FREEDOM ON THE NET 2014



Iceland

	2013	2014	Population:	300,000
Internet Freedom Status	Free	Free	Internet Penetration 2013:	97 percent
			Social Media/ICT Apps Blocked:	No
Obstacles to Access (0-25)	1	1		110
		- 1	Political/Social Content Blocked:	No
Limits on Content (0-35)	L	1		
Violations of User Rights (0-40)	4	4	Bloggers/ICT Users Arrested:	No
TOTAL* (0-100)	6	6	Press Freedom 2014 Status:	Free

* 0=most free, 100=least free

Key Developments: May 2013 – May 2014

- The proposed law to ban online pornography has not been implemented, and no changes to this legislation have been formally proposed since the change in government in 2013 (see Limits on Content).
- The crowdsourced, non-binding draft constitution has been stalled after the change in government (see Limits on Content).
- The Icelandic Modern Media Initiative, which aims to transform Iceland into a global free-speech safe haven, has progressed very slowly since its start in 2010 (see **Violations of User Rights**).

Introduction

Iceland has one of the highest rates of internet and social media use in the world, according to the World Economic Forum.¹ In the wake of the country's financial collapse in 2008 when the three major banks went bankrupt, social media platforms such as Facebook were integrated into the process of creating a new crowdsourced constitution,² but the process has stalled after the change in government following the parliamentary election on April 27, 2013.³ Internet and digital media play a vital role in Icelandic society, and Iceland is an international leader when it comes to focusing on free speech and online media. In June 2010, the Icelandic parliament launched a new media initiative protecting free speech, aiming to make Iceland a safe haven for journalists and whistleblowers,⁴ though its progress has been stalled since the change in government.⁵ Similarly, there have been no new developments regarding the plan for banning pornographic content online, originally proposed by the former minister of the interior, Ögmundur Jónasson in February 2013, since the change in government.⁶

Obstacles to Access

Iceland is one of the most connected countries in the world, with the highest percentage of households in Europe with access to the internet. According to the International Telecommunication Union (ITU), Iceland had an internet penetration rate of nearly 97 percent in 2013, compared to 91 percent in 2008,⁷ with only a minimal difference in usage between the capital region and the other regions of the country.⁸ This is the highest percentage of internet users of all European countries, compared to an average internet penetration rate of 72 percent within the European Union.⁹

Iceland has been connected to the internet since 1989 via the NORDUnet in Denmark. The following year, a leased line to NORDUnet in Sweden was established, and the link was gradually upgraded. The Nordic connection was supplemented in 1997, when ISnet established a direct connection to Teleglobe in Canada, which was upgraded when the line was moved to New York in 1999.¹⁰ In 1998, broadband connections were put into operation, and by 2006, slightly less than 90 percent of Icelandic households had internet access. The percentage of households with high speed internet connections, such as ADSL or SDSL, has increased greatly in recent years.¹¹ In 2007, the Icelandic city

¹ World Economic Forum, "The Global Information Technology Report 2013," http://bit.ly/10UMw8u.

² _Robert Robertson, "Voters in Iceland Back New Constitution, More Resource Control," *Reuters*, October 21, 2012, <u>http://www.reuters.com/article/2012/10/21/us-iceland-referendum-idUSBRE89K09C20121021</u>.

³ Email interview with former employee at the Icelandic Media Commission, Jan 29, 2014.

⁴ International Modern Media Institute, https://immi.is/.

⁵ Email interview with former employee at the Icelandic Media Commission, Jan 29, 2014.

⁶ Email interview with employee from the Icelandic Ministry of the Interior, February 6, 2014

⁷ International Telecommunication Union (ITU), "Percentage of individuals using the internet," 2013 & 2008, <u>http://www.itu.</u> <u>int/en/ITU-D/Statistics/Pages/stat/default.aspx</u>.

⁸ Statistics Iceland, http://www.statice.is.

⁹ Statistics Iceland, http://www.statice.is.

¹⁰ Cathy Newman, "Iceland Internet Diffusion," http://www1.american.edu/carmel/cn9463a/iceland.htm.

