a href="https://tipsmyanmarnews.com">tipsmyanmarnews.com</a>	News Media	AS136780	<a href="#">Link</a>
<a href="https://trend.lwinpyin.com">trend.lwinpyin.com</a>	News Media	AS136780, AS133385	<a href="#">Link</a>
<a href="https://twitter.com">twitter.com</a>	Social Networking	AS133385, AS63852, AS58952	<a href="#">Link</a>

Blocked Websites	Categories	ASN	Details
<a href="https://video.twimg.com">video.twimg.com</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="https://web.facebook.com">web.facebook.com</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="https://www.arakanarmy.net">www.arakanarmy.net</a>	Terrorism and Militants		<a href="#">Link</a>
<a href="https://www.athanmyanmar.org">www.athanmyanmar.org</a>	Human Rights Issues	AS133385	<a href="#">Link</a>
<a href="https://www.bnionline.net">www.bnionline.net</a>	News Media	AS133385	<a href="#">Link</a>
<a href="https://www.boommyanmar.com">www.boommyanmar.com</a>	News Media	AS133385	<a href="#">Link</a>
<a href="https://www.dmgburmese.com">www.dmgburmese.com</a>	News Media	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="https://www.facebook.com">www.facebook.com</a>	Social Networking	AS133385	<a href="#">Link</a>
<a href="https://www.hotporntubes.com">www.hotporntubes.com</a>	Pornography	AS136780, AS134739	<a href="#">Link</a>
<a href="https://www.indianpornvideo.org">www.indianpornvideo.org</a>	Pornography	AS136780, AS134739	<a href="#">Link</a>
<a href="https://www.irrawaddy.com">www.irrawaddy.com</a>	News Media	AS58952, AS136255	<a href="#">Link</a>
<a href="https://www.justiceformyanmar.org">www.justiceformyanmar.org</a>	Human Rights Issues	AS58952, AS136255	<a href="#">Link</a>
<a href="https://www.kantarawaddytimes.org">www.kantarawaddytimes.org</a>	News Media	AS58952, AS136255, AS137424	<a href="#">Link</a>
<a href="https://www.myanmar-porn.com">www.myanmar-porn.com</a>	Pornography	AS136255	<a href="#">Link</a>
<a href="https://www.narinjara.com">www.narinjara.com</a>	News Media	AS135300, AS136255	<a href="#">Link</a>
<a href="https://www.newsvsinformation.com">www.newsvsinformation.com</a>	News Media	AS136255	<a href="#">Link</a>
<a href="https://www.phothutaw.com">www.phothutaw.com</a>	News Media	AS136780	<a href="#">Link</a>
<a href="https://www.pornhub.com">www.pornhub.com</a>	Pornography	AS136780, AS133385	<a href="#">Link</a>
<a href="https://www.pslftnla.org">www.pslftnla.org</a>	Terrorism and Militants	AS136780, AS133385	<a href="#">Link</a>
<a href="https://www.rohingyanewsbank.com">www.rohingyanewsbank.com</a>	News Media	AS136780	<a href="#">Link</a>
<a href="https://www.seemygf.com">www.seemygf.com</a>	Pornography	AS136780, AS133385	<a href="#">Link</a>
<a href="https://www.thestateless.com">www.thestateless.com</a>	News Media	AS136780	<a href="#">Link</a>
<a href="https://www.thithtoolwin.com">www.thithtoolwin.com</a>	News Media	AS133385	<a href="#">Link</a>
<a href="https://www.trueamateurs.com">www.trueamateurs.com</a>	Pornography	AS136780	<a href="#">Link</a>
<a href="https://www.watchmyexgf.net">www.watchmyexgf.net</a>	Pornography	AS136255	<a href="#">Link</a>
<a href="https://www.whynotbi.com">www.whynotbi.com</a>	Pornography	AS136255	<a href="#">Link</a>
<a href="https://www.xnxxsexmovies.com">www.xnxxsexmovies.com</a>	Pornography	AS133385	<a href="#">Link</a>
<a href="https://www.xvideos.com">www.xvideos.com</a>	Pornography	AS136780, AS133385	<a href="#">Link</a>
<a href="https://www.youporn.com">www.youporn.com</a>	Pornography	AS136780, AS133385	<a href="#">Link</a>
<a href="https://www.zzgays.com">www.zzgays.com</a>	Pornography	AS133385	<a href="#">Link</a>



