

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2

3 PUBLIC HEARING ON THE "SUCCESS ACT"

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1 Detroit, Michigan

2 Tuesday, June 18, 2019

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4 PARTICIPANTS:

5 WELCOMING REMARKS:

6 DAMIAN PORCARI, Director of the Elijah J. McCoy Midwest  
7 Regional USPTO

8 CONSTANCE LOGAN, District Director, Michigan District  
9 Office, U.S. Small Business Administration

10

11 OVERVIEW OF SUCCESS ACT and ROUND TABLE LOGISTICS

12 ANDREW TOOLE, Chief Economist, Office of Policy and  
13 International Affairs, USPTO

14

15 PUBLIC TESTIMONY:

16 DR. DANNY BRIERE, Chief Entrepreneur Officer,  
17 The Henry Ford, Global Director, Invention  
18 Convention Worldwide

19 MARJORIE WEIR, Independent Inventor, U.S. Inventor, and  
20 Minnesota Inventors Network

21 DR. LISA COOK, Associate Professor,  
22 Michigan State University

23 MARIA McKENDRICK, Inventors Association of  
24 Metropolitan Detroit

25 WILLIAM J. COUGHLIN, Retired Assistant General Counsel

1 for Intellectual Property at Ford Motor Company

2 (speaking independently)

3 PAUL MORINVILLE, OrgStructure, LLC (defunct)

4 PUBLIC TESTIMONY: (continued)

5 TESIA THOMAS

6 DR. NICHOLE MERCIER, University of Washington

7 HOLLY FECHNER, Covington & Burling, LLP

8 NICHOLAS RIPPLINGER, Battle Sight Technologies,

9 A Service Disabled Veteran Owned Small Business

10 DR. KELLY SEXTON, Associate Vice President for

11 Research, Technology Transfer and Innovation

12 Partnerships, University of Michigan

13 DR. RORY A. COOPER, Human Engineering Research

14 Laboratories, University of Pittsburgh

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17 KATRINA L. ANDERSON, CommodiTeas, LLC

18 CARRIE HAFEMAN, Independent Inventor

19 DARLENE McCOY

20 LAURIE GATHMAN KOWALSKY, Philips Corporation

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1 P R O C E E D I N G S

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3 (9:02 a.m.)

4 MR. PORCARI: Good morning, everyone.

5 Welcome to the Elijah J. McCoy Midwest Regional U.S.

6 Patent and Trademark Office. My name is Damian

7 Porcari. I'm the Director here, and we are very happy

8 to have everyone in attendance today. I'm going to

9 have some informational. Please silence your phone.

10 We're recording this event. And if you could, do us a

11 favor, and silence your phone. That would be terrific.

12 Bathrooms are out that door and to the left.

13 I will place a timer within eyesight with 15

14 minutes max. Please take a look or glance there. I

15 apologize that it's a little bit out of sight, but I

16 will sit over there and operate the timer. So that's

17 just kind of the rules for today. Please, to the

18 extent possible, limit your comments to the purposes of

19 the SUCCESS Act, and that will be great. So good

20 morning. Thank you for coming to this, our third

21 hearing of the SUCCESS Act, and it's a pleasure to host

22 all of the speakers and the attendees.

23 So women constitute over half the U.S.

24 population, and their participation in the general U.S.

25 workforce is almost two-thirds as of 2016. Yet,

1 women's participation in STEM fields and in the IP  
2 system lags far behind their male counterparts. In the  
3 U.S., less than one-quarter of the STEM workforce  
4 companies comprises women, plus half of these women who  
5 work in STEM fields leave after 12 years, most within  
6 the first 5 years. The participation of women as  
7 inventors named in U.S. patents is even lower.

8 So on February 11th of 2019, the USPTO  
9 released a report titled Progress and Potential, a  
10 Profile of Women in Inventors on U.S. Patents. And  
11 this study found that although the number of patents  
12 with at least one woman inventor increased from about 7  
13 percent in the 1980s to 21 percent in 2016, women  
14 inventors still comprise only 12 percent of all  
15 inventors on patents granted in 2016. So if we are to  
16 maintain our technological leadership, the U.S. cannot  
17 continue to compete with so much talent left untapped.

18 So in order to unleash this talent, industry,  
19 academia, and government must work together to address  
20 these issues and drive toward real progress. So we at  
21 the USPTO are committed to making opportunities to  
22 innovation available to everyone. A recent Harvard  
23 study found that increasing invention rates among  
24 women, minorities, and children of low income families  
25 could quadruple the rate of U.S. innovation. So

1 clearly, unleashing this potential holds tremendous  
2 benefit for all Americans.

3 Thank you for your participation here today.  
4 We look forward to a productive and informative day,  
5 and we ask that you focus on the purpose of this  
6 hearing and direct your remarks to how the government  
7 can promote the participation of women, minorities, and  
8 veterans in entrepreneurial activities, and increase  
9 the number who apply and obtain U.S. patents. So I'm  
10 going to introduce the first one speaker, not three,  
11 that have appointments and can't stay for the entire  
12 event. We want to accommodate their schedule as well  
13 as to allow them to present their information.

