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Banning YouTube in Russia

Why the Last Free Social Media Platform in Russia Is Crucial for Informing Society



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YouTube is the last bastion of free expression and information in Russia, with over 93 million users. A ban on the platform would hurt democratic principles and freedom of speech in the country – and it is not a question of if but when. To prevent the further isolation of Russian society, democratic policymakers must act swiftly by urging Google to cooperate and to bolster YouTube’s infrastructure, as well as by reviewing sanctions.

- Despite primarily being an entertainment platform, in Russia YouTube is crucial for sociopolitical content critical of the regime. Major channels have over 170 million views monthly.
- Domestic alternatives like RuTube and VK Video are emerging slowly, and blocking YouTube poses technical and social challenges. Still, the authorities will likely overcome these and ban it if democratic governments and its owner, Google, do not act.
- Russia could implement hard or soft measures to block access to YouTube. Soft blocking would make users access it through a state-run portal while hard blocking would rely on traditional internet censorship methods.
- As a ban looms, ensuring YouTube’s availability and performance in Russia is vital. Democratic policymakers should help Google navigate sanctions, urge it to counter potential government restrictions, and support dissenting content creators.

EXECUTIVE SUMMARY

Amid growing authoritarianism, YouTube's status as the last major free social media platform available in Russia hangs in the balance. Democratic policymakers must understand the critical role YouTube plays for Russian civil society, the looming threat of its ban, and the strategies Russia's authorities employ against this bastion of freedom of expression and independent information. In line with its new Strategy for International Digital Policy, Germany should step up and get Google to cooperate to find solutions on how to keep the service running, review sanctions to facilitate the upkeep of Google's infrastructure in Russia, and ensure the optimal functioning of YouTube, so that Russian users do not have to switch to Russian state-controlled alternatives. Banning YouTube would isolate Russian society further and undermine democratic values.

In light of Russia's war on Ukraine, growing authoritarianism, repression, and self-isolation, and judging from previous measures taken to curtail the free flow of information on the web in the country, it is only a matter of time before the authorities ban YouTube. With over 93 million monthly users in Russia, the platform is vital for the spread of uncensored content and sociopolitical discussions across the country.

The state's efforts to impede access to various platforms and services that it deems undesirable or a threat are becoming increasingly sophisticated. It has until now hesitated to ban YouTube or to limit access to it owing to factors such as the platform's role in entertainment, the potential backlash from society, and technical challenges. YouTube presents unique challenges to censors due to its vast data volume, rendering monitoring and blocking it more resource-intensive.

State-controlled alternative platforms like RuTube and VK Video are not yet viable replacements. They face challenges in user engagement, content recommendation, and reliability. However, the state is actively pushing these platforms and luring creators to show exclusive content on them by offering highly remunerated contracts. Investments into these platforms might soon make them viable and lead to users switching to them. At the same time, online content creators designated as "foreign agents" face financial constraints due to loss of advertising revenue, which threatens their work.

In addition to the government's likely goal to phase out the platform, YouTube's performance there is threatened by the degradation of Google Global Cache servers in Russia, which are crucial for video streaming. This raises concerns about the quality and speed of YouTube's service, potentially prompting users to explore domestic alternatives.

In response to these challenges, the following recommendations are made:

1. Democratic policymakers should prepare for a YouTube ban in Russia, prioritize cooperation with Google, and urge it to devise swift solutions to hurdles to access set up by the country's authorities.
2. As alternatives like RuTube and VK Video emerge, Google – with support from democratic governments – must maintain YouTube's availability in Russia against attempts to block it. Ambiguities in the Western sanctions that affect maintaining the infrastructure to keep YouTube available in Russia must be addressed. Dissident content creators must be supported to keep up their work.
3. YouTube in Russia likely operates at a loss for Google. Despite this, Google is not inclined to withdraw from the Russian market, as this would pose significant challenges for a future re-entry. Democratic policymakers should use this to urge the company to sustain YouTube in Russia.
4. Google needs to quickly develop ways to keep YouTube accessible in Russia, including technical solutions like traffic obfuscation. These measures can make blocking the platform more difficult, potentially obstructing the authorities and preserving Russians' freedom of expression and access to vital information.

INTRODUCTION

In June 2022, Germany's Chancellor Olaf Scholz said: *we are experiencing the attempt to completely seal off the Russian information space by Putin's state power, unfortunately often with success. In short, the internet has unfortunately already become a "splinternet" in parts. [...] The Internet must be preserved and strengthened as a progressive, democratizing global networking and knowledge exchange space. This means a "turning point" in digital policy.*¹

Since 2012, the regime has exerted more control over the internet in Russia and further isolated it from the global one. Many laws have been enacted and measures taken to hinder or stop the free flow of information on the internet. These include systems that monitor and block traffic and protocols, a huge ban list of IP addresses² that can no longer be accessed in Russia, data-retention laws that make it extremely easy for the security services to retrieve data, the ban on major Western social media (such as Instagram, Facebook, and Twitter), and criminal prosecution for people who criticize the war in Ukraine or "defame" the military online. Russian internet service companies that did not toe the line were quickly shut down or bought by the state.³

YouTube, owned by Google, is the last major free social media platform that is not blocked in Russia. But with ever-increasing authoritarianism and repression, this might change soon, cutting off civil society from a major channel for free expression and a source of independent information. YouTube is extremely popular in the country, with over 93 million monthly users. Since Russia launched its full-scale invasion of Ukraine in February 2022, rumors that the platform will be banned have intensified. It is unlikely that YouTube will avoid this fate for much longer. Members of the Duma have repeatedly stated how much they would like to see this happen. In March 2023, there were reports that a delegation of over 40 Chinese experts came to Russia to transfer expertise

to officials so that they could eventually block access to the platform.⁴

YouTube is crucial for Russia's civil society as one of the few widely accessible platforms unconstrained by the state. Numerous channels on it disseminate content that contradicts the Kremlin's narratives. YouTube remains responsive to user reports, removing objectionable content, although imperfections in Google's algorithms occasionally result in pro-government propaganda slipping through to recommendations to users.⁵

YouTube becoming inaccessible would not only present challenges for individuals with limited technological proficiency in seeking independent information but also prompt a migration of users toward Russian platforms that prioritize state-endorsed content. Such a shift would deepen the gulf between Russian civil society and its Western counterparts. In February 2024, Federal Minister of Digital Affairs and Transport Volker Wissing presented Germany's new Strategy for International Digital Policy, which aims to promote a global digital order that supports democracy, freedom, prosperity, sustainability, and resilience. Helping guarantee that YouTube keeps working in Russia would be one way for Germany to turn its words into action.⁶

This analysis first discusses the context surrounding how YouTube reacted to Russia's war on Ukraine, which is crucial for comprehending the current situation. It then delves into YouTube's significance for political discourse in Russia and examines its current state in the country, the challenges content creators on it face, and why it has not yet been banned. The latter includes a closer look at YouTube's Russian competitors and why they have not succeeded in supplanting it. The next section analyzes how the authorities might block YouTube. The paper then scrutinizes Google's infrastructure in Russia and the reasons for its current fragility. It concludes with recommendations for democratic policymakers.