¹¹ Birgir Gudmondsson, "Media Landscapes – Iceland", European Journalism Centre, 2010, <u>http://ejc.net/media_landscapes/iceland</u>.

of Seltjarnes became the first municipality in the world where every citizen has access to fiber-optic internet service.¹²

The price of accessing the internet via computers and mobile phones is very affordable: a basic internet subscription with 1 GB of data costs around ISK 3,990 per month (approximately US\$34), and a basic mobile phone connection with 500 Mb of data costs around ISK 590 per month (approximately US\$5),¹³ while the average monthly salary is approximately ISK 560,000 (US\$4,800).¹⁴

Icelanders are frequent internet users, with 91 percent connecting to the internet daily or almost daily. A vast majority of the population (78 percent) is connected via broadband, and a growing number (21 percent) are connected via fiber-optics.¹⁵ According to the ITU, Iceland had a mobile phone penetration rate of 108 percent as of 2013.¹⁶ In addition, mobile phones are widely used to access the internet, and 58 percent of Icelanders have a mobile connection of 3G or faster, which is a significant increase from 44 percent in 2012. In total, 63 percent of Icelanders access to the internet via a mobile connection.¹⁷ Furthermore, 82 percent of individuals use social networks, 13 percent use professional networks, 86 percent read online news, and 90 percent use online banking. Icelandic enterprises have the highest usage of social media in Europe (59 percent); in addition, 15 percent of the enterprises have a blog and 19 percent use multimedia platforms to share content.¹⁸

Iceland has multiple channels connecting the country to the international internet, including connections to the international backbone through three submarine cables: FARICE-1, DANICE, and Greenland Connect. The Reykjavik Internet Exchange point, which exchanges internet traffic among internet service providers (ISPs) located in Iceland, is operated independently of the government by the top-level domain registry ISNIC.

Síminn is the main internet and telecommunications operator in Iceland and runs fixed-line and mobile voice call services, as well as internet services and broadband television. Síminn is based on a merger between Landssími Íslands, which was privatized in 2005, and the company Skipti ehf. Of the ISPs in Iceland, Síminn holds the largest market share (50.6 percent), followed by Vodafone (32.2 percent), Tal (9.8 percent), Hringdu (3.1 percent) and other companies comprising the remaining 4.3 percent. Regarding market share in mobile broadband, Síminn is the leading provider with almost half of the market share (47 percent), followed by Nova (25 percent), Vodafone (24.5 percent), and Tal (3.4 percent).¹⁹

¹² Idega-website, "Seltjarnes," <u>http://www.idega.is/pages/vidskiptavinir/seltjarnarnes/?iw_language=en</u>.

¹³ Síminn Iceland: http://www.siminn.is/english/mobile/mobile-internet/.

¹⁴ Statistics Iceland, "Wages," http://bit.ly/19JQxja

¹⁵ Post and Telecom Administration, "Statistics on the Icelandic Electronic Communications Market for the First Half of 2013," http://bit.ly/LE0us9

¹⁶ International Telecommunication Union, "Mobile-cellular subscriptions," 2013, <u>http://www.itu.int/en/ITU-D/Statistics/Pages/</u> stat/default.aspx

¹⁷ Statistics Iceland, "Information technology," 2003-2013, accessed August 2014, <u>http://www.statice.</u> is/?PageID=1241&src=https://rannsokn.hagstofa.is/pxen/Dialog/varval.asp?ma=SAM07202e%26ti=Internet+connections+and +access+devices+in+households+2003-2013%26path=../Database/ferdamal/UTnettenging/%26lang=1%26units=PERC.

¹⁸ Statistics Iceland, accessed August 2014, http://www.statice.is.

¹⁹ The Post and Telecom Administration, "Statistics on the Icelandic Electronic Communications Market for the First Half of 2013," <u>http://bit.ly/LE0us9</u>

The main regulatory body governing information and communication technologies (ICTs) in Iceland is the Post and Telecom Affairs (PTA), which is an independent center under the direction of the Ministry of the Interior. The PTA supervises development, logistics, and fair competition in the field of telecommunications networks. Decisions of the PTA may be referred to the Rulings Committee for Electronic Communications and Postal Affairs. The minister of the interior appoints the three members of the Appellate Committee, following the nomination by the Supreme Court. The chairman and vice chairman must comply with the competence qualifications applying to Supreme Court judges. The members of the Interior is responsible for the legal matters relating to online content.

