

# Internet Shutdown

## Central Asia: Needs, Challenges, Capacity Assessment

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## About this report

The 21st century became a turning point for the technological revolution also known as the 4th Industrial Revolution. One cannot deny that credit for such developments goes to the internet which has been an integral part of day-to-day life as the main driver of innovation and economy across the globe. It is for this reason the High Commissioner for Human Rights called to reinforce access to the Internet as a human right, not just a privilege.<sup>1</sup>

While the internet offers nations the chance to grow beyond their borders, as with any other technology it also serves as a tool for control and censorship. In 2022, [Access Now's Shutdown Tracker Optimization Project \(STOP\)](#), in collaboration with the #KeepItOn coalition, recorded 187 internet shutdowns in 35 countries. The year was marked by the weaponization of shutdowns during armed conflict, a continued resurgence of disruptions during peaceful protests, and the entrenchment of repeated and prolonged shutdowns which also touched the Central Asian region.

The current paper is divided into two parts. The first part of the paper introduces the reader to the current state of internet freedom and trends around internet shutdowns in Central Asia and their socio-economic consequences. [The second part](#) of the paper will serve as a guideline toolkit for journalists, universities, and civil society eager to learn more about the circumvention tools for internet shutdown. This section is meant to provide readers with a better understanding of legal frameworks and the measures one can take to prevent or be prepared for an internet shutdown.

Together these two sections and the overall report aim to serve as an effort toward starting collaboration among interested parties, building advocacy strategies, and developing training and resources to address the challenge identified in the region.

The methodology of this report is based on the following:

1. Literature review on the Internet shutdown history and background on individual countries in the region
2. Survey/expert interviews

The methodology specifically aimed to break down holistically the state of internet shutdowns in the region, common perceptions, and experiences of the affected communities, private sector, university, and civil society organizations working in the field. In addition, the proposed methodology aims to:

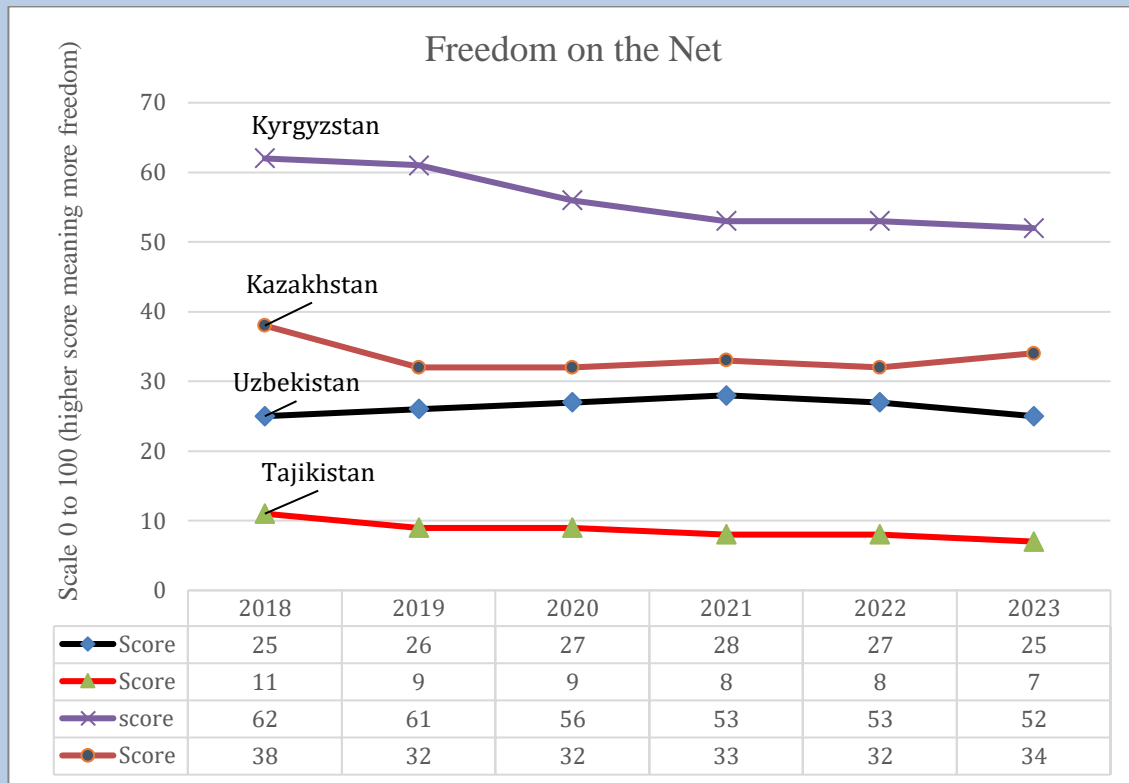
- Identify common patterns and trends;
- Socio-political triggers for the government to shut down the internet;
- The wider impact of internet shutdown on the economy, vulnerable and marginalized communities, and groups;
- Laws and regulations that enable the environment for internet shutdown;
- Understand the needs of civil society when it comes to awareness raising, advocacy, network measurement, documentation, and legal capacity.

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<sup>1</sup> OHCHR. 2023 “It May Be Time to Reinforce Universal Access to the Internet as a Human Right, Not Just a Privilege, High Commissioner Tells Human Rights Council.” <https://www.ohchr.org/en/news/2023/03/it-may-be-time-reinforce-universal-access-internet-human-right-not-just-privilege-high>.

## Key Findings

Central Asian region presents a complex set of challenges when it comes to accessing the internet. For the past years, the region has been grappling with decreasing freedom of the media (see the graph below) along with unbalanced legal measures that are allowing governments of this region to effectively increase censorship over their citizens.



*Source: Freedom House*

Experts in the field identify key challenges to internet access in Tajikistan, attributing the issues to uncompetitive market structures and the difficult mountainous terrain, posing obstacles to the installation of high-speed fiber optic internet services. Furthermore, the government retains control since all ISPs must get internet data through the state-run Unified Electronic Communications Switching Center (EKTs), managed by Tajiktelecom. Only two ISPs, TT Mobile – Babilon and Indigo Tajikistan-Tcell, recently have been permitted to access international channels for sourcing the internet. This not only hampers accessibility but also contributes to the high cost of internet services, particularly impacting citizens in rural areas due to a lack of electricity and internet infrastructure.

Despite a growing rate of internet penetration fueled by a young population in the region, a significant portion of internet users lack essential digital literacy skills, leading to vulnerability to misinformation. Experts highlight a lag in government efforts to integrate new curricula that align with evolving technologies, reflecting a widespread deficiency in digital education. This deficiency extends to civil society and journalists who struggle to respond effectively to internet shutdowns, lacking expertise in utilizing circumvention and legal tools. Virtual Private Networks (VPNs) are thought to be the main circumvention tools during internet shutdown while other methods are often overlooked. Addressing these gaps in digital literacy and promoting a diversified toolkit beyond VPNs are critical steps for enhancing resilience against internet shutdowns.

### History of Internet Shutdowns in Central Asia

Central Asia has experienced a recurring trend of internet shutdowns, with each country facing distinct challenges driving the disruption of online connectivity. In Kazakhstan, historical patterns reveal shutdowns linked to protests, terrorism (or violent extremist content online), and elections, aimed at controlling information flow. Despite government efforts to project active threat mitigation, these measures adversely impact the economy and users. Kyrgyzstan on the other hand, with a limited history of shutdowns, faces a potential shift as the government tightens control over regulations and user data, implementing targeted block of certain websites critical of the government in response to political unrest.

Tajikistan and Uzbekistan's internet shutdown catalysts include protests, objectionable social media content, and electoral events, with documented instances of targeted blanket shutdowns in minority communities. The lack of a robust preventive framework hinders civil society and journalists from responding effectively. Concerns persist about potential shutdowns responding to civil disobedience, accompanied by fears of heightened censorship affecting freedom of speech.

Lastly, according to various sources, including the Netblocks calculator, reports from the #KeepItOn coalition, and findings by Freedom House, the calculated economic impact of internet shutdowns within the nations assessed in this report for the year 2022 alone exceeds half a billion dollars.<sup>2</sup> These figures only represent the economic impact while failing to consider the emotional and physical harm, collectively resulting in adverse effects on citizens. Sectors such as banks, hospitals, and educational institutions encounter obstacles, thereby hindering their proper functionality and growth.

## Policy Recommendations

Across these Central Asian nations, a nuanced, proactive approach is crucial to address the economic impact and empower civil society in navigating the complex landscape of internet shutdowns. As a follow-up on the gathered data and conclusion of the report, these recommendations are proposed:

- *Secondary literature and expert surveys present a lack of digital literacy among the region's population. Thus, enhancing the digital literacy of the region and promoting critical thinking among youth is essential for the safe use of the internet.*
- *Often government authorities are not held accountable due to the unbalanced legal framework that often gives more power to the state. Therefore, advocating for the rule of law and competitive market structures should be taken into consideration.*
- *Providing technical and logistical assistance for Central Asian countries in providing broadband internet, especially in rural areas.*
- *Although the issue is recognized and understood by civil societies throughout the region, their ability to take action is limited due to low technical and knowledge capacity. Therefore, supporting civil society in enhancing their comprehension of Internet regulations and international norms would contribute to addressing this challenge.*

## Introduction

Central Asia is emerging as a pivotal region in digitalization and the Internet of Things (IoT). The aspirations of Central Asian governments are focused on establishing both legislative frameworks and technical infrastructures. Despite these efforts, the practical impact of these initiatives often remains elusive. The region grapples with a notable absence of high-speed internet accessibility, primarily attributable to insufficient infrastructure and the geographical challenge of being

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<sup>2</sup> Lillis, Joanna. 2023. "Central Asia's Government-Ordered Internet Blackouts Costing Millions." Eurasianet. January 4, 2023. <https://eurasianet.org/central-asias-government-ordered-internet-blackouts-costing-millions>.

landlocked. Especially, this is reflected in the case of Kyrgyzstan and Tajikistan where over 90 percent of the territory consists of mountains.<sup>3</sup>

In Central Asia, accessibility to high-speed internet remains constrained and proves to be economically burdensome for individuals and businesses. According to [Datareportal](#), the household fixed broadband penetration rate varies across the region, ranging from a mere 40.1 percent in Tajikistan to a more substantial 90 percent in Kazakhstan. Furthermore, lack of access to the internet is seen as a major issue in rural areas of Central Asia.<sup>4</sup> According to several experts, this is also caused by the absence of necessary infrastructure such as electricity to have access to the internet.



*Map of the Central Asia*

The limited broadband connectivity in the region has contributed to a delayed adoption of new technologies and a lower prevalence of Internet usage, particularly in rural areas. Consequently, the region faces impediments in fully harnessing the benefits of digitalization, highlighting the critical need for strategic interventions to address connectivity challenges and foster widespread technological advancement.

Furthermore, the cost of Internet access presents a noteworthy challenge for countries such as Tajikistan and Turkmenistan, where users must allocate a substantial proportion of their income to ensure uninterrupted connectivity. As indicated by the data presented in the table below, Kyrgyzstan is globally recognized for offering one of the most cost-effective Internet services, while Turkmenistan is positioned among the nations with the highest expenses, in relation to the price of 1GB of average mobile data.