1 "Rede von Bundeskanzler Scholz bei der re:publica 2022 am 9. Juni 2022 [Speech by Federal Chancellor Scholz at the re:publica 2022 on 9 June 2022]," Die Bundesregierung informiert | Startseite, accessed March 4, 2024, <https://www.bundesregierung.de/breg-de/aktuelles/rede-von-bundeskanzler-scholz-bei-der-re-publica-2022-am-9-juni-2022-2050524>.

2 An IP address is a numerical identifier assigned to devices connected to a computer network for communication and routing purposes.

3 Philipp Dietrich, "The Key Player in Russia's Cybersphere," September 20, 2023, <https://dgap.org/en/research/publications/key-player-russias-cybersphere>.

4 "В Москву Прибыла Группа Специалистов По Киберугрозам Из Китая: Готовится Дорожная Карта По Блокировке YouTube в России [A Group of Cyber Threat Experts from China Has Arrived in Moscow: A Roadmap for Blocking YouTube in Russia Is Being Prepared]," March 29, 2023, https://octagon.media/novosti/v_moskvu_pribyla_gruppa_spezialistov_po_kiberugrozam_iz_kitaya_gotovitsya_dorozhnaya_karta_po_blokirovke_youtube_v_rossii.html.

5 Roman Kulchynsky, Halyna Pastukh, Yuliia Dukach, Serhii Mikhalkov, and Vlad Herasymenko, Nadia Kelm, Yevheniia Drozdova, "The Piggyback Trick," November 28, 2023, <https://texty.org.ua/d/2023/youtube-recommendations/en/>.

6 "BMDV - Cabinet Adopts the Strategy for International Digital Policy of the Federal Government," February 7, 2024, <https://bmdv.bund.de/SharedDocs/EN/PressRelease/2024/004-wissing-protect-the-internet.html>.

HOW YOUTUBE REACTED TO RUSSIA’S WAR ON UKRAINE


A lot has changed in the way companies operate in Russia since it invaded Ukraine in 2022. Google Russia closed its office in the capital and declared bankruptcy in 2023, after the authorities seized its main bank accounts the previous year.⁷ The authorities have fined Google multiple times for its content.⁸ As of the start of 2024, these fines seem to have been either removed from Russian official databases or paid.⁹

YouTube has taken action against Russian war propaganda on its platform in several aspects. On March 11, 2022, YouTube banned media channels linked to the Russian state globally. YouTube stated that the invasion now falls under its violent events policy and that content violating this will be removed. The guidelines prohibit content that denies, minimizes, or trivializes well-documented violent events related to Russia’s invasion of Ukraine. The platform has not specified the number or names of the channels blocked globally or provide information on potential restoration. According to its policy, channels may face permanent blocking for repeated violations, for a single instance of severe abuse, or if they are dedicated to producing violating content.¹⁰ Large channels funded by the state were removed, including all RT channels and RIA Novosti, which had several million subscribers.

Despite these actions, Russian propaganda actors reportedly avoid being blocked by YouTube by uploading content that does not directly violate its guidelines.¹¹ There is still a considerable amount of pro-Russia propaganda on the platform, be it channels re-uploading prohibited content,¹² “alternative” news channels spreading disinformation and white noise, or art channels such as the one of singer Shaman, whose song “I am Russian” is regularly played on public events supporting the war in Ukraine. The latter, for instance, does not directly violate community guidelines, making blocking unfeasible and potentially even unjust.

The largest Channels posting regular sociopolitical content critical of the government in million subscribers

10.3

Vdud
Yury Dud 

6.2

NavalnyRu
Alexei Navalny 

4.8

Varlamov
Ilya Varlamov 

4.0

Redaktsiya
Alexei Pivovarov 

3.8

Radio Svoboda
Radio Liberty 

2.2

DWRussian
Deutsche Welle 

Source: Authors Own Illustration

7 Tom Jowitt, “Google Russia Declared Bankrupt After Bank Seizure,” Silicon UK, October 19, 2023, <https://www.silicon.co.uk/e-marketing/socialmedia/google-russia-declared-bankrupt-after-bank-account-seizure-534861>.
8 See, for example, “Russia Fines Google for Failing to Delete ‘False Content’ about Ukraine War,” POLITICO (blog), August 17, 2023, <https://www.politico.eu/article/russia-fine-google-ukraine-war/>.
9 “Google, Meta and Tiktok’s Debts Removed from Russian Database - Bailiffs,” Reuters, January 3, 2024, sec. Technology, <https://www.reuters.com/technology/google-meta-tiktoks-debts-removed-russian-database-bailiffs-2024-01-03/>.
10 “YouTube Blocks Russian State-Funded Media Channels Globally,” The Guardian, March 11, 2022, sec. Technology, <https://www.theguardian.com/technology/2022/mar/11/youtube-blocks-russian-state-funded-media>.
11 “Трупи, расизм та воєнні злочинці: які російські канали досі не заблокував Youtube? [Corpses, racism and war criminals: which Russian channels have not yet been blocked by Youtube?],” May 16, 2023, <https://imi.org.ua/monitorings/trupy-rasyzm-ta-voyenni-zlochyntsi-yaki-rosijski-kanaly-dosi-ne-zablokuvav-youtube-i52853>.
12 Emma Woollacott, “Russia Floods YouTube With RT Videos,” Forbes, February 23, 2023, <https://www.forbes.com/sites/emmawoollacott/2023/02/23/russia-floods-youtube-with-rt-videos/>.

YouTube has also paused the monetization¹³ of videos watched in Russia, which has led to a major outcry among Russian content creators. They are no longer able to generate any money from adverts YouTube places alongside their content and seen in Russia, where users report still seeing ads. The content creators can still earn money if the user is watching in another country. Content creators have, therefore, suggested that users in Russia switch on a VPN¹⁴ when watching YouTube videos, which virtually places the user in a different country. However, as this is probably not a viable long-term solution, creators have started integrating adverts directly into their videos instead of having YouTube placing them alongside. This can take the form of clips that are entirely advertising or product placements, which is permitted by YouTube as long as it does not violate any community guidelines. The user can skip the advert by fast-forwarding the video. In this case the creator receives money directly from the advertiser and no longer via YouTube. This method seems to have worked relatively well and creators who had called for a switch to other platforms after YouTube's monetization pause are now more active than ever on the platform.¹⁵

Using this method is more difficult for creators publishing anti-Kremlin content, however. Because the lion's share of their audience is Russian, the only advertisers interested in placing ads on their videos are Russian as well. But for these companies, advertising alongside the content of creators who go against the regime's official line could have negative repercussions. Hence, they might be hesitant to do that. Some larger Russian YouTube channels saw their revenue decrease quite significantly due to the monetization decision. However, for particularly large ones even a large drop still leaves them with a high revenue. For example, the revenue Alexey Pivovarov's¹⁶ channel decreased by 46.5 million to 93 million rubles between February 24 and September 1, 2022 (over €1 million at the time). Some channels, such as Yuri Dud's¹⁷ vdu, have even increased their revenue. In addition to foreign companies, such as the Dutch VPN provider

Surfshark, Russian companies have advertised on the channel despite Dud's "foreign agent" status.