Blocked Websites	Categories	ASN	Details
<a href="http://xhamster.com">xhamster.com</a>	Pornography	AS133385	<a href="#">Link</a>
<a href="http://xxx4hindi.com">xxx4hindi.com</a>	Pornography	AS133385	<a href="#">Link</a>
Confirmed Blocked Websites from heuristics			
Blocked Websites	Categories	ASN	Details
<a href="http://adium.im">adium.im</a>	Social Networking	AS45558, AS58952, AS132100, AS132167, AS135405	<a href="#">Link</a>
<a href="http://advox.globalvoices.org">advox.globalvoices.org</a>	Human Rights Issues	AS45558, AS58952, AS132148, AS132167, AS134739	<a href="#">Link</a>
<a href="http://alarmmyanmar.org">alarmmyanmar.org</a>	Environment	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://arakanindobhasa.wordpress.com">arakanindobhasa.wordpress.com</a>	Culture	AS58952, AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://blog.mozilla.org">blog.mozilla.org</a>	Hacking Tools	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://burmavi.net">burmavi.net</a>	News Media	AS58952, AS132148, AS133384, AS135300, AS135405	<a href="#">Link</a>
<a href="http://burmese.monnews.org">burmese.monnews.org</a>	News Media	AS58952, AS133384, AS135405, AS136255	<a href="#">Link</a>
<a href="http://censored.tv">censored.tv</a>	Media sharing	AS58952, AS136255, AS137424	<a href="#">Link</a>
<a href="http://channelmyanmar.org">channelmyanmar.org</a>	Media sharing	AS58952, AS136255	<a href="#">Link</a>
<a href="http://citizensclimatelobby.org">citizensclimatelobby.org</a>	Environment	AS58952, AS133384, AS137424	<a href="#">Link</a>
<a href="http://democracyforburma.wordpress.com">democracyforburma.wordpress.com</a>	Political Criticism	AS45558, AS58952, AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://doh.centraleu.pi-dns.com">doh.centraleu.pi-dns.com</a>	Hosting and Blogging Platforms	AS58952, AS133384, AS134739, AS136780, AS137424	<a href="#">Link</a>
<a href="http://drkokogyi.wordpress.com">drkokogyi.wordpress.com</a>	Political Criticism	AS58952, AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://drkokogyi9.wordpress.com">drkokogyi9.wordpress.com</a>	Political Criticism	AS45558, AS58952, AS135300, AS135405, AS136255	<a href="#">Link</a>
<a href="http://easternlightningmy.wordpress.com">easternlightningmy.wordpress.com</a>	Religion	AS9988, AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://equal-eyes.org">equal-eyes.org</a>	LGBT	AS58952, AS132148, AS135300, AS136255	<a href="#">Link</a>
<a href="http://freeexpressionmyanmar.org">freeexpressionmyanmar.org</a>	Human Rights Issues	AS45558, AS133384, AS136255, AS137891	<a href="#">Link</a>
<a href="http://getacookrecipe.wordpress.com">getacookrecipe.wordpress.com</a>	Culture	AS58952, AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://getoutline.org">getoutline.org</a>	Anonymization and circumvention tools	AS58952, AS135300, AS136255, AS137424	<a href="#">Link</a>
<a href="http://globalvoices.org">globalvoices.org</a>	Human Rights Issues	AS45558, AS58952, AS132167, AS134739, AS137891	<a href="#">Link</a>



Blocked Websites	Categories	ASN	Details
<a href="http://gov.nugmyanmar.org">gov.nugmyanmar.org</a>	Government	AS58952, AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://greenhost.net">greenhost.net</a>	Hosting and Blogging Platforms	AS58952, AS132167	<a href="#">Link</a>
<a href="http://guardster.com">guardster.com</a>	Anonymization and circumvention tools	AS58952, AS137424, AS137891	<a href="#">Link</a>
<a href="http://im0-tub-com.yandex.net">im0-tub-com.yandex.net</a>	Search Engines	AS9988, AS58952, AS133384, AS134739, AS136255, AS136780, AS137424, AS137891	<a href="#">Link</a>
<a href="http://islamonline.net">islamonline.net</a>	Religion	AS58952, AS136255	<a href="#">Link</a>
<a href="http://jusmynote.wordpress.com">jusmynote.wordpress.com</a>	Pornography	AS58952, AS136255	<a href="#">Link</a>
<a href="http://khilafah.net">khilafah.net</a>	Political Criticism	AS134739	<a href="#">Link</a>
<a href="http://khrq.org">khrq.org</a>	Human Rights Issues	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://knwo.wordpress.com">knwo.wordpress.com</a>	Human Rights Issues	AS58952, AS133384, AS135300, AS136255, AS137424	<a href="#">Link</a>
<a href="http://koshwehtoo.wordpress.com">koshwehtoo.wordpress.com</a>	News Media	AS58952, AS133384, AS135300, AS136255, AS137424	<a href="#">Link</a>
<a href="http://kyaukphrunet.wordpress.com">kyaukphrunet.wordpress.com</a>	Culture	AS9988, AS58952, AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://lanolay.wordpress.com">lanolay.wordpress.com</a>	Culture	AS9988, AS58952, AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://libgen.fun">libgen.fun</a>	File-sharing	AS135300, AS136255	<a href="#">Link</a>
<a href="http://libgen.life">libgen.life</a>	File-sharing	AS135300, AS136255	<a href="#">Link</a>
<a href="http://lostfootsteps.org">lostfootsteps.org</a>	Culture	AS58952	<a href="#">Link</a>
<a href="http://manorhary.wordpress.com">manorhary.wordpress.com</a>	Culture	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://merhrom.wordpress.com">merhrom.wordpress.com</a>	Human Rights Issues	AS9988, AS58952, AS133384, AS136255, AS137424	<a href="#">Link</a>
<a href="http://merin.org.mm">merin.org.mm</a>	Human Rights Issues	AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://metro-wholesale.com.mm">metro-wholesale.com.mm</a>	E-commerce	AS58952, AS132167, AS133384, AS134739, AS136255, AS136780	<a href="#">Link</a>
<a href="http://mirror.cyberbits.eu">mirror.cyberbits.eu</a>	File-sharing	AS9988, AS58952	<a href="#">Link</a>
<a href="http://mod.nugmyanmar.org">mod.nugmyanmar.org</a>	Government	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://moe.nugmyanmar.org">moe.nugmyanmar.org</a>	Government	AS9988, AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://moeminthar.wordpress.com">moeminthar.wordpress.com</a>	Hosting and Blogging Platforms	AS9988, AS58952, AS133384, AS136255, AS137424	<a href="#">Link</a>
<a href="http://mofa.nugmyanmar.org">mofa.nugmyanmar.org</a>	Government	AS9988, AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://moh.nugmyanmar.org">moh.nugmyanmar.org</a>	Government	AS58952, AS133384, AS136255	<a href="#">Link</a>