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<sup>3</sup> “8.7 Central Asia and Afghanistan.” World Regional Geography, June 17, 2016.

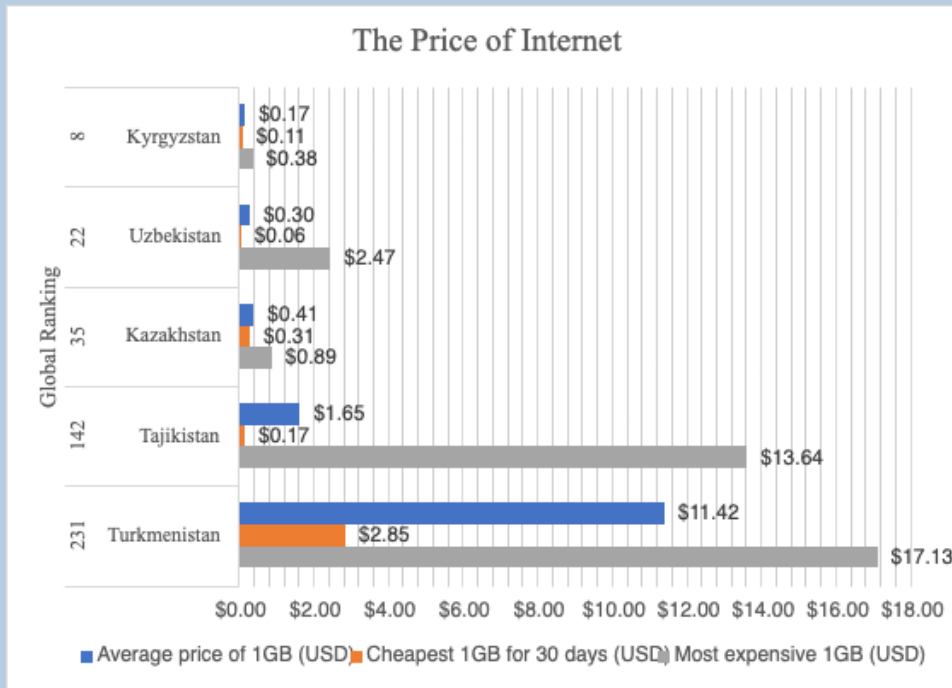
<https://open.lib.umn.edu/worldgeography/chapter/8-7-central-asia-and-afghanistan/>.

<sup>4</sup> “How Central Asia Can Ensure It Doesn’t Miss out on a Digital Future.” World Bank Blogs.

Accessed January 11, 2024. <https://blogs.worldbank.org/europeandcentralasia/how-central-asia-can-ensure-it-doesnt-miss-out-digital-future#:~:text=Nearly%20half%20the%20population%20in,of%20individuals%20using%20the%20internet.>

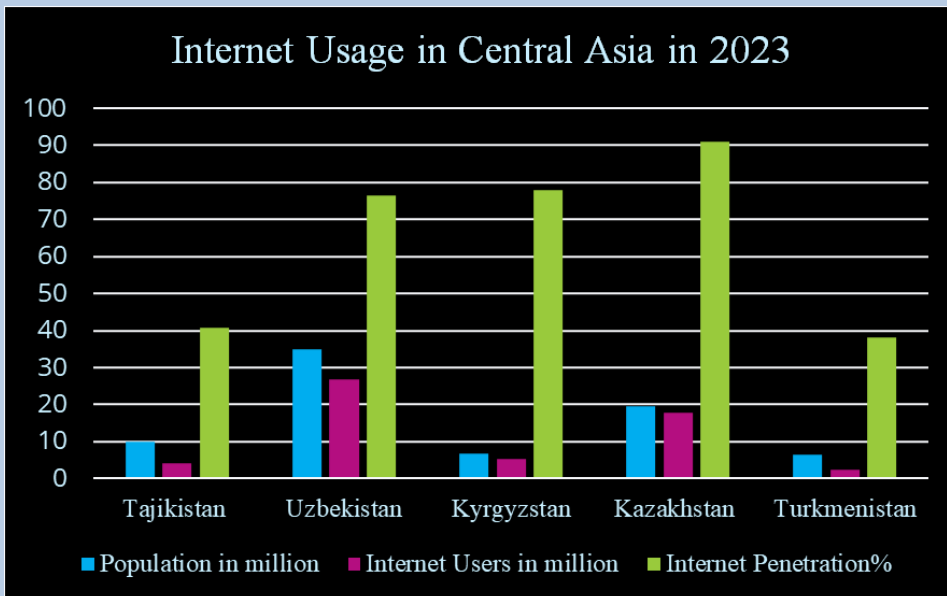
<https://blogs.worldbank.org/europeandcentralasia/how-central-asia-can-ensure-it-doesnt-miss-out-digital-future#:~:text=Nearly%20half%20the%20population%20in,of%20individuals%20using%20the%20internet.>

<https://blogs.worldbank.org/europeandcentralasia/how-central-asia-can-ensure-it-doesnt-miss-out-digital-future#:~:text=Nearly%20half%20the%20population%20in,of%20individuals%20using%20the%20internet.>



*Source: cable.co.uk*

The price of the internet is also visible in the penetration rate of the internet among Central Asian Countries in the table below:



*Source: datareportal.com*

While these countries are trying to bring more access to the Internet, many civil society organizations argue that having access to the Internet is not sufficient if users are censored and unable to raise their voices due to Internet shutdowns.

According to Access Now's #KeepItOn coalition database, governments in Central Asia often resort to shutting down the internet during protests and civil unrest. For the past years, this trend has been mainly related to the growing authoritarianism in the region and the closure of civil society organizations.



## KAZAKHSTAN

Kazakhstan is the largest country by territory in Central Asia and has the [highest GDP](#) per capita (10,373.79 USD) in the region. With a population approaching 20 million and a median age of nearly 30, Kazakhstan is making significant advancements in the digitalization of its economy. This progress is reflected in the impressive [91% internet penetration](#) rate, and the country is ranked 67th globally in mobile internet speed according to the [Speedtest Global Index](#).

The primary governmental regulatory authority overseeing the Internet is the Ministry of Digital Development, Innovations, and Aerospace Industry, which includes a dedicated committee focusing on telecommunications and networks. The authority to implement measures such as blocking and shutdowns lies within the power of the Ministry of Internal Affairs, the Ministry of Defense, and the Prosecutor General's Office.

### Digital economy

Over the past decade, the Government of Kazakhstan has made significant advancements in the digitalization of its economy. In 2017, a milestone initiative, the [Digital Kazakhstan](#) 2018-2022 program, was introduced with a substantial investment of one billion dollars. This program aimed at enhancing the country's digital infrastructure and included the implementation of specialized sub-programs, such as the establishment of [the Astana Hub](#) International Technology Park in 2018 to foster digital innovation and the initiation of the "Cybershield Kazakhstan" program to fortify cybersecurity measures.

In early 2022, the government launched its third five-year digitalization program, "Digital Era Lifestyle" (DigitEL), placing a key emphasis on ensuring the quality and safety of the Internet in [several sectors](#) such as health, finance, transportation, and others. This strategic move reflects a commitment to sustaining and expanding the digital transformation agenda.

Noteworthy strides have also been made in the establishment of the e-government portal, guided by the Decree of the President of the Republic of Kazakhstan dated November 10, 2004, No. 1471, which outlines the State program for the formation of e-government in the Republic of Kazakhstan for 2005-2007.<sup>5</sup>

As of 2020, the Information and Communication Technology (ICT) market constituted approximately [3.0% of the GDP](#). Within this market, the telecom sector accounted for two-thirds of the total, while the information technology sector represented the remaining one-third. The revenue generated amounted to about 2 billion USD, with 38% attributed to internet services and 26% to mobile communications. The COVID-19 pandemic catalyzed a widespread shift towards internet-based services among citizens and businesses, prompting renewed interest from both domestic and international investors.

This increased attention is particularly evident in initiatives related to upgrading and extending existing fixed and mobile networks, deploying 5G mobile communication technologies, and leveraging digital technologies for the advancement of e-government services, smart transport, urban infrastructure, financial sector applications, and the Internet of Things (IoT). The sector is now

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<sup>5</sup> "Electronic Government of the Republic of Kazakhstan | Electronic Government of the Republic of Kazakhstan." n.d. <https://egov.kz/cms/en/information/about/help-elektronnoe-pravitelstvo#:~:text=The%20basis%20for%20the%20creation,Kazakhstan%20for%202005%2D2007%22>.

positioned at the forefront of innovation, poised for further development and collaboration in the digital landscape.

### **Rule of Law, Democracy, and Politics**

In recent years, Kazakhstan has encountered numerous challenges associated with the [transition of political power](#), which had been firmly held by Nursultan Nazarbaev since the dissolution of the Soviet Union. Nazarbaev relinquished the presidency in 2019, succeeded by Jomart Tokaev. However, despite stepping down, Nazarbaev retained influence as the chair of the Security Council, maintaining a significant hold on power beyond his presidential tenure.<sup>6</sup>

[The unrest](#) that unfolded in Almaty in January 2022 presented a complex scenario. While on the surface it appeared to be triggered by rising fuel prices, underlying factors pointed to the enduring grip of Nazarbaev on power. Civil society activists contended that Nazarbaev's influence was the root cause of the turmoil. The public, rallying under the slogan "Shal ket" ("Down with the Old Man"), demanded Nazarbaev's resignation. Tragically, the unrest resulted in over 200 fatalities, with numerous individuals subjected to torture by law enforcement. The escalating situation prompted Kazakhstan to seek security assistance from the Collective Security Treaty Organization.<sup>7</sup>

During the initial years of Tokaev's presidency, certain changes were implemented, particularly concerning Nazarbaev's legacy. This included reverting the capital city's name from Nur-Sultan to Astana, economic sector reforms, and anti-corruption initiatives. Initially, there was optimism surrounding the vision of a ["New Kazakhstan"](#) introduced by Tokaev. However, concerns arose during the presidential elections in November 2022. Civil society members, independent political parties, and international observers criticized the elections for their lack of competitiveness, with Tokaev winning by a landslide. Tokaev, running as a candidate from the Amanat party (formerly known as Nur-Otan led by Nazarbaev), was perceived by many activists to have received support from ex-president Nazarbaev.

These developments marked a setback for the country, hindering progress in terms of the rule of law and democratic prosperity. According to international reports presented by Freedom House Kazakhstan is classified as ["not free."](#) Additionally, Reporters Without Borders noted the [dwindling presence](#) of independent media outlets, with only a few remaining, including Vlast.kz, Ouralskaya Nedelya, and the KazTAG press agency.

### **Freedom on the Net**

The state of media freedom and online expression has experienced a concerning decline over recent years, as illustrated in Figure 1. This deterioration can be primarily attributed to the unlawful detention of journalists reporting on protests, as well as instances of internet shutdowns during such events, as witnessed in January 2022. Moreover, governmental actions have included multiple

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<sup>6</sup> Higgins, Andrew. 2019. "Kazakhstan Gets New Leader, but Old System's Grip on Power Remains." *The New York Times*, June 11, 2019. <https://www.nytimes.com/2019/06/10/world/asia/kazakhstan-president.html>.

