Iran

	2016	2017
Internet Freedom Status	Not Free	Not Free
Obstacles to Access (0-25)	19	18
Limits on Content (0-35)	31	30
Violations of User Rights (0-40)	37	37
TOTAL* (0-100)	**87**	**85**

* 0=most free, 100=least free

Population:	80.3 million
Internet Penetration 2016 (ITU):	25.4 percent
Social Media/ICT Apps Blocked:	Yes
Political/Social Content Blocked:	Yes
Bloggers/ICT Users Arrested:	Yes
Press Freedom 2017 Status:	Not Free

Key Developments: June 2016 – May 2017

- Investment in Iran's "National Information Network" greatly improved internet access, speeds, and bandwidth, but accessing foreign websites now costs twice as much as selected domestic platforms (see **Availability and Ease of Access**).

- Hassan Rouhani and his reformist supporters made extensive use of Instagram and Telegram during his successful May 2017 presidential election campaign, but protocols associated with both services were subjected to blocking (see **Blocking and Filtering** and **Digital Activism**).

- Dozens of people were detained for online activities, including administrators of social media pages or chat groups who were forced to delete or deactivate them (see **Prosecutions and Detentions for Online Activities** and **Content Removal**).

- Administrators of Telegram chat groups with more than 5,000 members were asked to register with the government and grant access to a "bot" that will monitor discussions (see **Surveillance, Privacy, and Anonymity**).

Introduction

Although Iran remains one of the worst countries in the world for internet freedom, conditions slightly improved over the past year due to a rise in internet availability and speeds. Digital activism also played an important role supporting political campaigning around the presidential election.

The June 2017 election did not feature a major increase in online restrictions. The incumbent president, reformist Hassan Rouhani, made extensive use of Telegram and skirted state media restrictions by broadcasting rallies and shows directly on Instagram Live. The move seemed to rouse the ire of hardliners—who were generally supportive of Rouhani's rival, Ebrahim Raisi—as Instagram Live was briefly bloc ed in April. No government body took responsibility for the move and it was quickly reversed. Rouhani resolutely defeated Raisi in the eventual vote.

Security forces continued to arrest and intimidate Telegram administrators in the past year, including those linked to Rouhani. Telegram is one of the most important digital platforms in the country, with over 40 million monthly users. Authorities also encouraged anyone who runs a social media page, channel, or group with over 5,000 members register with the Ministry of Culture and Islamic Guidance. Admins were asked to grant co-administrative privileges to an Iranian government "bot," or automated account, in order to facilitate state surveillance. Days after Telegram launched free and encrypted voice calls in the country, the feature was blocked.

While the online environment has improved marginally under President Rouhani, he has failed to introduce greater personal and social freedoms. The judiciary and the Islamic Revolutionary Guard Corps (IRGC), whose conservative and hardline leaders control most companies in the information and communications technology (ICT) sector, have obstructed progress on internet freedom. Internet fil ering, which began toward the end of the Khatami presidency in 2005, has intensified since the disputed presidential election in June 2009. News websites and social network channels continue to be censored for failing to adhere to strict guidelines on how to cover political events, such as election campaigns and local corruption charges.

Worryingly, the state ordered internet service providers (ISPs) to provide users with a 50 percent discount when accessing a list of approved domestic sites in 2017. This financial incenti e is part of a general strategy to move all Iranian traffic o a "National Information Network" or "halal internet" that can be more easily censored, monitored, and defended from foreign cyberattacks. Despite these limitations, the internet remains a vital resource for Iranian citizens.

Obstacles to Access

Most improvements to internet freedom that have come under President Hassan Rouhani relate to access and the ICT market. The ICT ministry's budget has reached record highs, reflecting increasing investment in both infrastructure and censorship tools. Internet speeds remain slow, although there continues to be significant improvement. Rouhani's administration also reports expanding broadband services to rural areas.

Availability and Ease of Access

Key Access Indicators		
Internet penetration (ITU)[a]	**2016**	53.2%
	2015	44.1%
	2011	19.0%
Mobile penetration (ITU)[b]	**2016**	100%
	2015	93%
	2011	74%
Average connection speeds (Akamai)[c]	**2017(Q1)**	4.7 Mbps
	2016(Q1)	3.5 Mbps

[a] International Telecommunication Union, "Percentage of Individuals Using the Internet, 2000-2016," http://bit.ly/1cblxxY.
[b] International Telecommunication Union, "Mobile-Cellular Telephone Subscriptions, 2000-2016," http://bit.ly/1cblxxY.
[c] Akamai, "State of the Internet - Connectivity Report, Q1 2017," https://goo.gl/TQH7L7.

Internet penetration, bandwidth, and speeds have increased markedly in recent years due to immense investment in the ICTs. Both the Iranian government and the United Nations' International Telecommunication Union (ITU) set internet penetration at 53.23 as of March 2017.[1] Iran's ICT Minister, Mahmoud Vaezi, noted internet bandwidth increased from 724 to 4,000 Gbps during President Rouhani's fi st term. The ICT Ministry set a target for 12,000 Gbps by the end of 2017.[2] Average connection speeds rose from 1.2 Mbps when Rouhani took office in August 2013 o 4.7 Mbps as of early 2017. [3]

Both the Ayatollah Ali Khamenei, Iran's supreme leader, and parliament have warned the administration against increasing bandwidth until the country's national information network (SHOMA) is launched.[4] SHOMA was defined in a 2011-2016 de elopment plan as "an IP-based internet supported by data centers that are completely undetectable and impenetrable by foreign sources and allow the creation of private, secure intranet networks."[5] In addition to protecting against foreign cyberattacks like the "Stuxnet" malware identified in 2010 [6] SHOMA aims to improve

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1   ICT Use, *The Official Portal of Measuring Information Society of Iran,* http://bit.ly/2rfbVQb

