

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20554

In the Matter of )  
)  
Applications of T-Mobile US, Inc. and Sprint ) WT Docket No. 18-197  
Corporation for Consent to Transfer Control of )  
Licenses and Authorizations )

**OPPOSITION TO PETITIONS TO DENY OF ITIF**

The Information Technology and Innovation Foundation (“ITIF”)<sup>1</sup> appreciates this opportunity to comment in support of the pending merger of T-Mobile US, Inc. (“T-Mobile”) and Sprint Corporation (“Sprint”).<sup>2</sup>

**INTRODUCTION AND SUMMARY**

ITIF supports this transaction with the belief that the merger advances innovative wireless broadband services, offers significant benefits that will ultimately flow to consumers, and presents few concerns in terms of competition. The merger offers significant scale and operational efficiencies that will help accelerate the transition to next generation, 5G networks, intensifying competition, and bringing numerous benefits that flow throughout the economy. An honest examination of the facts should find this merger in the public interest under sections 214(a) and 310(d) of the Communications Act.<sup>3</sup>

Petitions to deny the merger do not fully appreciate the synergies of the transaction and take too myopic a view of how competition functions in today’s media and telecommunications landscape. Some critics of the merger focus narrowly on the number of competitors, decrying this merger as a 4 to 3 reduction. This view

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<sup>1</sup> The Information Technology and Innovation Foundation (ITIF) is a non-partisan research and educational institute – a think tank – whose mission is to formulate and promote public policies to advance technological innovation and productivity internationally, in Washington, and in the states. Recognizing the vital role of technology in ensuring prosperity, ITIF focuses on innovation, productivity, and digital economy issues.

<sup>2</sup> T-Mobile US, Inc., and Sprint Corporation Seek FCC Consent to the Transfer of Control of the Licenses, Authorizations, and Spectrum Leases Held by Sprint Corporation and its Subsidiaries to T-Mobile US, Inc., and the Pro Forma Transfer of Control of the Licenses, Authorizations, and Spectrum Leases Held by T-Mobile US, Inc. and its Subsidiaries, WT Docket No. 18-197, Public Notice, DA 18-740 (rel. July 18, 2018).

<sup>3</sup> 47 U.S.C. §§ 214(a), 310(d).

does not appreciate companies on the cusp of wireless entry, such as cable firms, or, more importantly, the rapidly differentiating business models in wireless networks. Raw wireless connectivity is increasingly commodified and wireless companies are looking to new revenue streams—most notably home broadband, IoT, connected vehicles and drones, over-the-top video, and advertising—to recoup investments. These new business models built on top of basic IP connectivity are likely to keep downward pressure on price for voice, text, and data whether there are three or four providers.

However, even taking a narrow view of the nationwide wireless broadband market, a reduction of four providers down to three is likely in the public interest. After all, competition is a means, not an end, and if we can achieve a wireless system that is more productive, efficient, and innovative with fewer providers, that would be a good thing. Because of the tremendous fixed-cost investments involved in cellular telecommunications, a smaller number of providers can more efficiently provide the needed infrastructure for a given customer base. Combining Sprint and T-Mobile allows for the new company to more effectively compete with larger players in the market and expand into adjacent markets.

Petitioners also under-appreciate the specific spectrum synergies teed up for a 5G deployment. With T-Mobile's recently acquired 600 MHz spectrum and Sprint's 2.5 GHz spectrum offer complimentary coverage and capacity. Despite the Commission's best efforts to streamline the deployment of small cells for 5G networks, we are unlikely to see wide-scale deployment of mmWave spectrum for mobile services soon considering its propagation characteristics, related infrastructure cost, and challenges in applying massive MIMO and beamforming in a mobile environment (as opposed to fixed).

The merging parties maintain the transaction will result in an increase in jobs on day one. This may well be true, but the Commission should not be concerned if its analysis indicates there will be a net negative impact on jobs. If the combined company can provide competitive wireless services to a larger customer base with fewer employees, this would benefit society overall by being able to produce the same or more wireless services with fewer societal resources devoted to it.

Lastly, the Commission should consider the alternative to this transaction. Sprint, in particular, has been challenged, and bankruptcy is a real possibility. A market of three relatively equal-sized companies in terms of subscribers that continue to invest and expand service, capacity, and offerings is a far, far better future than a lopsided market that competes only on price.

This merger is strongly in the public interest, and ITIF urges the Commission to approve the parties' applications.

