19 October 2020

Via Electronic Delivery to:
Gloria Norwood
gloria.r.norwood.civ@mail.mil

Re: REQUEST FOR INFORMATION. The Defense Information Systems Agency / Defense Information Technology Contracting Organization – National Capital Region, on behalf of the Department of Defense, is seeking information from Industry regarding Dynamic Spectrum Sharing (DSS).

Dear Ms. Norwood,

Thank you for the opportunity to provide information to the DoD regarding DSS. Perhaps the most important question asked in the RFI is, "What are the potential issues with DoD owning and operating independent networks for its 5G operations?" There are many.

The Innovation Economy Institute is a non-profit non-partisan organization dedicated to educating the public, state and federal policy makers through research and analysis regarding federal, state and international government public policy decisions and the effect on the innovation ecosystem. The mission of the Institute is to educate about and create a policy environment that understands the innovation ecosystem so that a policy environment that not only accepts, but enables dynamic creation, invention and experimentation can be created. A culture that celebrates innovation must be re-energized.

Such an environment would allow the private sector to lead with a free market guiding the way. Consumers, citizens, should hold sway. Where further action is necessary industry should self-regulate with government encouraging such behavior. Governments should avoid undue restrictions, but where government action is necessary such actions should be "light touch," consistent and predictable. Government should seek means to avoid regulation, ownership and control, instead providing a greater focus on protecting intellectual property, protecting privacy

and policing fraud. Perhaps most importantly, government officials must come to understand the innovation ecosystem of today and its layers. Arcane restrictive structures such as the nearly century old regulations for telecommunications, radio or broadcast are not well suited for the decentralized nature of innovation. Nor are models of government ownership of any sort acceptable. Particularly if we really want America to win the global 5G race.

Moving from our current 4G communications standard to 5G is no longer the future. With three national 5G systems with one provider committing to serving a huge swath of rural areas, the next generation standard for mobile communications is the present.

5G is not just a singular system but rather is a system of systems that will work with previous technologies, but also requires new infrastructure, including the smallest antennas which are fairly easily hung on a building, as well as new investments in fiber, cell towers and base stations to accommodate the "backhaul." Improvements in both wireless and necessarily wired connections will complete the communications loop. This ubiquity of high speeds enables more of everything valued in wireless broadband, particularly in urban settings, and open the world to promised technological advancements such as self-driving vehicles and a robust internet of things.

But this change will not be easy and will not be a silver bullet for every situation. Politicians and bureaucrats need to think differently, putting innovation first, and make real changes that focus on more broadband deployment rather than archaic rules or moves to control technology and industry. Innovation must be the choice not nationalization of industry.

More spectrum and continued large private investments in infrastructure are needed and will be ongoing. A certain and stable public policy environment is necessary. This is one reason why the ever-fluid politically driven net neutrality regulation was unproductive and began to deprive consumers of the best of innovation. The same will happen again with talk and advancement of the idea of a nationalized network for 5G. This is little different the ill-informed calls for "tech" regulation or that "tech" needs to be "broken up" by the dull cudgel of government antitrust action.

This sort of chaotic public policy environment drives away investment exactly when we need it most as the sparkplug to help our nation's economy recover, to get people back to work so they can build their careers and future. How much is at risk?

For 35 years the CTIA has ben surveying wireless service providers on the investments, the capital expenditures, they made in building out wireless systems over the last year. The 2020 survey revealed, "Providers have invested over $286B in America's wireless networks since the start of 2010. This year's investment of $29.1B is equal to $89 per capita." Total investment just

for wireless that now tops $571 billion. This is, in part, why communications companies routinely lead the nation in capital investments year after year.

The staggering amount of continued investment highlights the challenge of building a reliable system that can withstand increasing daily use as well as 100-year events as well, such as the current pandemic. Building these systems, operating them and continuing to make necessary improvements for the future is challenging and costly. The private sector has done, and continues to successfully do, the hard work to improve the nation's communications systems.

In addition, the building of the next generation of wireless has been a boon to the government, and hence to the American people. Obtaining the needed spectrum licenses, the necessary raw material for a system, to continue to expand has already generated more than $22 billion for the Treasury.