2   The Iran Project, "Minister: Iran Internet bandwidth to increase to 12,000 Gbit/s," April 17, 2017, http://theiranproject.com/blog/2016/04/17/minister-iran-internet-bandwidth-increase-12000-gbits/

3   See Akamai Q3 2013 and Q1 2017 figu es for "Iran," https://www.akamai.com/us/en/about/our-thinking/state-of-the-internet-report/state-of-the-internet-connectivity-visualization.jsp

4   Collin Anderson, "How Iran is Building Its Censorship-Friendly Domestic Internet," *Wired*, September 23, 2016, https://www.wired.com/2016/09/how-iran-is-building-its-censorship-friendly-domestic-internet/

5   Mahsa Alimardani, "Iran Declares 'Unveiling' of its National Intranet," Global Voices Advox, September 2, 2016, https://advox.globalvoices.org/2016/09/02/iran-declares-unveiling-of-its-national-intranet/

6   David E. Sanger, "Iran Fights Malware Attacking Computers," *New York Times*, September 25, 2010, http://www.nytimes.com/2010/09/26/world/middleeast/26iran.html

internet access while moving much of the content and websites visited by Iranian users to domestic servers, where traffic can be closely moni ored and censored by the authorities.

The Rouhani administration has demonstrated a consistent commitment to developing SHOMA as part of its overall drive to boost connectivity. Iran's deputy ICT minister claimed that domestic traffic accoun ed for 40 percent of all internet usage as of March 2017, up from only 10 percent one year earlier.[7] Iran's proposed ICT budget for 2017-18 was cut by two percent from the previous year, although the 2016-17 increased by 113 percent. Similarly, the amount devoted to SHOMA was up by one percent, although last year it was increased by 44 percent.[8] The fi st phase of SHOMA was completed in August 2016, although its full implementation has been extended to March 2020.[9]

Another welcome consequence of investment in ICT infrastructure through SHOMA is the expansion of internet connectivity to rural areas. The ICT ministry reported that over 27,000 villages were connected to high-speed internet during the fi st four years of the Rouhani administration. Official figu es claim that no rural villages were previously connected to high-speed internet.[10]

Iranian private and state-backed companies have also been seeking foreign investment. In May 2017 it was announced that South Africa's MTN will invest $295 million to bring fibe -optic networks to Tehran, Karaj, Qom, Tabriz, Shiraz, Isfahan, Ahvaz and Mashhad.[11] MTN will control 49 percent of the Iranian Net Company, a consortium established in 2011 to deliver fibe -optic upgrades. [12]

However, a move to prioritize local content through differential pricing threatens net neutrality, the principle that providers should not discriminate against certain content or services. In January 2017, ICT Minister Vaezi ordered ISPs to implement a new "National Information Network Tariff" whereby certain domestic traffic is priced at a 50 pe cent discount.[13] The discount applies when users access a list of 500 websites compiled by the Communications Regulatory Authority. The nongovernmental organization Small Media noted that the list favors semi-official and go ernment-run news sites at the expense of other, more popular news sites. Some ISPs have also discounted access to websites that did not feature on the list. As of May 2017, most providers of fi ed-line internet had reportedly implemented the discount, although only one mobile provider had done so.[14] MTN Iran Cell clarified that customers using VPNs will not be eligible for the discount, even when browsing local traffic through a VPN.[15]

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7   "An increase of 4 times the traffic f information within the country," Mehr News Agency, May 25, 2017, http://bit.ly/2fOB4h1

8   Small Media, *Iranian Internet Infrastructure and Policy Report: January 2016,* https://smallmedia.org.uk/news/iiip-january-2016

9   "Minimum speed on SHOMA reportedly 2mbps," [Farsi] Mehr News Agency, http://bit.ly/2eSXVSz

10   "ICT Minister unveils 1052 project in Kermanshah province." Mehr News Agency, http://bit.ly/2rPnyLB

11   Hamed Jafari, "MTN to Invest $295 Million In Iranian Net," *Techrasa*, May, 14 2017, http://bit.ly/2rqo9Ca

12   "UPDATE 1-South Africa's MTN To Invest $295 Mln In Iranian Net Broadband Network," Reuters, May 8, 2017, http://bit.ly/2pKX7ck

13   "Cost of using SHOMA is half of the Internet's cost" [Farsi] Mehr News Agency, 24 January 2017, http://bit.ly/2qsr6oh

14   Notification o two operators for non-implementation of the National Information Network Tariff," Mehr News, May 15, 2017, http://bit.ly/2yVTFfO

15   Center for Human Rights in Iran, "Iran's Mobile and Internet Service Providers Offer Discount For Limiting Usage to State-Approved Websites," May 5, 2017, https://www.iranhumanrights.org/2017/05/irans-mobile-and-internet-service-providers-offer-discount-for-limiting-usage-to-state-approved-websites/

Restrictions on Connectivity

There were no recorded instances of throttling or shutting down ICT networks during the coverage period. Nonetheless, the development of SHOMA and the state's control over the internet backbone provides the government with the ability to throttle foreign connection speeds during politically sensitive periods without crippling critical services. Throttling of this nature last occurred in the lead-up to the 2013 presidential elections.

