The 2016 ICT Sector Overview

Key regulatory, legal and information security developments
KYRGYZ REPUBLIC: THE 2016 ICT SECTOR OVERVIEW

KEY REGULATORY, LEGAL AND INFORMATION SECURITY DEVELOPMENTS

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Executive Summary

The current report aims to provide an overview of key regulatory, legal, industry and information security aspects affecting the state of ICT sector development in the Kyrgyz Republic as of 2016. Of particular interest to telecom operators, ISPs, government and corporate analysts the report identifies and describes only the important developments that must be taken into assessment when considering doing business in Kyrgyzstan.

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National Overview

Kyrgyzstan is a semi-parliamentary republic in Central Asia, covering a highly mountainous territory slightly below 200 thousand square kilometers. Over 90% of the country lies above 1500 meters above the sea level, making geography a significant challenge for Internet connectivity. As of January 2016, Kyrgyzstan has a population of 6 million, of which about 1 million live in its capital, Bishkek.¹ The country is predominantly rural and only 34% of residents live in urban areas.² Ethnic Kyrgyz represent 73% of the total population, while ethnic Uzbeks and Russians account for 14.6% and 6% respectively.³

The economy of Kyrgyzstan is predominantly formed by the service sector, which accounts for 54% of GDP, while industry represents another 26%, and agriculture remaining 20%.⁴ In the past two years, the economy of Kyrgyzstan has been affected by the economic downturn in the CIS region. The country’s GDP in 2015 was $6.5 billion, almost a billion less than in 2014.⁵ Since 2014, the country is classified as a lower middle income country, even though in 2015 its GNI per capita was barely above the threshold at $1170.⁶ External trade turnover has dropped from almost $8 billion in 2013 to $5.7 billion in 2015.⁷ The economy is dependent on flow of remittances, equivalent to 30% of GDP⁸ and generated by over 1 million citizens working abroad, with absolute majority in Russia.⁹

ICT Regulations

Regulatory/Governing Bodies and Standards (National & International)

Within the current structure of the Government of the Kyrgyz Republic, the State Committee for Information Technology and Communications is the main body responsible for regulation, policy development, implementation and other oversight relating to Internet. The committee itself is a new institution, created in July 2016 to incorporate the State Communications Agency (SCA) and the Center for Electronic Governance under the Government of the Kyrgyz Republic, as well as some of the communications components from the Ministry of Transportation. Within this structure, the SCA remains responsible for regulatory functions in the areas of electronic and postal communications, including the use of the radio frequency spectrum and the number pool. The overall State Committee for Information Technology and Communications is responsible for policy development and implementation. It implements the state policy and executes cross-sectoral coordination in the areas of informatization, electronic governance and electronic government, electronic services, electronic and postal communications, including radio and TV broadcasting.

The decision to integrate SCA into the newly created committee was intended to consolidate the scattered elements of the electronic governance reform agenda. Yet, the new structure effectively
merged policy making and regulatory functions, depriving the SCA of its politically independent regulatory role. As a result, Kyrgyzstan went against the WTO requirements, which state in its telecommunications protocol that the regulatory body should be shielded from the political influence of state institutions.

The State Committee for Radio Frequencies is a separate body that coordinates the activities of ministries and agencies in using the radio frequency spectrum. The Committee also can suspend or prohibit development and production of radio electronic, electric equipment and/or other technical equipment, which does not meet the norms for radio emissions, radio reception or allowed industrial radio interference.

Endorsed by a June 2013 decree of the Government, there is also a functioning Council on ICT, a consultative and advisory body under the Government. The Council plays an important role in defining the policy priorities and delivering the voice of telecommunications actors to highest offices of government. Still, the Council has not been active in recent period and no formal sessions have been held within the past year.

Legal Overview

CURRENT LAWS

The core legislation governing ICT in Kyrgyzstan includes the 1999 law "On informatization and electronic governance", which outlines the basis for information infrastructure, as well as associated legal, economic and institutional relationships. More specifically, there is a law "On electronic and postal communications", passed in 1998 and providing the legal grounding for communications networks, services and their providers. Recent bylaws include regulations on telecommunications licensing, rules for provision of mobile communication services and mandatory certification of communications equipment. There is also a law on licensing of the radio frequency spectrum. Various other laws and bylaws provide the basis for media, broadcast media, access to information and protection of personal data.