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<a href="http://mohadm.nugmyanmar.org">mohadm.nugmyanmar.org</a>	Government	AS58952, AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://mohai.nugmyanmar.org">mohai.nugmyanmar.org</a>	Government	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://mohr.nugmyanmar.org">mohr.nugmyanmar.org</a>	Government	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://moic.nugmyanmar.org">moic.nugmyanmar.org</a>	Government	AS9988, AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://mol.nugmyanmar.org">mol.nugmyanmar.org</a>	Government	AS9988, AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://monrec.nugmyanmar.org">monrec.nugmyanmar.org</a>	Government	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://mopfi.nugmyanmar.org">mopfi.nugmyanmar.org</a>	Government	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://mowyca.nugmyanmar.org">mowyca.nugmyanmar.org</a>	Government	AS9988, AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://myanmartevolution.com">myanmartevolution.com</a>	E-commerce	AS133384, AS136255	<a href="#">Link</a>
<a href="http://myehtut.com">myehtut.com</a>	Political Criticism	AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://natthi.wordpress.com">natthi.wordpress.com</a>	Hosting and Blogging Platforms	AS9988, AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://nptcouncil.gov.mm">nptcouncil.gov.mm</a>	Government	AS58952, AS132167, AS133384, AS134739, AS135300, AS136255, AS136780	<a href="#">Link</a>
<a href="http://nugmyanmar.org">nugmyanmar.org</a>	Government	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://nwayoomyanmar.com">nwayoomyanmar.com</a>	Political Criticism	AS45558, AS58952, AS133384, AS136255, AS137424	<a href="#">Link</a>
<a href="http://obsproject.com">obsproject.com</a>	Media sharing	AS9988, AS132167	<a href="#">Link</a>
<a href="http://paowomensunion.wordpress.com">paowomensunion.wordpress.com</a>	Human Rights Issues	AS45558, AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://peersmyanmar.wordpress.com">peersmyanmar.wordpress.com</a>	Hosting and Blogging Platforms	AS58952, AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://pps.whatsapp.net">pps.whatsapp.net</a>	Communication Tools	AS58952, AS132167	<a href="#">Link</a>
<a href="http://prospectburma.org">prospectburma.org</a>	Economics	AS135300, AS136255	<a href="#">Link</a>
<a href="http://ru.wikipedia.org">ru.wikipedia.org</a>	Culture	AS9988, AS132167	<a href="#">Link</a>
<a href="http://sanooaung.wordpress.com">sanooaung.wordpress.com</a>	Political Criticism	AS58952, AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://shwebadailynews.com">shwebadailynews.com</a>	News Media	AS58952, AS132167, AS133384, AS134739, AS136255, AS137424, AS137891	<a href="#">Link</a>
<a href="http://t.co">t.co</a>	Hosting and Blogging Platforms	AS58952, AS136780	<a href="#">Link</a>
<a href="http://taangwomen.org">taangwomen.org</a>	Human Rights Issues	AS58952, AS133384, AS136255	<a href="#">Link</a>

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<a href="http://tacticaltech.org">tacticaltech.org</a>	Human Rights Issues	AS58952, AS132167, AS137891	<a href="#">Link</a>
<a href="http://textsecure-service.whispersystems.org">textsecure-service.whispersystems.org</a>	Communication Tools	AS134739, AS136255	<a href="#">Link</a>
<a href="http://thibi.co">thibi.co</a>	Human Rights Issues	AS58952, AS135300, AS136255	<a href="#">Link</a>
<a href="http://thunder.free-signal.com">thunder.free-signal.com</a>	Anonymization and circumvention tools	AS58952, AS132167, AS134739, AS137891	<a href="#">Link</a>
<a href="http://upload.twitter.com">upload.twitter.com</a>	Social Networking	AS45558, AS58952, AS132167, AS136780, AS58952, AS9988	<a href="#">Link</a>
<a href="http://viss.wordpress.com">viss.wordpress.com</a>	Culture	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://womenofburma.org">womenofburma.org</a>	Human Rights Issues	AS58952, AS132167, AS133384, AS133385, AS134739, AS136255, AS136780, AS137424	<a href="#">Link</a>
<a href="http://www.advocatesforyouth.org">www.advocatesforyouth.org</a>	Sex Education	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.ananzi.co.za">www.ananzi.co.za</a>	Search Engines	AS58952, AS137891	<a href="#">Link</a>
<a href="http://www.bhrn.org.uk">www.bhrn.org.uk</a>	Human Rights Issues	AS58952, AS133384, AS136255, AS137891	<a href="#">Link</a>
<a href="http://www.blueskyswimwear.com">www.blueskyswimwear.com</a>	Provocative Attire	AS58952, AS136255	<a href="#">Link</a>
<a href="http://www.brcgrohingya.org">www.brcgrohingya.org</a>	Human Rights Issues	AS58952, AS135300, AS136255	<a href="#">Link</a>
<a href="http://www.burma-projects.org">www.burma-projects.org</a>	Human Rights Issues	AS58952, AS135300, AS136255	<a href="#">Link</a>
<a href="http://www.burmalibrary.org">www.burmalibrary.org</a>	Culture	AS58952, AS136255	<a href="#">Link</a>
<a href="http://www.carsdb.com">www.carsdb.com</a>	E-commerce	AS58952, AS136255	<a href="#">Link</a>
<a href="http://www.change.org">www.change.org</a>	Human Rights Issues	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.chinlandguardian.com">www.chinlandguardian.com</a>	News Media	AS58952, AS136255, AS136780, AS137424, AS137891	<a href="#">Link</a>
<a href="http://www.dbe.moe.edu.mm">www.dbe.moe.edu.mm</a>	Government	AS58952, AS132167, AS133384, AS136255, AS136780	<a href="#">Link</a>
<a href="http://www.dmediag.com">www.dmediag.com</a>	News Media	AS58952, AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://www.dri.gov.mm">www.dri.gov.mm</a>	Government	AS58952, AS132167	<a href="#">Link</a>
<a href="http://www.ecequality.org">www.ecequality.org</a>	LGBT	AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://www.encburma.net">www.encburma.net</a>	Gaming	AS134739, AS136255	<a href="#">Link</a>
<a href="http://www.eurogrand.com">www.eurogrand.com</a>	Gambling	AS134739, AS136255, AS136780	<a href="#">Link</a>
<a href="http://www.exploremyanmar.com">www.exploremyanmar.com</a>	E-commerce	AS58952, AS132167	<a href="#">Link</a>
<a href="http://www.formercatholic.com">www.formercatholic.com</a>	Religion	AS58952, AS133384, AS135300, AS136255	<a href="#">Link</a>
<a href="http://www.frontiermyanmar.net">www.frontiermyanmar.net</a>	News Media	AS58952, AS136255	<a href="#">Link</a>
<a href="http://www.getrevue.co">www.getrevue.co</a>	Hosting and Blogging Platforms	AS9988, AS134739, AS136255, AS136780	<a href="#">Link</a>

