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## **Background**

In previously filed comments regarding the NTIA's National Spectrum Strategy, the National Spectrum Consortium (NSC) cited its recent work in assisting DoD, NTIA, and others in convening workshops and executing prototyping projects designed to assist with spectrum relocation and sharing, dating back to the creation of the Spectrum Relocation Fund. NSC is proud of this history and is pleased to continue its role in catalyzing innovation in spectrum management and technology.

Specifically, as a part of the organization's comments on PILLAR #2 - LONG-TERM SPECTRUM PLANNING, Question 1, NSC discussed its recent effort in co-chairing a spectrum working group with NTIA and the DoD CIO. This working group, **Partnering to Advance Trusted and Holistic Spectrum Solutions (PATHSS)**, was created as the result of a Congressional directive in the Infrastructure Investment and Jobs Act (IIJA).

Congress mandated that the DoD study the possibility of spectrum sharing in the frequency band from 3.1 to 3.45 GHz. In response, NSC launched the PATHSS working group as a service to its members.

PATHSS brings together representatives from DoD, NTIA, the FCC, the telecom and cable industries, military equipment manufacturers, academia, and the NGO community. It does this through both a public working group process and a classified subgroup enabling greater information sharing on DoD missions with non-federal spectrum stakeholders.

Both have been crucial for building trust ahead of future spectrum sharing initiatives.

The PATHSS working group has done unprecedented work since its launch in November 2021. Participants have examined new data on spectrum usage and conducted frank conversation regarding both federal security needs and the demands of commercial wireless services.

PATHSS includes 50 commercial members across a number of industry segments, including defense, communications, satellite, and IT. The group has significantly benefitted from the added input of over a dozen academic researchers and an even larger number of small, non-traditional performers. The group will output a series of recommendations that will be submitted to DoD and the administration later this year.

## **Next Steps for Spectrum Collaboration**

As the PATHSS work concludes, it has become clear that the process it pioneered can and should be extended. Until relatively recently, it was possible to manage spectrum concerns in separate spheres governed by federal interests on the one hand and industry interests on the other. However, increasing overlap between the two makes that no longer feasible. Not only do the technologies have to evolve, but the ways federal and non-federal groups coordinate spectrum use must advance from ad-hoc engagement to strategic collaboration.

This need for improved collaboration may be most evident in the NTIA's National Spectrum Strategy. As part of the strategy, the agency plans, in its words, to "identify at least 1,500 megahertz of spectrum to study for future potential repurposing – perhaps the most ambitious study goal for NTIA to date."

NTIA also specifies that it is committed to pursuing this goal through a process that engages both "federal and non-federal stakeholders, including Tribes, and [is based] on data-driven decision-making, to fully address the needs of spectrum reliant services and missions."

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The goal is indeed ambitious. NTIA has tasked itself with finding consensus on a multitude of complex issues. These include determining where there is room for flexibility in wireless operations, how to mitigate risks in spectrum sharing, and how to be judicious in allocating spectrum access across time and space. The effort will need productive technical discussions, as well as strong leadership to balance the views and priorities of so many stakeholders.

Based on feedback from PATHSS participants, NSC believes it can play a valuable role in the spectrum development effort ahead, continuing and extending the work it began with the PATHSS group.

### **A Forum for Spectrum Policy Strategy**

**NSC can continue to be the convening partner for the study of spectrum bands identified by NTIA, DoD, and others for future potential repurposing. NSC proposes transitioning PATHSS into a more permanent working group, tentatively called the Spectrum Roundtable.** Through this group, NSC will offer a lightweight stakeholder engagement process with an emphasis on transparent and open debate. As with the PATHSS working group, NSC will provide the forum needed for studying spectrum concerns and potential solutions in targeted bands. It will also be a collaboration point for policymakers from NTIA, FCC, DoD, and elsewhere to learn the realities of spectrum management and how those realities impact both national security and economic competitiveness.

