

**SMALL UAV  
COALITION**  
*A Partnership for  
Safety & Innovation*

April 20, 2015

National Telecommunications and Information Administration  
U.S. Department of Commerce  
1401 Constitution Avenue NW, Room 4725  
Washington, D.C. 20230

**Via email to [UASrfc2015@ntia.doc.gov](mailto:UASrfc2015@ntia.doc.gov)**

**Re: UAS RFC 2015**

Dear Mr. Verdi,

The Small UAV Coalition<sup>1</sup> was formed by leading technology companies in order to expedite the safe use of small unmanned aerial vehicles (UAVS) for commercial, recreational, civil, and philanthropic purposes.<sup>2</sup> Small UAVs will provide major economic, public safety, environmental, and other benefits to U.S. consumers and businesses.<sup>3</sup> Moreover, participants in the commercial sector of this developing industry have a wide range of different objectives and innovative capabilities, and include entities of different sizes, types, resources, and technologies such as sensors or photographic tools. In realizing these benefits, our members are committed to safeguarding privacy and safety. Accordingly, the Small UAV Coalition welcomes the opportunity to submit these comments about the multi-stakeholder process to be initiated by NTIA in response to the Presidential Memorandum.<sup>4</sup>

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<sup>1</sup> The Members of the Small UAV Coalition are 3D Robotics, Aerialtronics, Airware, Amazon Prime Air, Botlink, Drone Deploy, DJI, EHANG, Intel, Google [X] Project Wing, GoPro, HAZON Solutions, Kespry, Parrot, PrecisionHawk, Sky-Futures, SkyWard, Strat Aero, SkyPan, Transport Risk Management, Verifly, and Zero Tech.

<sup>2</sup> The term UAV (unmanned aerial vehicle) refers to the vehicle and the term UAS (unmanned aircraft system) refers to the vehicle with control platform.

<sup>3</sup> See <http://www.smalluavcoalition.org/> (Benefits). Congress also recognized the great potential benefits of UAV technology in 2012 when it enacted the FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, which required a plan to safely integrate civil UAS into the National Airspace System (NAS) by the end of Fiscal 2015.

<sup>4</sup> PRESIDENTIAL MEMORANDUM: PROMOTING ECONOMIC COMPETITIVENESS WHILE SAFEGUARDING PRIVACY, CIVIL RIGHTS, AND CIVIL LIBERTIES IN DOMESTIC USE OF UNMANNED AIRCRAFT SYSTEMS (Feb. 15, 2015) ("Presidential Memorandum") <http://www.whitehouse.gov/the-press-office/2015/02/15/presidential-memorandum-promoting-economic-competitiveness-while-safegua>.

The Small UAV Coalition is pleased that the Presidential Memorandum directs the NTIA to expeditiously initiate a multi-stakeholder process to develop best practices for privacy, accountability, and transparency issues regarding commercial and private UAS use. The NTIA is the appropriate entity to lead such a process, as the Federal Aviation Administration (FAA) itself realizes that it is not the proper agency forum to lead on privacy. Moreover, the production of reasonable “best practices” is exactly the right way to proceed at this time. It is a workable mechanism to safeguard privacy while, if done right, flexible enough for an innovative, highly diverse industry that is still taking shape and where the safety regulator, the FAA, is still working to finalize its rules. These same considerations also make it important to articulate best practices at a high level, both to make them useful and to avoid unintended consequences, including impediments to innovation, safety and First Amendment rights. Finally, it is imperative that the NTIA not exceed its mission beyond the Presidential Memorandum into issues that are outside the scope of a privacy review.

We encourage the NTIA to complete this process both expeditiously as well as thoroughly, while keeping in mind the following four considerations. First, our current privacy legal framework is, due to its technology neutral nature, adequate to protect citizens from privacy issues related to small UAVs. Second, the commercial and recreational uses of small UAVs are distinct, as noted by Congress and the FAA. They should also be treated as distinct by the NTIA, with standards that would not unduly burden individual recreational users. Third, best practices must be sufficiently flexible, reasonable, and high-level in order to serve this industry, which is still taking shape. Fourth, any assessment of technology regarding aviation, including airspace, should remain within the FAA’s jurisdiction.

