Testimony of Emily de La Bruyere
Before the United States Senate
Committee on Banking, Housing, and Urban Affairs
Hearing on the Threats Posed by State-Owned and State-Supported Enterprises to Public Transportation
March 5, 2020

Thank you, Chairman Crapo, Ranking Member Brown, and members of the Committee, for inviting me to testify before the Senate Banking Committee this morning.

I run China analysis at Horizon Advisory, a research firm focused on understanding China's international strategy and its implications. We leverage unprecedented open-source empirics on China's strategic discourse, its resource allocations, its mechanisms, and its systems – including on the State champions Beijing deploys, how, and to what end. In short, I spend my days buried in Chinese primary sources that largely go overlooked in strategic analysis.

CRRC and BYD are vehicles of the Chinese State: They receive significant State subsidies, implement Chinese Communist Party (CCP) international strategy, and directly connect to Beijing's military apparatus. Those are facts. You will hear from other witnesses today about immediate implications for national and economic security; about threats to America's manufacturing industrial base and cyber security. I echo their serious concerns.

But I am here to tell you about Beijing's plan, about the strategic vision with which China deploys its champions, in transport and in other foundational networks, and the far-reaching implications of *that* vision for American security.

CRRC, BYD, and the larger ecosystem of Chinese champions operationalize a long-standing, codified, strategic bid to overtake the United States.[1] As documented in CCP literature, that bid begins by making critical US economic and military infrastructures dependent on Beijing. It ends with CCP control over international networks, standards, and platforms – in other words, CCP control over global movement. This is network hegemony. It establishes its footholds in transportation and manufacturing. It extends into health, agriculture, information, information technology, finance. It spans critical technology, infrastructure, and data. If Beijing succeeds, it will claim global coercive power. It will use that power liberally.

Authoritative Chinese sources are explicit about this ambition. Take, for example, 2018 State Council policy guidelines:

> The implementation of China's railway strategy will establish a full domestic and "Belt and Road" network that will extend to neighboring countries and even the world: Air

[1] Xi Jinping describes this ambition with a Chinese phrase that translates, roughly, to "overtake around a corner." (弯道超车): Based on the action of one car passing another car on a corner, the concept refers, in the geostrategic sense, to leveraging moments of flux to overtake a competitor.

> transportation, sea transportation, road transportation, logistics nodes, and urban distribution will all be dominated through the leadership of the railway network.[2]

That narrative is matched by the facts: By the mandates China assigns its State champions, the support with which it deploys them internationally, and the policies directing that support – policies that extend from Made in China 2025 (中国制造 2025) to its new successor, China Standards 2035 (中国标准 2035);[3] from the Strategic Emerging Industries Initiative to the Transportation Great Power Strategy.

My testimony will walk through these facts as they relate to BYD, CRRC, and the Chinese strategic approach to the transportation domain. I will begin by detailing the ties linking BYD and CRRC to the Chinese government and military apparatus. I will then discuss the Chinese government plans shaping those ties, and their implications for US economic and national security.

The network strategy behind Beijing's actions amplifies the first-order risks elaborated by the other witnesses here today. The network power that Beijing has already cemented underscores the immediacy of the threat. China's offensive is underway.

State and Military Ties

Beijing aggressively subsidizes its transportation champions so that they can underprice international competitors. This tactic may produce a short-term loss. But China is directing its State champions according to a long-term vision: As they capture critical nodes, networks, and supply chains, Beijing more than recoups its investment – both strategically and economically. At a first level, basic American infrastructure systems, systems that Beijing qualifies as national defense structures, come to rely on Chinese actors. At the next, Beijing seizes the information and physical foundations for a new generation of "smart," or "connected," infrastructure. Beijing locks in not just asymmetrical dependence, but also information dominance and standard-setting power.

China's intentions are not benign. This approach is part and parcel of Being's military agenda, operationalized in a national-level military-civil fusion (军民融合)[4] (MCF) program that masks Beijing's strategic positioning in the guise of civilian, commercial activity – that of, say, a private electric bus company.

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[2] Railway Supply-Side Reforms Reshape the Logistics Market Landscape [铁路供给侧改革重塑冷链物流市场格局], Logink Network, November 15, 2018.