The Telecommunications Infrastructure Company (TIC), a state-owned enterprise under the ICT Ministry, retains a monopoly on internet traffic flowing in and out f Iran.[16] In addition, the heavy influence f the Telecommunications Company of Iran (TCI) in the ISP market also grants the security apparatus the ability to control third-party ISPs and to monitor online activities, since the TCI's majority shareholder is the Islamic Revolutionary Guard Corps (IRGC), an important branch of the security forces that also controls large portions of the economy. [17]

ICT Market

The telecommunications industry is tightly controlled by the government or related entities. Direct access to the internet via satellite is only permitted for certain institutes and is prohibited for personal use. The Telecommunications Company of Iran (TCI), in which the IRGC is a majority shareholder, owns the Data and Communication Company (DCC), the country's main ISP. However in December 2016, an official no ed the government was considering privatizing the TCI to dilute the IRGC's ownership.[18]

The mobile phone market is under similar state influence. The Mobile elecommunication Company of Iran (MCI), a subsidiary of the TCI, is the largest mobile provider with approximately 44 million subscribers. [19] MTN Iran Cell, the second largest mobile operator with 31 million subscribers, is 49 percent owned by South Africa's MTN and 51 percent by Iran Electronics Industries, a subsidiary of the Ministry of Defence and Armed Forces Logistics.[20] In 2006, the ICT Ministry ordered Iran Cell to list 21 percent of its shares on the stock market, although this had yet to occur in mid-2017. [21]

Regulatory Bodies

There is no independent regulatory body for ICTs in Iran. The Communications Regulatory Authority (CRA), which falls under the ICT Ministry, is responsible for telecommunications licensing. Its head is appointed by the ICT minister.[22] The CRA has taken several actions to improve the quality of service and reduce prices for Iranian users. For example, the CRA awarded licenses that allowed new ISPs to

16   Small Media, *Iranian Internet Infrastructure and Policy Report: July 2015,* https://smallmedia.org.uk/media/articles/files_IIIP_Jul15.pdf#page=9, pg. 9-11.

17   Sreberny and Khiabany, *Blogistan: The Internet and Politics in Iran,* (London: IB Tauris, 2010), pg. 5.

18   "Tug-Of-War // The Battle For The Telecommunications Company Of Iran," *Small Media,* December 21, 2016, http://bit.ly/2qs8IvO.

19   "77 million mobile phones in hands of Iranian" *Mehr News Agency,* August, 31, 2016, http://bit.ly/2qIzq2X

20   Steve Stecklow, "Exclusive: Iranian cell-phone carrier obtained banned U.S. tech," Reuters, June 4, 2012, http://www.reuters.com/article/us-iran-mtn-sanctions-idUSBRE8530SO20120604

21   Amir Abedinpour, "Irancell Still Not Ready To Go Public," *Techrasa,* May 13, 2017, http://bit.ly/2pL0Fep

22   Communications Regulatory Commission of Iran, official   ebsite, accessed July 31, 2012, http://bit.ly/1Lum12y

enter the market, thereby increasing consumer choice.[23] Furthermore, in December 2015, the CRA compelled ISPs to implement quality control measurements on the services they offer to customers.[24] The CRA has also pushed for internet infrastructure development, including increasing the number of IP addresses available in Iran[25] and pushing to expand internet access to thousands of rural villages.[26]

The country's top internet policy body, however, is the Supreme Council of Cyberspace (SCC). The SCC was established by a decree issued by Khamenei in March 2012 and is composed of 17 representatives from government institutions and 10 members appointed by the supreme leader.[27] It is intended to provide a centralized focal point for policymaking and the regulation of Iran's virtual space, effectively minimizing the roles of the executive, legislative, and judicial branches of the government and bringing Internet policy under Khamenei's direct control. Observers believe this reflec ed Khamenei's dwindling trust in former President Mahmood Ahmadinejad to lead such an important policy area.

The SCC has been routinely criticized for being disorganized,[28] not holding enough meetings,[29] and has even been rebuked by Khamenei for not doing enough to encourage Iranians to use the Internet in a "clean" and Islamic fashion.[30] In September 2015, Khamenei consolidated the SCC's power over internet policy and made some personnel changes to the council. In April 2016, the supreme leader dissolved the High Council of Informatics, the Supreme Council of Information, and the Supreme National Security Council of Information Exchange (AFTA), incorporating their powers into the SCC.[31]

Limits on Content

Significant restrictions on content have been in place since 2009. Platforms like Facebook and Twitter remain blocked, although newer social media and communication apps such as Telegram and Instagram are generally accessible. Censorship decisions remain highly politicized, with both conservative and reformist news sites censored for failing to adhere to strict guidelines on how to report on sensitive political, social, and international issues. Self-censorship remains pervasive and overt digital activism is generally limited, though it increased during political campaigns in 2017.

Blocking and Filtering

The Iranian authorities restrict access to tens of thousands of websites, particularly those of international news sources, the opposition, ethnic and religious minorities, and human rights groups.[32] Websites are also blocked if they differ from the official doctrine f the state regarding

23   "The entry of new operators into the internet market from September," [Farsi] Mehr News, http://bit.ly/2eRXs3Y
24   "Launch of control system for operators of internet usage," [Farsi], Itmen, http://www.itmen.ir/index.aspx?pid=99&articleId=88741
25   "Internet access is provided in the aircraft, Fiber optic network modernization" [Farsi] Mehr News, http://bit.ly/2eMxFL2
26   "Start of Internet Directory to 37,000 village," [Farsi] Mehr News, http://bit.ly/2eRX2L2
27   For a list of current members of the Supreme Council of Cyberspace, see https://smallmedia.org.uk/news/fil erwatch-august-2017
28   "Labor system remained pending at the Supreme Council of Cyberspace," [Farsi] Mehr News, http://bit.ly/2ebyRGm
29   "Zarghami criticized the lack of meetings of the Supreme Council of Cyberspace," [Farsi] Itmen, http://itmen.ir/index.aspx?pid=99&articleId=85338
30   "The Supreme Leader complains about the Supreme Council of Cyberspace and Communications Ministry," [Farsi] Alef, http://alef.ir/vdcamwnea49nmu1.k5k4.html?350258
31   See http://bit.ly/2eKimUk
32   Small Media, "April 2016," *Filterwatch*, https://smallmedia.org.uk/media/articles/files/IIIP_APRIL16.pd

Islam, or its chosen narrative on domestic or international politics. Censored topics include relations between Iranian political institutions and the 2015 deal with world powers to limit nuclear programs in return for easing economic sanctions. Internet censorship is highly politicized, often reflecting tensions between conservatives and reformists in the country.