Finally, this process should never lose sight of the innovative, expanding, diverse and transformative benefits of small UASs.<sup>5</sup> The Presidential Memorandum states that these technologies “may play a transformative role in fields as diverse as urban infrastructure management, farming, public safety, coastal security, military training, search and rescue, and disaster response.”<sup>6</sup> The “technology continues to improve rapidly, and increasingly UAS are able to perform a variety of missions with greater operational flexibility and at a lower cost than comparable manned aircraft.”<sup>7</sup> The positive economic impact “... could be substantial and likely will grow ...”<sup>8</sup>

Participants in this developing industry produce benefits such as obtaining information for journalists and cinematography; making timely deliveries, including to remote areas, and in a

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<sup>6</sup> Presidential Memorandum at Introduction.

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*; see also Testimony of John B. Morris, Associate Administrator, NTIA, before the Subcommittee on Aviation Operations, Safety, and Security, Committee on Commerce, Science, and Transportation, United States Senate, Hearing entitled “Unmanned Aircraft Systems: Key Considerations Regarding Safety, Innovation, Economic Impact, and Privacy” (Mar. 24, 2015) (“Morris Testimony”), [http://www.commerce.senate.gov/public/index.cfm?p=Hearings&ContentRecord\\_id=edf8ac57-d9a5-4bf8-9938-2017a3e89fd0&ContentType\\_id=14f995b9-dfa5-407a-9d35-56cc7152a7ed&Group\\_id=b2afa036-c20d-49ac-9211-b5ef8d7ea62d&MonthDisplay=3&YearDisplay=2015](http://www.commerce.senate.gov/public/index.cfm?p=Hearings&ContentRecord_id=edf8ac57-d9a5-4bf8-9938-2017a3e89fd0&ContentType_id=14f995b9-dfa5-407a-9d35-56cc7152a7ed&Group_id=b2afa036-c20d-49ac-9211-b5ef8d7ea62d&MonthDisplay=3&YearDisplay=2015) (follow Witness Panel 1 – Mr. John B. Morris, Jr.).

manner that reduces surface road congestion and reduces wear-and-tear on our nation's infrastructure, of a host of goods that may add enjoyment, or could save and improve lives, including medicine and life-saving supplies.<sup>9</sup> UAVs can be used to provide valuable communications tools,<sup>10</sup> produce new, accurate and up-to-date maps of many kinds, assist with farming, and help manage fish and wildlife.<sup>11</sup> They can be used to spot and sometimes even fix a multitude of infrastructure problems, affecting bridges, pipelines, wind turbines, mines, cell towers, roads, etc.<sup>12</sup> They may be able to rapidly, systematically and effectively plant trees over large areas, and produce critical environmental information.<sup>13</sup> UAVs can quickly and safely locate injured persons or others needing help, track fires, and survey disaster damage, as well as speed insurance assessments of damage to foster more rapid recovery.<sup>14</sup> Separate from the commercial sector, as noted by Congress and the FAA, are the UAV recreational users and hobbyists who enjoy this technology. For some of these recreational users, the benefits also include that this technology is educational and can provide an important gateway to other aeronautic interests, opportunities and innovations.<sup>15</sup> This only scratches the surface of what those with very different profiles, aspirations and responsibilities can achieve through this industry to the benefit of U.S. businesses and consumers.

We will now address the four areas raised by NTIA: General, Privacy, Transparency and Accountability.

## I. General

NTIA should complete this process expeditiously so as to provide guidance to the industry as it develops. In order to do this, the NTIA should structure its multi-stakeholder process with clear timetables, goals, recognition that unanimity is not required to reach consensus, and an understanding that not every issue must be addressed in detail at this early stage, given the limited industry experience thus far, the great diversity of industry participants,

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<sup>9</sup> See, e.g., *Mayo Clinic Surgeons Investigate Use of Drones for Medicine*, MEDGADGET, (Mar. 16, 2015 2:29 PM), <http://www.megagadget.com/2015/03/mayo-clinic-surgeons-investigate-use-of>

<sup>10</sup> See Morris Testimony.