[3] Planning for that industrial strategy was completed in January. It is expected to be released in March. ("中国标准2035"项目结题会暨"国家标准化发展战略研究"项目 ["China Standard 2035" Project Concluding Meeting and "National Standardization Development Strategy Research" Project]. State Administration for Market Regulation, January 14, 2020.) For additional discussion, see Emily de La Bruyère and Nathan Picarsic, "Game of Phones: 5G is the Next US-China Standards Battleground," *The Octavian Report*, Summer 2019, https://octavianreport.com/article/5g-us-china-standards-fight/.

[4] Emily de La Bruyère and Nathan Picarsic, *Military-Civil Fusion: China's Approach to R&D, Implications for Peacetime Competition, and Crafting a US Strategy*, 2019 NPS Acquisition Research Symposium, May 2019; Emily de La Bruyère and Nathan Picarsic, "Military-Civil Fusion: Crafting a Strategic Response," *CHIPS* (DoN CIO Magazine), July-September 2019, https://www.doncio.navy.mil/CHIPS/ArticleDetails.aspx?ID=12635.

State Financial Support

CRRC is a State-owned enterprise controlled by the Chinese State Council's State-Owned Assets Supervision and Administration Commission (SASAC).[5] CRRC's core and original business is the manufacture of rolling stock. It is the largest such manufacturer in the world. But through subsidiaries, investments, and partnerships, in China and abroad, CRRC's business extends more broadly, covering the entire land transportation ecosystem. CRRC's apparatus includes 46 wholly- and majority- owned subsidiaries.[6] They reflect a presence across all of the rail industry's value chain, as well as emerging, adjacent domains: New materials, alternative energy sources, electric motors and transmissions, sensor networks, autonomous driving, semiconductors, energy storage. CRRC focuses in particular on "smart transportation" and data systems.

CRRC is one of the most heavily subsidized companies in China. Since 2015, CRRC has reported more than 6 billion RMB (over 850 million USD) in direct subsidies, with 1.37 billion RMB (or approximately 191 million USD) in 2018.[7] CRRC's 2019 subsidies likely exceeded that figure.[8] This financial backing is orders of magnitude higher than what CRRC discloses in its English-language annual reports.[9]

Still, these figures likely underestimate the true degree of government financial support fueling CRRC. They do not account for the beneficial tax cuts that fund much of CRRC's research and development (R&D)[10] – or, of course, any subsidies that CRRC chooses not to declare.[11] Nor do these figures account for the indirect support that CRRC receives: The State-owned enterprise benefits from an entire ecosystem of government-backed R&D programs, innovation centers, national projects, and laboratories, many of which it oversees. And where CRRC has not vertically integrated, it further benefits from a domestic supply chain comprised of additional State-owned

[5] The Chinese government owns 53 percent of CRRC through the Chinese holding company China Railway and Rolling Stock Group Corporation. (CRRC Annual Report, 2018). As a CRRC representative put it in 2016, "CRRC's actual controller is a State-owned fund. CRRC is thus a State-owned entity." (孙鹏聪 [Sun PengCong]. 产权性质、政府支持与并购财务风险 [Nature of Property Rights, Government Support, and Financial Risks of M&A]. Inner Mongolia University, 2016.)

[6] Or, at least, its website declares that figure: CRRC's 2018 annual statement lists investments in 51 subsidiaries. And according to reports from its 2018 audit, in 2016 it declared 401 wholly-owned and holding subsidiaries as well as 109 share-holding companies. (审计署：中车四方等朝工资总额列支补贴支出6479.25万 [Audit Commission: CRRC and Other Super Companies Total Expenditure Subsidy of 647.3 Million], Audit Commission, June 20, 2018

[7] 中国中车股份有限公司年度报告 [CRRC Corporation Annual Report], 2015 through 2018.

[8] As of June, CRRC had already reported 632.87 million RMB in direct subsidies. (中国中车股份有限公司 2019 年半年度报告 [CRRC Corporation Limited Semi-annual Report 2019], 2019)

[9] CRRC's English language annual reports suggest that it received approximately 243 million RMB (about 34 million USD) in "government grants" in 2018 and 994 RMB (about 140 million USD) in 2017.

[10] In 2018, the State Administration of Taxation increased the tax deduction for R&D expenses from 50 percent to 75 percent, a deduction that "basically subsidizes 11 to 18 percent of actual R&D." Vice President of CRRC Zhan Jingyan explained in March that, for CRRC, which invests about 10 billion (about 1.4 billion USD) annually into R&D, that amounts to "at least 1 billion RMB [about 140 million USD] of subsidies a year." (10 亿+6 亿，减税降费后，中国中车能省多少钱？[1 billion + 600 million: After the tax and fee reduction, how much can CRRC save?]. *East Money Finance,* March 30, 2019.)