## **A COMBINATION WOULD YIELD SIGNIFICANT EFFICIENCIES**

Economies of scale are incredibly important for high-performance telecommunications markets focused facilities-based competition, like that of the United States. A company with more or less the same

infrastructure could serve a much larger customer base with its same footprint more efficiently. The duplicative infrastructure of two companies serving the same geographic area can be less efficient than having one provider. A larger company could also purchase equipment and services at lower prices and pass those savings on to customers.

The Commission should not overlook the significant technological and economic benefits that would come from a combined, larger company. Increased economies of scale will allow the company to better the recoup large fixed costs that come with operating a wireless network. Not only do these costs include the important capital expenditures required to expand, maintain, and upgrade its network, but also the expenses of developing innovative new offerings. Having a larger footprint makes it easier to invest, ultimately increasing the performance and speed of the networks we rely on.

A combined company would also be able to do more with fewer resources. The companies estimate that the combination will save “approximately \$43.6 billion total net present value cost synergies by 2024.”<sup>4</sup> Combining and rationalizing network infrastructure, marketing, back-office billing, customer support, storefronts, etc. will allow the companies to drive greater value throughout the business, ultimately passing this on to consumers either in the form of lower prices, a higher quality network, or innovative new offerings or some combination of the three.

The combined spectrum assets of the two companies are particularly important, with T-Mobile’s low-band spectrum acquired in the incentive auction nicely complimenting Sprint’s cache of 2.5 GHz laying the foundation for a next-generation deployment that combines coverage with capacity, without the capital intensive deployment of mmWave small cells. Combining the companies makes logical sense to help advance an efficient, high-performance 5G network.

## **THESE EFFICIENCIES WILL HELP ADVANCE U.S. LEADERSHIP IN 5G**

Next generation connectivity, 5th Generation (5G) in particular, represent a tremendous economic opportunity. A report by Accenture commissioned by the wireless trade association CTIA estimates 5G will require infrastructure investments by U.S. telecom operators of about \$275 billion, and ultimately contribute 3 million jobs and \$500 billion in GDP growth to the U.S. economy.<sup>5</sup>

With a deeply integrated global economy, high-tech, high-value-added traded industries, such as telecommunications play a crucial role in national competitiveness. While global economic growth is not

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<sup>4</sup> Public interest statement at 15.

<sup>5</sup> Sanjay Dhar, et al., “Smart Cities: How 5G Can Help Municipalities Become Vibrant Smart Cities,” (Jan. 2017), Accenture Strategy, [https://newsroom.accenture.com/content/1101/files/Accenture\\_5G-Municipalities-Become-Smart-Cities.pdf](https://newsroom.accenture.com/content/1101/files/Accenture_5G-Municipalities-Become-Smart-Cities.pdf).

zero-sum, one nation losing competitiveness compared to others means slower economic growth. The United States is in a global race to deploy 5G, most notably with China.<sup>6</sup> Obviously carriers like Sprint and T-Mobile do not compete directly with other carriers abroad, such as China Mobile, likewise, there are not domestic competitors for much of the radio equipment deployed for 5G. When it comes to China, it is not a direct competition for 5G networks, but the national competitiveness gains that come with the capabilities others can make use of with advanced wireless technology platforms.

What makes the biggest difference is how well 5G technologies are integrated with the broader IT ecosystem and how the platform enables innovation and productivity gains throughout a nation's economy. It is likely the United States will win the "race" to be first to deploy at least some version of 5G technologies. However, China has a long-term strategy to deploy standalone 5G at scale, the resources to achieve this goal, the ability to allocate spectrum for 5G, and to quickly deploy a large amount of infrastructure.

It is the later, advanced phase of 5G—where technological components are integrated throughout the entire network, and not just an update to the air interface—that will have the largest spillover effects for the rest of the economy, boosting national competitiveness. Again, it is difficult to justify the investment for wide-scale deployment of mmWave small cells for mobile services soon given its propagation characteristics, related infrastructure cost, and challenges in applying massive MIMO and beamforming in a mobile environment (as opposed to fixed). At the same time, initial deployments of 5G are underway, with industry experimenting with business models and 4G replacement cycles. This evolution from 4G to 5G helps explain the discrepancy in projections between commenters, with some pulling select quotations claiming 5G is far-off or insignificant, and others claiming U.S. is aggressively in the lead on 5G, regardless of the merger synergies.<sup>7</sup>

The benefits from initial deployments of 5G technologies should not be understated, especially the potential for fixed wireless to dramatically change the economics for high-performance wireless home broadband connections. But the spill-over benefits to the economy from incremental improvements will be eclipsed by a

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<sup>6</sup> David Abecassis et al., "Global Race to 5G – Spectrum and Infrastructure Plans and Priorities," *Analysys Mason* (April 2018), [https://api.ctia.org/wp-content/uploads/2018/04/Analysys-Mason-Global-Race-To-5G\\_2018.pdf](https://api.ctia.org/wp-content/uploads/2018/04/Analysys-Mason-Global-Race-To-5G_2018.pdf).