<sup>11</sup> See e.g., *Drones could affect US food supply from herding cattle to counting fish and scouting farms*, FOX BUSINESS, (Jan. 26, 2015), [http://www.foxbusiness.com/markets/2015/01/26/drones-could-affect-us-food-supply-from-herding-cattle-to-counting-fish-and/...](http://www.foxbusiness.com/markets/2015/01/26/drones-could-affect-us-food-supply-from-herding-cattle-to-counting-fish-and/)

<sup>12</sup> See, e.g., *T-Mobile Trains Own Pilot to Inspect Cell Towers*, UAS VISION, (Apr. 1, 2015), <http://uasvision.com/2015/04/01/t-mobile-trains-own-pilot-to-inspect-cell-towers/>

<sup>13</sup> See e.g., *1 Billion Trees at a Time- by Quadcopter*, UAS VISION (Apr. 9, 2015) <http://www.uasvision.com/2015/04/09/1-billion-trees-at-a-time-by-quadcopter/>; Edward Ortiz, *Drones are latest tool in conservation science*, THE SACRAMENTO BEE, (Mar. 7, 2015 8:32 PM) <http://www.sacbee.com/news/local/environment/article12964940.html>.

<sup>14</sup> See e.g., <http://www.smalluavcoalition.org/> (Benefits); see also Jimmy Hoover, *AIG Scores Green Light From FAA To Use Drones*, LAW360 (Apr. 8, 2015 6:11 PM), <http://www.law360.com/privacy/articles/641020/aig-scores-green-light-from-faa-to-use-drones->

<sup>15</sup> See *Unmanned Aircraft Systems: Key Considerations Regarding Safety, Innovation, Economic Impact, and Privacy*, John Villasenor, Testimony Before the Senate Committee on Commerce, Science, and Transportation Subcommittee on Aviation Operations, Safety, and Security (Mar. 24, 2015) at 2 (“Villasenor Testimony”) [http://www.commerce.senate.gov/public/index.cfm?p=Hearings&ContentRecord\\_id=edf8ac57-d9a5-4bf8-9938-2017a3e89fd0&ContentType\\_id=14f995b9-dfa5-407a-9d35-56cc7152a7cd&Group\\_id=b2afa036-c20d-49ae-9211-b5ef8d7ea62d&MonthDisplay=3&YearDisplay=2015](http://www.commerce.senate.gov/public/index.cfm?p=Hearings&ContentRecord_id=edf8ac57-d9a5-4bf8-9938-2017a3e89fd0&ContentType_id=14f995b9-dfa5-407a-9d35-56cc7152a7cd&Group_id=b2afa036-c20d-49ae-9211-b5ef8d7ea62d&MonthDisplay=3&YearDisplay=2015) (follow Witness Panel 1 – Prof. John Villasenor) .

regulatory uncertainty, and the rapid pace of innovation and technological change. Moreover, the Small UAV Coalition believes that the issues of privacy, transparency and accountability tend to overlap substantially. Therefore, it would not be preferable to address these topics through three separate working groups. Separate groups could create a variety of difficulties and coordination issues due to the overlap as well as efficiency and resource issues.

NTIA also inquires about whether the approach should be different based on the size of the UAS platform. That distinction is not helpful for these issues. Most privacy laws focus on a set of rights and the various intrusions against them and remain technology and platform neutral. The NTIA should follow this approach. For example, distinctions could instead be based on the type of data collected and the ways in which it will be used rather than on the underlying technology.

While the terms and limitations that should accompany governmental use of UAVs are very different in important ways than for either commercial or recreational use, the Presidential Memorandum can nevertheless be a reference point in developing best practices, particularly for the commercial sector. Another important starting point should be America's existing privacy protection legal framework. As noted below, there is a large body of relevant law that addresses this area and is well-equipped to provide guidance.

## II. Privacy

As noted above, while it would not be practical, desirable or wise to propose highly detailed privacy practices at this stage, it would be a valuable contribution to the industry and public to develop a reasonable and flexible set of high-level best practices that individual companies and other industry participants can adapt to their situations and that can be updated with experience.

In accomplishing this objective, it is important to be sensitive to the fact that there are significant unknowns in light of the major pending small UAS rulemaking at the FAA. The final rules could affect design, data retention, the role of cameras for guidance and other matters that, in turn, could potentially impact privacy, transparency and accountability. Any attempt in developing best practices to get too granular or stray into what are potentially FAA issues could make the results unhelpful, inapposite or worse.

