COMMITTEE ON
ENERGY & COMMERCE
CHAIRMAN FRANK PALLONE, JR.

MEMORANDUM

March 1, 2019

To: Subcommittee on Consumer Protection and Commerce Members and Staff

Fr: Committee on Energy and Commerce Staff

Re: Hearing on "Inclusion in Tech: How Diversity Benefits All Americans"

On **Wednesday, March 6, 2019, at 10:30 a.m. in room 2322 of the Rayburn House Office Building**, the Subcommittee on Consumer Protection and Commerce will hold a hearing entitled, "Inclusion in Tech: How Diversity Benefits All Americans."

I. BACKGROUND

Technology plays a major role in the daily lives of all Americans. Algorithms and machine-learning, for example, are helping employers determine who to recruit for jobs; indicating to lenders who should get loans; and advising correctional authorities as to which factors to weigh in deciding whether a convicted individual should remain in prison or be granted parole.[1] A number of investigations and studies have shown that these algorithms often have biased results, leading to discriminatory outcomes.[2]

As the technology sector continues to loom larger in our daily lives, the workforce has remained largely homogeneous.[3] People of color, women, and older Americans are largely absent from tech companies.[4] Some argue that the lack of diversity contributes to the bias problems seen in consumer technology products and services.[5]

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[1] *Technology Is Biased Too. How Do We Fix It*, FiveThirtyEight (Jul. 20, 2017) (fivethirtyeight.com/features/technology-is-biased-too-how-do-we-fix-it/).

[2] *Id*.

[3] `*Very Lonely.' The Unsettling Hum of Silicon Valley's Failure to Hire More Black Workers*, Bloomberg (June 8, 2018) (www.bloomberg.com/news/articles/2018-06-08/tech-companies-still-aren-t-hiring-black-workers).

[4] *More Than A Pipeline Problem: In Search of Diversity in Silicon Valley*, NPR (July 26, 2015) (www.npr.org/sections/alltechconsidered/2015/07/26/426364306/more-than-a-pipeline-problem-in-search-of-diversity-in-silicon-valley).

[5] *When Bias in Product Design Means Life or Death*, Tech Crunch (2017) (techcrunch.com/2016/11/16/when-bias-in-product-design-means-life-or-death/).

II. DIVERSITY IN THE WORKFORCE

The tech sector generally employs more whites, Asian Americans, and men compared to overall private industry.[6] African Americans, Hispanics, and women are significantly underrepresented. Less than 5 percent of the digital workforce is African American.[7] About 80 percent of executive jobs, which are typically the highest-level jobs in an organization, are held by whites.[8] The problem extends beyond hiring. Tech companies offer African American and Hispanic job candidates about $6,000 less on average than their white counterparts.[9] And while women of color make up 80 percent of all new women-led business in the United States, they only make up 4 percent of the tech industry's workforce.[10]

Some companies within the tech sector have made efforts to increase diversity in their workforce. Many tech companies have made significant investments in diversity efforts, including tying executive compensation to diversity goals and establishing programs to bring back people of color who have left the industry.[11] Most tech companies now have designated staff to address diversity and inclusion issues.[12]

Despite these efforts, the number of people of color at many tech companies and in leadership positions has remained stagnant over the past few years. Among eight of the largest U.S. tech companies, black workers in technical jobs rose from 2.5 percent in 2014 to 3.1 percent in 2017.[13] South Asians and East Asians tend to be well-represented at tech companies; however, they are less likely to be promoted to leadership roles.[14]

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[6] Equal Employment Opportunity Commission, *Diversity in High Tech* (May 2016) (www.eeoc.gov/eeoc/statistics/reports/hightech/upload/diversity-in-high-tech-report.pdf).

[7] National Urban League, *Digital Inclusion Index* (2018) (soba.iamempowered.com/sites/soba.iamempowered.com/files/SOBA2018-Digital%20Inclusion%20Index.pdf).

[8] *See* note 6.

[9] *African American and Hispanic Tech Workers Still Earn Less Than Their White Counterparts*, Yahoo Finance (Feb. 8, 2018) (finance.yahoo.com/news/african-american-hispanic-tech-workers-still-earn-less-white-counterparts-215539590.html).

[10] Kapor Center, ASU Center for Gender Equity in Science and Technology, and Pivotal Ventures, *Data Brief: Women of Color in Computing* (2018) (www.wocincomputing.org/wp-content/uploads/2018/08/WOCinComputingDataBrief.pdf).

[11] *When It Comes to Diversity, Tech's Idealism Keeps Falling Short*, CNET (Dec. 8, 2018) (www.cnet.com/news/when-it-comes-to-diversity-techs-idealism-keeps-falling-short/).

[12] *How Slack Got Ahead in Diversity*, The Atlantic (Apr. 26, 2018) (www.theatlantic.com/technology/archive/2018/04/how-slack-got-ahead-in-diversity/558806/).

[13] *See* note 3.