Twitter, Facebook, YouTube, and Google are all blocked, in addition to major blog-hosting platforms like WordPress, Blogspot, and Blogger.[33] Domestic news sites are frequently blocked for criticizing the government. In August 2016, *Memari News* was blocked on the order of the public prosecutor of Tehran after it published a letter from a judicial body to the Tehran Municipality exposing corruption.[34] In September, *Borna News*, *Moj News*, and *Nasim News* were similarly blocked.[35]

Apps and websites have been blocked over links to foreign governments, particularly the United States and Israel. For example, the navigation app Waze and messaging app Viber were blocked for being owned by Israeli citizens.[36] After authorities blocked Viber, Telegram became the most widely used instant messaging app in the country with an estimated 40 million monthly users, surpassing even Facebook.[37]

Censorship decisions are made by the Committee to Determine Instances of Criminal Content (CDICC), a government body headed by the prosecutor general and consisting of representatives from 12 state institutions. In theory, decisions are made on the basis of the 2009 Computer Crimes Law (CCL), which outlines a broad range of banned content, from insulting religious figu es and government officials o distributing pornographic content and the use of illegal circumvention tools.[38] In practice, little information is available about the inner workings of the committee, and censorship decisions are often arbitrary and not transparent.

Conservative leaders have repeatedly exerted pressure on the CDICC to block prominent social media platforms, including Telegram and Instagram, while Rouhani has used his administration's six seats on the committee to push back. However, after Telegram launched free encrypted voice calling in April, the feature was immediately blocked by all ISPs on an order from the Attorney General.[39] Other voice-over-IP services have not been blocked. Telegram messaging functions still work, but security forces have arrested reformist Telegram channel admins and claim to remove thousands of "illegal" channels every week deleted (see "Prosecutions and Detentions for Online Activities" and "Content Removal").

Instagram's live video feature was temporary blocked on April 28, 2017.[40] Pro-Rouhani and reformist

33   Maria Xynou, Arturo Filastò, Mahsa Alimardani, Sina Kouhi, Kyle Bowen, Vmon, Amin Sabeti, "Internet Censorship in Iran: Network Measurement Findings from 2014-2017," OONI, September 28, 2017, https://ooni.torproject.org/post/iran-internet-censorship/

34   "An informed source: Memari Nes was fil ered on judiciary's order" *Fars News Agency*, 31 August 2017, http://bit.ly/2ruFHAv

35   See Small Media 2016 Annual Report, https://smallmedia.org.uk/media/articles/files/Annual_eport2016.pdf

36   "As per judiciary officials o ders Waze app was removed from Café Bazar" *DIGIATO*, March 2 2017, http://bit.ly/2rJyVUW

37   Golnaz Esfandiari, "Iranian Officials Trade Barbs in Dispute Over Internet Censorship," *Radio Free Europe / Radio Liberty*, July 27, 2017, https://www.rferl.org/a/iran-telegram-app-internet-censorship-durov/28643317.html

38   "Islamic Republic of Iran: Computer Crimes Law," Article 19, 2012, https://www.article19.org/data/files medialibrary/2921/12-01-30-FINAL-iran-WEB[4].pdf, and "12 members of Committee in Charge of Determining Unauthorized Sites," [in Farsi] *Weblognews*, December 16, 2009, http://bit.ly/1Owwpcu

39   "Telegram Calls in Iran," Telegram, April 17, 2017, http://telegra.ph/Telegram-Calls-in-Iran-NEWS

40   See "The Department of Communications Denied Blocking Instagram Live," *Donya-e-Eqtesad*, http://bit.ly/2yHfDST

figu es had been using the platform to broadcast nightly debates and cover campaign rallies in support of Rouhani's re-election.[41] No government body took responsibility for the blocking order.

Iranian authorities currently employ a centralized fil ering system that can effectively block a website within a few hours across the entire network in Iran. Private ISPs are forced to either use the bandwidth provided by the government or route traffic containing si e-visit requests through government-issued fil ering boxes developed by software companies inside Iran. The fil ering boxes inspect URL requests submitted by users for banned text strings—either keywords or domain names—and block access accordingly. This method only limits access to content retrieved through unencrypted HTTP connections. Individual pages remain available over an encrypted connection (HTTPS), which disguises the banned text, requiring censors to block the entire site in order to restrict access to specific con ent.

Officials continue o call for an "intelligent fil ering" system, using deep-packet inspection (DPI) to allow them to block specific ages, but more services have enabled HTTPS browsing, making them resilient to keyword fil ering. For instance, after the ICT minister announced that intelligent fil ering had been successfully applied to Instagram, Instagram enabled SSL encryption on its entire platform, making blocked pages available again. Instagram pages still cannot be blocked individually, due to the platform's default use of SSL, though some images might not available because they are hosted on Facebook servers, which are separately blocked.

This has done little to dampen the enthusiasm for intelligent fil ering, with ICT Minister Mahmood Vaezi announcing a further investment of US$66 million into the program in 2015-16.[42] Vaezi also suggested that the country may transfer more censorship power to ISPs as part of the "third phase" of smart fil ering and SHOMA.[43] The move to empower ISPs may actually result in more repressive policies, given that the IRGC is dominant in the ISP market, while reformists have some representation in the existing cyber policymaking structure.