<sup>7</sup> Kudaibergenova, Diana T., and Marlène Laruelle. 2022. "Making Sense of the January 2022 Protests in Kazakhstan: Failing Legitimacy, Culture of Protests, and Elite Readjustments." *Post-Soviet Affairs* 38 (6): 441–59. <https://doi.org/10.1080/1060586x.2022.2077060>.

attempts to compel independent news outlets to remove content related to significant corruption cases, such as the Pandora Papers.<sup>8</sup>

Furthermore, authorities have taken measures to detain individuals who posted on Facebook, alleging government officials' involvement in these corruption cases. These incidents collectively contribute to the tightening of legal controls on media and online activities, reflecting an unsettling trend in the curtailment of freedom in these domains.

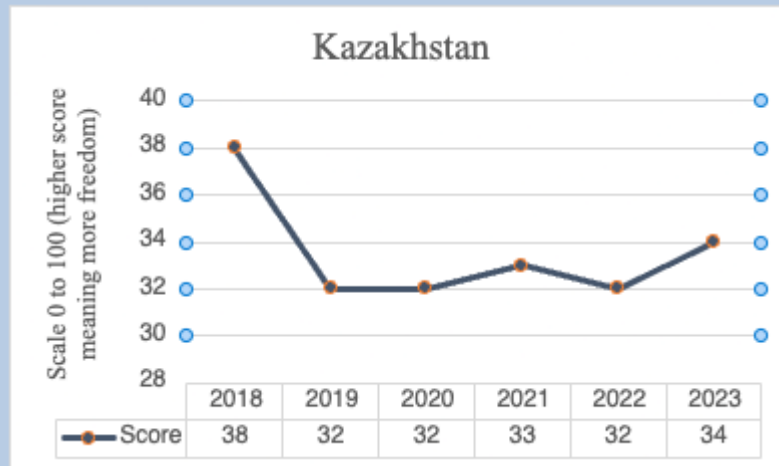


Figure 1 (source: Freedom House)

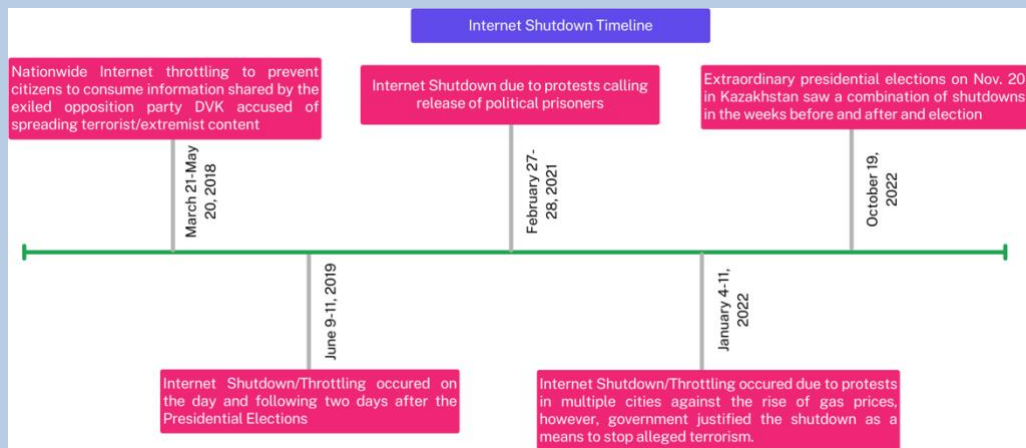
### History and Risk of Internet Shutdown

Kazakhstan has experienced instances of internet shutdowns and throttling, which have had adverse effects on its economy. According to Netblocks' calculation in 2022, the economic impact of internet shutdowns in the country exceeded [410 million dollars](#). This financial setback was primarily a consequence of widespread shutdowns implemented during the January 2022 protests, impacting over 16 million internet users over the course of the week.

Historically, internet shutdowns in Kazakhstan have been observed in connection with protests, terrorist incidents, and political elections. The objective behind these shutdowns has been to restrict the flow of information within the country. According to the expert, such actions are considered inconsistent with international legal norms. This is because the authorities fail to provide [transparent information](#) about the reasons for the internet shutdowns, and independent Internet Service Providers (ISPs) maintain a silent stance on the matter, further challenging the legitimacy of these measures.

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<sup>8</sup> Putz, Catherine. 2021. "Pandora Papers: Kazakhstan and the Offshore Shuffle." *The Diplomat*, October 4, 2021. <https://thediplomat.com/2021/10/pandora-papers-kazakhstan-and-the-offshore-shuffle/>.



source: #KeepItOn Coalition Database<sup>9</sup>

Experts emphasize that in the future, instances of internet shutdowns during public protests and other events deemed as national security concerns for the government may be initiated. As per their insights, implementing a blanket shutdown is a relatively straightforward process, giving the impression that government authorities are actively addressing and mitigating threats on the internet. However, in practice, such measures have proven to adversely impact both the economy and internet users. Notably, users have become adept at circumventing shutdowns through the use of Virtual Private Networks (VPNs).

## Legal framework

Over the past decade, there has been a noticeable trend within the government toward establishing a more stringent legal framework regarding its ability to [exercise control](#) over the Internet, often lacking sufficient mechanisms for accountability. Notably, in April 2014, [amendments to a 2004 communication law](#) were introduced, granting the Prosecutor General’s Office the authority to suspend internet services without the need for a court decision.

Subsequently, in 2016, [additional amendments](#) to the communication law extended the powers of the National Security Committee, allowing it to impose restrictions on internet connectivity and block access to specific websites without requiring a court decision. Instead, the committee is obligated to inform the Prosecutor General’s Office and the Ministry of Information within 24 hours of implementing such measures. The considerable influence of the National Security Committee is underscored by its control over the Internet Exchange Point (IXP).

Furthermore, in 2018, a [government decree](#) expanded the scope of entities empowered to take action in situations deemed "social emergencies." Under this decree, four state agencies—the Prosecutor General’s Office, the National Security Committee, the Ministry of Defense, and the Ministry of Internal Affairs—have been authorized to implement measures that could lead to the termination of communication. However, the definition of "social emergencies" remains ambiguous to date.

Lastly, on September 9, 2023, [Law No. 18-VIII](#) on Online Platforms and Online Advertising officially came into effect in the Republic of Kazakhstan. This legislation, endorsed by President Kassym-Jomart Tokayev on July 10, 2023, establishes a comprehensive legal framework for the operation of online platforms. It delineates the rights and responsibilities of both online platform

<sup>9</sup> Access Now. 2023. “KeepItOn: Fighting Internet Shutdowns around the World – Access Now.” December 19, 2023. <https://www.accessnow.org/campaign/keepiton/>.

owners (referred to as bloggers) and their users. Additionally, the law regulates the localization process of online advertising.

Experts have raised concerns, especially regarding the law's definitions of bloggers. This is because the current definitions suggest that any internet user could be labeled as a blogger. This not only hampers freedom of speech but also overlooks the diverse reasons people use the internet, including research, entertainment, and professional activities. There is also scrutiny regarding the ambiguous nature of the law's provisions related to the spread of false information, which lacks clear definitions.

### **Knowledge of Circumvention tools/usage of VPNs**

The awareness and utilization of circumvention tools, including Virtual Private Networks (VPNs), have become widespread.<sup>10</sup> Particularly, events like the January 2022 protests have significantly increased the adoption of VPNs within the country. However, it is noteworthy that users often opt for free VPNs (Daily VPN, VPN Master Pro) or multi-purpose applications that include VPN services. Research conducted by [Top10Vpn](#) reveals that several VPNs exhibited vulnerabilities, leading to the potential leakage of personal information and IP addresses, making users easily traceable.

Despite the extensive use of VPNs, experts emphasize the persistent lack of digital and media literacy among the general public, especially in rural areas. This deficiency in literacy contributes to a heightened risk for individuals who may not be well-informed about the potential risks associated with insecure VPNs.

## **KYRGYZSTAN**

Since gaining independence, Kyrgyzstan has been recognized as an island of democracy in Central Asia, celebrated for its active citizenry and robust civil society. The nation has consistently ranked among the top 10 in terms of affordability of the internet, and, according to Speedtest.net, it holds the 92nd position globally for mobile internet access speed. As of 2023, DataReportal indicates that internet penetration in the country has reached nearly 78%.<sup>11</sup>

Despite commendable progress in providing affordable internet services, Kyrgyzstan's standing has witnessed a decline in international assessments focused on human rights, media, and corruption. Some experts contend that the narrative surrounding Kyrgyzstan's experiment in establishing democracy in Central Asia may be consigned to the past, given the emerging trend towards a growing authoritarian regime.

### **Digital economy**

In recent years, there has been a growing emphasis by the government on the processes of [digitization in the country](#). The government has set objectives for the integration of information and

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<sup>10</sup> Freedom House. n.d. "Kazakhstan." *Freedom House*.

<https://freedomhouse.org/country/kazakhstan/freedom-net/2021>.

<sup>11</sup> Kemp, Simon. 2023. "Digital 2023: Kyrgyzstan — DataReportal – Global Digital Insights." DataReportal – Global Digital Insights. February 14, 2023.

<https://datareportal.com/reports/digital-2023-kyrgyzstan>.



communication technologies into the operations of state institutions. As part of the National Development Strategy of Kyrgyzstan for the years 2018-2040, a task has been outlined to establish an open digital society. To achieve this goal, a series of measures are planned, including the provision of digital government services such as digital governance, digital local self-government, digital parliament, and a digital justice system across all regions of the country. Additionally, there are plans to deliver digital social services in areas such as healthcare and education, initiate economic projects such as e-commerce, electronic finance, and digital agriculture, create a national electronic infrastructure, and foster the development of digital content in the online environment.

Within the implementation framework of this direction, the Security Council of the Kyrgyz Republic has adopted the "[Digital Kyrgyzstan 2019-2023](#)" Concept. This concept outlines several priority tasks for the state authorities to accomplish, including enhancing citizens' skills in using new technologies in education, providing quality government and municipal services, digitizing the economy, and establishing necessary infrastructure and platforms.

Furthermore, Kyrgyzstan has attracted significant foreign investment, notably through initiatives such as [Digital CASA](#), supported by the World Bank. This project focuses on enhancing access to more affordable Internet services, encouraging private investment in the ICT sector, and bolstering the digital governance capabilities of participating governments.

In contrast to its neighboring countries, Kyrgyzstan exhibits less control over its internet connectivity. Kyrgyz Internet Service Providers (ISPs) are not mandated to utilize government-owned channels for international internet connections (see [Appendix I](#)), although acquiring an independent channel is a complex process requiring approval from the Border Control Service. The country's 15 major ISPs predominantly establish international internet links through Kazakhstan and China. Notably, Kyrgyz Telecom, a state-owned entity, holds the dominant position in the market, commanding a [60% market share](#). Certification for all ISPs is obtained from the Ministry of Digital Development.