Blocked Websites	Categories	ASN	Details
<a href="http://www.globalr2p.org">www.globalr2p.org</a>	Human Rights Issues	AS58952, AS133384, AS136255, AS137424	<a href="#">Link</a>
<a href="http://www.guerrillagirls.com">www.guerrillagirls.com</a>	Human Rights Issues	AS58952, AS135300, AS136255	<a href="#">Link</a>
<a href="http://www.hotspotshield.com">www.hotspotshield.com</a>	Anonymization and circumvention tools	AS58952, AS136255, AS137424	<a href="#">Link</a>
<a href="http://www.humanrightsactioncenter.com">www.humanrightsactioncenter.com</a>	Human Rights Issues	AS58952, AS136255	<a href="#">Link</a>
<a href="http://www.internationalrivers.org">www.internationalrivers.org</a>	Environment	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.isscr.org">www.isscr.org</a>	Public Health	AS58952, AS136255	<a href="#">Link</a>
<a href="http://www.isupportmyanmar.com">www.isupportmyanmar.com</a>	Political Criticism	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.itsyoursexlife.com">www.itsyoursexlife.com</a>	Sex Education	AS58952, AS134739, AS136255, AS136780	<a href="#">Link</a>
<a href="http://www.jmarshall.com">www.jmarshall.com</a>	Anonymization and circumvention tools	AS58952, AS132167, AS134739, AS137424, AS137891	<a href="#">Link</a>
<a href="http://www.libgen.tw">www.libgen.tw</a>	File-sharing	AS136255, AS136780	<a href="#">Link</a>
<a href="http://www.lightsailvpn.com">www.lightsailvpn.com</a>	Anonymization and circumvention tools	AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.m-mediagroup.com">www.m-mediagroup.com</a>	News Media	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.madre.org">www.madre.org</a>	Human Rights Issues	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.megaproxy.com">www.megaproxy.com</a>	Anonymization and circumvention tools	AS9988, AS58952, AS136255, AS137424	<a href="#">Link</a>
<a href="http://www.miaruby.co">www.miaruby.co</a>	E-commerce	AS58952, AS136255	<a href="#">Link</a>
<a href="http://www.mizzima.com">www.mizzima.com</a>	News Media	AS58952, AS133384, AS136255, AS137424	<a href="#">Link</a>
<a href="http://www.mizzima.tv">www.mizzima.tv</a>	News Media	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.mizzimaburmese.com">www.mizzimaburmese.com</a>	News Media	AS58952, AS133384, AS136255, AS137424	<a href="#">Link</a>
<a href="http://www.mmcdm.org">www.mmcdm.org</a>	Political Criticism	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.mogozay.com">www.mogozay.com</a>	E-commerce	AS58952, AS133384	<a href="#">Link</a>
<a href="http://www.monnews.org">www.monnews.org</a>	News Media	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.mywebcalls.com">www.mywebcalls.com</a>	Communication Tools	AS58952, AS134739, AS136255, AS136780	<a href="#">Link</a>
<a href="http://www.ncgub.net">www.ncgub.net</a>	Political Criticism	AS58952, AS137891	<a href="#">Link</a>
<a href="http://www.nclrights.org">www.nclrights.org</a>	LGBT	AS58952, AS133384, AS136255, AS137424	<a href="#">Link</a>
<a href="http://www.neonjoint.com">www.neonjoint.com</a>	Alcohol & Drugs	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.oca.org">www.oca.org</a>	Religion	AS9988, AS58952	<a href="#">Link</a>
<a href="http://www.oic-oci.org">www.oic-oci.org</a>	Religion	AS9988, AS58952, AS133384, AS134739, AS136255, AS136780	<a href="#">Link</a>

Blocked Websites	Categories	ASN	Details
<a href="http://www.onekyat.com">www.onekyat.com</a>	E-commerce	AS58952, AS134739, AS136255	<a href="#">Link</a>
<a href="http://www.pansodan.com">www.pansodan.com</a>	E-commerce	AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.phandeeyar.org">www.phandeeyar.org</a>	Human Rights Issues	AS9988, AS58952, AS133384, AS134739, AS135300, AS136255, AS136780, AS137424, AS137891	<a href="#">Link</a>
<a href="http://www.phenoelit.org">www.phenoelit.org</a>	Hacking Tools	AS134739, AS136255	<a href="#">Link</a>
<a href="http://www.pridemedia.com">www.pridemedia.com</a>	LGBT	AS58952, AS135300, AS136255, AS137424	<a href="#">Link</a>
<a href="http://www.ran.org">www.ran.org</a>	Environment	AS133384, AS136255, AS137424	<a href="#">Link</a>
<a href="http://www.rarbg.to">www.rarbg.to</a>	File-sharing	AS135300, AS136255	<a href="#">Link</a>
<a href="http://www.realornotmm.info">www.realornotmm.info</a>	News Media	AS9988, AS58952, AS134739, AS137424, AS137891	<a href="#">Link</a>
<a href="http://www.refugeesinternational.org">www.refugeesinternational.org</a>	Human Rights Issues	AS58952, AS133384, AS136255, AS137424	<a href="#">Link</a>
<a href="http://www.religioustolerance.org">www.religioustolerance.org</a>	Religion	AS134739, AS136255	<a href="#">Link</a>
<a href="http://www.savemyanmar.org">www.savemyanmar.org</a>	Human Rights Issues	AS9988, AS58952, AS132167, AS133384, AS134739, AS136255, AS136780, AS137424, AS137891	<a href="#">Link</a>
<a href="http://www.securityfocus.com">www.securityfocus.com</a>	Hacking Tools	AS9988, AS134739, AS136255, AS136780	<a href="#">Link</a>
<a href="http://www.thefarmermedia.com">www.thefarmermedia.com</a>	News Media	AS9988, AS58952, AS133384, AS134739, AS135300, AS136255, AS136780, AS137891	<a href="#">Link</a>
<a href="http://www.thegeekdiary.com">www.thegeekdiary.com</a>	Hacking Tools	AS58952, AS132167	<a href="#">Link</a>
<a href="http://www.thiloyarmay.org">www.thiloyarmay.org</a>	Sex Education	AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.torproject.org">www.torproject.org</a>	Anonymization and circumvention tools	AS58952, AS133384, AS136255	<a href="#">Link</a>
<a href="http://www.tunnelbear.com">www.tunnelbear.com</a>	Anonymization and circumvention tools	AS58952, AS136255, AS137891	<a href="#">Link</a>
<a href="http://www.uscampaignforburma.org">www.uscampaignforburma.org</a>	Political Criticism	AS58952, AS135300, AS136255	<a href="#">Link</a>
<a href="http://www.vpngate.net">www.vpngate.net</a>	Anonymization and circumvention tools	AS132167, AS134739, AS136255	<a href="#">Link</a>
<a href="http://www.wiesenthal.com">www.wiesenthal.com</a>	Human Rights Issues	AS9988, AS58952, AS132167, AS133384, AS134739, AS135300, AS136255, AS136780	<a href="#">Link</a>
<a href="http://www.wmtransfer.com">www.wmtransfer.com</a>	E-commerce	AS132167, AS135300	<a href="#">Link</a>
<a href="http://www.yangon.hluttaw.mm">www.yangon.hluttaw.mm</a>	Government	AS134739, AS136255	<a href="#">Link</a>
<a href="http://www.zone-h.org">www.zone-h.org</a>	Hacking Tools	AS134739	<a href="#">Link</a>