In terms of policy documents, the “National Strategy for Sustainable Development of the Kyrgyz Republic, 2013-2017” (NSSD) is a core national planning document that provides the basis for much of the reform agenda of the Kyrgyz government. NSSD sets out a goal of ensuring every locality in the Kyrgyz Republic is provided with "full-scale access to Internet" by 2017. The provisions for improving the legal frameworks dealing with information security are addressed in the "Concept of National Security", passed in June 2012.

In November 2014, the government introduced a program for the years 2014-2017, "On introduction of e-governance in state and local self-governance bodies". The document outlines several priorities in this field, including improvement of the legal frameworks, technical infrastructure and public service delivery. It also includes an indicator of achieving 100% adoption of online platforms by the state institutions to engage citizens in public decision-making processes by 2017.
Overall, the legal framework remains outdated and does not reflect the latest technological advances in the areas of cloud computing, mobile applications or the growing sophistication of cybercrimes, to name just a few examples. For instance, the current version of the Criminal Code does not have clear provisions for penalizing cybercrimes, which creates difficulties in prosecuting the identified criminals.10

RECENT LEGISLATIVE INITIATIVES

Recognizing this situation, the Kyrgyz authorities are increasingly introducing changes to the legal framework, often borrowing from neighboring countries with more controlled political environments which leads to more restrictive policies affecting the ICT sector, as well.

In May 2016, several deputies of parliament initiated a draft law on amendments to the law "On media". The amendments sought to institute a 20% threshold for foreign-funded share of media outlets in Kyrgyzstan, and introduce a concept of “network publications” to the list of media in the law. The draft law was passed in its first reading in June 2016 and the second reading is expected before the end of this year. Kyrgyzstan has a long history of legislative initiatives pursuing the goal of adapting media laws to include online media outlets, but actual changes were never adopted.

In July 2016, a law on amendments was signed by the President of the Kyrgyz Republic, taking into effect regulatory changes that allow swift blocking of websites with extremist content. According to changes, websites can be blocked as soon as the court accepts a case from the Prosecutor's Office, until a court decision is issued. Court decisions on such cases are now prescribed to take no more than 5 days and can be processed without the defendant.

In August 2016, another law on amendments brought changes to seven different legislative acts, introducing stricter norms against terrorist and extremist activity. The new changes allow prosecution for public support of terrorist and extremist activity, including on the Internet and for "unintentional use of symbols and attributes of terrorist and extremist organizations." Criminal Code provisions for incitement of national, interethnic, racial, religious or interregional hatred would criminalize such activity on the Internet as well.

All of the amendments associated with the notion of “extremism” remain problematic, as the existing Kyrgyz legislation on countering extremism still does not have a clear definition of what constitutes "extremism", leaving open the possibility of legal interpretations that are too broad.
According to the findings of the 2016 ICT Index “The Cost of Freedom and Security”, Kyrgyzstan belongs to the second group of Eurasian countries, which also includes Belarus, Russia, and Kazakhstan. These states appear to prioritize state security interests in their ICT policies adopted throughout 2016. Such approach seems unbalanced, leading to restrictions on freedoms of individuals and society and, as a result, creating a negative economic effect. At the same time, the impact of adopted measures on the overall national security seems to be very limited.

It is worth noting, however, the positive assessment experts gave to the impact of the package of laws aimed at combating extremism on Freedom and Security.

The influence of the ICT legislation on the business seems to be ambivalent. While the estimated values for freedom and security for business sector operations have slightly increased, the economic effect on businesses is negative, i.e. the costs for businesses to comply with the recent ICT legislations have gone up:

<table>
<thead>
<tr>
<th></th>
<th>Freedom</th>
<th>Security</th>
<th>Economic effect</th>
<th>Average by sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>0.39</td>
<td>0.17</td>
<td>-0.78</td>
<td>-0.07</td>
</tr>
<tr>
<td>Kyrgyz Republic</td>
<td>-0.11</td>
<td>0.67</td>
<td>-0.35</td>
<td>0.07</td>
</tr>
</tbody>
</table>

The cumulative average Index ranking for business sector is lower than the average for the country because of the lower security ranking and higher transaction costs. On the other hand, the freedom for business sector is higher than the average value for the country.

