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The Honorable Walter G. Copan
Under Secretary of Commerce for
Standards and Technology
Director of NIST

National Institute of Standards and
Technology
U.S. Department of Commerce

By email: ai_standards@nist.gov

Plymouth, July 18, 2019

Fraunhofer response to call for comments in respect of the draft NIST Plan for Federal Engagement in AI standards (NIST AI Plan

Dear Dr. Copan:

We commend NIST for its engagement in the area of Artificial Intelligence standards. We express our thanks for the opportunity to submit comments in this regard.

The Fraunhofer-Gesellschaft (Fraunhofer)[1] is Germany's and Europe's largest applied research organisation and has been actively contributing to international dialogue on the relevance of good governance in standardisation and the importance of intellectual property law in the context of high-technology strategies and innovation ecosystems.

Fraunhofer USA focuses on industrial innovation in the USA, operating seven Research Centers of Excellence with Universities such as Boston University, University of Maryland and Michigan State University. It also has strong relationships with US Departments and Agencies, for example, the US Department of Energy, NASA, DARPA, as well as NIST, and agencies of economic development in several States.

The aim of Fraunhofer when undertaking applied research with its cooperation partners is to increase the competitiveness and relevance of local industry, thereby assisting in job creation. This includes undertaking activities as a developer and holder of all types of intellectual property, including standard essential patents and other forms of intellectual property which have the potential for global adoption. Fraunhofer experts are actively involved in international standardisation efforts and Fraunhofer USA is a member of ANSI. From

[1] Fraunhofer undertakes applied research of direct utility to private and public enterprise and of wide benefit to society. With a workforce of over 26,600 and an annual research budget of €2,6 billion, the Fraunhofer-Gesellschaft is Europe's largest organization for applied research, and currently operates a total of 72 institutes and research units. Fraunhofer's research focuses on the needs of people in the areas of healthcare, security, communication, mobility, energy and the environment. Fraunhofer's international sites and its representative offices act as a bridge to the regions of greatest importance to scientific progress and economic development. See also https://www.fraunhofer.org/ for specific details of Fraunhofer's activities in the United States.

these activities, Fraunhofer has participated in many licensing programs developed to implement world-class, global technology solutions to ultimately serve societal benefit and advancement. Fraunhofer has experience and expertise regarding the development of policies and practices in standardisation, including artificial intelligence.

We hope that the **following** comments are of assistance to NIST during the consideration of the draft NIST Plan regarding artificial intelligence (AI) standards (the NIST AI Plan).

A. International Considerations

1. The International Framework for Standardisation

Fraunhofer USA provides the following comments, taking into account both the international legal and technical frameworks currently in place which appear relevant to the NIST AI Plan.

The universal principles set out in the WTO Agreement on Technical Barriers to Trade (WTO TBT Agreement)[2] and the United States Standards Strategy[3] remain the touchpoints for a sound and reliable framework for standardization: openness, balance and lack of dominance. Therefore, it is respectfully suggested that NIST considers highlighting these legal and policy foundations of the standardization framework, as the reliable and robust foundation in the draft NIST AI Plan.

Regarding the technical field of artificial intelligence, which is being currently developed, it is possible, even probable that initiatives are developed in parallel to each other. In order to avoid duplication for both national and international technical cooperation, which creates inefficiency, Fraunhofer USA proposes that consideration could be given to running a survey on the various existing initiatives and their results within the international standardisation bodies. This would allow to account for the current efforts, such as, for example, the three standards published by ISO/IEC JTC SC/42 in the area of artificial intelligence[4]. It is further observed that the International Telecommunications Union (ITU) spearheads a global inclusive initiative on AI, the "AI Commons", with advanced work underway in specialized committees. [5]

2. Actors in standardisation processes

It is observed that the draft NIST AI Plan refers to standardization as being almost exclusively industry led in the US. As further observed in the NIST document, the US approach to standardization can be different to

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2 For an overview, see https://www.wto.org/english/res_e/publications_e/tbttotrade_e.pdf.

3 https://www.ansi.org/standards_activities/nss/usss,), founded upon the principles of being open and inclusive, market driven, sector based, consumer focused and globally relevant.

4 ISO, https://www.iso.org/committee/6794475.html

5 ITU, https://www.itu.int/en/ITU-T/focusgroups/ai4h/Pages/default.aspx and https://www.itu.int/en/ITU-T/focusgroups/ml5g/Pages/default.aspx

one where governments undertake the role of an active stakeholder in standards development. Fraunhofer considers that each model has merit for the development of internationally competitive standards and as part of the collective or global innovation ecosystem – with the common driver ultimately being for the advancement of society and quality of life.

In relation to the US Executive Order EO 13859, this reflects the importance of US Government participation in relation to the development of AI standards. In this regard, it is government which holds the responsibility to ensure that the rights and interests of the public have appropriate protection, participation and representation in standardization, conformity assessment and related activities. To this extent, the inclusion of government experts – particularly regarding privacy and security, as well as international conventions and frameworks committed to by the US – is strongly supported for any long-term strategy for what is aimed to be international AI standards. The development of standards in this manner is well-known to the US government through its participation in international regional standards bodies, such as the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), the International Telecommunication Union (ITU) and the European Telecommunications Standards Institute (ETSI).

Fraunhofer USA welcomes the United States Federal Government asserting leadership in AI standardisation, especially when it comes to defining the ethical framework and the human-technology interface.

Further to expressly including the US Government as an active stakeholder in the NIST AI Plan, it is also considered important that the role of other stakeholders be expressly recognized in any NIST AI Plan. Fraunhofer USA also respectfully suggests the express inclusion of the various standardization participants in the NIST AI Plan, acknowledging the value of inclusivity. With respect to a potential typology, perhaps it is the American National Standards Institute's (ANSI)'s, six membership categories which will provide an appropriate context for engagement with the public (government, organizational (non-profit), educational), consumers (industry and retail) and (international).[6] It may be that liaison with the Federal Government as part of the NIST AI Plan will assist in receiving input from societal perspectives through government engagement channels which are separate and distinct from those of industry. Such an approach is encouraged, in order to advance the stated terms of Executive Order 13859.

B. Regional Considerations

It is noted that there are already laws and policy development in place in regions and countries around the world, which could impact the NIST AI Plan and the objective of creating internationally competitive AI standards. A non-exhaustive list as applicable to Europe, for example, includes:

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[6] The categories are available at: https://www.ansi.org/membership/overview/overview

1. the Independent High-Level Expert Group on Artificial Intelligence set up by the European Union, which has published a set of documents outlining some of the foundational aspects of AI. This includes a definition of AI, and The Ethics Guidelines for Trustworthy Artificial Intelligence[7].

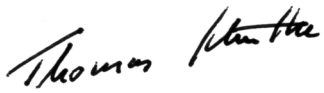
2. the General Data Protection Regulation (GDPR), which requires mandatory compliance across the European Union.[8]

We would be happy to respond to any questions regarding the above comments and remain in dialogue with NIST on these issues which are important to sustainable innovation and globally competitive American Industry.

Yours sincerely,

Thomas Schuelke

Sincerely,



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[7] See https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai
[8] See https://ec.europa.eu/info/law/law-topic/data-protection_en