While ISPs are not held directly accountable for the content on their networks, the risk of [license revocation exists](#) if they fail to comply with a court order to block specific content. Furthermore, the mobile broadband sector in Kyrgyzstan is served by four providers: Beeline, Megacom, Nur Telecom (operating under the brand "O!"), and KT Mobile. Nur Telecom asserts its position as the leading market operator. It's worth mentioning that Megacom underwent nationalization in 2010 during a period of political upheaval.

Following the outbreak of the conflict between Russia and Ukraine, Kyrgyzstan emerged as an appealing destination for [digital nomads](#) seeking to work remotely. This was attributed to the availability of affordable internet services and the establishment of thriving IT parks within the country.

## **Rule of Law, Democracy, and Politics**

Since attaining independence in 1991, Kyrgyzstan has undergone a series of transformative events often labeled as revolutions, characterized by the removal of government leadership. A pivotal moment occurred on October 4, 2020, following parliamentary elections that sparked [widespread protests](#) due to perceived irregularities, resulting in loss of life and numerous injuries among protesters. This tumultuous period led to the ousting of the existing leadership and the establishment of a new one. Notably, during the October 2020 parliamentary elections, marked by intense competition, two major parties aligned with the incumbent president, namely Birimdik and Mekenim Kyrgyzstan, secured a significant victory, each claiming nearly 24% of the vote and poised to exert considerable influence in parliament. The third-ranking party, Kyrgyzstan Party, aligned with the

government, garnered 8.89% of the vote, and emerged as the dominant force among pro-government factions. This electoral outcome was marred by extensive vote-buying, abuse of authorities in favor of specific parties, and the frequent intimidation of both party candidates and voters.

After the upheaval triggered by the parliamentary elections, the presidential election unfolded against a backdrop of significant political shifts. Sixteen candidates ran for the presidency, with Sadyr Japarov, the de facto leader at that point, enjoying substantial financial resources and some advantages associated with incumbency. Despite an open field, the competition was characterized by disparities, as opposing candidates, lacking comparable funding and facing limitations in physical outreach to voters, contended with online intimidation and occasional offline threats. The voter turnout for these elections, at just under 40%, represented the lowest in Kyrgyzstan's electoral history.<sup>12</sup> Sadyr Japarov [secured a remarkable 80%](#) of the cast votes, a result influenced by the overall context and the political and legal dynamics following the October events. While the election authorities did not exhibit major or systematic unequal treatment of candidates, the broader context ensured a skewed outcome, rendering these elections nominally free but inherently unfair on a systemic level.

### **Freedom on the Net**

During the observed period, the nation witnessed a notable deterioration in its political freedom, leading to its classification by Freedom House as a "[consolidated authoritarian](#)" state, as documented in its latest assessment. This decline is further evident in the diminishing freedom on the internet, as illustrated in Figure 2. Simultaneously, the ascendancy of an authoritarian regime has coincided with a persistent high corruption ranking, positioning Kyrgyzstan at 140 out of 180 countries evaluated by Transparency International.

The challenging environment extends beyond the political realm, impacting the operational landscape for civil society organizations and foreign entities. Notably, [a draft bill proposed](#) by the presidential administration poses a significant threat to non-governmental organizations (NGOs) and independent media reliant on foreign donor funding. If enacted, this legislation would establish a state registry for "foreign representative" NGOs, mirroring Russia's "[foreign agent law](#)." Moreover, the proposed bill introduces onerous bureaucratic requirements and penalties, further impeding the ability of these entities to operate effectively within the country. This restrictive regulatory framework could potentially exacerbate challenges faced by NGOs and independent media, hampering their ability to contribute to a vibrant civil society and undermining democratic principles.

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<sup>12</sup> Parry, Nat. 2021. "Kyrgyzstan's Parliamentary Elections Competitive but Lacked Meaningful Voter Engagement, International Observers Say." <https://www.oscepa.org/en/news-a-media/press-releases/press-2021/kyrgyzstan-s-parliamentary-elections-competitive-but-lacked-meaningful-voter-engagement-international-observers-say>.

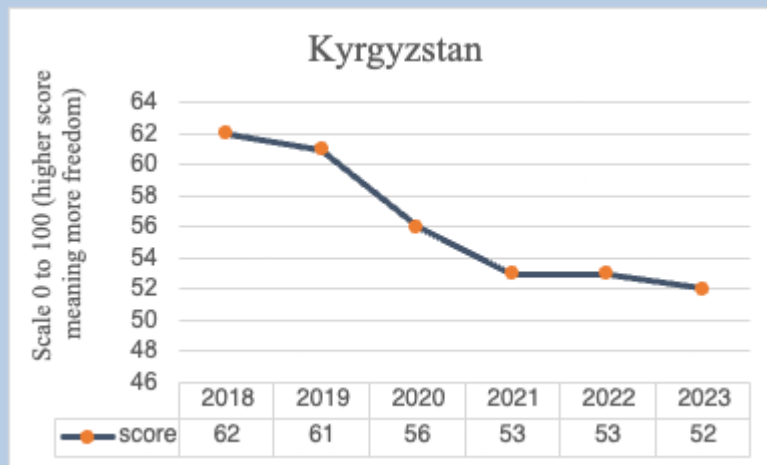


Figure 2 (source: Freedom House)

## History and Risk of Internet Shutdown

Unlike its neighboring countries, Kyrgyzstan has not experienced a prolonged history of internet shutdowns. However, experts suggest that this scenario could undergo a shift in the near future.<sup>13</sup> The government is currently making efforts to enhance its control over regulations and access to user data. As per the information provided by the #KeepItOn coalition of Access Now and reports [from Netblocks](#) on October 5, 2020, internet disruptions occurred following protests triggered by allegations of manipulation in parliamentary elections. One of the experts during the interview stated that the current process for initiating an internet shutdown or removal of specific online content involves a prosecutor formally appealing to a judge. This appeal explicitly identifies the content in question as illegal. Subsequently, the judge reviews the appeal and issues a decision, which determines whether the requested action, such as content removal, should be implemented.

Based on expert analysis, the likelihood of a widespread internet shutdown in the near future is considered to be low. However, it is noteworthy that Kyrgyzstan currently employs targeted online censorship, specifically focusing on certain websites and online content. The primary factors that could escalate the risks of internet shutdowns are predominantly associated with political unrest or protests.

## Legal framework

In 2021, President Sadyr Zhaparov [enacted a law](#) on "On protection from unreliable (false) information" aimed at countering misinformation, which many argue grants the government increased authority to monitor online users. Specifically, [Article 5 stipulates](#) that Internet service providers and owners of public access points must ascertain the identities of their subscribers. Essentially, individuals seeking to use public Wi-Fi are now obligated to disclose personal information. According to various independent journalists and members of civil society, this legal framework empowers the government to suppress online criticism and unveil user profiles. Consequently, the previously upheld [anonymity of the Internet](#) in Kyrgyzstan is effectively nullified.

## Knowledge of Circumvention tools/usage of VPNs

<sup>13</sup> Llp, Profit Online. 2021. "В Кыргызстане больше нет анонимности в интернете." Profit.kz — ИТ В Казахстане. <https://profit.kz/news/61748/V-Kirgizstane-bolshe-net-anonimnosti-v-internete/>.



In Kyrgyzstan, there is a widespread proficiency in circumvention tools, attributed largely to the active involvement of civil society and independent journalism, as noted by experts in the field of digital literacy. Noteworthy initiatives have been undertaken by key organizations such as Kloop.kg<sup>14</sup>, Cabar Asia<sup>15</sup>, Media Sabak<sup>16</sup>, Internews<sup>17</sup>, and others. This heightened awareness and utilization of circumvention tools contribute to Kyrgyzstan's position in cybersecurity, surpassing the rankings of both Turkmenistan and Tajikistan. According to the International Telecommunication Union, Kyrgyzstan holds the 92nd position among 182 assessed countries in the realm of [cybersecurity](#).

## TAJIKISTAN

Tajikistan, the smallest nation in Central Asia by land area, is predominantly characterized by mountainous terrain, which constitutes over 90% of its total geographic expanse. Despite its modest dimensions, Tajikistan has the third-largest population in the region, trailing behind Kazakhstan, with slightly over 10 million inhabitants. According to [Worldometer](#), the median age of the population stands at 21.8 years, indicating a significant prevalence of youth.

From an economic standpoint, the country stands in a favorable position. However, despite the expressed desire of the younger generation to enhance their access to the Internet, the penetration rate remains comparatively [low at 41%](#) when compared with neighboring countries. According to the Speedtest Global Index's [assessment of internet speed](#), Tajikistan achieved a ranking of 139 out of 145 evaluated countries, demonstrating a download speed of 9.1 megabits per second and an upload speed of 5.71 megabits per second.

In recent months, the Ministry of Telecommunications, responsible for overseeing internet regulations, has undertaken efforts to dismantle the state monopoly on internet distribution.<sup>18</sup> This initiative was set in motion by the directive of President Emomali Rahmon during his [address to the Parliament](#) in December 2022. The president charged the Telecommunication authorities with the responsibility of ensuring a stable internet connection, emphasizing that stable internet access is a significant factor in attracting tourists. Complaints from tourist operators and other agencies regarding persistent glitches in the e-visa system and the lack of fast internet availability in the country have been noted.

Unstable internet service also makes it challenging for labor migrants working abroad to connect with their families and send remittances, especially to rural areas. Tajikistan continues to uphold its status as one of the most reliant nations on remittances globally. Following a significant decrease in remittance inflows from 2014 to 2016, these financial transfers have stabilized, constituting

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<sup>14</sup> Kloop Media. n.d. *Архивы Медиашкола | KLOOP.KG - Новости Кыргызстана. KLOOP.KG - Новости Кыргызстана.* <https://kloop.kg/blog/category/school/>.

<sup>15</sup> “Courses - Cabar School.” Cabar School. <https://school.cabar.asia/en/courses-2/>.

<sup>16</sup> “Mediacamp.” n.d. <https://mediasabak.ngo/en/projects/3/>.

<sup>17</sup> “Internews Hosts Media Literacy Contest [Kyrgyzstan] | International Journalists’ Network.” 2022. International Journalists’ Network. December 4, 2022. <https://ijnet.org/en/opportunity/internews-hosts-media-literacy-contest-kyrgyzstan>.

<sup>18</sup> “Tajik Communications Service Permits Two Private Companies to Provide Internet to Tajikistan | Tajikistan News ASIA-Plus.” 2023. <https://old.asiaplustj.info/en/news/tajikistan/society/20231115/tajik-communications-service-permits-two-private-companies-to-provide-internet-to-tajikistan>.

[approximately 30% of the Gross Domestic Product](#) (equivalent to \$3 billion). This underscores the inherent volatility associated with labor migration and the economy's vulnerability to external disruptions. Notably, in 2020, remittances experienced a substantial decline once more due to the COVID-19 pandemic, thereby posing a test to the resilience of the populace and as a consequence of COVID-19 pandemic, thereby posing a test to the resilience of the populace and the overall economic structure. Additionally, the Russian-Ukrainian war and rising inflation in Russia negatively portray the economy of Tajikistan as the majority of labor migrants from Tajikistan work in Russia.