<sup>7</sup> For example, some non-profit commenters claim pull quotations from a Huawei executive looking selectively at consumer experience of enhanced download speeds, stating "consumers would find no 'material difference between 5G & LTE.'" Yosef Getachew et al., "Petition to Deny of Common Cause, Consumers Union, New America's Open Technology Institute, Public Knowledge & Writers Guild of America, West, Inc.," WT Docket No. 18-197, at 45 (Common Cause et al. petition) <https://ecfsapi.fcc.gov/file/10827862305575/T-Mobile%20Sprint%20Petition%20to%20Deny%20CC%20CU%20OTI%20PK%20WGA.pdf>; At the same time, AT&T states "the U.S. is already the world leader in 5G." Comments of AT&T Services, WT Docket No. 18-197, <https://ecfsapi.fcc.gov/file/1082768442509/AT%26T%20Comments%20in%20TMUS%20Sprint%208-27-18.pdf>.

full 5G conversion, with artificial intelligence combining with IoT deployments through software-defined 5G networks.

The end-state of 5G network clearly will provide important capabilities for new applications to take advantage of. The more legitimate skeptics of 5G are generally concerned the business models aren't there to justify the investment required, not that the capabilities aren't there. Public policy should support actions that help bring this vision to reality, through smart infrastructure modernization, effective spectrum policy, and permitting a sensible market structure rationalization. This FCC has done well on the first two fronts, and this merger presents the opportunity to strengthen the U.S. market for a competitive transition to next generation networks.

The combination of Sprint and T-Mobile will help accelerate that next phase of 5G deployments through advanced scale and spectrum synergies. The importance of economies of scale should not be underestimated. The efficiencies of providing a service to a larger customer base using the same infrastructure, marketing, billing, support, storefronts, etc. allows for much lower cost for the same or better service. Scale is especially important when transitioning to a new generation of technology that requires considerable infrastructure investment. This fact is not lost on Chinese actors, who are considering a merger of the number two and three carriers: China Unicom and China Telecom.<sup>8</sup> This would bring China's market—with more than triple the population—down to two operators.

Some commenters wrongly claim the difficulties of integrating the two networks outweigh any potential benefits for transitioning to 5G.<sup>9</sup> This is flatly incorrect. These are not like the days of Sprint-Nextel, and integration is now easier than ever. All vendors make interoperability and interworking a point of pride. The GSM and CDMA split is not an issue, with voice going to VoLTE or running over the 5G interface, and any integration undoubtedly doing away with 3G infrastructure. T-Mobile has experience integrating a CDMA customer base with MetroPCS, and with advances in technology, this integration will be even easier. Petitioners like the American Antitrust Institute who claim the merger would “create costs or inefficiencies for consumers... since the company must transition from two different network technologies” are grasping at straws.<sup>10</sup>

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<sup>8</sup> Ismail Shakil et al., “China explores merger of carriers China Unicom, China Telecom: Bloomberg,” *Reuters* (September, 2018), <https://www.reuters.com/article/us-china-telecoms-merger/china-explores-merger-of-carriers-china-unicom-china-telecom-bloomberg-idUSKCN1LK0VQ>.

<sup>9</sup> Petition to Deny of the American Antitrust Institute, WT Docket No. 18-197, [https://ecfsapi.fcc.gov/file/1082877863636/AAI\\_Sprint-T-Mobile\\_FCC%20Petition%20to%20Deny.pdf](https://ecfsapi.fcc.gov/file/1082877863636/AAI_Sprint-T-Mobile_FCC%20Petition%20to%20Deny.pdf).

<sup>10</sup> *Ibid.*

The combined company will be able to quickly integrate and rationalize the network infrastructure, deploy new spectrum, and more quickly deploy 5G resources, demanding a response from competitors.

## **A COMBINED COMPANY WILL ENHANCE COMPETITION IN THE COMMUNICATIONS, TECHNOLOGY, AND MEDIA LANDSCAPE**

The proposed merger is in the public interest as it will advance competition in new areas, most notably wireless broadband access in the home, as well as likely increase competition in the narrowly defined national wireless market.