In March 2024, the Russian Federation Council passed a new law, which will soon come into force, that prohibits advertising on any resources by people the authorities have designated as "foreign agents," including YouTube. Since most advertisers on such channels have been Russian, they will likely not be inclined to break that law, as they might face hefty fines and other repercussions. The "foreign agents" involved might be prosecuted if they violate the law more than twice.¹⁸ Many large YouTube channels have announced that this law threatens their existence. The journalist Katerina Gordeeva, who is designated as a "foreign agent," announced she would have to close her channel if she cannot keep it going with revenue from donations. Pivovarov announced that he would have to lay off staff.¹⁹ Even if all these content creators start working from abroad to circumvent the law, advertising on their channels will likely still be limited as their Russian-language content will interest mainly Russian advertisers.

To sum up, YouTube has taken some actions following Russia's war on Ukraine and is trying to remove pro-Russia content that violates its community guidelines. These measures can be optimised and extended, but since it is relatively rare that such content slips through, YouTube does not seem to have a particular issue in this regard. The new law on advertising and the lack of monetization pose a major challenge for dissident content creators to generate revenue on the platform. Rather than having to ban YouTube, the Kremlin might more easily starve content creators of revenue – something that must be avoided at all costs.

THE IMPORTANCE OF YOUTUBE FOR POLITICAL DISCOURSE IN RUSSIA

YouTube is particularly important as a medium for unbiased content in Russia because of its large user base there. It is estimated to be Russia's third-most

13 Content creators typically earn money through advertisements placed by YouTube that play before, during, or after their videos, as well as through affiliate links or donations.

14 A VPN (virtual private network) is a service that encrypts internet connections and routes them through a remote server, providing anonymity, security, and the ability to bypass geographical restrictions online.

15 *Это Уже Не Смешно – Топлес [It's Not Funny Anymore - Topless]*, 2022, <https://www.youtube.com/watch?v=K8NICYdV4xk>.

16 Pivovarov is an opposition figure and former journalist known for his activism against the government.

17 Dud is a prominent journalist, documentary filmmaker, and popular YouTube personality known for his in-depth interviews and investigative reporting.

18 "Совфед Одобрил Закон о Запрете Рекламы На Ресурсах Иноагентов [The Council of Federation Approved the Law Banning Advertising on Foreign Agent Resources]" March 6, 2024, <https://tass.ru/ekonomika/20167139>.

19 "Володин заявил, что иноагенты потеряют до 80% рекламных доходов [Volodin said that foreign agents will lose up to 80% of advertising revenue]," РБК, March 5, 2024, <https://www.rbc.ru/rbcfreenews/65e6be609a79474ea84bace0>.

visited site after Yandex and Google.²⁰ Experts believe that YouTube accounts for one-third of all Russian internet traffic.²¹ Data from September 2023 has almost 43 percent of Russians over the age of 12 (around 51.5 million people) using it every day, and nearly 78 percent (around 93.5 million people) every month.²² YouTube's audience has been steadily growing in Russia.

The largest channels posting regular sociopolitical content critical of the government include Yuri Dud's vud (10.3 million subscribers), Alexei Navalny's channel NavalnyRu (6.2 million), Ilya Varlamov's channel (4.8 million), Alexei Pivovarov's channel Redaktsiya (4 million), the channel of Radio Free Europe/Radio Liberty's Radio Svoboda (3.8 million) and Deutsche Welle's Russian-language channel (2.2 million). These channels regularly discuss the war in Ukraine, the authoritarian measures of the government, and the repression of political activists. Between December 22, 2023 and January 22, 2024, they collectively had more than 170 million views, with over 50 million views for Deutsche Welle.²³ It is unclear how many of these channels' viewers come from inside Russia but it is likely that the great majority are Russian speakers since their content is almost exclusively in the Russian language. Many of the channel owners have been designated as "foreign agents," and some have left Russia out of fear of being prosecuted.

Many social networks in Russia are either blocked or heavily controlled. For instance, the domestic V Kontakte has seen a surge in censorship since the invasion of Ukraine.²⁴ News outlets and aggregators have been heavily manipulated to favor pro-Kremlin content, or closed down. Restrictive laws and selective punishment make the work of journalists hard and lead to self-censorship. YouTube cannot be attacked similarly by the state because it no longer has an entity in Russia. As of early 2024, creators can post on

it dissenting content that is accessible without using data anonymizers or VPNs. YouTube thus remains crucial for political discourse in Russia.

WHY YOUTUBE HAS NOT BEEN BANNED YET IN RUSSIA

Expert opinion differs as to why YouTube has not been banned in Russia yet, given its restrictive measures against state-funded channels and its role in spreading information that goes against the official state line. One explanation could be that blocking YouTube and its servers could impact all Google services in the country. The most popular mobile operating system in Russia is Google's Android, and the company regularly releases updates to ensure it functions correctly and to reduce cyberattack risks. A complete block of Google's services could disrupt Android updates and crucial functionalities of the operating system.²⁵ Google services like Google Docs and Google News²⁶ have been blocked without causing significant disruption, but they were far less prevalent than YouTube and are much less data-heavy, which could be an explanation for why they could be blocked. In addition, the block on Google Docs was short-lived and was not implemented by all internet service providers (ISPs).²⁷

Furthermore, a YouTube block could lead to users accessing it via VPNs, which could have two adverse effects for the state. First, the VPN requests could overload the backbone network, leading to widespread internet outages. Second, a block would probably further increase the number of VPN users.²⁸ According to IT security expert Kolja Weber, this would make it much harder and more resource-intensive for the security services to perform deep packet inspection and thus monitor and regulate citizens' internet usage.²⁹

20 "Top Websites Ranking In Russia In February 2024," Similarweb, accessed April 2, 2024, <https://www.similarweb.com/top-websites/russian-federation/>.