ACCESS TO INTERNET & INTERNET SERVICES PENETRATION

According to the International Telecommunications Union (ITU) estimates, percentage of individuals using Internet in the Kyrgyz Republic reached 30.25% in 2015, up from 28.3% in 2014 and 23% in 2013.\textsuperscript{11} According to the State Communications Agency (SCA), the aggregate number of active Internet users has reached 4.54 million in 2015, while a total of 79% of the population has access to Internet.\textsuperscript{12} The difference between the ITU and SCA numbers is due to the fact that the state agency measures "users with possibility of access", whereas the ITU assesses the actual regular usage. Other sources provide an estimate for percentage of households with Internet access, which has increased from 8.7% in 2013 to 16.5% in 2016.\textsuperscript{13}

According to ITU estimates (based on SCA-reported trends), in 2015 there were 211.5 thousand fixed broadband subscriptions in Kyrgyzstan, up from 170 thousand in 2014.\textsuperscript{14} At the same time, according to SCA, only 3% of the population had access to fixed broadband Internet in 2014, compared to 21% of the population with access to wireless broadband.

Broadband penetration varies significantly across national regions. Fixed broadband is available primarily in Bishkek, through cable and DSL connections, while regional cities rely on DSL. At the same time, according to SCA, 50% of the population had access to 3G mobile broadband coverage in 2014. Mobile broadband penetration is estimated at 33% in 2016.\textsuperscript{15}

Demographics of the Internet audience and its uses of Internet

In line with the global tendencies, the average Internet user in Kyrgyzstan is likely to be younger, better educated, earn more and live in urban areas. The latest available research on demographics of Internet audience in Kyrgyzstan (conducted by M-Vector in late 2012) points to a large urban-rural gap – 64% of self-reported Internet users are urban residents, of which 41% are in Bishkek, and another 8% in Osh, the second-largest city.\textsuperscript{16} The two regions with largest populations, Osh and Chuy, account for 15% each. There is a 7% gender gap, with 25% of female respondents reported using Internet, against 32% of male respondents. There are significant differences among age groups as well: 53% of respondents aged 18-24 report using Internet, while the same figure is only 15% for the age group 35-44.

Internet usage patterns in Kyrgyzstan are not dissimilar from the global trend as well, ranging from general recreational to professional uses. According to the above-mentioned M-Vector survey in 2012, 66% of respondents used Internet to access email, 49% to access social media, and 42% for news or information. Entertainment purposes are ranked lower, with only 33% using Internet to access music, and 20% to access video. Considerable differences are apparent within age groups – use of Internet for news and information is higher among respondents aged 25+, and conversely, entertainment use for video and music is higher among respondents 24 and below. In capital city of Bishkek, uses for social media and email are reported most often, by 71% and 70% of respondents, respectively.
Barriers to access

Since 2014, Kyrgyzstan is seeing rapid expansion of the mobile broadband subscriber base, conditioned by greater availability of affordable smartphones, continuous fall in prices of data plans and rise in popularity of social media and communications apps, such as WhatsApp. Fixed broadband subscription is also seeing growth, albeit from a very low base.

Nevertheless, according to a late 2015 study by the Internet Society, the two main barriers to wider adoption of Internet in Kyrgyzstan are affordability and relevance.\(^\text{17}\)

In terms of affordability, cost of mobile broadband averages 10% of average monthly per capita income, which is more than the 5% target threshold set by the ITU/UNESCO Broadband Commission for Development.\(^\text{18}\) The cost of fixed broadband is lower - as of September 2016, the monthly connectivity fee for the cheapest unlimited DSL connection from the market leader Kyrgyz Telecom is 299 KGS in Bishkek (~USD$4.4), and 550 KGS in regional capitals (~USD$8).\(^\text{19}\) The affordability is also affected by total cost of setting up connections, including cost of devices and any set up fees.