### **The Merger will Accelerate New Modes of Competition**

The communications sector is in the midst of dynamic shifts, with consumer preferences changing and new fronts of competition opening up. Historically, the focus of competition in wireless was more or less pure connectivity. Static efficiency ruled the day, with competition between major wireless carriers focused on largely on price of buckets of voice or data, the coverage map of operations, and to some extent the quality of the network. This is quickly changing. With the accelerating convergence on IP networks, what used to be separate services are all provided over broadband, forcing carriers to explore new avenues for revenue, like video, IoT services, advertising, etc. The competitive horizons of wireless companies are expanding, greatly diminishing any potential for anticompetitive coordination. When firms are differentiating along various dimensions to gain market share,

Wireless is increasingly competing with wired connections for home broadband. The Pew Research center has for years tracked smartphone dependency, noting “a growing share of Americans now use smartphones as their primary means of online access at home.”<sup>11</sup> As of early 2018, about 20 percent of American adults rely on mobile broadband and do not have a traditional wired broadband service at home.<sup>12</sup>

Advocates opposing the merger, like Free Press or Public Knowledge, will continue to resist admitting to the increasingly direct competition between wired and wireless broadband service, as this dynamic, evolving, competitive market contravenes their vision of broadband as a static utility. Some of these petitioners wrongly assert mobile broadband is “in no respect adequate as a competitive substitute” to fixed service.<sup>13</sup> This probably comes as news to the roughly one in five Americans who have chosen to forego a fixed connection to the home. It is illogical to view the inability for fixed broadband providers to bring on board twenty percent of the population as anything other than a significant disciplining effect, and a shows broadband to the home to be contestable market by wireless. Some complain that smartphones cannot replace computers for tasks like

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<sup>11</sup> Pew Research Center, “Mobile Fact Sheet” (Feb. 2018), <http://www.pewinternet.org/fact-sheet/mobile/>.

<sup>12</sup> Ibid.

<sup>13</sup> Common Cause et al. petition at 44.

business or homework, but form factor has nothing to do with the way in which connectivity is delivered; a wireless hotspot can easily connect a laptop, desktop, or streaming device. With the deployment of 5G, cellular connectivity, either fixed or mobile, will be an even more competitive challenger to fixed wireline broadband, as the additional capacity drives down the cost of data.

T-Mobile President Mike Sievert recently announced that the company would launch a fixed wireless offering to 52 percent of U.S. zip codes if allowed to merge with Sprint.<sup>14</sup> What is more, the merging parties assert they will be able “to offer 100 Mbps service to two-thirds of the country.”<sup>15</sup> This level of service is more than functional for home access replacement, and with capacity there to be filled, the economics will likely see the price of data drop to where streaming video or other virtual video products can replace a wired connection. The market for wired and wireless broadband are quickly converging—the merger will considerably accelerate this beneficial process.

This heated competition is not restricted to home broadband, but includes video services as well. Video of course is increasingly provided over-the-top, with many choosing to subscribe to streaming services in lieu of traditional cable or satellite packages. T-Mobile is looking specifically to a virtual cable strategy with its acquisition of Layer3 TV. The competition for home broadband and video by wireless providers is of course not going un-noticed by cable companies, who are now experimenting with entry into wireless service—experiments that are expected to accelerate. Some believe cable to be best positioned for 5G wireless service, considering how the existing cable plant can be used for backhaul.<sup>16</sup> Both Charter and Comcast have wireless offerings, relying on extensive WiFi deployments and an agreement with Verizon for capacity as well. With Comcast’s winnings in the incentive auction and 3.5 GHz coming on board, the spectrum for a much more robust wireless offering is in the pipeline, and many consider direct competition between wireless and wired likely. An aggressive fixed-wireless deployment and video product, like that anticipated by the combined company, would make this head-to-head competition inevitable, with benefits flowing to consumers and businesses.

Wireless is a dynamic, competitive success story in the United States, and exactly what direction it will take next is difficult to predict. The long term trends are clear, however: services are converging over the IP platform, with the particular access technology—wired or wireless—less relevant with everything going wireless for at least the last hundred feet or so. In this world, wireless networks need more backhaul, looking

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<sup>14</sup> Joan Engebretson, “T-Mobile: Sprint Merger Will Unleash New Cable Broadband Competitor Featuring Fixed Wireless,” *Telecompetitor* (Sept. 13, 2018) <https://www.telecompetitor.com/t-mobile-sprint-merger-will-unleash-new-cable-broadband-competitor-featuring-fixed-wireless/>.