[11] CRRC has limited incentive publicly to report the full extent of government financial support that can otherwise be obscured – and the Chinese State can easily funnel funds to companies that it owns.

and State-backed vendors. The CCP also helps to set up CRRC's international contracts, marketing it as a One Belt One Road champion.[12]

Proportionately speaking, BYD receives even more State support than does CRRC. BYD has reported a total of 9.2 billion RMB (1.3 billion USD) in government grants and subsidies since 2007. The company declared 2.3 billon RMB (approximately 328 USD million) in government subsidies in 2018 alone. Those funds constituted more than half of BYD's total profit. In the third quarter of 2019, while Congress was debating the Transit Infrastructure Vehicle Security Act (TIVSA), BYD declared over RMB 1 billion more in direct government subsidies.[13] Relative to profit, BYD is the single most subsidized Chinese player in its field.

As with CRRC, these figures likely constitute a lower-bound of the true magnitude of government support. They omit, for example, consumer-side subsidies that reduce the price of electric vehicles in China: CITIC Securities estimates that BYD received an additional 37.3 billion RMB (5.3 billion USD) of such subsidies between 2016 and 2018.[14]

BYD is not a State-owned Enterprise. But it is guided by the Chinese government. In fact, BYD's CCP connections are all the more threatening for its private status. Beijing knows that the US and other international systems treat private companies as neutral actors. So, Beijing leverages those as masked vehicles for its offensive. In November 2018, the Ministry of Transportation invited BYD, as well as 19 other private companies,[15] "to discuss the role of private capital in building a Transportation Great Power." The Minister promised "unwaveringly to encourage, support, and guide the private enterprises to become bigger, stronger, and better." In return, he reminded them that they were to "contribute to the grand strategy and platform of a "Transportation Great Power." "It is hoped that the majority of private entrepreneurs will better integrate into the tide of reform and opening up in the new era, actively participate in the construction of a Transportation Great Power, and work tirelessly to realize the Chinese dream of the great rejuvenation of the Chinese nation."[16]

CRRC and BYD's state backing is not unique. They are just two players in a much larger constellation. The National New Energy Vehicle (EV) subsidy program through which BYD received more than RMB 3.45 billion in 2018 also funded Foton Motor, Yanzhou Yaxing, BAIC

[12] Premier Li Keqiang is called the "super salesman" of CRRC. (孙鹏聪 [Sun Peng Cong]. 产权性质、政府支持与并购财务风险 [Nature of Property Rights, Government Support, and Financial Risks of M&A]. Inner Mongolia University, 2016.)

[13] 比亚迪股份有限公司年度报告 [BYD Annual Reports], 2009 through 2018; 二零一九年第三季度季度報告 [BYD Third Quarterly Report], 2019.

[14] Glonway [格隆汇], "The Story of the BYD Government Subsidy [比亚迪政府补助里的故事], *Sina Finance* [新浪财经], July 29, 2019.

[15] Huachuan Group, Land Bridge Group, Juneyao Airlines, SF Express, SJTI, Intech, Baidu, Didi, Ctrip, Deppon Logistics, Hecheng Group, Jinling Transportation, Chongqing Heniu, Fujian Air China, Guangxi New Harbor Engineering, Fujian Port Road, Beijing E-Hualu Information Technology, Kahangtianxia, and Shanghai Public Transport.

[16] 交通部邀顺丰、比亚迪、百度、滴滴等 20 家民企座谈 鼓励民间资本参与交通运输项目 [The Ministry of Transport invited 20 private enterprises such as SF, BYD, Baidu, Didi and others to encourage private capital to participate in transportation projects], China Communications News [中国交通新闻网], November 22, 2018.

Blue Valley, Ankai Automobile, Dongfeng Motor, Yutong Bus, Zhongtong Bus, etc. Tesla's largest Chinese competitor, Nio, benefits from the same demand-side EV subsidy as BYD.

The CCP is pursuing a comprehensive program to dominate the international transportation supply chain, industry, and market. That program is part of Xi Jinping's "Transportation Great Power" (交通强国) strategy. The objective does not end at industrial development. This strategy is about asymmetric dependence, network control, and the international, coercive power to be reaped from those.

