

THEME 01

# Russia's Runet on the planetary network

RUSSIA

STACK

PLANETARY  
COMPUTING

State meddling throughout the layers of the technology Stack is rising globally. Russia is even trying to close off its internet from the rest of the world. Although highly centralized control of the Stack may not be in Russia's long-term interest, Russia's capacity to build its own Stack teaches some lessons about hegemony on the planetary network.

## Our observations

- A few weeks ago, news came out that Russia is planning to temporarily [cut its internet off](#) from the rest of the world. A new law requires Russian telecoms to be able to [redirect all traffic](#) through routing points controlled by Roskomnadzor, Russia's telecommunications and media regulator.
- In *The Red Web*, Andrei Soldatov and Irina Borogan present the history of Runet – Russia's internet. Most importantly, Russia's internet infrastructure is highly centralized. Although most of the world's internet traffic passes through underwater cables, Russia connects with the world through terrestrial cables – from Moscow to Scandinavia and Germany in the west, and to China, Japan and Iran in the east. Most fiber-optic cables are laid by five Russian national operators (e.g. Rostelecom). Moreover, connections to the outside world are sparse. As Russia has only a dozen internet exchange points where international traffic joins the national internet (compared to more than 80 in the U.S.), more than half of Russian internet traffic passes through one in Moscow (MSK-IX). The centralized structure of the Russian internet has led the authorities to believe that it is possible to cut off international traffic (either by the operators that control cross-border fiber-optic cables or at the internet exchange points).
- Russia has a longstanding tradition of innovative science and technology. In fact, the Soviets [almost invented the internet](#) in the '60s, which boosted U.S. efforts to build ARPANET, the forerunner of today's internet, but funding was cut off. Russia is one of the few states in which domestic internet brands are bigger than global (American) ones. Russian internet businesses now account for 8.5% of its GDP. In the forthcoming *From Russia With Code*, the authors argue that “while Russian computer scientists are notorious for their interference in the 2016 US presidential election, they are ubiquitous on Wall Street and coveted by international IT firms and often perceive themselves as the present manifestation of the past glory of Soviet scientific prowess”.
- Eurasia Group identifies [Innovation Winter](#) as a top risk for 2019. They argue we're heading for a global politically-driven reduction in the financial and human capital available to drive the next generation of emerging technologies. Three political concerns are behind this “global technological mayhem”: security concerns (leading to reduction of exposure to foreign suppliers in areas critical to national security), privacy concerns (leading to government regulation of the use of citizens' data) and economic concerns (leading states to put up barriers to protect their emerging tech champions).
- Benjamin Bratton developed the concept of The Stack: the totality of the interconnected layers of the digital economy. These layers range from rare earth metals, data centers and computational hardware to cloud computing, IoT sensors and user interfaces. Bratton observes that although for now, states will try to cultivate their influence throughout the Stack, the ongoing malleability of the Stack guarantees its imperviousness to full control in the long run.
- In *The Question Concerning Technology in China*, Yuk Hui introduces the concept of cosmotechnics. According to cosmotechnics, since cultures unify their cosmology (ideas to make sense of the world) and morality (principles to shape society) by means of technical activities, different cultures could end up in different technological futures.

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## Connecting the dots

As state activity throughout the Stack is increasing, some states will try to build their own Stack. Since the totality of the interconnected Stack has created a new geography that is open to contestation, it has transformed the traditional jurisdictions of state authority (sovereignty) and altered the interaction of the state with its citizens (governance). Since the state itself exists by virtue of sovereignty and governance, it is no surprise that in every part of the world, the state is solidifying its position within the Stack (e.g. [NSA's PRISM program](#), [5G policy](#), [Chinese social credits](#), [EU's GDPR](#), [India's Aadhaar](#)). Most importantly, although states may want to build their own Stack to limit foreign espionage, competition and meddling, not many of them will succeed. Russia's unique capacity to build its own Stack teaches us some lessons about hegemony on the planetary network. The Russian state's tightening grip on the internet is not merely a matter of state meddling, but in fact has deep cultural roots. Throughout history, Russians have learned that without strong centralized leadership, Russia is vulnerable to collapse. During several periods of weak leadership, the vast country fell apart as local oligarchs took power amid chaos (e.g. 17th century Time of Troubles, the fall of the Soviet Union). As the Stack also decentralizes sovereignty, the Russian state's [wariness of the internet](#) (as a CIA project) is now morphing into rebuilding the Stack based on the Russian idea of highly centralized control. This attempt of centralized control of the Stack is part of Russian cosmotechnics, characterized by more concern over security than business or privacy (in contrast to China, the U.S., or Europe). Besides cosmotechnics of highly centralized control, Russia's continental scale also facilitates the Russian Stack. We have previously noted we are now in an age of ["continental politics"](#). After the age of city-states and then of nation-states, the most powerful countries are now the size of continents (e.g. U.S., Russia, China, India). Scalable digital technology favors continental politics: for example, internet platforms in such states can have hundreds of millions of users

in their home country (even more so when their civilizations stretch across nation-state borders, as is the case with Russia), making them extremely powerful. Indeed, states that lack continental scale will struggle to exert control over the Stack (e.g. [European states](#)). Based on cosmotechnics of highly centralized control and continental politics, the Russian Stack manifests itself in different ways. For one thing, the Russian state forces internet service providers (ISPs) to install "SORM" black boxes that provide the state with the ability to monitor internet traffic. ISPs are also compelled to store data for 12 hours so the state might examine it and deep packet inspection (DPI) allows the state to [block any unwanted traffic](#). New legislation even forces Russian ISPs to have the technical means to disconnect from the rest of the world. Although digital technology tends to foster decentralization, the Russian state will try to build a highly centralized Stack. All in all, a parallel Russian Stack is emerging. However, it remains to be seen whether such a highly centralized Stack will be [sustainable](#) in the long term. Its longevity is doubtful for two reasons. First, digital technology will continue to foster decentralization (e.g. VPNs, blockchain), and second, more importantly, when it comes to the internet, new value is created through network-effects, which in turn are stimulated by open network architectures. Although states such as Russia and China are now centralizing their Stacks to protect their security, their future interest could lie in building open network architectures to connect to the rest of the world. As the Huawei 5G case shows, China is already facing this conflict of interests. Interestingly, the potential transformation of the highly centralized Russian and Chinese Stacks into a more open network architecture runs parallel to their traditional land power (characterized by inward-looking mentality, security and central rule) being increasingly augmented by their dormant sea power (characterized by openness, enterprise and decentralization), which could gain momentum through China's BRI maritime expansion and Russia's increased Arctic presence.

## Implications

- Russia's tighter control of the internet will increasingly generate tensions with its neighbors. In fact, all of the members of the [Commonwealth of Independent States](#) (former Soviet republics) rely on Russian internet infrastructure. Russia's SORM system even extends into [Ukraine](#).
- Like Russia, other states will build their Stack in accordance with cultural traditions. In [China](#), the moral authority of the state based on Confucian principles underpins its highly centralized digital architecture. Interestingly, as [Adam White](#) argues, in the U.S., critics of big tech seem to focus on either regulation or breakup as the natural remedies for big tech monopoly, but they forget the third possibility: government could actually draw closer to business, collaborating toward a shared vision of the public interest, which could be a traditionally American solution to an open, decentralized Stack.