## **Digital economy**

In Tajikistan, the predominant source of media consumption is television; however, there is an escalating trend in the utilization of the Internet for media-related purposes. According to a survey conducted in 2022, approximately [30% of the population](#) relies on online media sources. Prominent social platforms such as YouTube, Facebook, and Instagram have emerged as the most frequently visited, while the Russia-based platform OK.ru, previously a leading contender in surveys from 2018 and 2019, [has experienced a decline](#), moving from its previous position as the second most visited platform to the fifth.

While we see significant growth in Kazakhstan, Uzbekistan, and Kyrgyzstan, there has been little to no increase in the [number of networks](#) operating in Tajikistan and Turkmenistan over the past 15 years. Tajikistan's international connectivity is also very simple. Tojiktelecom is the dominant provider, which relies mostly on Transtelecom Kazakhstan (TTC), but also has a few paths through Megafon. In addition, we see a small subset of paths where Kyrgyzstan's ElCat provides connectivity to Avesto internet in Tajikistan.

In Tajikistan, Tojiktelecom (AS51346) acts as an upstream provider for most other networks in the country. As we will see below, Transtelecom Kazakhstan (AS41798) is the main transit provider for Tojiktelecom. We see two networks that, as far as we can observe, appear to rely exclusively on Avesto Internet (AS208592) for connectivity. From Avesto Internet, packets can reach the rest of the Internet via ElCat Ltd (AS8449) in Kyrgyzstan, or via Tojiktelecom, by way of the connection that Avesto Internet has to Babilon-T (AS24722).

However, over the past months, the regulatory body [announced its approval](#) for two mobile telecommunications operators, MegaFon Tajikistan, and Tcell, to procure internet data through international channels, diverging from the mandated practice for all Internet Service Providers (ISPs) to rely on a state-controlled data conduit known as the Unified Electronic Communications Switching Center (EKTs in its commonly used Russian-language acronym).

Operated by Tojiktelecom, a joint-stock telecommunications and internet company, EKTs is overseen by the State Communications Service—an entity historically overseen by a relative through marriage to President Emomali Rahmon. Consequently, Tojiktelecom has evolved into a profit-oriented monopoly governed by a government service ostensibly established to safeguard consumer interests.

The primary stated objective of EKTs is to provide the state with comprehensive authority to scrutinize internet traffic for security considerations, among other purposes. However, the tangible consequence of this arrangement is the manifestation of some of the most substandard internet speeds globally within Tajikistan. Notably, the Amsterdam-headquartered company operating under the Beeline brand and the Sweden-based mobile phone company TeliaSonera have both withdrawn

from Tajikistan, citing challenges in navigating a market marred by corruption and capricious policy formulation.<sup>19</sup>

In light of its slow and insufficient infrastructure (to adapt to 4G and 5G infrastructure), Tajikistan is susceptible to cyber threats. As indicated by the [Global Cybersecurity Index 2023](#), Tajikistan received a score of 17.1 out of 100, with 100 representing the highest level of security. This places Tajikistan at the 138th position out of the 182 countries assessed, underscoring the pressing need for enhanced cybersecurity measures to fortify the nation's digital resilience.

To enhance the nation's digital resilience, in 2019, the government under decree #642 formally endorsed the [Concept of Digital Economy](#) as an integral component of the National Development Strategy 2030. This strategic initiative is delineated across three distinct stages and extends through the year 2040. Noteworthy is its alignment with the Digital Central Asia and South Asia ([CASA](#)) project, supported by the World Bank. The overarching objective of the Digital CASA project is to enhance digital infrastructure within the region, thereby fostering advancements in the digital economy. Furthermore, in June 2023 in accordance with Article 69 of the Constitution of the Republic of Tajikistan, the President [signed a decree](#) the following effective August 1, 2023. The decree aims to promote fiscal efficiency and digital transparency, all payments for taxes, state fees, permits, fines, and other government services (collectively referred to as "paid services") and states that these transactions must be made exclusively through non-cash methods, with a concurrent prohibition on ministries, departments, state organizations, and credit financial institutions from accepting cash payments for these services.

However, experts assert that the existing infrastructure is inadequately equipped to address the aforementioned decree, particularly in rural areas where a significant portion of the population lacks the essential prerequisites for transitioning to digital payment methods, such as access to bank accounts.

### **Rule of Law, Democracy, and Politics**

On measures of political competition and democratic assembly, Tajikistan faces significant challenges. Since gaining independence, the nation has predominantly operated under an authoritarian governance framework, characterized by the enduring presidency of Emomali Rahmon, who has held office since 1994. The 2020 presidential elections reinforced this dominance, with an overwhelming 93% mandate in favor of the incumbent president. Furthermore, the removal of presidential term limits in 2016 has granted President Rahmon an indefinite tenure.

The executive branch, led by President Rahmon, [exercises tight control](#) over Tajikistan's legislative and judicial branches. Despite constitutional provisions advocating for the separation of powers and institutional differentiation, the executive exerts both formal and informal monopolies on power. The mechanisms for checks and balances are formally restricted and, in practice, largely rendered ineffective due to the prevalence of informal modes of governance.

Crucial sectors of the economy, including heavy industry and major businesses, are firmly under the influence of the president's family, alongside key political positions. This concentration of power fosters an environment conducive to widespread corruption, as evidenced by Tajikistan's low score

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<sup>19</sup> Eurasianet. "Tajikistan: Communications Regulator Loosening Monopoly." November 24, 2023. <https://eurasianet.org/tajikistan-communications-regulator-loosening-monopoly#:~:text=The%20Amsterdam%2Dheadquartered%20company%20that,corruption%20and%20arbitrary%20policy%2Dmaking>.

of 24 out of 100 on the [Transparency International Corruption Index](#) for the year 2022, where a lower score indicates a higher level of corruption.

### Freedom on the Net

Owing to the government's stringent control over the information landscape, the atmosphere surrounding freedom of speech and media in the country is marked by considerable constraints and challenges. The absence of any independent television channels and the limited presence of independent newspapers further exacerbate this situation. Notably, civil society's influence has witnessed a decline in recent years, as evidenced by the [closure of more than 700 non-governmental organizations](#) (NGOs) of varying sizes within the past year, as highlighted during a recent seminar on civil society in Tajikistan by the European Union Ambassador to the country.

Furthermore, international entities such as Human Rights Watch, [the Committee to Protect Journalists](#), Reporters Without Borders (RWB), and others have advocated for the release of seven incarcerated journalists. These journalists have been imprisoned on grounds of their alleged affiliation with extremist organizations. The [RWB international index](#) positions Tajikistan at 153 out of 180 assessed countries, underscoring the severity of the challenges faced in terms of press freedom. This trend is similarly reflected in the Freedom House data on freedom on the internet, as illustrated in Figure 3.

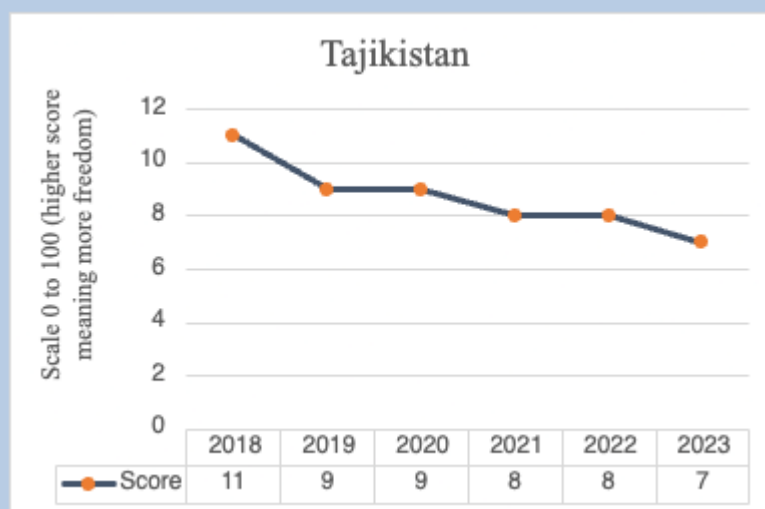


Figure 3 (source: Freedom House)

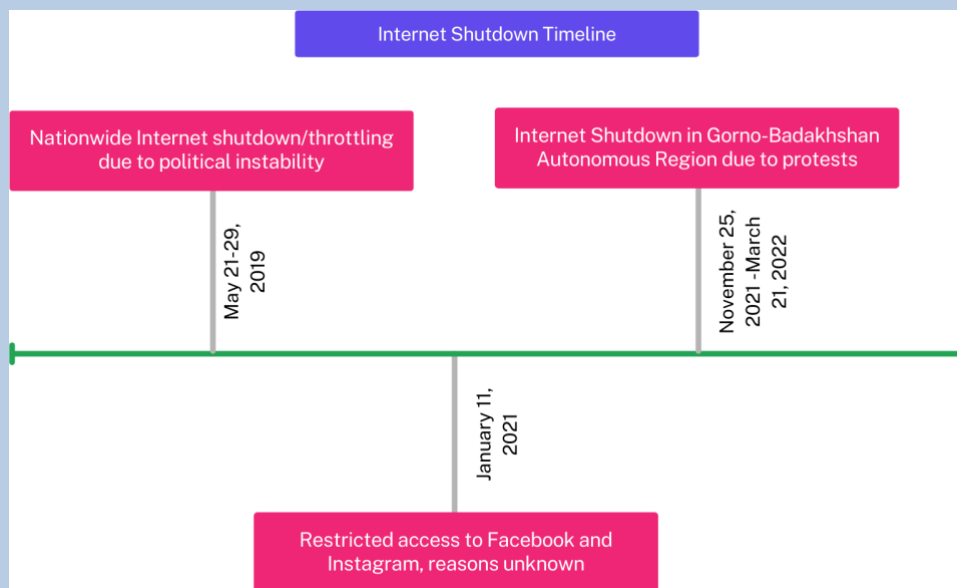
### History and Risk of Internet Shutdown

In alignment with practices observed in neighboring countries, the prevailing approach to controlling online content deemed extremist or potentially threatening to the established regime involves the imposition of internet shutdowns. Doing so is relatively easier for the government as it has a monopoly over internet infrastructure, thus making it easier to hit the “killswitch”. Despite this strategy, experts contend that such measures are inherently unsustainable and adversely impact the national economy. The impetus for these internet shutdowns predominantly arises from protests and critical content directed at the government, disseminated through various social media channels by opposition factions abroad.

A notable instance of prolonged internet shutdowns transpired in response to a public outcry within the [Gorno-Badakhshan Autonomous Oblast \(GBAO\)](#). This outcry was triggered by confrontations between local residents, law enforcement, and government officials following the deaths of

individuals classified as "terrorists" by the government. The escalation of these clashes reached a critical juncture with the deployment of special troops in the region, exacerbating the already volatile situation.