Military Ties

China's transportation agenda falls under the rubric of the national-level military-civil fusion strategy, a program that deftly inserts thinly veiled military tools into the fragmented, open global commercial ecosystem for coercive ends. "Military and civilian are different only in name," explain Chinese sources, "The military is for civilian use, and the civilian for military."[17] Transportation is key to this strategy. According to Chinese classifications, transportation falls squarely under the definition of a military industry.[18]

CRRC and BYD's ties to the People's Liberation Army (PLA) bear this point out. Both companies publicly espouse support for military-civil fusion, partner with military entities, and define their projects – especially in new energy automobiles, new materials, high-speed rail, and autonomous vehicles, and information systems – as part of the military-civil fusion program.

CRRC's annual report endorses the military-civil fusion strategy:

> We will implement the military-civil fusion development strategy and expand the application of technology and products.

That is no empty claim. In May 2017, CRRC joined a series of State military and financial entities to spearhead a 113.9 RMB billion government investment fund dedicated to military-civil fusion.[19]

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[17] Ma Qing Feng [马青锋]. "Research on the Synergy Between Defense Economy and National Economy" [中国国防经济与国民经济同共促研究]. Henan University, 2013. Ma wrote that text under the tutelage of Henan University's Sun Siqiang, former senior scholar at the Chinese Academy of Social Sciences, consultant expert at the Small and Medium Enterprise Research Center of the Ministry of Industry and Information Technology (the government entity charged with implementing MCF), and director of the Chinese Capital Research Society.

[18] In January 2018, the Ministry of Transport and the National Defense Science and Industry Bureau signed a cooperation agreement to promote, together, military-civil fusion. A 2018 article from the Army Military Transportation Institute is sufficiently on the nose: "Under the conditions of informationization, the military increasingly depends on national transportation and communications resources…To strengthen the construction of strategic projection capabilities, it is necessary to use national strategic transportation resources to establish a military-civil fusion strategic projection system. Recently, China's transportation infrastructure has achieved unprecedented development… so that civil transportation infrastructure and large-scale transportation vehicles can not only help economic construction but also directly support national defense and military needs to improve our military's strategic projection capabilities." (张健 [Zhang Jian], 孟军 [Meng Jun], 杨喜凯 [Yang Xikai].新时期国防交通军民融合式发展研究 [Research on the Military-civilian Integrated Development of National Defense and Transportation in the New Period]. 军事交通学院学报, 2018.)

[19] 中国中车：拟合资设立规模1139亿基金 投资军民融合等产业 [China CRRC: Capital to set up a scale of

CRRC calls its High-Speed Train Technology Innovation Center a "military-civil fusion project." In 2018, CRRC signed a "strategic cooperation agreement" with AVIC, a State-owned military enterprise, to launch an "MCF development program" dedicated to new materials, unmanned subways, and autonomous driving."[20] Meanwhile, BYD boasts a "strategic cooperation" agreement with the China Academy of Launch Vehicle Technology. The two seek jointly to develop to materials, guidance, sensors, fasteners, and autonomy, among other fields.[21]

CRRC and BYD also operate R&D centers in "military-civil fusion enterprise zones," industrial zones dedicated to incubation of, as well as information exchange among, MCF entities. BYD sits in the Beijing Daxing MCF Industrial Zone,[22] the Xi'an High-Tech Industrial Development,[23] and the Baotou Equipment Manufacturing Industrial Park.[24] The Harbin Economic and Technological Development Zone that hosts a CRRC R&D center is also home to Harbin North Defense Equipment Co., Ltd, AVIC's Dong'an Engine Group, Chinalco's Northeast Light Alloy Co., and "other important military enterprises." Those zones, and others like them, support their members financially. They also create channels for "research integration;" mechanisms for sharing technological and data resources.[25]

CRRC and BYD also partner with other MCF players that the United States has already labeled as predatory actors or national security threats. Both companies signed "strategic cooperation agreements" with Huawei in March 2019. The BYD-Huawei relationship focuses on automotive intelligent networking, intelligent driving, cloud computing, and smart parks;"[26] the CRRC-Huawei partnership on connecting the former's physical, rail infrastructure to the latter's information technology.[27]

113.9 billion funds, investing in military and civilian integration and other industries]. 中国基金报 [*China Fund News*], July 3, 2017

[20] 航空工业与中国中车所属企业签署军民融合开发项目合作协议 [AVIC and China's CRRC affiliated enterprises signed a military-civilian integration development project cooperation agreement], *Sohu News*, May 25, 2018.