A new media law was established on September 1, 2011 that continued to stir debate in subsequent years.²¹ While the intention of the law was to create greater press freedom through a comprehensive framework governing broadcast, press, and online media, it also established an oversight body, the State Media Commission. According to the law, the minister of education, science and culture appoints five people to the Media Commission for terms of four years at a time. Two representatives are appointed in accordance with a nomination by the Supreme Court, one in accordance with a nomination by the Supreme Court, one in accordance with a nomination by the National Union of Icelandic Journalists. The fifth member is appointed by the minister without an outside nomination.²²

The Media Commission has no authority to deal with media concentration issues (a major concern of public debate in Iceland), but new legislation was put forth in 2013 that would give the Competition Authority oversight responsibility in consultation with the Media Commission. The bill was passed as an amendment to the new media law in March 2013. The amendment gives the Competition Authority other means and measures to deal with competition cases when media companies are concerned. Thus, the Competition Authority can look at issues such as plurality and whether there will be a decrease in newsrooms resulting from mergers and acquisitions, for example. According to the bill, the Media Commission shall in such cases give its opinion from a media authority's perspective. The commission has extensive powers to impose fines on media outlets, as well as require media outlets to register with a detailed "editorial strategy" that outlines their own set of rules for editorial independence in cooperation with the Association of Journalists or a similar entity. In 2012, all media companies had to set such rules as part of the self-regulation process, and no decisions have yet been made regarding online media by the Icelandic Media Commission.²³ The role of the Media Commission has been widely discussed, but there have been no changes to the amendment.²⁴

Limits on Content

Access to information and online communication is free from government interference. Iceland is not a member of the European Union; however, since the country is part of the European Economic

23 Fjolmidlanefnd, "The Media Commission," http://fjolmidlanefnd.is/english/.

²⁰ The Post and Telecom Administration, "Rulings Committee," http://www.pfs.is/Default.aspx?cat_id=146.

²¹ Email interview with former employee at the Icelandic Media Commission, Jan 29, 2014.

²² Fjolmidlanefnd, "The Media Commission," <u>http://fjolmidlanefnd.is/english/</u>.

²⁴ Email interview with former employee at the Icelandic Media Commission, Jan 29, 2014 and email interview with employee at the Ministry of Education, Science and Culture, February 28, 2014.

Area, it has agreed to follow legislation regarding consumer protection and business law similar to other member states, which leaves the legal status of file-sharing websites such as Pirate Bay up for debate.²⁵ In April 2013, the Pirate Bay website relocated to Iceland after the Swedish authorities attempted to seize its domains, giving it an ".is" domain name.²⁶ Within a week of the move, however, the site chose to relocate again to a top level domain registered in the Caribbean, even though ISNIC stated it had no intention of trying to seize the domain. In fact, the chief technology officer of ISNIC stated that even if they received a court order from the Swedish authorities, ISNIC would "legally fight attempts to use the domain name registry system to police/censor the net," believing that such methods of combatting illegal content are "ineffective, wrong and dangerous to the stability of the DNS as a whole," highlighting Iceland's liberal approach to regulating online content.²⁷

According to Icelandic law, the registrant is responsible for ensuring that the use of the domain is within the limits of the law.²⁸ In April 2013, the Icelandic Supreme Court confirmed the Reykjavík District Court's ruling ordering Valitor (the Icelandic partner of Visa and MasterCard) to remove the unlawful block on donations to the website for the organization WikiLeaks or face daily fines of ISK 800,000 (US\$7,000).²⁹ Valitor started processing payments promptly after the Supreme Court order.³⁰

Similar to other Nordic countries, ISPs in Iceland filter websites containing child pornography. The ISPs collaborate with the Icelandic Save the Children Barnaheill and participate in the International Association of Internet Hotlines (INHOPE) project.³¹ In addition, pornography in general is illegal in Iceland, although the ban is not strongly enforced. In 2013, the previous minister of the interior, Ögmundur Jónasson, proposed two new bills to the parliament in order to uphold and reinvigorate an existing law banning pornography and gambling online that is rarely enforced and vaguely worded. The ban focused on pornography that is defined as violent and degrading material, and a committee of experts was tasked with exploring how a ban on pornography could be enforced-for example, by making it illegal to pay for pornographic material with Icelandic credit cards, or by creating a national internet filter and a blacklist of websites that contain pornographic content.³² Opponents led by Icelandic Member of Parliament and free speech activist Birgitta Jónsdóttir deemed that the ban would limit free speech online, a position that was supported by academics and free speech advocates from outside Iceland in an open letter to the Icelandic minister of the interior.³³ The plan for banning pornographic content online has been stalled since the change in government during the parliamentary election on April 27, 2013. Since then, there have been no changes to the relevant legislation, and no changes have been formally proposed.³⁴

31 INHOPE website, http://www.inhope.org.

²⁵ OpenNet Initiative, "Nordic Countries," https://opennet.net/research/regions/nordic-countries.