According to reports by Access Now, the internet shutdown persisted from November 2021 to May 2022, and citizens continue to express grievances about lingering internet throttling. Notably, experts assert that the financial ramifications of this blackout have culminated in a substantial economic loss, [estimated at \\$2.1 million](#) for the country. This underscores the broader concern that protracted internet shutdowns not only stifle civic discourse but also have severe repercussions on the economic landscape, necessitating a reevaluation of the efficacy and sustainability of such measures.



source: #KeepItOn Coalition Database<sup>20</sup>

## Legal framework

During the interview, experts stated that the absence of an organized civil society dedicated to addressing the issue of internet shutdowns, coupled with the lack of well-defined legal frameworks and participation from government-affiliated key private sector entities such as mobile service providers and Internet Service Providers (ISPs), poses a significant challenge in pursuing litigation cases against internet shutdowns. The legal and bureaucratic procedures that allow for internet shutdowns remain ambiguous, and inquiries seeking clarification from the government often yield explanations centered around fixing technical problems or system updates rather than an acknowledgment of a shutdown.<sup>21</sup>

## Knowledge of Circumvention tools/usage of VPNs

Experts in Tajikistan highlight the [insufficient level of digital literacy](#) skills concerning the protection of private data and the secure use of the Internet. This deficiency has led to numerous individuals falling victim to misinformation and online scams. Furthermore, the government's

<sup>20</sup> Access Now. 2023. "KeepItOn: Fighting Internet Shutdowns around the World – Access Now." December 19, 2023. <https://www.accessnow.org/campaign/keepiton/>.

<sup>21</sup> "BTI 2022 Tajikistan Country Report." n.d. BTI 2022. <https://bti-project.org/en/reports/country-report/TJK>.



complete control over internet access, facilitated through the universal switching center, leaves independent media professionals susceptible to surveillance. Several survey respondents emphasized the necessity for media and digital literacy skills specifically among journalists, recognizing that without such skills, the utilization of circumvention tools becomes impractical.

## UZBEKISTAN

“Uzbekistan is now open; it is now impossible to close as before. Now we will not close the borders, we will not turn off the Internet”- these were the words delivered by President Shavkat Mirziyoev in his speech addressed at the International Congress Center in Tashkent in 2020. Uzbekistan, the most populous country in Central Asia, currently has a significant internet user population exceeding 27 million individuals, representing a penetration rate of over 76% as of 2023. The number of internet users is increasing on a daily basis, yet the speed of internet connectivity remains a significant obstacle, particularly in rural areas. Uzbekistan is ranked 100 among 182 assessed countries by [Speedtest.net](https://www.speedtest.net) for mobile internet speed.

The regulatory oversight of online content has been entrusted to [the Information and Mass Media Agency \(AIMK\)](#), the primary regulatory state agency. The AIMK is responsible for monitoring Internet platforms and administering a Register of proscribed information resources.

### Digital Economy

Since the inauguration of President Mirziyoev's administration, Uzbekistan has embarked on a proactive agenda to advance economically [through digitalization](#). A pivotal milestone in this trajectory unfolded in 2020 with the initiation of the Digital Uzbekistan Strategy 2030 by the government. This strategic framework underscores a commitment to augmenting internet connectivity nationwide and expanding the e-government infrastructure. The Ministry of Information Technologies and Communications (MITC) has been entrusted with the responsibility of realizing the objectives outlined in the Digital Uzbekistan Strategy.

In pursuit of these goals, the MITC strategically leverages its [state-owned enterprises](#), notably UzbekTelecom, which holds a commanding stake of over 95% in the country's fiber optic backbone and middle-mile infrastructure. Additionally, the Mobile Network Operators (MNOs), namely MobiUz, UCELL, and UzMobile (a wholly owned subsidiary of Uzbek Telecom), operate under the purview of the MITC to contribute to the realization of the digitalization agenda.

While commendable progress has been made in establishing digital infrastructure under the government's initiatives, it is imperative to note that the competitive landscape among Internet Service Providers (ISPs) remains constrained due to the prevailing state monopoly.

According to the World Bank, Uzbekistan has witnessed a remarkable surge in the export of IT-enabled services (ITES), escalating from a modest figure of 600,000 dollars in 2017 to an impressive 140 million dollars in 2022.<sup>22</sup> This growth trajectory has been associated with an upswing in the establishment of companies and the creation of high-paying jobs within the information technology

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<sup>22</sup> World Bank Group. 2023. “World Bank to Support Uzbekistan in Developing the Digital Economy and Creating New Jobs in the Information Technology Sector.” *World Bank*, November 30, 2023. <https://www.worldbank.org/en/news/press-release/2023/11/30/world-bank-to-support-uzbekistan-in-developing-the-digital-economy-and-creating-new-jobs-in-the-it-sector>.

sector. As part of its ambitious vision, Uzbekistan aspires to propel the export of IT-enabled services to an impressive [5 billion dollars](#) by the end of this decade.

## **Rule of Law, Democracy, and Politics**

Since declaring its independence in 1991 from the Soviet Union, Uzbekistan has been ruled under the strict authoritarian rule of Islam Karimov, then replaced by Shavkat Mirziyoyev after Karimov's death in 2016.<sup>23</sup> Despite improvements in economic development and more open international relations after the death of Karimov, the country remains closed when it comes to free and functioning democracy and the rule of law.

The constitution of Uzbekistan establishes a system of separated powers, dividing responsibilities among the legislative, executive, and judiciary branches, as well as incorporating a bicameral parliament, the Oliy Majlis, which holds budget approval authority. However, the practical implementation of this framework reveals a hierarchical political structure resembling a pyramid, with the president and their administration dominating. The president's administration, informally referred to as the "fourth power," holds substantial influence, overshadowing the legislative, executive, and judicial branches. Despite expectations of increased authority following the 2019 parliamentary elections, the Oliy [Majlis has not emerged as a counterbalancing force](#), as the executive branch remains the predominant authority.

President Mirziyoyev acknowledged the need for reinforcing the role of local elected bodies, such as provincial and district-level councils, in his December 2020 parliamentary address. While efforts were made in early 2020 to enhance accountability by having administrative heads report to local councils, the president highlighted the outdated legal framework regulating local municipal governments. The existing law, enacted 27 years ago, was deemed insufficient for current reforms, prompting a call for amendments to meet contemporary demands. Additionally, the judiciary, while constitutionally independent, has faced susceptibility to executive influence and corruption in practice.

## **Legal framework**

According to the Law of the Republic of Uzbekistan "[On Informatization](#)" (December 11, 2023), the main directions of state policy in the field of informatization are:

- realization of the constitutional rights of every citizen of the Republic of Uzbekistan to freely receive and disseminate information, to ensure access to information resources;
- the creation of all favorable, comprehensive conditions for access to international information networks and the worldwide Internet information network.

In Uzbekistan, there are rules on extrajudicial blocking and internet shutdowns. In instances where prohibited content is identified, the AIMK expert commission deliberates on a prohibition decision, subsequently leading to the blocking of the content and the inclusion of relevant identification data in the Register. However, experts point out that using methods such as taking down the content is not sustainable as those who spread malign information on the internet bypass blocking and shutting down websites using different domain names and Virtual Private Networks (VPNs).

Furthermore, according to the law on Information enacted on December 11, 2023, each individual utilizing the internet is [recognized as a blogger](#), irrespective of their citizenship status in Uzbekistan or elsewhere, and regardless of the scale of their audience. From a legal standpoint, this legislation

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<sup>23</sup> Freedom House. 2022. "Uzbekistan." *Freedom House*.

<https://freedomhouse.org/country/uzbekistan/freedom-world/2022>.

implies that regular internet users, including bloggers, would bear responsibility for disseminating "unreliable information" through reposts.<sup>24</sup>

## Freedom on the Net

Based on the Reporters Without Borders report for 2023, Uzbekistan is ranked 137 out of 180 countries (4 points lower than the previous year).<sup>25</sup> Furthermore, according to Freedom on the Net, Uzbekistan titled "Not Free" due to low scores of 25 out of 100. Several experts noted that despite reforms to promote openness civil society and journalists still take precautions and self-censorship measures before posting sensitive content on the internet. See figure 4 below:

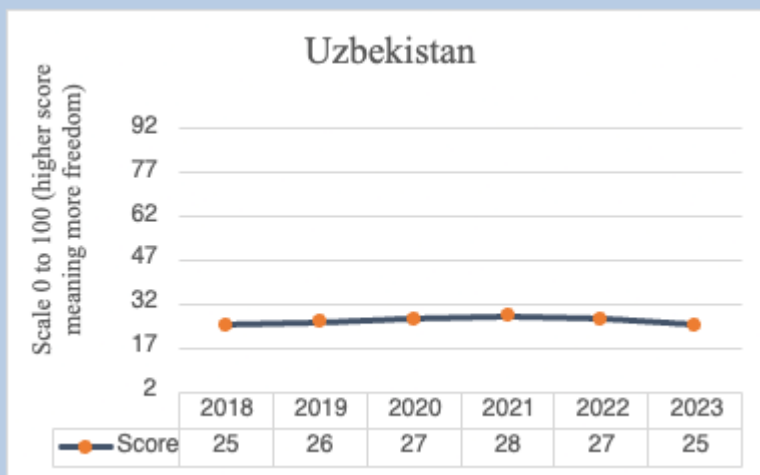


Figure 4 (source: Freedom House)

In the past years, the lower score was given mainly due to the restricted access to the internet between June and July 2022 in Karakalpakstan as [residents protested](#) proposed constitutional changes threatening the region's autonomy. In August 2022, the Information and Mass Media Agency (AIMK) announced the unblocking of Skype, Twitter, and VKontakte, previously blocked for non-compliance with data storage regulations. However, the government's crackdown continued in January and March 2023, with the conviction of at least 61 individuals involved in the 2022 Karakalpakstan protests, including those engaged in online activities. Sentences varied widely, ranging from probation to 16 years in prison, underscoring the challenges to freedom of expression in the digital realm in Uzbekistan. As a result, during the aforementioned period, the social media shutdowns amounted to a total duration of 4,416 hours. Additionally, the overall [cost associated](#) with internet restrictions reached \$170.9 million.

## History and Risk of internet shutdown in the future

Internet shutdowns in Uzbekistan have been associated with protests, violence, and in the past with shutting down the mobile internet to limit access to the internet during the nationwide university entrance exams.

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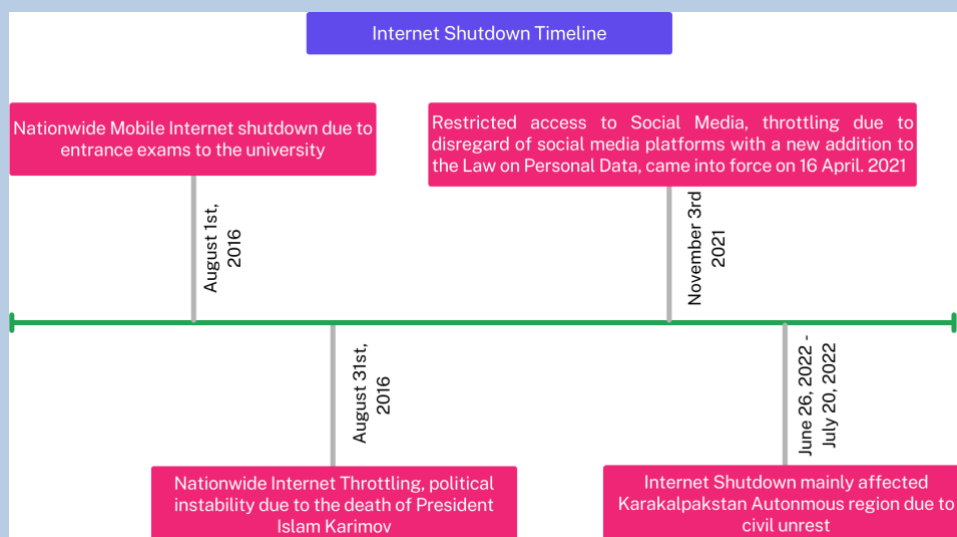
<sup>24</sup> “Проект Информационного Кодекса: Расплывчатые Формулировки, Ограничения Для СМИ и Блогеров.” Газета.uz, December 29, 2022.