The relevance factor includes low number of social connections, who are online, limited availability of content that is relevant to local context and language barriers. While majority of the country is Kyrgyz-speaking, over 80% of Internet traffic is international – generated mainly from Russian-language content providers. Digital literacy is another related obstacle, especially for schoolchildren and older generations of smartphone, desktop and tablet users.

Poor infrastructure for connectivity in the regions is a significant systemic barrier, especially at the “last mile” delivery of fixed broadband. No functional legal and technical provisions exist for shared use of existing infrastructure by ISPs, forcing them to build redundant and expensive infrastructure.

FIXED COMMUNICATION

KyrgyzTelecom (KT) is the leading provider of fixed communication services, with 60% market share of Internet services. The company is present in 90% of the country’s localities. According to its 2015 end of year report, KT’s fixed broadband subscribers reached 100 000, and due to negotiating a 53% lower rate for its external traffic, the consumer price of 1mbit was reduced by 40%.\(^\text{20}\) KT is the primary actor developing the fiber optic infrastructure, and stands behind projects building interregional fiber routes, connecting the northern and southern regions. By end of 2015, there were 2719 kilometers of main fiber optic routes, and the overall fiber optic network exceeded 12 thousand kilometers, growing by 35% compared to 2014.\(^\text{21}\)

Other companies offering fixed line internet services include ElCat, Aknet, Asiainfo, Megaline, Saima Telecom, Citynet, Homeline, Totel (rebranded as Maxlink) and Fastnet. Several of these companies have also deployed wireless LTE and Wimax networks, targeting segments without reliable fixed line connections. In 2015, 10 new providers were issued licenses for fixed Internet connections.
MOBILE CONNECTION

As of 2015, Kyrgyzstan had slightly over 7 million mobile subscriptions, which is lower than 7.5 million subscriptions in 2014. The decline is mainly related to a push for personification of accounts in 2015, whereby unregistered accounts were discontinued. The existing client base is divided among three mobile operators – Skymobile (brand Beeline), AlfaTelecom (brand Megacom) and Nurtelecom (brand O!). According to estimates by Civil Initiative for Internet Policy, in the 4th quarter of 2015, mobile market share of Beeline was 40.5%, of Megacom 32.4% and of O! 26.9%. All three companies heavily invest in next-generation data networks, now offering 4G service in almost all of the large urban centers across Kyrgyzstan. 3G and 2G coverage is much more widespread. According to SCA, in 2015, there were 1.8 million 3G connections, 3.3 million 2G connections and 95 thousand 4G (LTE) connections.

In May 2015, several mobile operators of Kyrgyzstan reviewed a potential joint decision to block the traffic for WhatsApp and Viber applications on their networks. The operators were concerned that increasing usage of these applications for voice calls has been negatively impacting their revenues. As of October 2016, no such blocking is in place.

Several companies that are not mobile operators provide mobile Internet connection services, based on LTE (Saima Telecom) and Wimax (Maxlink) technologies. Their coverage is limited to large cities of Bishkek, Osh, Jalalabad, Karakol and Cholpon Ata, with focus on users that have difficulty accessing the fixed Internet infrastructure.

Four companies – KT, Asiainfo, Transfer and Isatel – are locally accredited providers of satellite Internet, which always had a negligible market share in Kyrgyzstan. It is possible to set up satellite Internet connection through foreign providers as well, with subscription packages available from numerous Russian and European companies. Due to high cost of data traffic, the focus of satellite providers has mainly been on the corporate sector, especially in connection with emergency telephone services. Relevance and attractiveness of satellite Internet is decreasing due to rapid growth of mobile Internet, but it remains an important alternative or emergency channel.

INTERNATIONAL COMMUNICATION

Absolute majority of the international Internet traffic arrives to Kyrgyzstan through terrestrial fiber optic connections, with no viable alternatives. Kyrgyz ISPs have 22 physical connection points at its international borders, allowing traffic exchange with Kazakhstan, Uzbekistan, Tajikistan and China. Among the ISPs with own trans-border connection points are KT, Elcat, Megaline, Beeline, Saimatelecom and O!. All the other ISPs rely on these ISPs to gain access to global Internet traffic.