In developing best practices concerning privacy, it is important to recognize that the privacy-related issues that UAVs may raise are not unique from those raised by many other technologies and circumstances. In fact, with sensors of all kinds getting smaller and cheaper, all sorts of data will be transmitted from unlikely places. This understanding should help narrow and focus the development of UAS privacy best practices and increase the prospects for timely success. For example, issues concerning the collection of information through the use of UAS cameras are similar to those raised by the use of cameras on mobile devices and on a variety of structures in a variety of locations, including non-UAS aviation platforms. At the same time, because this multi-stakeholder process should be focused on generating high-level best practices, care should be taken in this multi-stakeholder process not to attempt to "boil the ocean" and take on every point in the wider discussion of privacy going on across the country and the world. It is important to remember too that different applications of this technology support very different

business plans and function differently in the collection and use of information, warranting caution and flexibility in developing best practices. Some information collection and use, such as by news and media organizations, implicate the most classic and vital of First Amendment freedoms. Participants in this industry are also very different from one another in other fundamental ways, with recreational users and commercial companies of varying types and sizes, and best practices need to take this into account. In developing privacy practices, and in light of all this diversity, it is very important to keep in mind that collecting information, retaining information, and using sensitive personal information, are not the same thing.

As suggested above, the process of developing best practices should focus on privacy rather than particular technologies, as does the extensive body of privacy law and related doctrines that already exists, which our members abide by and encourage others in the industry to as well.<sup>16</sup> This body of law is rooted in statutes, regulations, and common law. It comes from many different jurisdictions. It protects property rights by restricting trespassing, providing a cause of action for invasion of privacy, and protects reasonable expectations of privacy. It includes laws against harassment, peeping toms, stalking, intrusion on seclusion, and misuse of sensitive personally identifiable information.<sup>17</sup> It helps protect against bad actors and behaviors inside and outside the UAS world alike. Flexible, high-level best practices relating to privacy can promote operations within these laws.

In addition, the Presidential Memorandum identifies certain aspects of privacy that, if adapted with the idea of generating reasonable and flexible high-level best practices for a diverse industry, can be considered as a reference point in the multi-stakeholder process. At the same time, it is important to remember that the Fourth Amendment can impose tighter limits on what the government can do as compared to private citizens and the First Amendment can expand what the commercial and recreational sectors can do. Adapting some principles from the Presidential Memorandum, consideration should be given to:

- Collection and use of information that is consistent with and relevant to authorized purposes;
- Avoidance of indefinite retention of sensitive PII unless necessary to an authorized purpose or required by law;
- Avoidance of dissemination of information in a manner that contravenes law or authorized purposes.<sup>18</sup>

Privacy issues will evolve with technology and experience. That is also something the Presidential Memorandum recognizes by its suggestion that federal agencies that use this technology should review their policies and procedures and update as needed, including in

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<sup>16</sup> See Villasenor Testimony, *e.g.*, at 9 (“[T]he set of existing protections against invasion of privacy can be powerful and adaptable precisely because they are not technology-specific, and can therefore be reinterpreted as needed as new technologies emerge.”)

<sup>17</sup> See, *e.g.*, CRS Report R4396, *Domestic Drones and Privacy: A Primer*, by Richard M Thompson II, (Mar. 30, 2015) (*e.g.*, discussion of and case and other citations to “privacy torts” at 14-17)

<sup>18</sup> See Presidential Memorandum at Section 1.

relation to privacy. That is consistent with our suggestion that this process should and will need to be high-level and flexible given the early stage of this industry and the importance of avoiding interference with innovation, rather than seek to anticipate and address all future developments.<sup>19</sup>

Privacy issues will evolve with technology; however, it would be prudent to provide opportunities to industry participants to learn of relevant developments. That is why we suggest consideration of the possibility of education through, among other forums, the knowledge-based test centers through which the FAA proposes to authorize the issuance of unmanned aircraft operator certificates, which could, among other possible activities, make materials and information available to operators. As noted earlier, privacy, transparency and accountability are intertwined, and we discuss education further in the context of accountability.

### III. Transparency

As with privacy, some aspects of transparency that the Presidential Memorandum identifies may, if adapted with the idea of generating reasonable and flexible high-level best practices for a diverse industry, be a possible reference point for the multi-stakeholder process. This comes with caveats that include, as noted earlier, that both recreational users and the commercial sector are in very different positions from government and one another, and that those differences are very important with respect to transparency. There are a host of differences arising from the First Amendment, from the realities and practicalities of participating in a competitive market, from differences in resources and burden, and from a set of countervailing privacy considerations. That being said, we think that for commercial operators, a reference point for reasonable, flexible and high-level best practices that allow for variation among industry participants to address their unique circumstances, could relate to where UAVs operate; notice of any significant changes in operations or privacy policies that have been disclosed; and annual high-level summaries of operations. Consideration could be given to whether there are best practices regarding disclosure of general aggregated information about the purposes of commercial UAS flights and associated data practices, privacy and safety protections.