[14] *Id.*

Some argue that the lack of diversity in the workforce stems from so-called pipeline issues, which refers to the lack of diverse job candidates. Others note that stereotyping and bias have resulted in an underutilization of the available workforce.[15] Surveys show that while women, people of color, and older people go through the interview process, they are not ultimately hired.[16] These surveys as well as significant anecdotal data also show that even when they are hired, these groups may leave their jobs because of discomfort with the culture and lack of diversity within the organizations.[17]

III. BIAS IN CONSUMER PRODUCTS

Bias and fairness issues also arise in consumer tech products and services. Generally, an algorithm is a process used to solve a problem. In the context of technology, algorithms are often computer programs designed to achieve a result, such as prioritizing search results or sorting through resumes. These algorithms are designed and maintained by humans.[18] Because of this influence and because the algorithms are learning from collected data, researchers have found that algorithms are not necessarily objective.[19] Assumptions used to design an algorithm can lead to unintentional bias in curated online content.[20] Moreover, data used to "train" algorithms may perpetuate historic bias.[21] For example, an algorithm analyzing potential CEO candidates using a database of historically successful CEOs may give a preference to white males because there have been few non-white or female CEOs.[22]

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[15] *See* note 6.

[16] CompTIA, *Diversity in the High-Tech Industry* (Feb. 2018) (www.comptia.org/resources/technology-diversity-research); *More Than A Pipeline Problem: In Search of Diversity in Silicon Valley*, NPR (July 26, 2015) (www.npr.org/sections/alltechconsidered/2015/07/26/426364306/more-than-a-pipeline-problem-in-search-of-diversity-in-silicon-valley).

[17] *Id*.

[18] *When Algorithms Discriminate*, New York Times (July 9, 2015) (www.nytimes.com/2015/07/10/upshot/when-algorithms-discriminate.html).

[19] *Id*.

[20] *Biased Algorithms Are Everywhere, and No One Seems to Care*, MIT Technology Review (July 12, 2017) (www.technologyreview.com/s/608248/biased-algorithms-are-everywhere-and-no-one-seems-to-care/).

[21] *Unmasking A.I.'s Bias Problem*, Fortune (June 25, 2018) (fortune.com/longform/ai-bias-problem/).

[22] *See Bias is AI's Achilles Heel. Here's How to Fix It*, Forbes (Aug. 13, 2018) (www.forbes.com/sites/jasonbloomberg/2018/08/13/bias-is-ais-achilles-heel-heres-how-to-fix-it/#6349e4e26e68).

Social platforms also face criticism for treating different groups of people differently. Each platform decides for itself what policies to adopt when it comes to moderating content.[23] For some platforms, the decision to remove or delete content is made by employees of the platform based on internal company guidelines, which may perpetuate bias or stereotypes.[24]

Technological design of common everyday consumer products may disadvantage individuals based on characteristics such as race, age, or place of origin. For example, sensors used on fitness trackers or soap dispensers may not work for darker skin tones.[25] Facial recognition software similarly continues to have trouble with darker skin tones, especially darker-skinned women.[26] Voice-activated, interactive toys have been unable to recognize the voices of children,[27] and some smart home speakers have greater difficulty understanding southern or foreign accented individuals.[28]

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[23] *Platforms Decide Who Gets Heard*, NiemanLab (Dec. 18, 2015) (www.niemanlab.org/2015/12/platforms-decide-who-gets-heard).

[24] *See, e.g., Facebook's Secret Censorship Rules Protect White Men from Hate Speech but Not Black Children*, ProPublica (June 28, 2017) (www.propublica.org/article/facebook-hate-speech-censorship-internal-documents-algorithms).

[25] *Why Can't This Soap Dispenser Identify Dark Skin?*, Gizmodo (Aug. 17, 2017) (gizmodo.com/why-cant-this-soap-dispenser-identify-dark-skin-1797931773).

[26] *Facial Recognition Is Accurate, if You're a White Guy*, New York Times (Feb. 9, 2018) (www.nytimes.com/2018/02/09/technology/facial-recognition-race-artificial-intelligence.html).

[27] *See* note 5.

[28] *The Accent Gap*, Washington Post (July 19, 2018) (www.washingtonpost.com/graphics/2018/business/alexa-does-not-understand-your-accent/?utm_term=.fa677b5e0530).

IV. WITNESSES

The following witnesses have been invited to testify:

Dr. Nicol Turner-Lee
Fellow
Center for Technology Innovation, Governance Studies
Brookings Institution

Mr. Mark Luckie
Digital Media Strategist
Former Manager at Facebook and Twitter

Ms. Jiny Kim
Vice President, Policy and Programs
Asian Americans Advancing Justice | AAJC

Ms. Jill Houghton
President and CEO
Disability:IN

Ms. Natalie Oliverio
CEO
Military Talent Partners

Mr. David Lopez
Counsel, Outten and Golden
Co-Dean, Rutgers Law School

Dr. Joan Ferrini-Mundy
President
University of Maine