21 "Блок-Схема: Как Роскомнадзор Ограничивал Доступ к Интернет-Ресурсам [Flowchart: How Roskomnadzor Restricted Access to Internet Resources]," Forbes.ru, January 5, 2024, <https://www.forbes.ru/tehnologii/503386-blok-shema-kak-roskomnadzor-ogranicival-dostup-k-internet-resursam>.

22 "Mediatrends 2023" (Mediascope, December 1, 2023), https://mediascope.net/upload/iblock/208/og23iq3gtowi7mvoanxs9l9dxfxqgzv/День%20бренда_К_Ачкасова.pdf.

23 "DW На Русском's YouTube Stats (Summary Profile) - Social Blade Stats," January 22, 2024, <https://socialblade.com/youtube/c/dwussian>.

24 Jeffrey Knockel et al., "Not OK on VK: An Analysis of In-Platform Censorship on Russia's VKontakte" (Citizen Lab, University of Toronto, July 26, 2023), <https://citizenlab.ca/2023/07/an-analysis-of-in-platform-censorship-on-russias-vkontakte/>.

25 "В Госдуме Назвали Технически Невозможной Блокировку YouTube [The State Duma Called It Technically Impossible to Block YouTube]," TACC, June 2, 2023, <https://tass.ru/ekonomika/17916167>.

26 "Access to Google News Service Blocked in Russia - Roskomnadzor," March 23, 2022, <https://interfax.com/newsroom/top-stories/77281/>.

27 The Moscow Times, "Russia Starts Blocking Google Docs After Navalny Shares Anti-Kremlin Vote Strategy - Monitor," The Moscow Times, September 16, 2021, <https://www.themoscowtimes.com/2021/09/16/russia-starts-blocking-google-docs-after-navalny-shares-anti-kremlin-vote-strategy-monitor-a75059>.

28 "В России Действительно Собираются Заблокировать Ютьюб? «Медуза» Узнала, Что Об Этом Говорят в Кремле [Is Russia Really Going to Block YouTube? 'Meduza' Found out What the Kremlin Is Saying about It]," Meduza, February 17, 2023, <https://meduza.io/feature/2023/02/17/v-rossii-deystvitelno-sobirayutsya-zablokirovat-yutyub-meduza-uznala-chto-ob-etom-govoryat-v-kremle>.

29 Interview via phone, February 16, 2024.

Another explanation could be that the regime does not want to upset a society that uses YouTube to a large extent for entertainment, and that taking the platform down would be a considerable sociopolitical risk.³⁰ And it would risk much more discontent in the population by banning YouTube in the absence of adequate domestic alternatives. The authorities often legitimize their push for alternatives, which is largely due to their inability to censor dissenting content on platforms they cannot control, as regaining “sovereignty” over such services. So far, however, the two Russian equivalents to YouTube, VK Video and RuTube, are not performing well enough to be a viable alternative for the regime.

VK VIDEO

The video-hosting platform VK Video is owned by VK. The company has experience with large amounts of users and data, and its social media services are among the most prominent in Russia, including the VKontakte social network. VK changed leadership in late 2021 and is now effectively owned by the state.³¹ Apart from hosting “normal” content, VK Video is well known for hosting pirated films, with even the latest blockbusters available on the platform, as well as adult content. In March 2023, it was reported that its parent company was ready to invest billions in its infrastructure to prepare for a YouTube ban.³²

In March 2022, VK Video introduced a new strategy to entice content creators to produce exclusive content for it and to attract a larger audience. This achieved partial success with the number of its users growing.³³ However, there was no parallel fall in the number of YouTube users, and most large content creators have kept posting there, albeit with a slight delay since they get lucrative deals to post first on VK.

VK enticed bloggers to switch from YouTube by guaranteeing traffic on VK Video, but it is not clear how it could ensure this. When analyzing the user activity

on the platform, the expected interactions, such as likes and comments, did not align with the video views displayed, resulting in significantly fewer interactions than usual for the number of views. Whether the user or view numbers VK publishes are reliable is questionable. For instance, during a presentation, it showcased 1.1 billion daily VK Video views on one slide and 2 billion on another.³⁴ Such discrepancies prompt speculation about whether its reported figures are inflated to please higher-ups, particularly those closely connected to the regime.

VK Video’s interface seems to be worse than YouTube’s. The user must be logged in to use most functions of the service, unlike with YouTube. In addition, its algorithms are questionable as the recommendation system often fails to deliver relevant content, providing users with material they are not interested in.

Despite these drawbacks, VK Video’s quality will likely increase. In 2023, VK built a large content delivery network (CDN) that could be used for VK Video.³⁵ This would significantly boost video load times and make the service more widely accessible. If more content creators switch to it, VK Video could become a realistic alternative to YouTube. And, with its current investments, the platform might soon be ready to accommodate Russian users switching from YouTube if the latter gets banned.

CONTENT DELIVERY NETWORK

A content delivery network (CDN) is a distributed network of servers strategically located across several regions. When a user accesses content hosted on a website or platform like YouTube, the CDN helps deliver that content by caching it on servers closer to the user’s geographic location. This proximity reduces latency and improves the overall speed and performance of content delivery.

30 “Social Media Stats Russian Federation,” StatCounter Global Stats, accessed September 1, 2023, <https://gs.statcounter.com/social-media-stats/all/russian-federation>.
 31 Dietrich, “The Key Player in Russia’s Cybersphere.”
 32 “VK Готовит Собственную Инфраструктуру На Случай Отключения YouTube [VK Is Preparing Its Own Infrastructure in Case YouTube Is Shut Down],” Forbes.ru, March 27, 2023, <https://www.forbes.ru/tehnologii/486758-vk-gotovit-sobstvennuu-infrastrukturu-na-slucaj-otklucenia-youtube>.
 33 “VKontakte Представила Видеоитоги Года: Рекорды Шоу в VK Видео и 30 Млн Зрителей в VK Клипах | VK Blog [VKontakte Presented Video Results of the Year: Show Records in VK Videos and 30 Million Viewers in VK Clips | VK Blog],” VK, December 15, 2023, <https://vk.com/press/video-clips-2023>.
 34 “Зрители Не Настоящие. Просмотры Накручены. Но Это Не Проблема Как Кремль Пытается Сделать VK «убийцей Ютьюба» — и Главным Агитатором На Выборах в 2024 Году [Viewers Aren’t Real. The Views Are Bogus. But That’s Not a Problem How the Kremlin Is Trying to Make VK the ‘YouTube Killer’ - and the Main Campaigner in the 2024 Elections.],” Meduza, December 25, 2023, <https://meduza.io/feature/2023/12/25/zriteli-ne-nastoyaschie-prosmotry-nakrucheny-no-eto-ne-problema>.
 35 “VK Построила Масштабную Сеть Доставки Контента [VK Has Built a Large-Scale Content Delivery Network],” Forbes.ru, September 27, 2023, <https://www.forbes.ru/tehnologii/497279-vk-postroila-masstabnuu-set-dostavki-kontenta>.

