Oct 23 2020

Space Regulation India

3 Shifts Edition (Oct 23 2020): Export controls in US & China, India pushes back on foreign control, Latest in space connectivity

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1. The world becomes less open with new export controls from the US, China & EU

- US-China trade tensions took a new turn over the past week or so, with both announcing **new approaches to export control aimed at keeping technology assets out of the hands of rivals**. The European Union (EU), allied with the US, also joined the fray with its own export-control plan. Both China and EU are explicitly targeting **"dual-use" technologies – which can be used for both civilian and military purposes** – among their restrictions.
- Last week, **the US released the National Strategy for Critical and Emerging Technologies – a set of government-wide guidelines and list of 20 broad advanced-technology areas for investment and protection.** The list – which builds on the Commerce Department's growing list used to impose controls such as required licenses and national security review – encompasses AI, semiconductors, quantum computing, and biotech, among other areas.
- While the strategy doesn't detail concrete plans, it does represent **a new "whole-of-government" approach intended to rally US agencies and the private sector around safeguarding technologies** from rivals like China and Russia. In parallel and effective last week, the Committee on Foreign Investment in the United States (CFIUS) – which oversees

approvals of acquisitions and other investments by foreign entities – began tying mandatory filings to US export control regimes, with potentially massive penalties for failure to submit.

- This comes at a time of heightened attention on China's ambitions and technology investments ($1.4T over the next 5 years), and the predominant role of the US private sector in driving R&D. **The US has increasingly been using the Commerce Department's blacklist to further foreign-policy and national-competitiveness aims, while citing issues of national security.** The past few months have seen the **US ratcheting up pressure on leading Chinese companies**, from restricting supply of US-origin materials to Huawei and Semiconductor Manufacturing International Corp (SMIC), to executive orders seeking to ban TikTok and WeChat in app stores.
- **China**, in turn, followed last week with a new **Export Control Law**, effective Dec 1 2020. The law stipulates **controls on dual-use, military, nuclear, and other national security-relevant goods and services**. (Specific lists of controlled items will be published "in a timely manner.") Penalties can include fines, revoked export licenses, and criminal charges. Exporters are required to self-police and acquire licenses for goods that may fall under the law, even if not explicitly on the controlled lists.
- The law applies to **all Chinese companies – including those that are foreign-invested**. It also allows China to respond with reciprocal measures against foreign governments that target the country with export controls. Even before the recent law, China maintained a list of restricted exports, which was recently expanded to include algorithms – a move that complicated the sale of TikTok's US operations. **With the law, China has a new mechanism to cut off supplies to the US on national-security grounds – including, for instance, rare-earth minerals and pharmaceutical ingredients**.
- **Politico also reported this week that the EU is in final stages of a plan to restrict export of dual-use technologies, with agreement expected within weeks**. The rules – which target surveillance and espionage technologies (such as facial recognition and hacking software) – require export licenses to be obtained from EU governments and those licenses published. The enforced transparency is intended to put constraints on technology transfer to non-democratic regimes in China and Russia.
- **These moves represent another step along the worrying pathway towards digital nationalism.** Everywhere we look – from cloud to stock exchanges to space – countries/regions are pulling back from overdependence on longstanding economic ties. This decoupling is often framed in terms of sovereignty, localization, self-reliance, and "economic and strategic independence." Decoupling can also be an outcome of tit-for-tat moves; for instance, China's threat of reciprocity is expected to accelerate global firms' diversification of supply chains away from China. **Whatever the reason, the long-term damage to incentives for global geopolitical cooperation holds the possibility of dire consequences**.

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2. India's private & public sectors – seeking self-reliance – push back on foreign control

- Over the past few weeks, **a series of private- and public-sector maneuvers in India pushing back on foreign control have highlighted the country's continued movement towards "a self-reliant India."** Google, in particular, has been in the crosshairs. Its Android operating system runs 97-99% of smartphones in India, while Google Pay is the leading mobile-payments service.
- Earlier this month, **homegrown payments platform Paytm launched the Mini App Store** inside its app, which has 150M monthly active users. The Mini App Store – a marketplace for web apps (as opposed to mobile apps) – charges **commission fees as low as 0-2%**. It is viewed as a **rebuttal to Google and other foreign app stores, which take a 15-30% cut**. After Paytm was pulled (temporarily) from Google Play in Sep 2020 for allegedly violating rules around in-app gambling, its CEO accused Google of being a "giant monopoly" and "toll collector." **300+ Indian companies have signed up for Paytm's Mini App Store, with 5K+ expressing interest**. The pushback has prompted Google to delay enforcement of its 30% commission from 2021 to mid-2022.
- This month also saw **the 4th antitrust suit by Indian regulators against Google, in this case alleging abuse of its power in mobile operating systems to limit competition in smart TVs**. (Android powers 3 out of 5 smart TVs in India.) Google allegedly required arrangements with manufacturers like Xiaomi and TCL India that prevented them from using competing operating systems on other devices. For instance, according to the case, a manufacturer seeking to use Android on its smartphones would be barred from using Amazon Fire TV for its smart TVs. **India is far from the only country scrutinizing Google this month – both the US Department of Justice and China have antitrust suits pending against it.**
- Last week, the **Indian government issued a warning to Amazon and Walmart-owned Flipkart for violating its rule requiring sellers to specify the country of origin for products**. The warning holds the platforms liable for sellers failing to comply and allots them just 15 days to explain. **India has stepped up enforcement amid growing tensions and border skirmishes with China**, which have resulted in concerns about malware in