## Annex II: List of ISPs

ASN	ASN Name	ASN Ownership/ Description	ASN Registration Country	Measurement Count
AS134840	MCCL-AS-AP	Myanmar Country Co., Ltd.	MM	6,145
AS9988	MPT-AP	Myanma Posts & Telecommunications	MM	67,752
AS133384	GTCL-AS-AP	Global Technology Co., Ltd.	MM	43,040
AS132148	HTI-AS-AP	HORIZON TELECOM INTERNATIONAL COMPANY LIMITED	MM	1,178
AS135300	MBTCL-AS-AP	Myanmar Broadband Telecom Co., Ltd.	MM	23,803
AS136255	TIMCL-AS-AP	Telecom International Myanmar Co., Ltd.	MM	106,060
AS136442	OCEANWAVE-AS-AP	Ocean Wave Communication Co., Ltd.	MM	382
AS58952	FRONTIIRCOLTD-MM	Frontiir Co., Ltd.	MM	59,830
AS135371	FORTUNEINTERNATIONAL-AS-AP	Fortune International Ltd.	MM	187
AS138168	APN-AS-AP	MyanmarAPN Company Limited	MM	1,517
AS133385	ATOMMYANMAR-AS-AP	Atom Myanmar Limited	MM	16,348
AS136780	MIHL-AS-AP	MYANMAR INFORMATION HIGHWAY LIMITED	MM	130,572
AS136480	MMUNILINK-AS-AP	Myanmar Unilink Communication Company Limited	MM	2,597
AS132167	OML-MM	Ooredoo Myanmar Limited	MM	62,492
AS63852	FMG-MM	Myanmar Net	MM	130
AS133524	GTCL-AS-AP	Global Technology Co., Ltd.	MM	73



AS45558	MPT-MM-AS-AP	Myanma Post & Telecommunication	MM	5,079
AS138167	TRUENET-AS-AP	TrueNET Company Limited	MM	18
AS18399	YTCL-AS-AP	Yatanarpon Teleport Company Limited	MM	29
AS135405	TMHTTWTL-AS-AP	Tah Moe Hnye'Chan Thar Tun We Thar Company Limited (WELINK)	MM	2,544
AS141216	GreatGoldenHorse-AS-AP	GREAT GOLDEN HORSE COMPANY LIMITED	MM	34
AS134739	AS-AGBC	AGB Communication Co., Ltd	MM	151,723
AS135307	GTMH-AS-AP	Golden TMH Telecom Co. Ltd	MM	100
AS136975	GNET-AS-AP	Global Technology Group	MM	5
AS63998	KMTCL-MM	Kinetic Myanmar Technology Co., Ltd	MM	21
AS137891	BETHEFIRST-AS-AP	Be The First Co., Ltd.	MM	6,670
AS137424	ISMC-AS-AP	Integral Solutions Myanmar Co., Ltd.	MM	12,348
AS139766	PROTOCOL-AS-AP	Protocol Technologies Co.,Ltd t/a KNET	MM	2
AS139003	TELCOSPEEDCOLTD-AS-AP	Telcospeed	MM	3
AS133433	ZPC-AS-AP	Zoom Plus Co,Ltd.	MM	810
AS135589	IMNCL-AS-AP	Internet Maekhong Network Company Limited	MM	18
AS136205	LINNITSOLUTION-AS-AP	Linn IT Solution Company Limited	MM	8
AS136210	ITSPECTRUM-AS-AP	IT Spectrum Company Limited	MM	200
AS136474	MGTL-AS-AP	Marga Global Telecom Limited	MM	97
AS137409	GSLNETWORKS-AS-AP	GSL Networks Pty LTD	AU	40
AS137826	ASTCL-AS-AP	AST SYSTEM TECHNOLOGY COMPANY LIMITED	MM	377
AS139849	ROYALESPRIT-AS-AP	Royal Esprit Company Limited	MM	30