RUTUBE

RuTube is a video-sharing platform and streaming service similar to YouTube, founded in 2006. It allows users to upload, view, and share videos on various topics, including entertainment, music, and news. It is owned by the state-owned Gazprom Media. The number of RuTube users is growing slowly but steadily, yet it is still significantly smaller than YouTube's.

RuTube's interface looks almost identical to YouTube's. Users report that the content recommendation algorithm is significantly worse than YouTube's and does not foster user engagement. RuTube does not show view counters for many videos, and it has presented growth numbers that do not correspond with the engagement on most videos. According to the company, 40.4 million people used the site in April 2023, compared to 17.2 million in April 2022,³⁶ but these numbers are questionable.

The fact that RuTube's audience is still significantly smaller than YouTube's can be explained by the former's content offer compared to the immense one on YouTube as well as the fact that some content is first inspected inefficiently by moderators and therefore there can be a very long time before it is uploaded. The company is investing billions of rubles to catch up with YouTube and to prepare for an eventual ban.³⁷ Still, there is some doubt as to whether it could cope with the massive increase in users that would arise in that case.³⁸

RuTube has been struck by several cyberattacks, with the largest one in May 2022 taking it offline for several days.³⁹ An outage on such a scale and especially of such duration is unusual for large platforms and is a sign of an underperforming security architecture, which can harm user numbers. What the company may have done to improve security since is not public knowledge.

Time will tell whether RuTube's investments will improve its algorithms and enable it to handle millions of

users reliably. Based on how the platform performed in the past, it is more likely that VK Video will be the main Russian alternative to YouTube, but it might still be in the race if managed properly.

HOW ACCESS TO YOUTUBE COULD BE BLOCKED

A key question is how feasible it is for the authorities to block access to YouTube. The minister of digital development, communications, and mass media, Maksut Shadayev, said in May 2022 that the government had no intentions of blocking YouTube despite threats arising from Google's failure to remove illegal and undesirable content. He also emphasized the importance of Russia's participation in the global internet.⁴⁰ But he also said that restrictions would be implemented only in a way that would not adversely affect users, and that a ban would only be considered an extreme measure when a competitive alternative was available. This appears to have been the first public government hint about blocking the site.

Soft Blocking

Soft blocking would rely on traditional internet censorship methods. A potential way for the state to block YouTube would be to set up an alternative portal that scrapes videos from the platform and displays them via a proxy server. Allegedly, the majority state-owned Rostelecom, the largest provider of digital services, is already testing such a service and implementing content filtering based on military censorship rules.⁴¹ In August 2023, employees were invited to test a "YouTube access service" where they could watch YouTube content through a specially created site, ytonline.ru. This site allowed content filtering, enabling authorities to control what kind of videos users could access. The testing phase was initially open to all Russian users, but the site was later closed. The reason why is unknown, but possible explanations could be that the service failed or that Rostelecom did not want outsiders to analyze how it functioned.

36 "3Snet - RuTube 2023: Аудитория и Перспективы [3Snet - RuTube 2023: Audience and Perspectives]," 3Snet (blog), December 14, 2023, <https://3snet.info/news/rutube-2023-audience-and-prospectives/>.

37 "«Ъ» Узнал о Планах RuTube Потратить \$30 Млрд, Чтобы Догнать YouTube [«Kommersant» Learned about RuTube's Plans to Spend \$30bn to Catch up with YouTube]," РБК, April 27, 2023, https://www.rbc.ru/technology_and_media/27/04/2023/6449e7cb9a7947bf8db98c39.

38 "В АНО «Цифровые Платформы» Заявили о Полноценности Замены YouTube На VK Видео [The ANO Digital Platforms Said That YouTube's Replacement by VK Video Is Complete]," Хабр, August 11, 2022, <https://habr.com/ru/news/682114/>.

39 "A Cyberattack Took down One of Russia's Largest Video Platforms for Days," NBC News, May 11, 2022, <https://www.nbcnews.com/tech/tech-news/rutube-down-russia-hack-attack-ukraine-rcna28299>.

40 "Russia Will Not Ban YouTube, Minister Shadayev Says," RadioFreeEurope/RadioLiberty, accessed January 14, 2024, <https://www.rferl.org/a/31157800.html>.

41 "Telegram: Contact @zatelecom," August 21, 2023, <https://t.me/zatelecom/26259>.

Such a service could function similarly to other alternative front-ends⁴² for YouTube like New Pipe or Invidious. It would be installed on servers that act as unlicensed YouTube mirrors. Unlike using the official YouTube API,⁴³ it would parse the source code of the YouTube site to retrieve necessary information. It would extract details such as video titles, descriptions, and URLs. When users interact with the site, their requests would be processed through the server where the service is installed. This server-side processing would ensure that users can access content without directly interacting with YouTube's infrastructure, but it could also be used to block undesirable videos.

The use of an alternative portal to block YouTube content would be a compromise between a complete ban and unrestricted access. The process involves launching a censorship filter. According to the cyber expert Mikhail Klimarev, once a political decision is made to that effect, the introduction of such a censorship filter would take about two months to implement.⁴⁴

Whether this would work in the long term and how YouTube would react to this kind of content scraping would remain to be seen. If the authorities wanted the experience to be as seamless as possible for the average user, who would not notice anything unusual, DNS⁴⁵ connections would have to be altered by redirecting YouTube queries to the new Russian portal. Users typing in "youtube.ru" and believing they now accessed Google's website would in fact be redirected to a site looking identical to Google's but managed and monitored by the authorities. This would involve building a domestic DNS. And since Russia has already launched its own DNS⁴⁶, this method looks even more plausible.

It is doubtful whether YouTube's content recommendation system would work as intended on an alternative portal, which is one of the reasons why the platform has been so successful. With a bad algorithm and bad suggestions, users would spend less time on the portal and appreciate it less, or even move to competitors or access YouTube via VPNs.

Hard Blocking

Russia's authorities could also "hard block" YouTube without setting up an alternative access portal to the site, as they have done with Facebook, Instagram, LinkedIn, and Twitter. They have various technical means to do that, and they recently acquired new equipment for this complicated endeavor.⁴⁷ Going into the technical details of such a complex task is beyond the scope of this paper, but it is almost certain that a hard block would be effective in cutting off access for most YouTube users in Russia unless the platform radically obfuscates (basically, hides) its traffic. Only users with more sophisticated VPN services would likely be able to circumvent the blockages.