²⁶ The URL www.thepiratebay.is is automatically transferred to www.thepiratebay.xs.

²⁷ Stan Schroeder, "The Pirate Bay Moves to the Caribbean," *Mashable*, May 1, 2013, <u>http://mashable.com/2013/05/01/the-pirate-bay-caribbean/</u>.

²⁸ ISNIC Domain Registration Rules, https://www.isnic.is/forms/nyjar_reglur_en.pdf.

²⁹ Ian Steadman, "Icelandic Court Declares WikiLeaks Donation Ban 'Unlawful," Wired, April 27, 2013: http://bit.ly/12NeQvx.

³⁰ Omar R. Valdimarsson, "WikiLeaks Sees Credit Cards Donations Return after Court Riling," *Bloomberg*, May 9, 2013, http://bloom.bg/1gSOodq

^{32 &}quot;Banning the Sex Industry - Naked Ambition," The Economist, April 20, 2013, http://econ.st/12q1wwM.

³³ IceNews, "Iceland's Porn Ban Effort Draw Fire from Abroad," March 17, 2013, http://bit.ly/1lFHkD2

³⁴ Email interview with an employee from the Icelandic Ministry of the Interior, February 6, 2014

Social media platforms such as YouTube, Facebook, Twitter, and international blog hosting services are freely available and are used by a large part of the population. Iceland has the second highest number of Facebook users based on population percentage: 72 percent of the population has an account. Women make up 52 percent of users and men 48 percent, and the social networking site is mostly used by people aged 25-34, followed by people aged 18-24.³⁵ A poll among politicians running in the May 2010 municipal elections showed that many considered Facebook to be the second most important medium during the election for reaching the general public in their municipalities, second only to local newspapers.³⁶

ISPs and content hosts are not held responsible for the content they host or transmit. Claims regarding intellectual property rights are handled by the Icelandic Patent Office, which is substantially dependent on international cooperation, and Iceland is party to a number of international agreements in this field. Moreover, as a member of the World Trade Organization (WTO), Iceland has adapted legislation to the provisions of TRIPS (Trade-Related Aspects of Intellectual Property Rights). Furthermore, the Agreement on the European Economic Area has led to several legislative amendments in Iceland that align with the directives and regulations of the European Union.

Icelandic law number 30/2002 establishes a system of takedown notices for IP addresses or other online content that violates the law, in accordance with the Directive 2000/31/EC of the European Parliament. During the previous parliamentary session, Minister of the Interior Ögmundur Jónasson presented a bill to ban online gambling by prohibiting Icelandic credit card companies from processing payments to gambling websites; however, the bill was not passed.³⁷ The Ministry of the Interior is responsible for handling matters related to online content, and the appeals process for disputing the removal of content goes through the independent courts in Iceland.

Self-censorship is not a widespread problem in Icelandic online media, and there are very few instances of government or partisan manipulation of online content.

Iceland has a vibrant digital sphere, and almost all traditional media, including print, radio, and television, offer versions of their content online. The websites of some newspapers, like the daily *Morgunbladid*, are among the most popular Icelandic-language sites.³⁸ Internet banking is widely used, and a large majority of Icelanders (90 percent) are online bank users. E-governance initiatives have been successful in Iceland, and Iceland Statistics states that approximately 75 percent of the population obtained information from the websites of public authorities in 2012.³⁹ In recent years, public institutions have started a migration process from proprietary software to free and open

³⁵ Rebecca Louder, "Iceland Ranks Second in Facebook Users", *The Reykjavík Grapevine*, April 4, 2013, http://bit.ly/1f2bQy1

³⁶ Birgir Gudmondsson, "Media Landscapes – Iceland", European Journalism Centre, 2010, <u>http://ejc.net/media_landscapes/</u> iceland.

³⁷ Information from the Icelandic Patent Office, <u>www.els.is</u>.