[21] 比亚迪将与中国运载火箭技术研究院开展战略合作 [BYD will conduct strategic cooperation with China Academy of Launch Vehicle Technology], *Xinhua*, April 7, 2018.

[22] Approved by the Ministry of Industry and Information Technology (MIIT) in 2012, the Beijing Daxing Industrial Base focuses on aerospace technology, the weapons industry, new materials, and new energy. It hosts, among others, NORINCO, AVIC, and the China Rocket Corporation.

[23] That zone takes, as its "main direction," "absorbing high-quality resources form the whole society to participate in national defense construction, guiding civilian technology to expand into the military field, and promoting network information…" (Xi'an High Tech Industrial Development Zone, xdz.gov.cn)

[24] The Baotou Zone's members include China Weapon First Machinery Group and NORINCO's engineering machinery group.

[25] The Xi'an Zone – which connects almost 1,000 universities and military units to its companies – includes a "Xi'an Science and Technology market" for "transaction, sharing, and communication" to provide "technical exchange and equipment sharing for military-civil enterprises." It organizes "matchmaking meetings, technical seminars, investment promotion associations, and MCF markets." (Xi'an High Tech Industrial Development Zone, xdz.gov.cn)

[26] 比亚迪、华为再牵手：将在车联网、智能驾驶等方面展开合作 _[BYD and Huawei will hold hands again: cooperation will be carried out in the areas of car networking and smart driving], March 26, 2019.

[27] 公司携手华为共建工业互联网平台 [The company cooperates with Huawei to build an industrial internet platform]. CRRC, April 2, 2019.

A Transportation Great Power and Network Hegemony

How does this all actually add up? The Huawei relationships begin to frame the picture. Beijing is not under-cutting US companies simply to subvert American manufacturing. (Though they do.) Beijing is not deploying information-collecting systems simply to spy on critical US hubs. (Though, again, this first-order risk is real.) Beijing targets the transportation industry in order to can capture foundational, physical and virtual, infrastructures. It intends to set global rules.

Beijing establishes its footholds in physical infrastructure. It extends its reach through information infrastructure. Made in China 2025 outlines that first phase: Monopoly over global industry's critical physical components. China Standards 2035, to be officially launched this month, defines the next step: Beijing's plan for dominance over global rules.

According to official State planning, China intends to establish a "global smart grid" connecting new energy sources and a "global transportation system" connecting smart vehicles. China intends to proliferate "sensor networks" and a "global logistics platform." It intends to link all of these on a "ubiquitous," "backbone" "Internet of Things (IoT)" – or "Internet of Everything;"[28] the future foundation for military, commercial, social, political, information narrative domains. In sum, it intends to build the tracks, pipes, channels along which everything in the information era operates; having built those, to collect and to define their information.

If China realizes this vision, it will acquire immediate information access – with obvious first-order security risks. In the longer term, Beijing's network will also allow it to *shape* information; therefore both to coerce and to define the global environment. This would amount to unprecedented, cross-domain, new-type power projection.

Transportation systems offer an entry point.

On September 23, 2019 – as this body was debating the TIVSA – the Central Committee of the Chinese Communist Party and the State Council issued the "Transportation Great Power Outline:" "By 2035, a transportation powerhouse will be basically established." Having cemented dominant international positions in transportation equipment, hubs, systems, standards Beijing will deploy a global a system of "three-dimensional interconnection," linking "railways, highways, waterways, civil aviation, pipelines, postal services, and other infrastructures."[29]

The Chinese transportation network will be the foundation for global movement. It will also offer the Chinese Communist Party complete information on that movement. "Integrated with big data, Internet, AI, blockchain, super-computing," it is to feed into a government-run "comprehensive

[28] "National Medium- and Long-Term Program for Science and Technology Development (2006–2020)," Ministry of Science and Technology, Beijing: 2006.
[29] Outline of Building a Powerful Country for Transportation, Central Committee of the Communist Party and the State Council, September 2019.

transportation big data center."[30] It will connect to other domains – "energy networks, information networks" – as well as military systems, including China's "Beidou satellite navigation system."[31]

This network will extend internationally through the unwitting cooperation of foreign actors. China's Transportation Great Power Strategy explains that the network will spread via the corridors of the Silk Road Economic Belt; fueled by "international investment" (albeit only from those entities that pass the Corporate Social Credit System's screening) and based on partnerships among Chinese companies and foreign states, societies, and enterprises[32] – partnerships like, of course, those between BYD and CRRC and the US system.