Content Removal

Iranian authorities employ administrative measures to remove unwanted content from the web. Content removals featured prominently during the presidential election campaign. According to the International Campaign for Human Rights in Iran, hours after the Rouhani campaign published a video in which former reformist Mohammad Khatami declared his support for Rouhani's re-election bid, they were told by the judiciary to delete the video from social media or face arrest.[44]

The IRGC routinely arrests Telegram group administrators in order to coerce them to remove content or delete their channels from the platform (see "Prosecutions and Detentions for Online Activities"). This was prevalent in the months prior to the presidential election, when the reformist-aligned Telegram channels operated by *Eslahtalaban News*, *Eslahaat News*, *Majmeye Eslahtalaban*, and

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41   "Iran's Judiciary Blocks Instagram's Live Video Service Weeks Before May 2017 Elections", Center for Human Rights in Iran, *April 28, 2017, http://bit.ly/2qPVXcO*

42   "200 million dollars allocated for smart fil ering," [Farsi] Mehr News, http://bit.ly/2eGWJ5o

43   "Launch of the National Information Network in 1395," [Farsi] Mehr News, http://bit.ly/1ROD4Ot

44   See "Khatami's video message was removed from Rouhani's Telegram channel with an order of the prosecutor's office" *Radio Farda,* November 16, 2016, https://www.radiofarda.com/a/f7-khatami-support-clip-removed-from-rohani-telegram-channel/28487695.html, and https://twitter.com/ICHRI_Fa/status/863836748908027906

Haamiyan Dolat were either deleted or stopped publishing due to the arrest of their admins.[45] Iran's Attorney General has stated that the judiciary issues orders to block tens of thousands of Telegram channels every week, but company representatives have denied accusations of complying with censorship beyond the removal of terrorist content.[46]

Website owners must register their sites with the Ministry of Culture and are then subject to requests to remove particular posts deemed unacceptable by the government. The 2009 CCL makes service providers, such as blogging platforms, responsible for any content that appears on their sites. This has led to the suspension of blogs or shuttering of news websites hosted on platforms inside Iran, under orders from government officials. News   ebsites are consistently warned on how to cover controversial political or social topics, such as Iran's nuclear deal[47] or controversial former presidents like Khatami.[48]

Media, Diversity, and Content Manipulation

Self-censorship is extensive, particularly on political matters. Widespread arrests and harsh sentences meted out to journalists, activists, and ordinary citizens, as well as perceptions of pervasive surveillance, have increased fear. Many online journalists and bloggers abandoned their online activities or used pseudonyms after the 2009 crackdown, resulting in a palpable drop in the amount of original content produced by users based inside the country. The situation slightly improved after Rouhani assumed the presidency, especially among reformist journalists. Nevertheless, the same restrictions remain in place, and journalists continue to be prosecuted.

In addition to fil ering, censorship, and intimidation, the state counters critical content and online organizing efforts by extending regime propaganda into the digital sphere. The government has backed numerous initiatives to promote blogging among its supporters and members of the Basij paramilitary group.[49] For example, an Iranian cultural center sponsors an annual "National Cyber Jihad Festival" for expert bloggers to promote conservative religious values online.[50] Iranian authorities also actively support the creation of Iranian social networks and mobile apps by offering free bandwidth and hosting to local developers.[51]

There have also been reports of automated bot accounts spreading Iranian military propaganda on Twitter directed to a foreign audience.[52]

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45   "Iran: Arrests and Intimidation of Telegram Administrators and Journalists Ahead of the Elections" *Article 19*, March 17 2017, http://bit.ly/2qbZzo9

46   Small Media, "March 2017," *Filterwatch*, https://smallmedia.org.uk/news/iiip-march-2017; Golnaz Esfandiari, "Iranian Officials   rade Barbs in Dispute Over Internet Censorship," RFE/RL, July 27, 2017, https://www.rferl.org/a/iran-telegram-app-internet-censorship-durov/28643317.html

47   See "11.08.2015 – Conservative weekly closed for third time," in *Press freedom violations recounted in real time January-December 2015*, Reporters Without Borders, https://rsf.org/en/news/press-freedom-violations-recounted-real-time-january-december-2015

48   Rick Gladstone, "Iran Editor Is Charged With Defying Ban on Covering Ex-President," *The New York Times,* December 8, 2015, http://www.nytimes.com/2015/12/09/world/middleeast/iran-editor-is-charged-with-defying-ban-on-covering-ex-president.html

49   "How Iran's Cyber war is directed?" BBC Persian, February 21, 2012, http://bbc.in/2xSO6Sp

50   "The fi th cyber Jihad Festival was extended to the end of August", Shabestan News Agency, 9 July 2016, http://bit.ly/2zpuSQB

51   "Creation of Iranian messenger is part of ICT ministries plans" *Sobhaneh Online*, July 23 2016, http://bit.ly/2raOUyk

52   "Who's at the controls of Iran's bot army? BBC News, March 6, 2016, http://bbc.in/1pKZI18

Furthermore, the majority of independent content producers lack the financial esources to operate in such a hostile environment. The online advertising market in Iran is exclusively limited to apolitical and progovernment websites. Although the United States adjusted its sanctions against Iran to enable American internet companies to provide services to Iranian users, Google Ads still does not allow an ad campaign to target Iran as a country,[53] disadvantaging domestic content producers as well as content producers in the diaspora seeking to cultivate an audience inside Iran. Any Iranian-linked company or individual who wishes to use Google AdSense to monetize content on Google sites must apply for a specific license in a p ocess that is onerous for the majority of Iranian content producers.

The ICT ministry and state broadcaster IRIB appear to be at odds on the right to license Internet Protocol Television services (IPTVs). The ICT ministry has sought to capitalize on expanded bandwidth by promoting IPTV as a means to contribute to media diversity. However, in November 2016, IRIB notified all pri ate IPTV providers that licenses issued to them by the ICT ministry were invalid, insisting only IRIB has the power to issue licenses. The conflict with the ICT Minist y is likely to continue to play out in the SCC.[54]

Digital Activism

Despite ongoing blocks on Facebook and Twitter, Iranians use social media to communicate, raise awareness of societal issues, and even engage in political debates. In the lead up to the May 2017 elections, all of the main candidates used the internet, social networking platforms, and messaging apps, particularly Telegram. Even conservative candidates who had once railed against social media used the application during the campaign, demonstrating the importance of the mobile apps for political activism in Iran.[55] Instagram Live proved vital for the Rouhani campaign. IRIB, the state broadcaster, favored Rouhani's opponent in its coverage, but supporters to livestreamed his campaign events and even nightly talk shows about his policies.[56]