Even better are the careers that will provide for a healthy national economy, as well as financial security and the opportunity to live the good life for millions of Americans. CTIA has found that 5G will create three million jobs from $275 million in investment. This will lead to $500 billion in economic growth. Why would government, or the DoD specifically want to risk this level financial security for so many and particularly by doing so via an action so repugnant to the American way of life – nationalization of enterprise.

Fundamentally, the belief must be that somehow the DoD can do a better job, that the DoD could reach the same economic and service success as Verizon, AT&T, and T-Mobile. This is flawed thinking unsupported by any evidence.

The internet has not been successful, broadband has not been successful, wireless or online commerce or innovation broadly has not been successful, because of government "leadership," military or otherwise. Our technological present and innovation future has happened and will happen because of hardworking American people competing in a vibrant marketplace of ideas, products and services. More government dependency that risks the chance for so many to live the good life as their economy is disrupted is not the path forward.

Regardless of the current and potential justifications for even the consideration of such a move, the truth is that this is nothing more than an attempt at nationalization. This would not be a surprise in 1960 Cuba, 1966 China, 2007 Venezuela or even 2019 Saudi Arabia. Such places, and others, with autocratic or totalitarian approaches have nationalized the commanding heights of the economy.

But in this country, we have taken a different approach to big challenges. While government might play a role, government does not play the entire role, instead relying on the ingenuity,

industry and drive of the American people and organizations. So, this proposal, this RFI, comes as a shock to many in that it signals that such a takeover is actively being considered.

Most certainly there will be those who argue that such a DoD move to build a 5G system could be done. In fact, that is the lens of this very RFI. The bias is clear in the questions asked and the questions not asked. The posed question is the wrong one. The correct question to ask is whether such a move by government should be done. Merely being allowed or having the capability to do something is a weak argument in the face of whether something should be done. Could is merely a notation of the possible, should is higher minded and implies a moral stricture. On the question of whether it should be done, the answer is a resounding no.

The problems with government owned networks (GON) are well known. Much work has gone on over many years compiling the long list of GON failures with virtually no successes to list on the other side of the ledger. The private sector is better positioned than government for driving investment and innovation. Moreover, much work has gone into crafting the critical questions to ask before there is even consideration of such an approach. The federal government can learn some important lessons from the states, as it should.

For years, municipalities around the country have tried, and ultimately failed, to either set up their own communications systems. Often, they stated this was "just" to provide a wholesale product for others to sell retail, as if this were less odious than also doing the hard work of retail. Failures abound. The reasons for the failures are numerous, but the outcome was predictable, taxpayer funds being wasted. And while some would nit-pick the details of the failures, the fact remains that taxpayer money was put at risk, often without approval of taxpayers, and most often squandered.

Even still, some municipalities continued to plow forward, heedless of the lessons, believing that they are somehow different. Some have been frustrated by laws designed to prevent fiscal folly on behalf of the government, laws that shield all citizens from financial risk. Even once built, there are risks in operating and maintaining broadband networks. As has been seen in the routine failures, governments chronically underestimate the cost of building out and maintaining networks, and chronically overestimate adoption rates and revenue flow.

Technology infrastructure investment, like most infrastructure investment, is not for the faint of heart or the partially committed. Municipalities and states across the country have been constantly challenged by maintaining the relatively static infrastructure that they have already taken on, such as streets, sidewalks, bridges and buildings. Similarly, the federal government seems to struggle with upkeep of national parks, transportation infrastructure, the veteran's hospital and medical care system and even the living quarters of our nation's enlisted men and women. Yet, rather than caring for those current physical and moral obligations, the focus is on taking on the nation's next generation of communications technology.

Technology is vastly more challenging. One must jump in with both feet, constantly updating the technology and business models. As online services grow more sophisticated, customers have become accustomed to regular upgrades, challenging the ability of government to keep up with demand. Those challenges are multiplied a hundred-fold when the complications of delivering video and voice are added. Video services alone are in a constant state of upgrade, either in providing more channels, more programming, or providing services to customers to allow them to customize their own video experience, such as video on demand.