equipment, scrutiny of Chinese imports, and bans on 177 Chinese mobile apps (including TikTok and WeChat).

- **Jio Platforms has emerged as a beacon of India's growing self-reliance and a national tech champion**. This week, it announced a partnership with Qualcomm to fast-track 5G network infrastructure, in an effort to "China-proof" 5G in India. Its telecom subsidiary Reliance Jio also launched JioPages – a "made-in-India" browser focused on privacy and optimized for Indian languages – and announced plans to offer a 5G smartphone for under $70.
- With India clamping down on foreign influence, investing in homegrown players, and working to establish itself as a manufacturing hub, the country shows no signs of slowing down. **It's becoming increasingly apparent that foreign big-tech players aiming to capitalize on India's fast-growing economy will have to play by its rules**.

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3. Microsoft, Nokia, and Deutsche Telekom target satellite and high-altitude connectivity

- This week, **Microsoft announced the launch of Azure Space, a suite of cloud products and services targeting commercial and government customers in the space sector**. It also revealed a **new partnership to use SpaceX's Starlink high-speed satellite connectivity for Microsoft's new Azure Modular Datacenters (MDCs) in remote areas**. MDCs are self-contained data centers that can be deployed in challenging or remote locations, operating (if needed) under conditions of intermittent or nonexistent connectivity. Customers will have the option of connecting to a satellite network (e.g. Starlink, SES' O3b MEO) in case of a disruption.
- Azure Space follows the Sep 2020 announcement of **Azure Orbital – a ground station-as-a-service (GSaaS) that connects satellite data to the Azure cloud**. The two Microsoft services represent a **direct challenge to Amazon's AWS Ground Station and AWS for Aerospace and Satellite Solutions**. (Amazon also has FCC approval for its own satellite-constellation effort called Project Kuiper.) While Amazon has been a step ahead of Microsoft in space-related offerings, Microsoft has been able to parlay Amazon's position as

a competitor to many enterprises to win customers. It is currently seeking partners for new space-related services such as communications, national security, and satellite telemetry.

- In another groundbreaking partnership this week, **Nokia was selected by NASA to build the first-ever cellular network on the moon**. It expects completion by late 2022, before NASA's 2024 target for the return of humans through its Artemis program. The "ultra-compact, low-power" network will use LTE/4G technology, with eventual plans for 5G. Nokia will partner with Intuitive Machines to deliver the equipment to the moon. The intention is for the network to be the foundation for a **"sustainable human presence on the lunar surface," enabling use cases like remote control of lunar rovers and other robots, voice and video communication, and biometric data transmission**.
- **Deutsche Telekom also revealed this week that it tested an airborne base station in the stratosphere that it hopes will bring connectivity to remote areas**. The base station, which can cover an area 87 miles across and connect to Deutsche Telekom's terrestrial 4G network, was borne by a remote-piloted aircraft from partner Stratospheric Platforms. During the test, a smartphone user was able to connect and make voice/video calls and browse the web. A key challenge for aerial stations is keeping them aloft and fueled. Google's balloon approach with Loon, for instance, can stay aloft for hundreds of days. Stratospheric Platforms is working on a new platform using hydrogen-fuel cells to stay airborne for 9 days; the platform will make its first flight in 2022.
- We're living in an interesting time right now. Private companies such as SpaceX are pushing into space to improve the quality of life at home. Satellite-based broadband will unlock enormous value – both for underserved consumers and businesses in remote areas, as well as connectivity providers and cloud vendors. It will transform how we think about and use connectivity around the world. **As billions of people get access to the internet – wherever they are – it holds out the hope of closing the digital divide and reversing the shift towards more fragmented realities among populations**.

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- Sep 25 2020 (3 Shifts): Microsoft seeks to differentiate Azure with 3 new offerings
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Disclosure: Contributors have investment interests in Microsoft. Amazon and Google are vendors of 6Pages.

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