The authorities will probably only introduce a hard block of YouTube after alternative platforms, such as VK Video and RuTube, have enough expertise and have expanded their infrastructure to handle the incoming load of former YouTube users. If the alternative experience is comparable to that of YouTube and appealing, or if it becomes a necessary platform for creators to keep generating revenue, it is likely that most YouTube users would make the switch.

The Issue with Google Global Cache

Google Global Cache (GGC) is a server system that speeds up access to Google services like YouTube and operates similarly to a CDN. Video streaming is very

42 Front-end, also often referred to as the client side, is the part of a website or web application that users interact with directly.

43 An application programming interface (API) is a way for two or more computer programs or components to communicate with each other. It serves as a software interface, offering a service to other pieces of software.

44 "Ростелеком тестирует «внутренний сервис доступа к YouTube» [Rostelecom tests "internal service of access to YouTube]," August 21, 2023, <https://roskomsvoboda.org/en/post/rostelek-censoring-youtube/>.

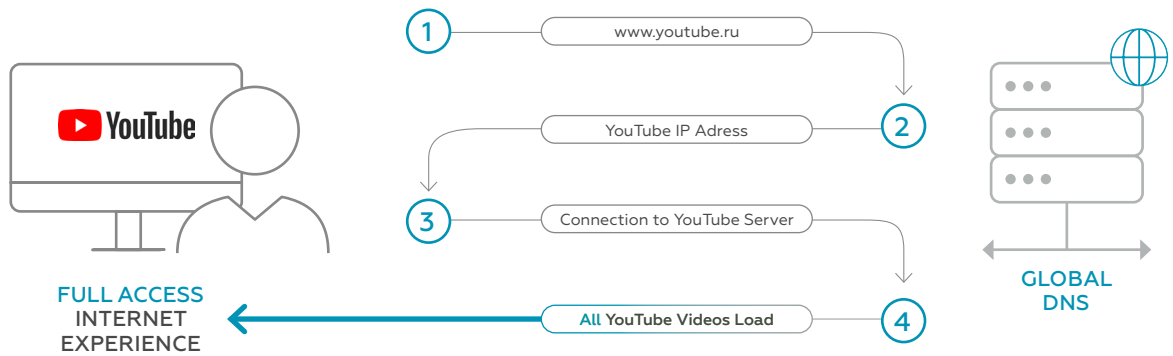
45 The domain name system (DNS) is a decentralized naming system for computers, services, or any resource connected to the Internet or a private network. It translates domain names (for example, www.dgap.org) into numerical IP addresses (for example, 192.0.2.1), allowing devices to locate and communicate with each other across networks.

46 "Russia's Quest for Digital Sovereignty | DGAP," accessed January 22, 2024, <https://dgap.org/en/research/publications/russias-quest-digital-sovereignty>.

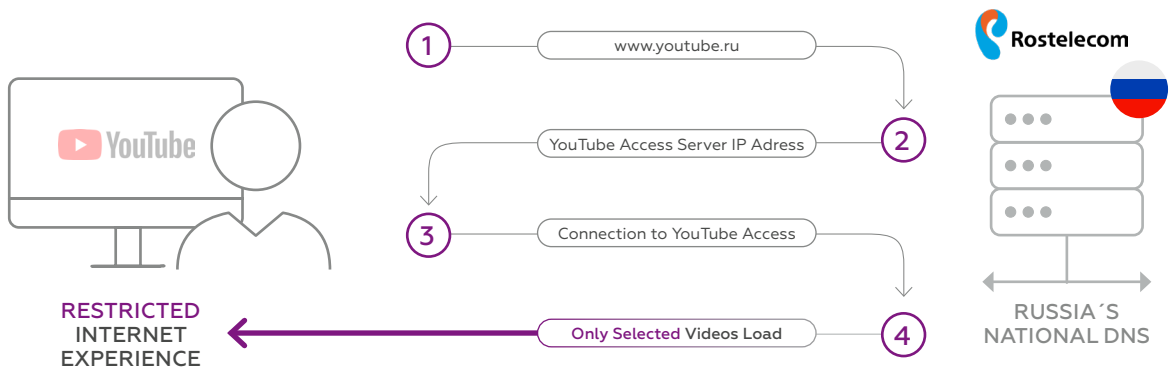
47 "Протокольные мероприятия. Как Россия готовится блокировать YouTube и Telegram, закупая оборудование в обход санкций [Protocol events. How Russia is preparing to block YouTube and Telegram by purchasing equipment to bypass sanctions]," The Insider, October 10, 2023, <https://theins.ru/politika/265575>.

Potential Functioning of Rostelecom’s YouTube Access Services (Simplified Representation)

STATUS QUO



SOFT BLOCK



Source: Authors Own Illustration

resource-intensive as it creates a lot of web traffic. Around 65 percent of all internet traffic is related to video streaming. In 2022, it accounted for around 25 percent of worldwide internet traffic, far ahead of any other online service.⁴⁸ Over 90 percent of YouTube’s traffic is generated on mobile devices.⁴⁹ To minimize traffic on the backbone infrastructure, content is

loaded onto servers close to a large number of users. Users thus do not stream videos off Google’s main data centers but directly from these servers (for example, in Moscow), reducing the load on backbone connections. Typically, 70–90 percent of Google’s cacheable traffic is served from GGC.

48 Sandvine, “Global Internet Phenomena,” accessed January 22, 2024, <https://www.sandvine.com/phenomena>.

49 “Distribution of Web Visitor Traffic to YouTube.Com by Device 2022,” Statista, accessed January 22, 2024, <https://www.statista.com/statistics/1256738/youtubecom-monthly-visits-distribution-by-device/>.

The fact that Google was forced to leave Russia is potentially harming the GGC infrastructure in the country. GGC is easy to set up, with Google providing the hardware and ISPs only needing to provide rack space, power, and a network connection. The configuration process involves using a web portal for ISPs, where users provide necessary information for Google to optimize cache performance.⁵⁰

In January 2022, there were around 700 GGC servers in Russia; about 450 remained by the end of 2023.⁵¹ The remaining ones are wearing out without replacements due to Western sanctions that limit hardware imports.⁵² This may result in a decline in YouTube's performance in the country, affecting video loading times and quality. In May 2022, Google informed some Russian ISPs that their GGC servers would be shut down.⁵³ The affected ISPs are relatively small, mitigating the overall impact.

Google Global sets up GGC and therefore the fact that Google no longer has a Russian entity is not crucial. The challenge for the company likely lies in importing server equipment into Russia due to sanctions. While these are not intended to affect civilian-purpose hardware, navigating the import process is a considerable hurdle. One challenge is the ambiguity surrounding provisions that exempt telecommunications equipment from sanctions⁵⁴ while prohibiting any dealings with entities partially owned by the Russian state,⁵⁵ which includes some Russian telecom companies. Since Google is not generating any revenue in Russia, it might be deterred by having to put much effort into complying with complicated sanctions and instead opt not to import any new equipment at all.

