May 29, 2019

To:

The Director of NIST
AI-Standards, National Institute of Standards and Technology,
100 Bureau Drive, Stop 2000, Gaithersburg, MD 20899.
E-mail: ai_standards@nist.gov

Re: RFI: Developing a Federal AI Standards Engagement Plan

Dear Sir / Madam:

I am pleased to submit the following comments on behalf of my organization, Green Grid Inc. (GGI) in response to the subject RFI covering broad topic areas, AI technical standards and related tools Development: Status and Plans, defining and achieving U.S. AI technical standards leadership and prioritizing Federal Government engagement in AI standardization.

We believe that this is a very important area of technology that U.S. must take and retain the leadership. AI-derived systems can do a lot of good things to improve human lives here on earth and expand lives beyond earth. On the contrary note, some people consider AI to be a danger to humanity if it progresses without responsible oversight. There is also a stream of thought that postulate AI, unlike previous technological revolutions, may create a risk of global unemployment. Therefore, developing and implementing such sophisticated AI technologies (software and hardware) demand extremely disciplined and responsible approaches by the global stakeholders to ensure safe and ethical implementation and foster public trust and confidence. U.S. Federal agencies have contributed significantly in establishing and retaining leadership in many game changing technology areas. AI technology should be one addition to those areas. U.S. Federal level engagement will ensure uniform enforcement of standards and intellectual property (IP) protections in AI technological and application areas which will foster industry collaboration in civilian and military sectors.

AI is a complex mix of multidisciplinary technologies and application sub-fields. Some AI disciplines are more challenging and consequential than the others. For examples, computer vision systems, autonomous vehicle systems (air, land and sea), facial recognition systems and humanoid robots in safety critical applications demand extremely high reliability and accuracy than voicemail transcriptions, text editing, gaming and entertainment systems. U.S. Federal engagement of developing standards for those highly sophisticated AI-derived information and operational technologies should be prioritized. "With great power comes great responsibility." Multidisciplinary international stakeholders' engagement (public-private partnership) led by the U.S. Federal representative, NIST will ensure robust standardization of the software and hardware development, testing and implementation tools, techniques and processes. Industry collaboration is vital to this standardization success. Some of the relevant existing standards and guidance e.g. NIST 800-53, Security and Privacy Controls for Information Systems and Organizations and European Union's General Data Protection Regulation (GDPR) may be adopted to specific AI technology components to minimize vulnerability to attacks from malicious

actors. Similarly, there are some evolving standards e.g. SAE J3016 automation levels for self-driving cars will need refinement as the AI technologies mature.

GGI is a small technology development and service business located in San Ramon, CA in close vicinity of the Silicon Valley. We develop climate-focused computer vision systems for community wildfire risk management, renewable energy and storage proliferation and precision agriculture. There are not many standard tools and techniques for conformance testing, performance testing, stress testing and interoperability testing etc. in these areas. Some of the inputs and their acquisition processes e.g. images and point clouds conform to certain standards such as JPEG, TIFF, ECW and LAS etc. and survey standards specified by ASPRS and USGS. The processing and analyses of those inputs are done in nonstandard framework. Therefore, accuracy, precision and reliability of these systems' outputs / results mostly depend on the rigorous internal quality control of the processes and codes and field validations (i.e. ground-truthing). GGI is currently developing a AI-derived system for regional flora classifications and electric and natural gas utility critical infrastructures monitoring using multi-sensor fusion (spectral imagery and LiDAR measurements) and deep-learning architecture which can be standardized for target industry adoption. We are capable of assembling effective collaborative team comprising of technology giants who have resources to make a meaningful difference and nimble startups who can move quickly to make things happen. This is a rare and powerful combination of strengths.

We believe that the U.S. Federal engagement needs to be prioritized for climate-focused AI technology's standards development and implementation related to community wildfire risk mitigation, critical infrastructure protection, energy, food and water security applications. We will appreciate any opportunities to participate in this AI standards development program with NIST.

Please keep us informed of any future relevant workshops, training programs, industry collaboration meetings or RFPs and we encourage you to visit our website to learn more of our initiatives.

We wish you the best with your AI-standards development engagement plan initiative and look forward to working with you.

Sincerely,

Chinmoy Saha, President/CEO
Green Grid Inc. (GGI)
111 Deerwood Road, Suite 200
San Ramon, CA 94583
www.greengridinc.com