AS140686	GMUT-AS-AP	Golden Myanmar United Telecom	MM	417
AS150721	ANCL-AS-AP	ARAKHA NET	MM	402
AS16276	OVH	OVH SAS	FR	74
AS212238	CDNEXT	Datacamp Limited	UK	20
AS132100	MSN-AS-AP	Myanmar Speed Net Co.,Ltd	MM	12,658
AS13030	INIT7	Init7 (Switzerland) Ltd.	CH	2,257
AS13335	CLOUDFLARENET	Cloudflare, Inc.	US	300
AS134714	ETPCL-AS-AP	Elite Telecom Public Company Limited	MM	169
AS136229	TCLC-AS-AP	Treasure Chindwin Land Co.,Ltd	MM	1
AS149487	MCLOCCL-AS-AP	MOC COMPANY LIMITED	MM	4
AS209854	CYBERZONEHUB	Cyberzone S.A.	PA	345
AS133440	STIGW-AS-AP	ST.Net BGP Network	MM	208



## Annex III: Glossary

DNS	<p>DNS, which stands for Domain Name System, maps domain names to IP addresses.</p> <p>A domain is a name that is commonly attributed to websites (when they're created), so that they can be more easily accessed and remembered. For example, twitter.com is the domain of the Twitter website.</p> <p>However, computers can't connect to internet services through domain names, but based on IP addresses: the digital address of each service on the internet. Similarly, in the physical world, you would need the address of a house (rather than the name of the house itself) in order to visit it.</p> <p>The Domain Name System (DNS) is what is responsible for transforming a human-readable domain name (such as ooni.org) into its numerical IP address counterpart (in this case:104.198.14.52), thus allowing your computer to access the intended website.</p>
HTTP	<p>The Hypertext Transfer Protocol (HTTP) is the underlying protocol used by the World Wide Web to transfer or exchange data across the internet.</p> <p>The HTTP protocol allows communication between a client and a server. It does so by handling a client's request to connect to a server, and the server's response to the client's request.</p> <p>All websites include an HTTP (or HTTPS) prefix (such as http://example.com/) so that your computer (the client) can request and receive the content of a website (hosted on a server).</p> <p>The transmission of data over the HTTP protocol is unencrypted.</p>
Heuristics	<p>Heuristics obtain further confirmed blockings other than that which are detected based on OONI blocking fingerprints. More detailed explanation can be found <a href="#">here</a>.</p>
ISP	<p>An Internet Service Provider (ISP) is an organization that provides services for accessing and using the internet.</p> <p>ISPs can be state-owned, commercial, community-owned, non-profit, or otherwise privately owned. Vodafone, AT&amp;T, Airtel, and MTN are examples of ISPs.</p>
Middle boxes	<p>A middlebox is a computer networking device that transforms, inspects, filters, or otherwise manipulates traffic for purposes other than packet forwarding.</p>

	<p>Many Internet Service Providers (ISPs) around the world use middleboxes to improve network performance, provide users with faster access to websites, and for a number of other networking purposes.</p> <p>Sometimes, middleboxes are also used to implement internet censorship and/or surveillance.</p> <p>The OONI Probe app includes two tests designed to measure networks with the aim of identifying the presence of middleboxes.</p>
TCP	<p>The Transmission Control Protocol (TCP) is one of the main protocols on the internet.</p> <p>To connect to a website, your computer needs to establish a TCP connection to the address of that website.</p> <p>TCP works on top of the Internet Protocol (IP), which defines how to address computers on the internet.</p> <p>When speaking to a machine over the TCP protocol you use an IP and port pair, which looks something like this: 10.20.1.1:8080.</p> <p>The main difference between TCP and (another very popular protocol called) UDP is that TCP has the notion of a “connection”, making it a “reliable” transport protocol.</p>
TLS	<p>Transport Layer Security (TLS) - also referred to as “SSL” - is a cryptographic protocol that allows you to maintain a secure, encrypted connection between your computer and an internet service.</p> <p>When you connect to a website through TLS, the address of the website will begin with HTTPS (such as <a href="https://www.facebook.com/">https://www.facebook.com/</a>), instead of HTTP.</p>

A comprehensive glossary related to OONI can be accessed here:  
<https://ooni.org/support/glossary/>.

# Annex IV: Methodology

## Data

Data computed based on the heuristics for this report can be downloaded here: <https://github.com/Sinar/imap-data> whereas aggregated data can be downloaded from [OONI Explorer](#).

## Coverage

The iMAP State of Internet Censorship Country Report covers the findings of network measurement collected through Open Observatory of Network Interference (OONI) [OONI Probe App](#) that measures the blocking of websites, instant messaging apps, circumvention tools and network tampering. The findings highlight the websites, instant messaging apps and circumvention tools confirmed to be blocked, the ASNs with censorship detected and method of network interference applied. The report also provides background context on the network landscape combined with the latest legal, social and political issues and events which might have an effect on the implementation of internet censorship in the country.

In terms of timeline, this second iMAP report covers measurements obtained in the one-year period from 1 July 2022 to 30 June 2023. The countries covered in this round are Cambodia, Hong Kong (China), Indonesia, Malaysia, Myanmar, Philippines, Thailand, India, Vietnam and Timor-Leste.

## How are the network measurements gathered?

Network measurements are gathered through the use of [OONI Probe app](#), a free software tool developed by [Open Observatory of Network Interference \(OONI\)](#). To learn more about how the OONI Probe test works, please visit <https://ooni.org/nettest/>.

iMAP Country Researchers and anonymous volunteers run OONI Probe app to examine the accessibility of websites included in the [Citizen Lab test lists](#). iMAP Country Researchers actively review the country-specific test lists to ensure up-to-date websites are included and context-relevant websites are properly categorised, in consultation with local communities and digital rights network partners. We adopt the [approach taken by Netalitica](#) in reviewing country-specific test lists.

It is important to note that the findings are only applicable to the websites that were examined and do not fully reflect all instances of censorship that might have occurred during the testing period.

## How are the network measurements analysed?

OONI processes the following types of data through its [data pipeline](#):

### Country code

OONI by default collects the code which corresponds to the country from which the user is running OONI Probe tests from, by automatically searching for it based on the user's IP address through their [ASN database](#) the [MaxMind GeoIP database](#).

### Autonomous System Number (ASN)

OONI by default collects the Autonomous System Number (ASN) of the network used to run OONI Probe app, thereby revealing the network provider of a user.