Iranians continue to use the internet in innovative ways to shape public opinion. The online graphic novel *Jensiat* was shortlisted for the 2017 Digital Activism Award by Index on Censorship. The novel, which was the result of a collaboration between campaigners, researchers, designers and technologists, tackled issues of digital security in Iran. The novel also discussed taboos around gender roles and sexuality.[57]

Twitter continues to be used by Iranian campaigners and activists to raise the profile f political prisoners, minorities, and human rights issues. On December 30, 2016, over 30,000 Twitter users from around the world used the hashtag #SaveArash to voice their support for imprisoned civil rights advocate Arash Sadeghi, who was 68 days into a hunger strike.[58]

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53   "Google Traffic is he e but what does it maen for Iran?" Techrasa, December 26, 2015, http://techrasa.com/2015/12/26/google-traffic-mean-iran

54   IIIP November 2016, *Small Media,* https://smallmedia.org.uk/news/iiip-november-2016

55   "The train of election campaigns on cyberspace's track" *Mehr News Agency,* May 7, 2017, http://bit.ly/2rw7MHT

56   Leyla Khodabakhshi, "Iran's Instagram election sees rivals battle on social media," BBC News, May 17, 2017, http://www.bbc.co.uk/news/world-middle-east-39947080

57   Ryan McChrystal, "#IndexAwards2017: Jensiat illustrates cyber security and sexuality in Iran", *Index on Censorship,* April 3, 2017, http://bit.ly/2rw6vjV

58   "Huge Twitter Storm in Support of Imprisoned Iranian Activist on Hunger Strike" *Center for Human Rights in Iran,* December 30, 2016, http://bit.ly/2q6Qlxs

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Violations of User Rights

Despite hopes that the nuclear agreement might lead to a more open climate for internet users, hardliners have responded to the deal by cracking down on criticism and Western "infiltration." Authorities have upped their monitoring of social media and technical attacks against opposition voices. While President Rouhani's cabinet has had some success in safeguarding certain mobile apps from censorship, there have been no changes to the legal restrictions on internet freedom and users continue to be sentenced to long prison terms for political speech on social media, particularly Telegram.

Legal Environment

Iran continues to be an extremely dangerous environment for internet users. Iranian laws heavily restrict what is acceptable speech online and specify harsh punishments for those who deliberately flout estrictions, as well as those who have inadvertently drawn the ire of authorities. The constitution provides for limited freedom of opinion and expression, but numerous, haphazardly enforced laws restrict these rights in practice. The 2000 Press Law, for example, forbids the publication of ideas that are contrary to Islamic principles or detrimental to public rights, none of which are clearly defined. The go ernment and judiciary regularly invoke this and other vaguely worded legislation to criminalize critical opinions.

The 2009 CCL outlines punishments for spying, hacking, piracy, phishing, libel, and publishing materials deemed to damage "public morality" or result in "dissemination of lies." Punishments are severe and include the death penalty for offenses against public morality and chastity, as well as long prison sentences, draconian fines, and penalties for se vice providers who fail to enforce government content restrictions.[59]

In December 2016, President Rouhani launched the "Citizens' Rights Charter," a nonbinding document.[60] Article 26 features a commitment to freedom of speech and expression "within the limits prescribed by the law,"[61] while article 37 claims online privacy should be respected.[62]

Prosecutions and Detentions for Online Activities

As Telegram has grown in prominence in Iran, security forces have turned their attention toward the administrators of the communication app's various channels, which allow users to post public messages to large groups. This was particularly notable in the run up to the May 2017 presidential election, when security forces arrested at least six admins of 12 reformist-aligned Telegram channels.[63] Security forces coerced admins into deactivating or deleting their channels.

One Telegram admin, Nima Keshvari, launched an 11-day hunger strike to protest his prolonged

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59   Islamic Republic of Iran: Computer Crimes Law Article 19, January 30, 2012, www.article19.org/data/files medialibrary/2921/12-01-30-FINAL-iran-WEB[4].pdf
60   Rohollah Faghihi, "Can Rouhani's Citizens' Rights Charter be enforced?" *Al-Monitor,* December 20, 2016, https://www.al-monitor.com/pulse/en/originals/2016/12/iran-rouhani-citizens-rights-charter-conservative-criticism.html
61   IIIP January 2017, *Small Media,* http://bit.ly/2rOsq2n
62   "Charter on Citizens' Rights" available at http://tinyurl.com/y9bn4e4e
63   "Iran: Arrests and Intimidation of Telegram Administrators and Journalists Ahead of the Elections" *Article 19*, March 17 2017, http://bit.ly/2qbZzo9

detention, when he was refused access to a lawyer. Another criticized the Rouhani government for failing to protect its supporters. Four reformist members of parliament also demanded an explanation from the president, who subsequently called for an investigation into their arrests and criticized the judiciary for failing to uphold the constitution.[64]

In August 2016, a news site affilia ed with the IRGC announced that the corps' cyber command had arrested and summoned a total of 450 admins running messaging app channels and social media pages. IRGC sources claim that these arrests were made in response to "public demand for confronting cyber criminals."[65]

Iranian citizens that are not politically active also find themsel es subject to harsh prison sentences for their activities on social media. Sina Dehghani, who was detained in 2015 at the age of 19, has been sentenced to death over a series of public messages he had posted on the messaging platform LINE. At the time of his arrest, he was serving the final ear of his mandatory military service at an IRGC barracks in Tehran.[66]

In the reporting period, three 24-year-old men were each sentenced to 12 years in prison for posting cartoons about religion and politics on Facebook and Telegram. Alireza Tavakoli, Mohammad Mehdi Zamanzadeh, and Mohammad Mohajer were arrested in Tehran by forces from the intelligence ministry in late 2016.[67]

Amid domestic political tensions between reformists and conservatives, hardliners within the judiciary and IRGC have conducted a campaign against the country's "infiltration" by estern ideas, individuals, and companies. Numerous foreigners or Iranians with dual nationality who were active in journalism, human rights, or ICT development work remain imprisoned by the authorities, often with little explanation.[68]

Nizar Zakka, a Lebanese citizen with permanent residency in the U.S., was detained in September 2015 after giving a talk at a state-sponsored conference in Tehran, for which he received an official invitation [69] Zakka heads the Arab internet freedom organization IJMA3, which has received hundreds of thousands of dollars of funding from the U.S. State Department and USAID for projects in support of internet freedom.[70] One year after his arrest, he was sentenced to 10 years in prison and fined US$4.2 million [71] Iranian state television claimed he had "deep ties to the U.S. intelligence and military establishment."