Of course, as a greater variety of more complicated technology and services is offered, the more expensive the building of the system and overall operations becomes. In turn even more taxpayer money is placed at risk, because when these government systems fail it is not private investors who lose money but taxpayers across the state, or in this case, across the country. And that cost of failure is not a one-time fix. Instead, when such government flights of fancy fail the bureaucratic demand for bigger budgets begins and greater taxation of the country is not far behind.

Unlike the marketplace where a company must compete or ultimately go out of business, government depends on tax fueled appropriations by Congress. Recent history provides another warning against this risky scheme. The last several years have seen Congress struggle to determine if and how to pay for necessary infrastructure upkeep and improvements. How would funding for a new massive infrastructure project be any different? Government shutdowns, and short-term budget patches to get by mere months or weeks or days have become increasingly routine. Wireless broadband requires not just a plan for tomorrow but a long-term plan of steady investment to be successful. Government starts and stops and patch over budgets will result in unsteady unreliable service a best, making the product worthless.

Technological innovation continues to far outpace the speed of government, which simply cannot compete with the market. So, where a government owned system is competing against a private system, about the time the municipal system is up and running, private networks will offer something better, cheaper, and faster. Even in cases where there is no private sector competition, government operated networks will never keep pace with public expectations, which were technology is concerned are anything but static.

As worrisome are the freedom of speech problems that arise when government owns a communications system. A common argument from those who support and prefer government-built communications systems is that they simply trust government to protect their interests. When a private entity acts improperly then law enforcement, courts and regulatory bodies are monitoring, but when government owns the system it may do as it wants, and better options are rarely considered. Government systems are in fact not better at protecting the interests of the people just the opposite, as or nation's founding documents and history clearly detail and demonstrate.

States have implemented a variety of rules and guidelines to evaluate if there ever is a need for a government system. Unsurprisingly, one of those safeguards for the protection of taxpayers is to require any government entity seeking to build or otherwise takeover a system to evaluate the competitive environment before any expenditures could be made. This common-sense proposal seems particularly fitting here where no showing of necessity has been made.

Similarly, a best practice followed in some states has been that those funding the venture, the citizens, must be allowed a vote before incurring debt, when the venture in any way competes against a private sector company. Given our system of government it would seem that a vote of Congress would be the very least that should be required.

A military run 5G network will fare no better than the legion of failed government run broadband projects to date. Taxpayers will be charged billions of dollars after the private sector has already invested its money to provide systems. Taxpayers will be charged for untold hours of research and training, which the private sector has already invested in. Taxpayers will be left to foot the bill for continuous and constant updates and modifications for this new 5G system to be able to meet the needs of users. When once again it is shown that government owned networks do not work, this time on an even larger and more expensive scale, when the inevitable bail out is needed, taxpayers will lose, and the DoD will suffer another very public failure inviting distrust and skepticism as it received in the 1970s.

The risk of public cynicism is particular high given that the airwaves, spectrum, belong to the people in the first place, not to the government or the military. Spectrum is a finite array of frequencies which the government claimed control over to manage on behalf of the people in pursuance of the "public interest." This is a finite resource that is constantly and rapidly needed as a raw material for the continued expansion of broadband. Being finite a DoD takeover of the resource deprives the country of its asset, and one that has generated revenue for the Treasury, as mentioned previously.

But such government claimed management of spectrum does not make the spectrum the government's property to be used on a whim to pursue some grand scheme particularly when all evidence demonstrates that at best it is a flight of fancy. In other words, like it or not the DoD cannot simply assert that what they are doing is somehow in the best interest of the public when they cannot demonstrate that assertion is true. In fact, all evidence points to the opposite.

This RFI asks, "How could DoD own and operate 5G networks for its domestic operations? What are the potential issues with DoD owning and operating independent networks for its 5G operations?" The very question should chill the blood of any Americans who are concerned

about the nation's economic health, their personal finances, an innovation future, their guaranteed freedoms or even those who prize reliable successful wireless broadband access.

Overall, this effort derails the progress being made in the US now and works to our global competitors' advantage as industry is forced to take its collective eye off the ball. As we struggle internally against ourselves, competitors continue to advance. As we once more fight internally they project success externally. American is capable of many things but whether we should do some of things is the critical question. Are we able let our engine of innovation continue to roar or will poor public policy choices derail our global success?