Almost all of the traffic is channeled through Kazakhstan, making Kyrgyzstan almost completely dependent on that country to access the global Internet. In 2014-2015, fiber lines were set up in the southern regions of the country, allowing Kyrgyzstan to become a transit country between China and Tajikistan.
In July 2016, according to the State Agency for Antimonopoly Regulation, Kazakh Internet providers notified Kyrgyz providers of plans to increase the cost of transit from USD$14.9/mbps to USD$29/mbps which would significantly increase the cost of consumer data plans.\(^{24}\)

In early 2016, the government initiated a draft instruction and amendments to the law on communications, introducing the monopoly of KyrgyzTelecom for trans-border Internet communications. If passed, the initiative modelled after Uzbekistan and Tajikistan would severely restrict market competition and significantly facilitate online censorship.\(^{25}\) As of October 2016, the initiative has not yet been transformed into a draft legislation.

### Information Security Overview

**INTERNET INFRASTRUCTURE (SUSCEPTIBILITY TO CYBERCRIME, TERRORISM, AND ATTACKS)**

Overall, Kyrgyzstan's Internet infrastructure is not sufficiently secure and resilient in the face of external threats emanating from criminal and terrorist networks, as well as from attacks sponsored by other governments. Kyrgyzstan ranked 25th (out of 29 ranks available) in the first Global Cybersecurity Index, behind all of its CIS neighbors.\(^{26}\) According to the Index, Kyrgyzstan lacks any "officially approved national or sector-specific cybersecurity framework for implementing internationally recognized cybersecurity standards", and it also does not have an officially recognized national CIRT (Computer Incident Response Team).\(^{27}\)

In terms of international connectivity, dependency on Kazakhstan and Russia as transit routes fully exposes the country to risks faced by those countries. In case of major attacks against those countries disrupting connectivity, majority of Kyrgyzstan's users may find themselves without reliable access to the global network.

The physical infrastructure of Internet in the country has evolved with minimal investment and may lack built-in redundancy and resilience to withstand potential attacks on its critical elements. In January 2015, several ex-officials of KT were arrested on charges of corruption and fraud, in connection with the construction of the fiber optic route linking the southern city of Osh with a trans-border port Irkeshtam at the Chinese border.\(^{28}\)

In recent years, Kyrgyz government websites have frequently been targets of attacks by foreign hackers and the full extent of damage is not known. Domestic threats to critical government infrastructure have been of concern as well – in June 2016, the State Registration Service disclosed politically motivated “hacker attacks” on its databases and offers of bribes up to USD$1.5M by political groupings, interested in electronically controlling the results of parliamentary elections in fall 2015.\(^{29}\)
KEY REGULATORY, LEGAL AND INFORMATION SECURITY DEVELOPMENTS

TYPES OF ATTACKS, ACTORS, AND THOSE TARGETED

The cyber space in Kyrgyzstan is exposed to threats and vulnerabilities facing the rest of the online population across the world, which are often adapted to local context. Companies and individuals routinely become victims of malicious software, internet fraud, phishing, resulting in such consequences as cyber-extortion and unauthorized access to online banking accounts or social media accounts. According to Center for Information Security, the number of cyber-incidents is doubling every year.\(^30\) Commercial activity that highly dependent on secure Internet infrastructure is particularly vulnerable, including the banking and telecommunications sectors.