<sup>15</sup> Public Interest Statement at 13.

<sup>16</sup> Mike Farrell, “Analyst: In Wireless ‘Clash of the Titans,’ Cable Wins” *Multichannel News* (February 2018), <https://www.multichannel.com/news/analyst-wireless-clash-titans-cable-wins-418124>.

more and more like wired networks, while cable networks continue to deploy WiFi access points and explore wireless business models. A combination would likely accelerate this trend, more likely intensifying competition than anything else.

### **The Merger is Unlikely to Harm Existing Markets**

Even looking narrowly at today's four-provider nationwide market, the merger is in the public interest. Some commenters simply count the number of wireless providers, seeming to assume that more providers is necessarily better. For example, the American Antitrust Institute characterizes the reduction from seven to four as a "troubling history."<sup>17</sup> This is wrong. Competition in high-fixed cost industries like telecommunications is not an unalloyed good.<sup>18</sup> A market can of course have too few competitors, resulting in monopoly prices or reduced output. But it can also have too many, resulting in fragmentation and duplication of resources.

The optimal number of competitors for wireless services is hard to say, but four is not necessarily better than three. Considering the unlikely prospects of a vigorous return of Sprint to competitive even footing, and the fact that this merger will produce three firms of roughly equal size in terms of subscribers, strongly suggests that a reduction to three firms is in the public interest. Reducing the fragmentation of four uneven providers to three healthy competitors will result in a more efficient use of resources, expand output compared to the status quo, and demand a response from competitors and potential competitors alike.

Some petitioners seek to analyze this market even narrower than national mobile carriers, looking at the resale market. The unregulated wholesale market is a sign of health in the existing wireless system. It allows room for innovations in business model without the expense of developing There is nothing magical about the number four that ensures a flourishing wholesale market.

Filers purporting to support the public interest assert that the "merger would negatively impact the wholesale market" and point simply to the increased HHI in the wholesale market.<sup>19</sup> However, this misunderstands the mobile virtual network operator (MVNO) model. Selling wholesale capacity to MVNOs allow operators to see a return on their infrastructure investment without taking on the cost of developing alternative pricing plans, advertising, branding, customer support, etc. With the additional capacity unlocked by combining the infrastructure and spectrum assets of the two companies, it is unlikely the new firm would have any interest in restricting this mutually beneficial arrangement. Indeed, Tucows, owner of the popular MVNO Ting Mobile,

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<sup>17</sup> Petition to Deny of the American Antitrust Institute, WT Docket No. 18-197,

[https://ecfsapi.fcc.gov/file/1082877863636/AAI\\_Sprint-T-Mobile\\_FCC%20Petition%20to%20Deny.pdf](https://ecfsapi.fcc.gov/file/1082877863636/AAI_Sprint-T-Mobile_FCC%20Petition%20to%20Deny.pdf).

<sup>18</sup> See Robert D. Atkinson, "Economic Doctrines and Network Policy" Information Technology and Innovation Foundation (Oct. 2010), <https://itif.org/publications/2010/10/04/network-policy-and-economic-doctrines>.

<sup>19</sup> Common Cause et al. petition at 33.



is “generally in favor of this merger and believe it provides more benefit than detriment,” stating “we think the T-Mobile/Sprint merger makes strong business sense and will generally benefit most stakeholders.”<sup>20</sup>

## **CONCLUSION**

There is little reason to think the new company would deviate from its maverick reputation. With market share still to be tussled over, and avenues for new revenue streams and increased differentiation among providers, there is no reason to fear a dystopian, sclerotic, price fixing future. In fact, just the opposite: The added scale of a combined Sprint and T-Mobile, especially with the complimentary spectrum assets, would mean an accelerated transition to next-generation networks, expanding output and demanding a competitive response. Considering the pace of innovation and change in this sector, regulators should be cautious of chasing narrow, static efficiencies over allowing a dynamic market to innovate at an appropriate scale. This merger is strongly in the public interest and should be approved.

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<sup>20</sup> Letter from Elliot Noss, CEO Tucows, WT Docket No. 18-197 (August, 2018), <https://ecfsapi.fcc.gov/file/108271466430750/FCC%20Letter%20re%20Sprint-TMO%20Merger.pdf>. Tucows also supported eSIM adoption and other requirements that allow MVNOs to use multiple networks.