<https://www.gazeta.uz/ru/2022/12/28/information-code/>.

<sup>25</sup> “Uzbekistan.” Bienvenue sur le site de Reporters sans frontières, September 14, 2023.

<https://rsf.org/en/country/uzbekistan>.





source: #KeepItOn Coalition Database<sup>26</sup>

The shutdowns are ordered by the government and facilitated by the main regulatory authority AIMK. These shutdowns had far-reaching consequences, causing disruptions in transactions between banks and customers, as well as negatively impacting other businesses reliant on mobile internet services. Authorities attributed these challenges to the ongoing modernization of equipment or upgrades undertaken by a specific service provider or operator. Nonetheless, experts have posited the existence of indications suggestive of traffic shaping, specifically speed limits imposed on Meta Platforms (Facebook, Instagram) within the content delivery network (CDN).

### Knowledge of Circumvention tools/usage of VPNs

According to the expert, there was a notable rise in the utilization of VPNs during the previously mentioned periods of shutdowns or throttling. It is emphasized that although the employment of VPNs may serve as a means to gain access to restricted content or websites, it concurrently poses the risk of exposing users to malicious information. This is one of the reasons that since the year 2021, the utilization of Virtual Private Networks (VPNs) within government offices has been restricted to prevent government officials from accessing blocked websites. This decision was taken by a working group established by the Security Council under the President of Uzbekistan.<sup>27</sup>

A survey respondent underscored that, in general, internet users possess a basic understanding of employing VPN applications. However, there exists a notable deficit in comprehension regarding the underlying operational procedures of this technology. This potential threat extends beyond Uzbekistan to encompass all Central Asian countries in the region.<sup>28</sup>

### CONCLUSION

Central Asian countries exhibit diverse perspectives regarding the development of the internet and accessibility. Despite this diversity, a commonality exists in the political landscape of all four assessed nations, characterized by censorship, internet shutdowns, and regulatory measures.

<sup>26</sup> Access Now. 2023. "KeepItOn: Fighting Internet Shutdowns around the World – Access Now." December 19, 2023. <https://www.accessnow.org/campaign/keepiton/>.

<sup>27</sup> Радио Озоди. 2021. "В Узбекистане сотрудникам госорганов запретили использовать VPN," May 26, 2021. <https://rus.ozodi.org/a/31274026.html>.

<sup>28</sup> Cabar.Asia. 2022. "Low Level of Media Literacy of the Central Asian Countries' Population - CABAR.Asia." CABAR.Asia. April 11, 2022. <https://cabar.asia/en/low-level-of-media-literacy-of-the-central-asian-countries-population>.

Notably, there is a widespread deficiency in digital and media literacy among the population across these countries.

While recognizing the significance of a digital economy, Central Asian nations have initiated national programs; however, the political commitment to establishing competitive market structures lags. Authoritarian tendencies are on the rise, overshadowing the potential for a truly competitive digital market. Additionally, the media and digital realms in these countries are significantly influenced by neighboring powers like Russia and China, both of which have well-established censorship frameworks. In the face of such influential neighbors, smaller international non-governmental organizations (NGOs) like Internews, OSCE, IWPR, and others find their impact limited in catalyzing substantial change.

All in all, the combination of heavy regulation, [the prevalence of state-controlled internet](#) providers, and inadequate infrastructure has resulted in minimal competition. A centralized approach to security, coupled with a focus on national sovereignty, further impedes technical redundancy and resilience in the digital landscape of these Central Asian countries.

## **Circumvention Methods**

The second part of this paper as it was mentioned earlier will serve as a practical guideline for interested stakeholders (i.e. civil society, journalists, and academia) to learn ways to document shutdowns as they occur and implement preventive measures against internet censorship and shutdown.

According to experts in the field, internet users in Central Asia are aware of Virtual Private Networks (VPN), however, do not have much in-depth knowledge of how it works and what are reliable VPN providers. Besides, bypassing censorship and internet shutdown goes as far as using only VPN services.

For this reason, this guideline will give additional information regarding tools that can be useful to document censorship and shutdowns, as well as to circumvent shutdowns. To make this guideline easy to follow we divided them into these sections: Network Measurement Tools (OONI, IODA), VPNs, Messaging (emails, messaging apps), Browsing (TOR browser, DuckDuck Go), and reporting and recording the internet shutdown incidents (#KeepItOn).

### **Network Measurement Tools**

Access to the Internet is provided by Internet Service Providers (ISPs), which can be state-owned or run by companies. Depending on the country you are in and the ISP you use, you can access a specific network. Your use of that network is governed by the rules and regulations that govern internet use in that country.

To navigate and stay informed about internet shutdowns or the blocking of specific websites, experts recommend utilizing the OONI (Open Observatory of Network Interference) software. This free software project is designed to expose internet censorship and surveillance on a global scale. The project runs through the [OONI Probe app](#), where one can [measure](#) the blocking of websites, instant messaging apps, and circumvention tools, and you can measure network performance. As soon as you run the OONI Probe, your test results are automatically published as open data in real-time. [OONI Explorer](#) and the [OONI API](#) enable the public to track censorship events worldwide in real time based on openly available measurement data that can potentially serve as evidence. In addition, OONI's Measurement Aggregation Toolkit ([MAT](#)) is a useful tool that enables you to generate your custom charts based on aggregate views of real-time OONI data collected from around the world.

The next network measurement tool is IODA (Internet Outage Detection and Analysis). IODA combines information from three data sources, establishes the relevance of an event, and generates alerts. The outage events and the corresponding signals obtained through automated analysis are displayed on dashboards and interactive graphs that allow the user to further inspect the data.

IODA gathers information from various sources to help us understand and monitor internet traffic and connectivity. It looks at things like how different regions and organizations are connected, checks the health of specific blocks of internet addresses, and even uses data from Google to see how people are accessing the internet in different places. Example of Dashboard:



IODA combines data from diverse sources, including BGP updates, active probing, network telescope analysis, and Google product signals. Each source contributes to a comprehensive understanding of online activity, offering insights at different resolutions and with varying time lags. In simpler terms, IODA gives us a clearer picture of what's happening with internet connections around the world, helping us identify issues and trends.

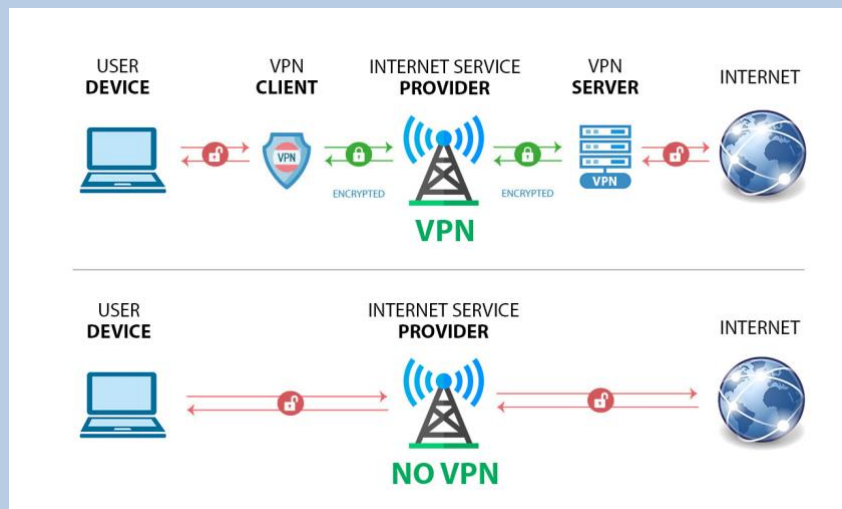
## Circumvention tools

### Virtual Private Networks (VPNs)

In a digital landscape where online privacy is increasingly at risk, it's fortunate that there are readily available digital tools to help safeguard our online activities from intrusive scrutiny. Among these tools, [VPNs](#) stand out as effective and easy to access.

The primary function of a VPN is to safeguard your privacy by encrypting your internet traffic, effectively hiding your data. This means that even if your Internet Service Provider (ISP) or government authorities are aware of your online presence, they cannot discern the nature of your activities. Additionally, VPNs enhance privacy by concealing your actual IP address. This is achieved by rerouting your internet traffic through VPN servers, preventing anyone from tracking the specific websites you visit.

However, the utility of VPNs extends beyond privacy protection. VPNs can be employed to overcome geographical restrictions, bypass censorship, and enable access to a more unrestricted internet. Furthermore, VPNs offer a secure means for torrenting, ensuring that users can engage in such activities without the risk of detection by their ISP.



While VPNs offer a wide range of benefits one needs to bear in mind the legal and safe-to-use modes of VPNs as not all the VPNs are safe to use. Most of the free VPNs oftentimes have integrated user data tracking mechanisms. Moreover, using VPNs does not mean that you are secure from cyber-attacks, and having free VPNs on your devices increases the chances of being a target. For these reasons, one has to bear in mind that no system is hundred percent secure and it is highly advised to be cautious while engaging with the new application. Here are some of the widely used secure VPNs suggested by experts:

1. [TunnelBear](#) - presents an extensive array of security features complemented by transparent, independent audits. Additionally, it provides the option to navigate the internet through servers located in 47 countries.
2. [Surfshark](#) - although paid, users can create their own VPN entry and exit server pairs with the Dynamic MultiHop or change your IP every 10 minutes with the robust IP Rotator. Surfshark also offers a wide range of other services such as removing data on the internet, antivirus, and webcam security.
3. [Psiphon](#) - Psiphon is a censorship circumvention tool that provides open access to the internet. It uses a combination of VPN, SSH, and HTTP Proxy technologies to ensure unrestricted access to online content.
4. [NordVPN](#) - Similar to Surfshark, NordVPN also is paid and offers a wide range of benefits such as encrypting files and faster connectivity.

VPNs can also be used to identify throttling posed by the government. To do so, activate your VPN service and conduct a network speed test using the provided website: <https://www.highspeedinternet.com/tools/speed-test>.

Should the network connection exhibit a substantial increase in speed when utilizing the VPN compared to its performance without the VPN, it suggests that your Internet Service Provider (ISP) may be implementing throttling measures on your connection.