In October, BYD General Manager Li Hui declared his company a champion of "Xi Jinping's Transportation Great Power" strategy.[33] CRRC's President Sun Yongcai spoke even earlier and more explicitly of CRRC's participation: "The National Congress of the Communist Party of China has proposed to build a 'technological power, quality power, aerospace power, network power, and transportation power,'" he said in 2018. "Facing the trend of the times and the golden opportunity, CRRC will shoulder the responsibility of carrying out national strategy."[34]

Beijing intends to complete its transportation vision by 2035. But the foundation is in place, globally, today. The Transportation Great Power strategy describes a multi-dimensional logistics network. Through foreign investments, commercial-proxies, and co-option of multilateral organizations, China has already established that network. It is called the National Transportation Logistics Platform in China; LOGINK abroad. No one is talking about it. It connects the global ports, rail, air, post systems in which China invests to a domestic data hub. Beijing has secured the support of ASEAN's NEAL-NET and Europe's IPCSA so that they proliferate China's information system, so that Japan and South Korea advocate a Chinese coercive tool as a global standard. Ostensibly private Chinese companies extend the net more widely and more subversively. Alibaba's Cainiao Logistics maintains a strategic cooperation agreement with LOGINK. Relationships with Alibaba proliferate the Chinese State data system.

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[30] In December, three months after the State Council published the Transportation Great Power Strategy, the Ministry of Transportation issued a supporting plan for "Promoting the Development of Comprehensive Transportation Big Data (2020-2025). That plan orders all entities under the central government to cooperate in the construction of a "multi-dimensional," "controllable," "integrated," "comprehensive transportation big data system." The system is to permit "global big data analysis." It is to support "national strategies," including both the Transport Great Power Strategy and One Belt One Road. It is to be fully established by 2025. "Notice of the Ministry of Transport on issuing the 'Outline Action for Promoting the Development of Comprehensive Transportation Big Data 2020-2025'", Ministry of Transport, December 12, 2019.)

[31] 交通强国建设纲要 [Outline of Building a Powerful Country for Transportation], Central Committee of the Communist Party and the State Council, September 2019.

[32] 交通强国建设纲要 [Outline of Building a Powerful Country for Transportation], Central Committee of the Communist Party and the State Council, September 2019.

[33] He also advertised the links between BYD and Huawei: "Our communication and signal systems use ITE-U in cooperation with Huawei." ("2019 全球未来出行大会|比亚迪轨道业务总经理李慧" [2019 Global Future Travel Conference | Li Hui, General Manager of BYD Rail Business]. auto.gasgoo.com, October 30, 2019.)

[34] 孙永才：为交通强国建设贡献中车方案和中车智慧 [Sun Yongcai: Contributing CRRC Solutions and CRRC Wisdom to the Construction of a Powerful Transportation Country], Sina Auto, January 20, 2018.

This constitutes an entirely new type of power projection. Interconnected global networks and platforms risk granting Beijing unprecedented coercive might. China's web of smart cities, telecommunications, surveillance, logistics platforms, land and sea transportation, e-commerce, fintech empower the CCP to shape, deny, and coerce – informationally, economically, and kinetically. Recent jamming at the port of Shanghai points to potential first order, operational threats. China's corporate social credit system does the same in the economic domain. But proliferated through ostensibly commercial rather than explicitly military tools, this subversive web is escaping our attention. Worse yet we are fueling it. We should not be granting federal funding to China's State-supported champions.

About Horizon Advisory

Horizon Advisory is a strategic research firm focused on understanding China's international strategy and its implications. We leverage unprecedented publicly available information inputs as well as open source collection approaches to document Beijing's system, trends, and global positioning. We offer granular, comprehensive awareness of relevant entities and ecosystems, the means by which Beijing propels their advance (e.g., subsidies, State investment funds), and their roles within China's grand strategic planning.

As a member of Horizon Advisory's leadership team, Emily de La Bruyère directs research projects, oversees research staff, and develops novel analysis tools and techniques. She received her BA *summa cum laude* from Princeton University and her MA *summa cum laude* from Sciences Po, Paris.