Use of the cyberspace as a platform for extremism and terrorism is on the rise in Kyrgyzstan as well. Many cases of recruitment of Kyrgyz citizens into the ranks of fighters, supporting the Islamic State in Syria, are alleged to have happened online, with use of specialized media websites and social messaging tools.\(^31\)

State institutions’ websites are seeing an increasing number of attacks, attempting to alter content and exploit known security gaps. According to KG CERT, a local private group of information security experts, multiple government websites were targeted by attacks throughout 2015.\(^32\) In January 2015, the websites of the Muftiyat, or the Muslim spiritual authority, and the Council for Selection of Judges were both defaced.\(^33\) In June 2015, the same happened to the websites of the State Defense Committee, and State Committee for National Security.\(^34\) In September 2015, similar attacks took place against the websites of the SCA, Agency for Environmental Protection, National Library and Fund for Obligatory Medical Insurance. In November 2015, the website of the Ministry of Culture, Information and Tourism was targeted, requiring a two-month overhaul. In all of those instances, it appears that attacks did not go beyond creating reputational damage.

GOVERNMENT SURVEILLANCE

A surveillance system called System for Operational Investigative Activities (SORM) has been in place in Kyrgyzstan since 2009, with a brief intermission after the April 2010 regime change. The system provides real-time, full access to all communications networks, bypassing judicial oversight. In mid-2014, a government decree was adopted instructing ISPs and mobile operators to install a newer version of SORM. In April 2015, the Constitutional Chamber held a hearing reviewing a complaint by the human rights defender Nurbek Toktakunov and LLC Winline that this instruction was unconstitutional, and found that complaint unsubstantiated.

In the past few years, tapped phone conversations of politicians have been regularly leaked online, suggesting continued use of systems similar to SORM by unknown actors. In 2014, to facilitate identification of mobile phone users through SORM, a law was passed requiring personal identification of all mobile communication accounts, through registration of SIM-cards, which came into effect in February 2016.\(^35\) Given the dependence of Kyrgyzstan on Kazakhstan and Russia for Internet access, domestic Internet routed via those countries is potentially exposed to surveillance activities by Kazakh and Russian governments. There are no reliable sources confirming this, as Kyrgyz ISPs only distinguish between ‘the traffic filtered in accordance with the transit country requirements’ and ‘traffic that has not been filtered’.

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Kyrgyz Republic: The 2016 ICT Sector Overview

SWOT for Business Operations in the ICT Sector

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<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
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<tbody>
<tr>
<td>The average Internet user in Kyrgyzstan is likely to be younger,</td>
<td>Kyrgyz Internet infrastructure requires further development, especially in the</td>
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<tr>
<td>better educated, earn more and live in urban areas. With the overall</td>
<td>fixed broadband sector. The access to Internet is very dependent on Kazakh</td>
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<tr>
<td>intent of the government to modernize its ICT sector, it creates a positive</td>
<td>infrastructure. Commercial activity that depends on secure Internet</td>
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<tr>
<td>background for investments and business opportunities. Kyrgyzstan</td>
<td>infrastructure is particularly vulnerable, including the banking and</td>
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<tr>
<td>continues to enjoy an open and competitive market for ISPs, lower levels</td>
<td>telecommunications sectors.</td>
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<td>of local filtering of Internet content and greater diversity of online</td>
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<td>media when compared to its immediate neighbors.</td>
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<table>
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<th>Opportunities</th>
<th>Threats</th>
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<tr>
<td>The ICT legislation has somewhat increased the freedom and security for</td>
<td>The cyber space in Kyrgyzstan is exposed to threats and vulnerabilities</td>
</tr>
<tr>
<td>businesses and the government tries to bring its legislation in line with</td>
<td>facing the rest of the online population across the world. Companies and</td>
</tr>
<tr>
<td>current needs. This may further improve the overall business environment</td>
<td>individuals routinely become victims of malicious software, internet fraud,</td>
</tr>
<tr>
<td>and attract some new investments in ICT.</td>
<td>phishing, resulting in such consequences as cyber-extortion and</td>
</tr>
<tr>
<td></td>
<td>unauthorized access to online banking accounts, social media accounts.</td>
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What We Can Do For You?

DR Analytica is your gateway to ICT markets and services in Eurasia.

1 REAL-TIME MONITORING
Stay up-to-date on all of the latest regulatory and legislative developments in Eurasia. Our Weekly Digest and quarterly country analysis cover telecommunications, information and cyber security, data retention and privacy, E-government, and intellectual property. Clients also benefit from real-time alerts to keep informed about breaking developments.

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