Russia has devised methods to circumvent sanctions and resorts to "grey" imports of hardware. Servers essential for GGC, such as Dell PowerEdge Servers,⁵⁶ are still procurable within Russia, albeit at a premium cost. However, a potential obstacle arises from Google's likely pre-configuration of these servers, making remote installations complex. And legal issues would arise as soon as the company becomes directly involved.

As long as YouTube is not blocked, it is in the best interest of Russian network provider to keep the GGC servers running, as disabling them could overload the network and create widespread internet outages. In addition, as the IT security expert Kolja Weber notes, external bandwidth is expensive and scarce for Russian ISPs, especially after providers like Cogent⁵⁷ stopped working with Russian companies. Without GGC, more traffic would come in from external networks, making it more expensive. An increase in the number of users accessing YouTube via VPNs following a block could have the same effect as disabling GGC, as VPN connections must go through servers outside Russia, again putting strain on the backbone network.⁵⁸ And blocking VPN services is not easy due to their complicated protocol structure.

To curb the adverse effects of the degrading GGC network in Russia, Google has proposed a new method for Russian telecom operators to exchange traffic directly with its network. Russian operators, including Transtelecom and Rostelecom, are reportedly expanding direct connections between Moscow and Saint Petersburg with Google's infrastructure outside the country to enhance content download speeds.⁵⁹ This solution might work for Russia's two largest cities

50 "Introduction to GGC - Interconnect Help," accessed January 14, 2024, <https://support.google.com/interconnect/answer/9058809?hl=en>.

51 "YouTube Грозит Скорое Замедление в России. Но Власти Тут Ни При Чем [YouTube Is Facing a Rapid Slowdown in Russia. But the Authorities Have Nothing to Do with It - CNews]," CNews.ru, December 6, 2023, https://www.cnews.ru/news/top/2023-12-06_youtube_grozit_skoroe_i_pocht.

52 "In Russia, It's the State against the Internet," *Global Voices* (blog), September 15, 2023, <https://globalvoices.org/2023/09/15/in-russia-its-the-state-against-the-internet/>.

53 "Google Отключит в России Часть Ускоряющих Загрузку Контента Серверов [Google Will Shut down Some Servers in Russia That Speed up Content Downloads]," РБК, May 26, 2022, https://www.rbc.ru/technology_and_media/26/05/2022/628e65049a79476511920dfa.

54 "Office of Foreign Assets Control Russian Harmful Foreign Activities Sanctions Regulations 31 CFR Part 587 GENERAL LICENSE NO. 25C Authorizing Transactions Related to Telecommunications and Certain Internet-Based Communications" (2022), <https://ofac.treasury.gov/media/924326/download?inline>.

55 "Council Regulation (EU) 2022/576 of 8 April 2022 Amending Regulation (EU) No 833/2014 Concerning Restrictive Measures in View of Russia's Actions Destabilising the Situation in Ukraine," 111 OJ L § (2022), <http://data.europa.eu/eli/reg/2022/576/oj/eng>.

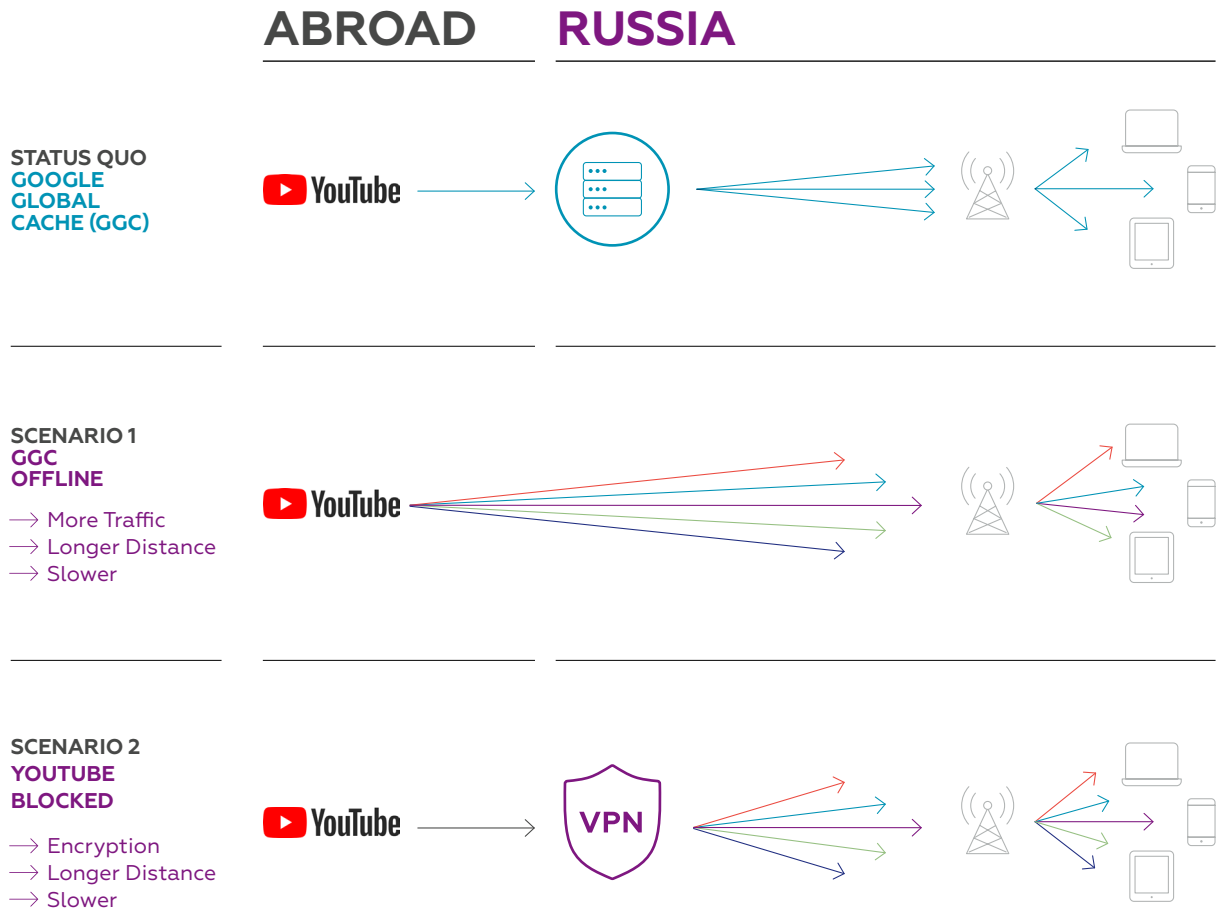
56 "Hardware Overview - Interconnect Help," accessed January 23, 2024, https://support.google.com/interconnect/answer/7658665?hl=en&ref_topic=7659203&sjid=17639053976330136830-EU.