### Date and time of measurements

OONI by default collects the time and date of when tests were run to evaluate when network interferences occur and to allow comparison across time. UTC is used as the standard time zone in the time and date information. In addition, the charts generated on OONI MAT will exclude measurements on the last day by default.

### Categories

The 32 website categories are based on the Citizenlab test lists: <https://github.com/citizenlab/test-lists>. As not all websites tested on OONI are on these test lists, these websites would have unclassified categories.

No.	Category Description	Code	Description
1	Alcohol & Drugs	ALDR	Sites devoted to the use, paraphernalia, and sale of drugs and alcohol irrespective of the local legality.
2	Religion	REL	Sites devoted to discussion of religious issues, both supportive and critical, as well as discussion of minority religious groups.
3	Pornography	PORN	Hard-core and soft-core pornography.

No.	Category Description	Code	Description
4	Provocative Attire	PROV	Websites which show provocative attire and portray women in a sexual manner, wearing minimal clothing.
5	Political Criticism	POLR	Content that offers critical political viewpoints. Includes critical authors and bloggers, as well as oppositional political organizations. Includes pro-democracy content, anti-corruption content as well as content calling for changes in leadership, governance issues, legal reform. Etc.
6	Human Rights Issues	HUMR	Sites dedicated to discussing human rights issues in various forms. Includes women's rights and rights of minority ethnic groups.
7	Environment	ENV	Pollution, international environmental treaties, deforestation, environmental justice, disasters, etc.
8	Terrorism and Militants	MILX	Sites promoting terrorism, violent militant or separatist movements.
9	Hate Speech	HATE	Content that disparages particular groups or persons based on race, sex, sexuality or other characteristics
10	News Media	NEWS	This category includes major news outlets (BBC, CNN, etc.) as well as regional news outlets and independent media.
11	Sex Education	XED	Includes contraception, abstinence, STDs, healthy sexuality, teen pregnancy, rape prevention, abortion, sexual rights, and sexual health services.
12	Public Health	PUBH	HIV, SARS, bird flu, centers for disease control, World Health Organization, etc
13	Gambling	GMB	Online gambling sites. Includes casino games, sports betting, etc.
14	Anonymization and circumvention tools	ANON	Sites that provide tools used for anonymization, circumvention, proxy-services and encryption.
15	Online Dating	DATE	Online dating services which can be used to meet people, post profiles, chat, etc
16	Social Networking	GRP	Social networking tools and platforms.

No.	Category Description	Code	Description
17	LGBT	LGBT	A range of gay-lesbian-bisexual-transgender queer issues. (Excluding pornography)
18	File-sharing	FILE	Sites and tools used to share files, including cloud-based file storage, torrents and P2P file-sharing tools.
19	Hacking Tools	HACK	Sites dedicated to computer security, including news and tools. Includes malicious and non-malicious content.
20	Communication Tools	COMT	Sites and tools for individual and group communications. Includes webmail, VoIP, instant messaging, chat and mobile messaging applications.
21	Media sharing	MMED	Video, audio or photo sharing platforms.
22	Hosting and Blogging Platforms	HOST	Web hosting services, blogging and other online publishing platforms.
23	Search Engines	SRCH	Search engines and portals.
24	Gaming	GAME	Online games and gaming platforms, excluding gambling sites.
25	Culture	CULTR	Content relating to entertainment, history, literature, music, film, books, satire and humour
26	Economics	ECON	General economic development and poverty related topics, agencies and funding opportunities
27	Government	GOVT	Government-run websites, including military sites.
28	E-commerce	COMM	Websites of commercial services and products.
29	Control content	CTRL	Benign or innocuous content used as a control.
30	Intergovernmental Organizations	IGO	Websites of intergovernmental organizations such as the United Nations.
31	Miscellaneous content	MISC	Sites that don't fit in any category (XXX Things in here should be categorised)

## IP addresses and other information

OONI does not collect or store users' IP addresses deliberately. OONI takes measures to remove them from the collected measurements, to protect its users from [potential risks](#). However, there may be instances where users' IP addresses and other potentially personally-identifiable information are unintentionally collected, if such information is included in the HTTP headers or other metadata of measurements. For example, this can occur if the tested websites include tracking technologies or custom content based on a user's network location.

## Network measurements

The types of network measurements that OONI collects depend on the types of tests that are run. Specifications about each OONI test can be viewed through its [git repository](#), and details about what collected network measurements entail can be viewed through [OONI Explorer](#) or through [OONI's measurement API](#).

In order to derive meaning from the measurements collected, OONI processes the data types mentioned above to answer the following questions:

- Which types of OONI tests were run?
- In which countries were those tests run?
- In which networks were those tests run?
- When were tests run?
- What types of network interference occurred?
- In which countries did network interference occur?
- In which networks did network interference occur?
- When did network interference occur?
- How did network interference occur?

To answer such questions, OONI's pipeline is designed to answer such questions by processing network measurements data to enable the following:

- Attributing measurements to a specific country.
- Attributing measurements to a specific network within a country.
- Distinguishing measurements based on the specific tests that were run for their collection.
- Distinguishing between “normal” and “anomalous” measurements (the latter indicating that a form of network tampering is likely present).
- Identifying the type of network interference based on a set of heuristics for DNS tampering, TCP/IP blocking, and HTTP blocking.
- Identifying block pages based on a set of heuristics for HTTP blocking.
- Identifying the presence of “middle boxes” within tested networks.

According to OONI, false positives may occur within the processed data due to a number of reasons. DNS resolvers (operated by Google or a local ISP) often provide users with IP addresses that are closest to them geographically. While this may appear to be a case of DNS tampering, it is actually done with the intention of providing users with faster access to websites. Similarly, false positives may emerge when tested websites serve different content depending on the country that the user is connecting from, or in the cases when websites return failures even though they are not tampered with.