In connection with best-practices around transparency, it is also important to recognize that physical markings for UAVs is an issue within the purview of the FAA, as are some other matters NTIA raises. It is also important to bear in mind the major practical and other distinctions between hobby and recreational users, and the commercial industry. It would be impractical and unworkable to impose disclosure or burdensome information requirements on hobbyists and recreational users and beyond the scope of a multi-stakeholder process for the development of best practices.<sup>20</sup>

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<sup>19</sup> *Id.*

<sup>20</sup> In addition, any suggestion of loading personal information of recreational users and hobbyists into a database would jeopardize their privacy interests. *Cf.* [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2015/db0331/FCC-15-40A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2015/db0331/FCC-15-40A1.pdf) (In this pending NPRM, the Federal Communications Commission proposes to specify that historical amateur radio licensee information will no longer be routinely available for public inspection; and recognizing increased privacy and safety concerns, seeks comment on whether other information, such as current address information of licensees, should be removed from public view.)

#### IV. Accountability

The Coalition favors development of reasonable high-level best practices relating to transparency and, in turn, accountability, that are flexible so as to recognize that in the commercial sector there are very different business models and applications, which potentially intersect sensitive personally identifiable information in different ways, and that recreational users and hobbyists are in a vastly different position.

The Presidential Memorandum, subject to all of the qualifications mentioned earlier and the fundamental point that government accountability is much different, could be used as a possible reference point for commercial UAS. For example, a possible best practice is to identify, adopt and disclose policies and procedures relating to privacy. Depending on the company, its applications and its available resources, this could include a variety of information.

Disclosures that commercial companies choose to make may foster accountability in addition to transparency. These companies seek to comply with law. To the extent that companies make relevant disclosures on their web site, those disclosures should be accurate. Further assuring accountability, under existing law in some circumstances, the Federal Trade Commission would be able to bring an action under Section 5 of the FTC Act against a company for unfair or deceptive acts or practices in connection with disclosures that are misrepresentations.

Education is one of the strongest ways to provide accountability. Manufacturers, distributors and consumers have a common interest in promoting knowledge of, sensitivity to, and compliance with, privacy laws and best practices. For commercial users, one potential opportunity is to enable FAA-designated aeronautical knowledge test centers to help serve that function. The FAA proposes that these test centers have authority to administer the aeronautical knowledge tests for each person seeking an unmanned aircraft operator certificate. These centers can also be a location to obtain updated materials as experience and technology develop. For recreational users, the Academy of Model Aeronautics (“AMA”), local model aircraft clubs, and similar groups can be part of the educational program.

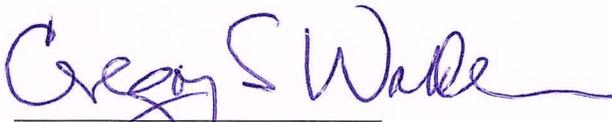
Industry will also continue its own efforts to provide education about privacy as well as safety and other concerns. For example, the Small UAV coalition, together with the Association for Unmanned Vehicle Systems International (AUVSI) and the AMA, in partnership with the FAA, formed the “Know Before You Fly Campaign,” to educate prospective users about safe and responsible operation of UAVs. This campaign incorporates some privacy and best practices information and teams up with manufacturers and distributors to inform consumers and businesses about what they need to know before taking to the skies. The campaign includes a website, educational, video and point-of-sale materials and a digital and social media campaign to ensure that prospective operators have the information and guidance on what they need to know before they fly. Among other things, advice is included to check and follow all local laws before flying over private property and not to conduct surveillance or photograph persons in areas where there is an expectation of privacy without the individual’s permission.

V. **Conclusion**

The Small UAV Coalition is pleased to participate in the multi-stakeholder process on privacy that NTIA will lead. We share the view that privacy considerations are important for this industry, as for others, and we encourage responsible use of UAVs.

The Small UAV Coalition urges the NTIA to proceed in a timely manner toward producing reasonable, flexible, and high-level best practices that can be used and adapted by a variety of industry participants who are in very different positions and make different uses of UAVs. These best practices also can be adjusted over time as the industry takes shape, experience grows and technology advances. We also urge the NTIA to remain cognizant that any assessment of technology regarding aviation, including airspace and restricted areas, should remain within the FAA's jurisdiction.

Sincerely,



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