³⁸ Birgir Gudmondsson, "Media Landscapes – Iceland", European Journalism Centre, 2010, <u>http://ejc.net/media_landscapes/iceland</u>.

³⁹ Iceland Statistics, "Individuals communicating with public authorities via the internet, 2008-2013," accessed August 2014, <u>http://www.statice.is/?PageID=1241&src=https://rannsokn.hagstofa.is/pxen/Dialog/varval.asp?ma=SAM07403e%26ti</u> =Individuals%27+communication+with+public+authorities+via+the+Internet+2008-2013%26path=../Database/ferdamal/ UTymislegt/%26lang=1%26units=PERC.

software.⁴⁰ The government promotes the use of digital signatures and electronic filing, and the use of digital signatures is supported through legislation such as the Public Administration Act. Digital signatures are in the process of being integrated further into the public administration.⁴¹

The popularity of social media sites like Facebook was used to engage the population in the process of redrafting the Icelandic constitution over the past few years. The original and existing constitution is an almost exact copy of the Danish constitutional text, which was adopted when Iceland gained independence from Denmark in 1944. In the wake of the Icelandic financial crisis in 2008, the population demanded an extensive review of the country's constitution.⁴² A 25-member council consisting of ordinary residents helped draft a new constitution and worked through sixteen versions in four months based on 16,000 comments from Icelandic citizens using social media platforms such as Facebook, Twitter, and YouTube.⁴³ A majority of the population voted for the draft constitution in a national referendum on October 20, 2012.⁴⁴ In November 2013, the prime minister appointed a committee on constitutional affairs to continue the work with the constitution in accordance with an agreement reached by parliamentary parties. Four committee members were nominated by parties in government and four by parties in the opposition. The chairman was appointed by the prime minister without previous nomination. The committee is to have regard for work done in recent years, including the work of "the Constitutional Council" in 2011 and is to inform the relevant parliamentary committee on its progress. The aim is to present a bill before the next elections.45

Social and online media were widely used in the recent parliamentary elections, which saw a historically large number of parties running for parliament. In particular, small parties with limited resources saw digital media as an inexpensive way to inform voters about their political agenda. During the 2013 campaign, the Icelandic Pirate Party, led by Birgitta Jónsdóttir, exclusively used online media to disseminate its platform supporting media freedom with a focus on the internet.⁴⁶

Violations of User Rights

Iceland has a strong tradition of protecting freedom of expression that extends to the use of the internet. Both the media law and the ambitious Icelandic Modern Media Initiative aim to enhance the use of online media.

Freedom of expression is protected under Article 73 of the Icelandic constitution.⁴⁷ In June 2010, following the 2008 financial crisis and inspired by the whistleblower website WikiLeaks, the Icelandic

⁴⁰ ePractice EU, "Public administration in Iceland is moving to open source," April 5, 2012, <u>http://www.epractice.eu/en/news/5351796</u>.

⁴¹ IDABC – European eGovernment Services, "Study on Mutual Recognition of eSignatures," July 2009, <u>http://ec.europa.eu/idabc/servlets/Docae09.pdf?id=32328</u>.

⁴² Robert Robertson, "Voters in Iceland Back New Constitution, More Resource Control," *Reuters*, October 21, 2012, <u>http://reut.rs/Myiq8g</u>.

^{43 &}quot;A Proposal for a New Constitution for the Republic of Iceland", Drafted by *Stjórnlagaráð*, a Constitutional Council, appointed by an *Althingi* resolution, March 24, 2011, <u>http://stjornlagarad.is/other_files/stjornlagarad/Frumvarp-enska.pdf</u>

⁴⁴ Julia Mahncke, "Iceland's Grassroots Constitution on Thin Ice," Deutsche Welle, March 13, 2013, http://bit.ly/XmC9Hj.

⁴⁵ Email interview with employee at the Legislative Department at the Office of the Prime Minister, March 13, 2014

⁴⁶ Interview with employee at the Icelandic Media Commission, May 17, 2013.