64   "Admins of 12 Reformist Telegram Channels Arrested in Iran Ahead of May 2017 Election", *Center for Human Rights in Iran,* March 21, 2017 http://bit.ly/2q6YZMs
65   "Arrest and summon of hundreds of cyberspace active users" *Persian Deutsche Welle*, August 24, 2016, http://bit.ly/2qdHbuo
66   Mahsa Alimardani, "Young Iranian Faces Execution Over 'Anti-Islamic' Social Media Posts", *Global Voices,* March 27, 2017, https://globalvoices.org/2017/03/27/young-iranian-faces-execution-over-anti-islamic-social-media-posts/
67   "Three Young Men to Serve 12 Years in Prison For "Insulting" Social Media Posts" *Center for Human Rights in Iran,* April 27 2017, http://bit.ly/2q6MX5H
68   "Former BBC Persian journalist 'detained in Iran'," BBC News, February 4, 2016, http://www.bbc.co.uk/news/world-middle-east-35492065
69   Associated Press, "Iranian state TV claims US resident in custody is a spy," *The Guardian,* November 3, 2015, http://www.theguardian.com/world/2015/nov/03/iran-state-tv-american-spy-nizar-zakka
70   Mahsa Alimardani, "Reality, Conspiracy and the US 'Internet Freedom' Agenda: Deconstructing Iran's Case Against Nizar Zakka," Global Voices, October 10, 2016, https://advox.globalvoices.org/2016/10/10/reality-conspiracy-and-the-us-internet-freedom-agenda-deconstructing-irans-case-against-nizar-zakka/
71   Associated Press, "Iran sentences US resident to 10 years in jail over spying claims," *The Guardian*, September 20, 2016, https://www.theguardian.com/world/2016/sep/20/iran-sentences-us-resident-to-10-years-in-jail-after-spying-claims

Tech entrepreneur and blogger Arash Zad, an editor and contributor at *Weblogina*, *Arashzad*, and *Ladybug*, was arrested in July 2015 and remains in prison. Phishing emails were reportedly sent out to his contacts while he was in custody.[72] Human rights blogger Mohsen Sadeghinia (*Openeyes*) was arrested the same year; their blogs were also blocked.[73]

In February 2016, a court confi med the long prison issued to four individuals working for the technology review website *Narenji* based in the city of Kerman. Ali Asghar Honarmand, Hossien Nozari, Ehsan Paknejad, and Abass Vahedi were sentenced to 11, 7, 5, and 2.5 years respectively on charges of "designing sites, websites, and creating content for media hostile to the regime" according to one report. They had been initially arrested in December 2013 along with 10 colleagues, seven of which received suspended sentences. [74]

Saeed Malekpour, a permanent resident of Canada, has been in prison since 2008 for writing open source software that third parties had used for sharing pornographic photos. He was sentenced to death on charges of "threatening the nation's Islamic ideals and national security via propaganda against the system," allegedly tortured, and forced to publicly confess.[75]

Soheil Arabi had his death sentence overturned by the Supreme Court, but was sentenced to 7.5 years for "insulting the Prophet" on Facebook in June 2015. He was originally arrested in November 2013 by the IRGC. According to a source, Soheil "must read 13 books on theology and religious awareness" and make monthly presentations to the court on the topic as part of his sentence. He is also serving a three-year sentence for "insulting the Supreme Leader" and "waging propaganda against the state."[76]

Surveillance, Privacy, and Anonymity

The online sphere in Iran is heavily monitored by the state. In January 2017, it was announced that the administrators of Telegram channels with more than 5,000 members would be offered incentives to register with Ministry of Culture and Islamic Guidance. There was no punishment for noncompliance. Admins who conform are required to provide their channel name, full legal name, home address, and national identification numbe . In addition, they must give "temporary co-administration" privileges to an "iransamandehibot" bot.[77] The presence of a government bot monitoring all channel discussions poses a serious threat to the privacy and personal security of channel admins and members, particularly in channels sharing content deemed to be politically,

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72   Mahsa Alimardani, "The Arrest of Arash Zad, Iran's Sart-Up Kid," Global Voices, September 23, 2015, https://advox.globalvoices.org/2015/09/23/the-arrest-of-arash-zad-irans-start-up-kid/

73   See "16.09.2015 - Two bloggers arrested," in *Press freedom violations recounted in real time January-December 2015*, Reporters Without Borders, https://rsf.org/en/news/press-freedom-violations-recounted-real-time-january-december-2015

74   See "18.02.2016 – Four Narenji website employees returned to prison," in "Press freedom violations recounted in real time January 2016," Reporters Without Borders, https://rsf.org/en/news/press-freedom-violations-recounted-real-time-january-2016 , and "Technology Website Staffers Rushed to Prison Before Appeals Court Verdict," International Campiagn for Human Rights in Iran, February 18, 2016, https://www.iranhumanrights.org/2016/02/four-it-professionals-imprisoned-in-kerman/

75   Mahsa Alimardani, "Help End the Imprisonment of Iranian Web Developer Saeed Malekpour," Global Voices, October 3, 2016, https://advox.globalvoices.org/2016/10/03/help-end-the-imprisonment-of-iranian-web-developer-saeed-malekpour/