The initiative NSC proposes is a natural fit within the organization's existing working group structure. NSC can implement it seamlessly as a programmatic service and provide the staff, expertise, and administrative resources needed. As a consortium, NSC also has the diverse membership required for spectrum study and evaluation as well as a low barrier to join and an inclusive and diverse membership. As evidenced by PATHSS, NSC can lead a process that is inclusive of many voices and that balances stakeholder interests against the broader wireless security and economic needs of the nation.

The program NSC proposes would include workshops and technical spectrum studies to understand the current uses of a particular band and opportunities to share. It would also include joint sharing concept development and other technical brainstorming efforts to develop novel and creative spectrum sharing solutions. The program would produce timely recommendations to government agencies on ways in which to share, economize, or otherwise use more efficiently the spectrum bands of interest. **Finally, and as discussed below, this program would recommend a course of action to further fund and develop new spectrum sharing technology solutions and to build prototypes and demonstrations of those solutions.**

### **A Broader Spectrum Technology Development Pathway**

**In addition to its convening power, NSC has an Other Transaction Authority (OTA) contract, which offers a unique pathway for testing spectrum-based technologies.** NSC can work with DoD and other agencies to provide a contracting mechanism for spectrum research and prototyping projects prioritized by the government, and it offers access to solution providers including telecom industry incumbents and new entrants, as well as traditional government contractors and new organizations looking for federal partnerships.

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As long as NTIA and other federal stakeholders continue to invest in testing and prototyping spectrum-based technologies, NSC can enable the implementation process. *This will provide tangible inputs for continued assessment of spectrum coordination and interference effects.*

NSC has recently reorganized into a 501(c)6 non-profit organization in order to broaden its ability to match federal government technology prototyping needs to the abilities of its membership. The current pace of global innovation in terrestrial and satellite wireless technologies and spectrum demand is too fast for traditional federal procurement and rulemaking. Leveraging the diverse and rapid nature of wireless innovation cannot happen without close industry-federal coordination, given the need for rapid prototyping in the highly regulated wireless spectrum environment. Currently, changes to spectrum usage rules involve complex, highly fractured, and often contentious discussions between federal agencies, legislative bodies, private industry, and policy organizations.

NSC's new structure allows it to not only accept OTA contracts and opportunities from its traditional partners at DoD, but to also pursue grants from other federal agencies that are aligned with its mission and vision. This can include both formal US government challenge programs as well as grants and other partnerships that can be structured to achieve some of the rapid, flexible, and competitive benefits of OTA or challenge programs while using the same basic financial, administrative, and programmatic infrastructure that already exists within NSC. Just this year, NSC has already formed partnerships with additional federal agencies outside of DoD and intends to continue to broaden that outreach.

## **Why NSC?**

While there are other government advisory groups focused on spectrum strategy, NSC has several inherent advantages when it comes to building a sustainable program for exploring spectrum development.

**NSC is balanced;** it has members large and small, traditional and non-traditional, commercial and academic from a range of industries including telecommunications, information technology, aerospace, and defense.

**NSC has the necessary administrative infrastructure.** It has the built-in staff, expertise, and operating budget to continue convening spectrum stakeholders.

**NSC's mission is to test and demonstrate spectrum-based technologies.** Its ability to fund and enable real-world prototyping projects provides much needed data for continued spectrum analysis.

**NSC has a proven track record.** The PATHSS working group has provided a successful model.

As NTIA considers its spectrum goals and the challenges ahead, NSC urges the agency to put in place a sustainable process for spectrum study and technically informed policy development. NSC can be the nexus for this effort. It can support and shepherd the work required to advance the nation's wireless security and economic interests.

Given NSC's experience in the wireless and spectrum space, its existing membership and infrastructure, and its new, more flexible structure, there are a number of ways in which NTIA and NSC might be able to partner to further NTIA's mission. We look forward to future discussions and collaboration.