57 Cogent Communications is a multinational internet service provider based in the United States. It operates one of the largest fiber-optic networks worldwide, solely built for internet traffic.

58 Валерия Позычанюк, "Почему YouTube в России Замедляется, Что Известно Про ИИ От Google и На Какой Вечеринке Появилась Идея Генеративных Нейросетей [Why YouTube Is Slowing down in Russia, What Is Known about Google's AI and at Which Party the Idea of Generative Neural Networks Was Born]," *The Bell*, December 10, 2023, <https://thebellmirror2.com/pochemu-youtube-v-rossii-zamedlyatsya-chto-izvestno-pro-ii-ot-google-i-na-kakoy-vecherinke-poyavilas-ideya-generativnykh-neyrosetey>.

59 "Telecom Operators in Russia Will Directly Connect to the Google Network," TAdviser.ru, December 25, 2023, https://tadviser.com/index.php/Company:Google_Russia#Telecom_operators_in_Russia_will_directly_connect_to_the_Google_network.

How the Block of YouTube Would Affect Russia's Internet Network (Simplified Representation)



Source: Authors Own Illustration

and their surroundings but not for more remote locations. Both operators are majority-owned by the state, which begs the question of why they would indirectly support YouTube. This confirms the hypothesis that tolerating YouTube is at the moment a necessary evil for Russian authorities as an increased load on the backbone network would hurt internet connectivity overall in the country.

If YouTube suffers from deteriorating quality and a considerable number of users in Russia experience increasing loading times, they will be tempted to explore alternative platforms and might favor Russian ones. The Kremlin could exploit this issue to promote local alternatives.

CONCLUSION AND RECOMMENDATIONS

YouTube's measures to curb the dissemination of content violating its community guidelines demonstrate a commitment to maintaining a responsible platform. At the same time, the changes in its monetization policy and new restrictive laws pose a major threat to dissenting content creators on YouTube in Russia.

The banning of YouTube – which the authorities have been deterred from by the volume of the platform's users and traffic – is a looming possibility. This would have significant implications for Russian internet users: the disruption of access to a vital source of information and entertainment as well as the increase of censorship and stifling of political dissent.

Moreover, while the Russian alternatives to YouTube have struggled to gain traction due to infrastructure and technical limitations, they are a potential threat to its future in Russia. The possibility of them rapidly catching up with YouTube cannot be discounted, particularly if Google's infrastructure in the country continues to weaken.

The looming threat to the access of Russia's inhabitants to YouTube means there is an urgent need for Google to prioritize service quality and infrastructure modernization, and potentially to set up circumvention tools, which would make the state less effective in blocking access to the platform. The impact of Western sanctions on Google's ability to upgrade GGC in Russia compounds the challenge for the company. A Google spokesperson said in this regard:

U.S. and EU sanctions and export-control laws impose direct prohibitions and otherwise indirectly hinder companies' abilities to export/reexport technology, software, and hardware to and from Russia, which have a material effect on operating social media platforms in Russia. Policymakers should adopt broad, consistent exceptions and authorizations for all potentially applicable restrictions to facilitate continued operation of YouTube in Russia, including necessary activities regarding hardware and software. Furthermore, they should consider the ramifications on YouTube when adopting future sanctions regulations and provide practical and clear guidance on how such sanctions apply.⁶⁰

A slower service diminishes user experience and increases the likelihood of users migrating to Russian alternatives, provided these offer comparable functionality. Democratic policymakers must be aware of these challenges and find solutions as quickly as possible.

The following five recommendations are made in light of these challenges and of YouTube's crucial role in the free dissemination of information in Russia:

1. How long YouTube will escape a ban in Russia is uncertain. Depending on how the political situation evolves, the dissent spread via the platform could become too big of a threat to authorities and lead to a ban, especially once the Russian alternatives are deemed ready to take over. The Kremlin might exploit the deteriorating GGC as a pretext for a ban, which it could attribute to a denial of hardware due to Western sanctions. **Democratic policymakers should take the banning of YouTube as a matter of when rather than if.** This means cooperation between them and Google is of paramount importance and must be intensified. The company must be urged to find solutions to keep the infrastructure required for YouTube in Russia functioning and to provide technical solutions to prevent blocking and censorship.
2. One of the main reasons for keeping YouTube available in Russia is to guarantee that the country's citizens have access to information and expression that contradicts the regime's discourse. In case of a ban, dissident content creators, especially those designated as "foreign agents," will struggle to generate enough financial revenue to keep their channels open. Solutions must be found to support them, which could include special funds set up by Germany or/and the EU, other forms of financial assistance, and directly integrating donation systems into YouTube.
3. Ensuring YouTube remains easily accessible and fast is crucial for retaining users in Russia, especially considering the emergence of potential alternatives such as VK Video and RuTube. With an adequate infrastructure, these platforms could lure notable content creators and effectively handle the increased traffic following a YouTube

60 E-mail communication with Google spokesperson.

ban. **Western sanctions should not hinder Google's ability to maintain its presence in Russia's digital landscape.** Google should communicate its needs for assistance from policymakers, who should be open to providing it. The ambiguity surrounding sanction provisions that exempt telecommunications equipment while prohibiting any dealings with entities owned or partially owned by the Russian state, including some Russian telecom companies, should be removed.

4. Keeping YouTube available in Russia is probably a loss-maker for Google due to the lack of advertising revenue, but **Google still has no interest in leaving the Russian market**, as re-establishing a presence in the future would be a mammoth task. Western policymakers should be aware of this and that Google's objectives may not solely be altruistic. **Google's goal to remain in the Russian market and the goal of democratic governments of sustaining YouTube as the last bastion of free expression and an invaluable source of information beyond the control of the state for Russians should be connected.**
5. **Google must urgently devise a strategy to maintain accessibility to YouTube in Russia and provide technical solutions to circumvent eventual government restrictions.** Implementing measures such as obfuscating traffic or integrating data anonymizers directly into the platform could significantly enhance its resilience against censorship efforts. Deutsche Welle has already implemented something similar into its app.⁶¹ While adapting such mechanisms for YouTube's massive traffic presents formidable challenges, Google's resources and expertise could make it feasible, especially with the urging of policymakers. Obscuring its traffic would make it harder to block. The authorities could be dissuaded from attempting to do so by the resulting heightened risk of widespread internet disruption in Russia. These measures by Google would thus safeguard access to vital information and freedom of expression in the country.

61 "Mit der DW-App die Zensur umgehen [Bypassing censorship with the DW app]," DW.COM, December 15, 2020, <https://www.dw.com/de/mit-der-dw-app-die-zensur-umgehen/a-55947247>.



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