76   "Facebook Activist Sentenced to Seven Years in Prison for 'Insulting the Prophet'," International Campaign or Human Rights in Iran, October 1, 2015, https://www.iranhumanrights.org/2015/10/soheil-arabi-4/

77   Iran's Telegram Registration Requirement Widens Governmental Snooping Powers, *Center for Human Rights in Iran,* January 2017, http://bit.ly/2qQBarE

religiously, or culturally sensitive. In April 2017, it was reported 8,000 Telegram channels and 1,000 Instagram pages had registered.[78]

In a troubling development, the Supreme Council on Cyberspace announced in May 2016 that all foreign messaging apps must move all data on Iranian users to servers located within the country.[79] The order seemed targeted at Telegram, which has been under increased pressure by the authorities over the past year (see Content Removal). Storing data on local servers would make it easier for the authorities to compel the company to hand over data on government critics and censor unfavourable views.[80]

The legal status of encryption in Iran is somewhat murky. Chapter 2, Article 10 of the CCL prohibits "concealing data, changing passwords, and/or encoding data that could deny access of authorized individuals to data, computer and telecommunication systems."[81] This could be understood to prohibit encryption, but enforcement is not common. Nonetheless, the Iranian authorities have periodically blocked encrypted traffic f om entering the country through international gateways, particularly during contentious moments such as elections.[82]

In 2015 amid preparation for elections to the legislature and the Assembly of Experts, which appoints the supreme leader, Iran's deputy interior minister for security announced a new "Elections Security Headquarters" would be established "to monitor cyberspace." [83] Similarly, the IRGC launched a military exercise named "Eghtedare Sarallah" in September 2015, which included the monitoring of social media activities.[84] In June 2015, Iran's Cyber Police (FATA) created a new unit for monitoring computer games.[85]

It remains unclear how the authorities can technically monitor the content of messages on foreign social networks, given that some apps encrypt their messages. However, all platforms and content hosted in Iran are subject to arbitrary requests by various authorities to provide more information on their users. Local platforms do not guarantee the kind of user protection offered by some of their international counterparts, which may explain users' hesitancy to adopt them.

Meanwhile, the Iranian government has continued its cat-and-mouse game against the use of circumvention tools, the legal status of which is also relatively opaque. The use of VPNs does not appear to be criminalized, unlike the selling or promoting of VPN use.

Intimidation and Violence

Extralegal intimidation and violence by state authorities is prevalent in Iran. In 2012, blogger Sattar Beheshti was killed while in prison. More recently, groups such as the IRGC have pressured or

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78   "April 2017," *Filterwatch*, Small Media, https://smallmedia.org.uk/news/fil erwatch-april-2017

79   "Iran orders social media sites to store data inside country," Reuters, May 29, 2016, http://www.reuters.com/article/internet-iran-idusl8n18q0in

80   Adario Strange, "Iran's new data policy could mean end of local access to Telegram app," Mashable, May 31, 2016, http://mashable.com/2016/05/31/iran-telegram-app/#k3nf4Sy43mqY

81   *Islamic Republic of Iran: Computer Crimes Act*, Article 19, 2012, https://www.article19.org/data/files/medialibra y/2921/12-01-30-FINAL-iran-WEB%5B4%5D.pdf

82   "April 2016," *Filterwatch*, Small Media, https://smallmedia.org.uk/media/articles/files/IIIP_APRIL16.pd , pg. 7-9.

83   "A New Round of Intimidation, Arrests, and Prosecution of Social Media Users in Iran," International Campaign for Human Rights in Iran, June 14, 2015, https://www.iranhumanrights.org/2015/06/intimidation-arrests-social-media-users/

84   "Cyber army exercises held," [Farsi] Itmen, http://www.itmen.ir/index.aspx?pid=99&articleid=82120

85   "Cyber Police launches gaming unit," [Farsi] Mehr News, http://bit.ly/2dXpvAe

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coerced detained activists into giving up login details to their social media accounts, which the authorities have then used for surveillance and phishing attacks. For example, after the arrest of former BBC Persian journalist Bahman Daroshafaei, Iranian activists living in the diaspora reported receiving suspicious messages from his Telegram account.[86] This appears to be part of a broader pattern, as a number of activists have reported phishing attempts that appear to have been sponsored by the Iranian government.[87]

Technical Attacks

Over the past year, state hackers launched number of cyberattacks against Iranian activists and campaigners, including those in the diaspora. In February 2017, research group Iran Threats reported "A macOS malware agent, named MacDownloader, was observed in the wild as targeting the defense industrial base, and reported elsewhere to have been used against a human rights advocate." The group tied the activity to hackers "believed to based in Iran and connected to Iranian security entities."[88]

In August 2016, a prominent Iranian political activist based in Paris was the target of malware intended to gain remote access to a "wide range of content on Android smartphones including messages, photos, audio files, apps, GPS loca ors, and contact lists," according to the Iran Human Rights Center."[89]

86   Lorenzo Franceschi-Bicchierai, "Iran Appears to Have Taken Over an Arrested Journalist's Telegram Account," *Motherboard,* February 5, 2016, http://motherboard.vice.com/read/iran-telegram-account-bbc-journalist

87   Lorenzo Franceschi-Bicchierai, "The Iranian Hacking Campaign to Break into Activists' Gmail Accounts," *Motherboard,* August 27, 2015, http://motherboard.vice.com/read/inside-the-iranian-hackers-campaign-to-break-into-activists-gmail-accounts

88   "Kittens: Iranian actor resurfaces with malware for mac," *Iran Threats,* February 2017, http://bit.ly/2krE9mt

89   "Hackers Exploit Android Phone Security Flaw to Target Activists," Centre for Human Rights in Iran, August 31, 2016, http://tinyurl.com/y7yy495k