## Secure Browsing

Daily millions of internet users use Google or Bing. Google and Bing are mainstream search engines that are generally considered safe for everyday use, but they differ significantly from the [Tor \(The Onion Router\)](#) network and [DuckDuckGo](#) in terms of privacy and anonymity. Here are some reasons why some users may consider Google and Bing less safe for browsing compared to Tor:

1. Tracking and Profiling:

- Google and Bing track user activities and create user profiles based on search queries, clicked links, and other online behaviors. This data is often used for targeted advertising.

- Tor, on the other hand, is designed to prioritize user privacy and anonymity. It routes your internet traffic through a series of volunteer-operated servers, making it more challenging for anyone to trace your online activities.

## 2. Data Collection by Search Engines:

- Google and Bing store search history, which can be linked to your account. This data can be subpoenaed or accessed by law enforcement agencies.

- Tor attempts to anonymize your online activity by routing it through a series of relays, making it more difficult for any single entity to trace your browsing habits.

## 3. Location-based Tracking:

- Search engines like Google often use geolocation data to provide localized search results and advertisements.

- Tor routes your traffic through servers worldwide, making it harder to determine your actual location.

## 4. Government Surveillance:

- Some users, particularly those living in countries with strict censorship and surveillance, might perceive mainstream search engines as less secure due to potential collaboration with government agencies.

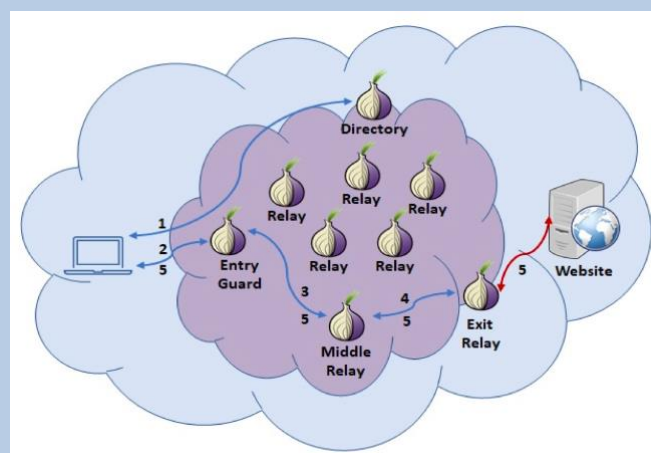
- Tor is designed to resist traffic analysis and maintain user privacy, making it a preferred choice for users in regions with high levels of internet censorship and surveillance.

## 5. Search Query Privacy:

- Search engines store and analyze search queries to improve their services and deliver personalized results.

- Tor aims to provide a more private search experience by separating users from their search queries, enhancing user anonymity.

The illustration of the operation behind TOR:



It's important to note that while Tor offers enhanced privacy and anonymity, it may not be suitable for all types of internet activities, and it can be slower due to the nature of its routing mechanism. Users should choose their browsing tools based on their specific needs and the level of privacy they require.

## Enhancing Online Privacy and Security through Web Encryption Technologies



A significant challenge in the realm of digital communication is internet censorship, often facilitated through Deep Packet Inspection (DPI). DPI involves scrutinizing internet packets to identify and block specific content based on their internal data.

### [HTTP, HTTPS, and Censorship:](#)

HTTP serves as the standardized communication protocol between devices and web servers for requesting and delivering web content. This protocol is susceptible to censorship, as it allows for the inspection of requested sites and their specific content. For instance, an HTTP request for [www.example.org/protest\\_plans/](http://www.example.org/protest_plans/) exposes not only the requested site but also the exact page and its contents. This enables censorship based on site origin, specific pages, or content.

### HTTPS and its Role:

To address these vulnerabilities, HTTPS emerges as a secure and encrypted evolution of HTTP. When you see “HTTPS” in the web address, it means your connection is encrypted, ensuring the privacy of your online interactions. It is the recommended practice for modern websites, regardless of censorship concerns, to encrypt their traffic. This measure enhances both privacy and security, safeguarding users from potential surveillance or data interception by the government of ISPs.

The adoption of HTTPS is crucial for mitigating internet censorship risks and ensuring a secure online environment. Websites should prioritize this encrypted protocol to protect user privacy and maintain the integrity of their content.

### Enhancing Digital Security: The Impact of [Two-Factor Authentication \(2FA\)](#) and Secure Cloud Storage

Securing your virtual domain is no longer a luxury; it has become an absolute necessity. To fortify your defense, two indispensable tools are at your disposal: Two-Factor Authentication (2FA) and Secure Cloud Storage.

2FA functions as a vigilant guardian, requiring not only your password but also a unique code sent to your device. This means that you need a second credential to log in to your account in addition to your password. This dual-layered approach forms a digital padlock, deterring potential digital intruders and safeguarding your virtual domain. With 2FA in place, even if someone gains access to your password, they remain unable to breach your account without the crucial second factor. Popular emails such as Outlook and Gmail both offer 2FA features with an authenticator app.

### **Secure Communication (Messaging)**

During the times of internet shutdown and internet surveillance, secure messaging is essential to consider. Most of the out-of-the-shelf messaging applications are not secure and not encrypted. People in Central Asia widely use unencrypted messaging apps such as IMO, Viber, Facebook Messenger, and others to communicate which puts them in [danger of being surveilled](#).

Selecting secure encrypted messaging apps is crucial in safeguarding the confidentiality and privacy of personal and sensitive communication. In an era marked by increased digital threats and potential privacy infringements, individuals and organizations are turning to messaging apps that employ robust encryption methods. Secure messaging apps ensure end-to-end encryption, meaning that only the intended recipients can decipher the messages. This ensures that even if the communication is intercepted, the content remains confidential. Additionally, these apps often incorporate features such as self-destructing messages and secure file sharing, offering a comprehensive approach to secure digital communication. The importance of using such apps becomes evident in protecting

sensitive discussions, and confidential information, and ensuring that users have control over their data.

Here are four of the most secure encrypted messaging apps, each renowned for its commitment to privacy and robust security features:

#### Signal:

- End-to-End Encryption: All messages, calls, and media are fully encrypted.
- Open Source: Signal's source code is available for scrutiny by security experts.
- Privacy-Focused: Minimal data collection, emphasizing user privacy.

#### Telegram:

- Secret Chats: Provides end-to-end encryption in secret chats.
- Self-Destructing Messages: Users can set a timer for messages to self-destruct after a specified time.
- Cloud-Based: Allows users to access messages across multiple devices securely.

#### WhatsApp:

- End-to-End Encryption: Implements strong encryption for messages and calls.
- Two-Factor Authentication: Adds an extra layer of security to account access.
- Owned by Facebook: While part of a larger company, WhatsApp maintains a commitment to user privacy.

#### Bridgefy:

- Bridgefy is an offline messaging app that allows users to communicate with each other without internet connectivity. It uses Bluetooth and mesh networking technology to create a decentralized communication network.

## **#KeepItOn Coalition**

The #KeepItOn Coalition is a global network comprising more than 300 organizations dedicated to campaigning against internet shutdowns. In collaboration with the #KeepItOn coalition, Access Now's Shutdown Tracker Optimization Project (STOP) has developed a comprehensive [database](#) to document instances of internet shutdowns. This database serves as a crucial repository of evidence that can be utilized to initiate actions against unlawful internet shutdowns. It is accessible for reference and welcomes contributions from individuals and organizations alike.

## **Advocacy Assembly**

Advocacy Assembly is a free e-learning platform featuring dozens of courses for human rights activists, campaigners, and journalists. Launched in 2015, Advocacy Assembly was initially imagined as a space to train learners who couldn't attend in-person workshops. You can learn more about the aforementioned tools through [online courses](#) on the website.

**APPENDIX I – List of 10 Biggest ISPs/Telcos operating within each assessed country (source: <https://db-ip.com/>)**

COUNTRY	ISP/TELCO	TYPE OF OWNERSHIP	# of IPv4 Addresses
Kazakhstan	JSC Kazakhtelecom	Joint Stock Company 79.1% owned by the government	3,688,704
Kazakhstan	Kcell JSC (owns mobile operator Kcell)	75% owned by the Kazakhtelecom	1,084,928
Kazakhstan	Kar-Tel LLC	Privately operated under the brand of Beeline	601,344
Kazakhstan	JSC Alma Telecommunications	Joint Stock Company	84,480
Kazakhstan	JSC Transtelecom	Joint Stock Company	76,544
Kazakhstan	Mobile Telecom-Service LLP	Private	71,680
Kazakhstan	TNS-Plus LLP	Private	70,144
Kazakhstan	Jusan Mobile	Joint Stock Company	46,848
Kazakhstan	PS Internet Company LLP	Private	35,843
Kazakhstan	Network Kazakhstan LLC	Private	20,480
Kyrgyzstan	OJSC Kyrgyztelecom (kt.kg) - ISP	Ministry of Digital Development owns 77.84% of the stocks	166,912
Kyrgyzstan	Mega-Line LTD- ISP	Private	132,864
Kyrgyzstan	AKNET - ISP	Private	43,008
Kyrgyzstan	Saimanet Telecommunications - ISP	Private	38,400
Kyrgyzstan	EiCat Ltd. - ISP	Private	28,160
Kyrgyzstan	Alfa Telecom – ISP (owns Megacom - mobile operator)	Closed joint Stock Company	20,224
Kyrgyzstan	NUR Telecom LLC (owns O! mobile operator) - ISP	Private	9,472
Kyrgyzstan	ASIAINFO TE	Private	8,192
Kyrgyzstan	FastNet Ltd.	Private	8,192
Kyrgyzstan	SkyMobile LLC (part of Beeline brand) - ISP	International mobile operator	5,632
Tajikistan	Babilon – T LLC (owns CJSC Babilon Mobile operator)	Private	44,544
Tajikistan	Tacom LLC (owns Zet Mobile, a mobile operator)	Private	20,480
Tajikistan	CJSC Indigo Tajikistan (owns Tcell mobile operator)	Closed Joint Stock Company	18,944
Tajikistan	CJSC Telecom Technology	Closed Joint Stock Company	11,520
Tajikistan	CJSC TT Mobile	Closed Joint Stock Company	9,472
Tajikistan	Spitamen Alexander Internet LLC	Private	9,216
Tajikistan	Eastera Ltd.	Private	4,096



Tajikistan	OJSC Tojiktelekom	Open Joint Stock Company with a majority stake owned by the government	4,096
Tajikistan	Oshno Group LLC	Private	3,072
Uzbekistan	Uzbektelekom	Joint Stock Company with 93.51% of shares owned by the Ministry of Finance of the Republic of Uzbekistan	73,216
Uzbekistan	IST TELEKOM LLC	Private	56,064
Uzbekistan	Sharq Telekom	Closed Joint Stock Company	16,128
Uzbekistan	Sarkor Telecom LLC	Private	15,360
Uzbekistan	Turon Media XK (Turon Telecom)	Private	14,848
Uzbekistan	COSCOM LLC	Private	14,592
Uzbekistan	Net Television Ltd	Private	14,080
Uzbekistan	OOO (LLC) Gals Telecom	Private	12,800
Uzbekistan	Ars-Inform LLC	Private	10,496
Uzbekistan	Buzton J. V.	Private	10,240