⁴⁷ Constitution of the Republic of Iceland, http://www.government.is/constitution/.

parliament approved a resolution on the Icelandic Modern Media Initiative, which aims to create a global safe haven with legal protection for the press, bloggers, and whistleblowers.⁴⁸ As of 2014, the reform process of the ambitious initiative is progressing very slowly, although source protection has been implemented into law.⁴⁹ Another bill on secrecy clauses for civil servants, lawyers, and others is being discussed in parliament. The current secrecy clauses are very opaque, and the initiative is part of the ongoing process of establishing protection for whistleblowers.⁵⁰

The minister of education, science and culture has appointed a committee of experts to report on online and offline challenges and propose recommendations for the promotion of freedom of expression and information. Appointed in 2012,⁵¹ the committee is tasked with drafting a whistleblower protection law, reviewing the articles on defamation in the penal code, and looking into source protection and communications protection.⁵² Since the change in government in 2013, however, there has been very little progress concerning the initiative.⁵³

The Icelandic media law, which came into effect in September 2011, established several legal protections for journalists that extend to the online sphere, including editorial independence from media service providers' owners and the protection of anonymous sources.⁵⁴

There has been great concern about libel laws in recent years with regard to both online and offline media. Journalists consider the court's practice with regard to libel laws to be too rigid, leading to lawsuits that aim to silence critical press. According to Article 51 of the Icelandic Media Law, journalists can no longer be held responsible for potentially libelous quotes from sources, but can only be held responsible for their own content.⁵⁵ Since the change to the media law, there has been a decrease in libel cases.

The government does not place any restrictions on anonymous communication. No registration is required when purchasing a SIM card in Iceland.

Following revelations that U.S. and UK intelligence agencies have been collecting and storing massive amounts of user data from online communications around the world, free speech activists in Iceland such as Birgitta Jónsdóttir expressed concern that Iceland's efforts to protect journalists and whistleblowers from the threats of surveillance may ultimately prove ineffective.⁵⁶ Iceland is part of a greater international surveillance network that cooperates with the activities of the "Five Eyes alliance"—the intelligence operations agreement between the United States, the United Kingdom, Australia, Canada, and New Zealand.⁵⁷

- 52 Interview with employee at the Icelandic Media Commission, May 17, 2013.
- 53 Email interview with former employee at the Icelandic Media Commission, Jan 29, 2014.
- 54 Article 24 and Article 25, The Icelandic Media Law, April 20, 2011, http://bit.ly/15C05KS.
- 55 The Icelandic Media Law, April 20, 2011, http://bit.ly/15C05KS.
- 56 Alex Hern, "NSA surveillance hinders Iceland's attempts to be a haven for free speech," *Guardian*, November 19, 2013, http://www.theguardian.com/technology/2013/nov/19/nsa-surveillance-iceland-free-speech.

⁴⁸ IFEX, "Authorities Create a Safe Haven for Press", June 23, 2010: http://www.ifex.org/iceland/2010/06/23/safe_haven/

⁴⁹ International Modern Media Institute, https://immi.is.

⁵⁰ Interview with Icelandic Member of Parliament, February 24, 2014

⁵¹ Email interview with former employee at the Icelandic Media Commission, Jan 29, 2014.

⁵⁷ Carly Nyst, "The Five Eyes Fact Sheet," Privacy International, November 26, 2013, <u>https://www.privacyinternational.org/news/blog/the-five-eyes-fact-sheet</u>.

Currently, the Electronic Communications Act of 2003 implements data retention requirements mandated by Iceland's inclusion in the European Economic Area.⁵⁸ The law applies to telecommunication providers and mandates the retention of records of all connection data for six months. It also states that companies may only deliver information on telecommunications in criminal cases or on matters of public safety, and that such information may not be given to anyone other than the police or the public prosecution.⁵⁹

There have been no physical attacks against bloggers or online journalists in Iceland. In December 2013, Iceland experienced its most serious cyberattack to date, when a Turkish computer hacker cracked Vodafone's website.⁶⁰ Since June 2013, the Icelandic National CERT, operating within the Post and Telecom Administration in Iceland, has been the national center point for cyber security incidents and participates in international efforts and cooperation.⁶¹

⁵⁸ Electronic Communications Act, March 26, 2003, http://bit.ly/MfiatW.

⁵⁹ Icelandic Media Initiative, <u>https://immi.is/index.php/projects/immi</u>.

⁶⁰ Ingibjórg Rósa Bjórnsdóttir, "Biggest Cyber Attack in Iceland," *Grapevine*, December 3, 2013, <u>http://grapevine.is/Home/</u> <u>ReadArticle/Biggest-Cyber-Attack-On-Iceland</u>.

⁶¹ Post and Telecom Administration in Iceland, http://bit.ly/LXusIn