Furthermore, measurements indicating HTTP or TCP/IP blocking might actually be due to temporary HTTP or TCP/IP failures, and may not conclusively be a sign of network interference. It is therefore important to test the same sets of websites across time and to cross-correlate data, prior to reaching a conclusion on whether websites are in fact being blocked.

Since block pages differ from country to country and sometimes even from network to network, it is quite challenging to accurately identify them. OONI uses a series of heuristics to try to guess if the page in question differs from the expected control, but these heuristics can often result in false positives. For this reason OONI only says that there is a confirmed instance of blocking when a block page is detected.

Upon collection of more network measurements, OONI continues to develop its data analysis heuristics, based on which it attempts to accurately identify censorship events.

The full list of country-specific test lists containing confirmed blocked websites in Myanmar, Cambodia, Hong Kong, Indonesia, Malaysia, Philippines, Thailand, and Vietnam can be viewed here: <https://github.com/citizenlab/test-lists>.

### Verifying OONI measurements

Confirmed blocked OONI measurements were based on fingerprints recorded here <https://github.com/ooni/blocking-fingerprints>. These fingerprints are based on either DNS or HTTP blocking. Fingerprints recorded as confirmed blockings are either those implemented nationally or by ISPs.

Hence, heuristics as below were run on raw measurements on all countries under iMAP to further confirm blockings.



Firstly, IP addresses with more than 10 domains were identified. Then each of the IP address was checked for the following:

Does the IP in question point to a government blockpage?					
Yes	No, page timed out or shows Content Delivery Network (CDN) page.				
↓	↓				
Confirmed blocking	What information can we get about the IP by doing a whois lookup?				
	Government entity	Local ISP <sup>94</sup>	CDN <sup>95</sup> / Private IP		
	↓	↓	↓		
	<b>Confirmed blocking</b>	<b>Likely Blocked or Inaccessible</b>	Do we get a valid TLS certificate for one of the domains in question when doing a TLS handshake and specifying the SNI		
			Yes	No, there were blocking fingerprints found.	No, timed out
			↓	↓	↓
			<b>False positive</b>	<b>Confirmed blocking</b>	Sampled measurement is analyzed on OONI Explorer.

When blocking is determined, any domain redirected to these IP addresses would be marked as ‘dns.confirmed’.

<sup>94</sup> In the case of India, there was [evidence](#) of popular websites hosting their site on the ISPs network for quicker loading times as the ISPs sometimes offer such edge networking services, hence websites redirected to local websites not marked as blocked.

<sup>95</sup> In general, websites redirected to popular CDN such as CloudFlare, Amazon, Google, etc. are marked as not blocked.

Secondly, HTTP titles and bodies were analyzed to determine blockpages. This [example](#) shows that the HTTP returns the text ‘The URL has been blocked as per the instructions of the DoT in compliance to the orders of Court of Law’. Any domain redirected to these HTTP titles and bodies would be marked as ‘http.confirmed’.

As a result, false positives are eliminated and more confirmed blockings are obtained.

In the [2022 report](#), only confirmed blockings based on OONI or new fingerprints were reported.

For this round of reporting in 2023, we had also further identified confirmed blockings by verifying blockings shown in news reports with OONI measurements. This is because there were blockings that could be not identified using the DNS or HTTP fingerprints. Typically, these websites were redirected to an unknown or bogon IP address, or had other unknown errors which are ambiguous on whether they are true or false positives of censorship. Hence, based on the news reports where the blocked websites were cited, confirmed blockings were further found by comparing available measurements on OONI. In particular for this study, we would mark them as confirmed blockings if there are more than 30 measurements and have an anomaly rate of more than 1% throughout the one-year period of study, in addition to manually checking the OONI measurements by cross-checking across networks, countries and time periods.

For this round of reporting in 2024, the confirmed blockings were further consolidated based on OONI’s existing fingerprints and heuristics processed on the data during the coverage period, in addition to taking into account a weighted anomaly ratio, measurement count and past analysis of the country. In summary, these were the rules applied to obtain this year’s list of confirmed and likely blockings.

Confirmed blockings		Likely blockings or inaccessible
Malaysia	Confirmed by OONI only	None
Myanmar	<ul style="list-style-type: none"> <li>Confirmed by heuristics (govt block page)</li> <li>Confirmed by OONI (govt block page)</li> </ul>	High weighted anomaly ratio and confirmed by news report/ block notice
Thailand	<ul style="list-style-type: none"> <li>Confirmed by heuristics (govt block page)</li> <li>Confirmed by OONI (govt block page)</li> </ul>	High weighted anomaly ratio
Philippines	<ul style="list-style-type: none"> <li>Confirmed by heuristics (govt block page)</li> <li>Confirmed by OONI (govt block page)</li> <li>Confirmed by news report/ block notice</li> </ul>	High weighted anomaly ratio
India	<ul style="list-style-type: none"> <li>Confirmed by OONI with at least 5 counts</li> <li>Confirmed by heuristics (govt block pages)</li> </ul>	High weighted anomaly ratio
Indonesia	<ul style="list-style-type: none"> <li>Confirmed by OONI with at least 5 counts</li> <li>Confirmed by heuristics (govt block pages)</li> </ul>	High weighted anomaly ratio
Vietnam	<ul style="list-style-type: none"> <li>Confirmed by heuristics (govt block page)</li> <li>Confirmed by news report/ block notice</li> </ul>	<ul style="list-style-type: none"> <li>High weighted anomaly ratio</li> <li>Confirmed by OONI (due to being ISP redirects)</li> </ul>
Cambodia	<ul style="list-style-type: none"> <li>Confirmed by news report/ block notice</li> </ul>	<ul style="list-style-type: none"> <li>High weighted anomaly ratio</li> <li>Confirmed by OONI (due to being ISP redirects)</li> </ul>
Hong Kong	None	High weighted anomaly ratio

*Weighted anomaly ratio: It is calculated by finding the ratio of the Anomaly and Confirmed counts over the total measurements per ASN factoring weights based on number of measurements per domain and per ASN. A high anomaly ratio is when the P90 of the anomaly ratio of a domain exceeds 90%.*