14 So first, we're going to have Connie. So  
15 let's -- so Constant Logan -- Constance Logan. So it's  
16 my pleasure to introduce our next speaker. Constance  
17 Logan is the Michigan District Director of the U.S.  
18 Small Business Administration, and in this role, she's  
19 responsible for the implementation of the SBA's program  
20 and services in Michigan's 83 counties. Constance also  
21 oversees the SBA's resource partners throughout the  
22 State, including 11 regional small business development  
23 centers, nine SCORE chapters, and three women's  
24 business centers, and a veterans business outreach  
25 center, and seven micro lenders.

1           Constance recently served as Michigan's SBA  
2     deputy director for 5 years, and prior to her  
3     appointment, she led the District's business  
4     development division overseeing the 8A and the Hub Zone  
5     certification programs, and served as the executive  
6     director member and leading small business initiatives  
7     for the Detroit Empowerment Zones, One Capital Shop  
8     Detroit, and for three consecutive years, led the SBA's  
9     prestigious Emerging Leaders program. Constance?

10           MS. LOGAN: Good morning. Thank you, Damian.  
11     On behalf of the U.S. Small Business Administration,  
12     Michigan District Office, I am very pleased to be here  
13     this morning to collaborate with and to support the  
14     USPTO's efforts to obtain information doing public  
15     hearings with the goal of increasing entrepreneurship  
16     and the utilization of the patent process by women --  
17     women -- by women, minorities, and veterans. Through  
18     the SBA, we are committed to serving all entrepreneurs  
19     wishing to start, grow, expand, and recover. However,  
20     through data, we are very aware there are gaps in  
21     certain industries and markets.

22           For example, in Michigan, we support and  
23     oversee three women business centers, a veterans  
24     business outreach center, and have implemented an  
25     emerging leaders program that targets entrepreneurs in

1 underserved communities. And this is our 11th year,  
2 and the demand continues to grow. I am happy to report  
3 the SBA and the USPTO here in Michigan have a great  
4 relationship already. We collaborate on many fronts in  
5 terms of providing training, programs, and just  
6 outreach to small business communities.

7 The SUCCESS Act is a fine example of  
8 government collaborating. I encourage all of you to be  
9 open, candid regarding your issues and concerns. It is  
10 only through this type of feedback that studies can be  
11 conducted and solutions or recommendations can be  
12 implemented to improve accessible economic  
13 opportunities, which will result in better communities  
14 throughout our nation. Thank you.

15 MR. PORCARI: Okie doke. And next, I'd like  
16 to introduce Andrew Toole. He's our next speaker. Dr.  
17 Toole is the Chief Economist at the U.S. Patent and  
18 Trademark Office and a research associate at the Center  
19 for European Economic Research, Zew, Z-e-w. I think  
20 that's it.

21 DR. TOOLE: Z-e-w.

22 MR. PORCARI: Okay. Dr. Toole joined the PTO  
23 with experience in the private sector, academia, and  
24 government, and while completing his Ph.D. in economics  
25 at Michigan State, Andrew was the senior economist

1 at -- for Dr. Christian -- oh, for Dr. Laurits  
2 Christians Associates, where he conducted studies on  
3 the total factor productivity, cost and price analysis,  
4 and competitive strategy. In 2010, he joined the  
5 Science Policy Board at USDA's economic research  
6 service, and his research focuses on the economics of  
7 innovation, intellectual property, and related science  
8 and technology policies. Dr. Toole is published in the  
9 Journal of Law and Economics, and the Review of  
10 Economics and Statistics Research Policy and Management  
11 Science, and many other peer review journals. Dr.  
12 Toole?

13 DR. TOOLE: Thank you, Damian. Thank you  
14 very much. And I want to say thank you to all of you  
15 here at the Midwest Regional Office for hosting this  
16 event. This is the third public hearing for the  
17 SUCCESS Act. It's an opportunity for individuals and  
18 organizations to go on the record, and to express ways  
19 in which we can improve the participation of women,  
20 minorities, and veterans in the invention system, in  
21 the innovation in the United States. So I'm super  
22 happy about that. So thank you to all of you are here  
23 in person, and thank you to all of who are online, and  
24 we'll -- some folks will be participating via Webex, so  
25 online.

1 I would like to also highlight -- so I don't  
2 have a clicker; I'm not sure how we should -- how we  
3 should advance this -- but I would also like to  
4 highlight that the oral testimony in this particular  
5 setting here today is not the only opportunity to  
6 articulate how you feel and how you think we can  
7 improve the system to make it more diverse and more  
8 inclusive. And there's an opportunity on June 30th of  
9 this -- that's coming up pretty quickly -- but by June  
10 30th, you can submit written testimony, and that  
11 written testimony will also be incorporated into the  
12 final report to Congress with respect to the SUCCESS  
13 Act.

14 So let's see if I can advance this a little  
15 bit. The SUCCESS Act, just to highlight -- I want to  
16 just highlight a couple of things. And I'm going to be  
17 very brief, because I know we need to move on to get to  
18 the importance of the things of today, and that's the  
19 testimony of each of you individuals and organizations.  
20 But President Trump passed the -- and Congress passed  
21 the SUCCESS Act. President Trump signed it on October  
22 31st, 2018. And what that requires, one part of that  
23 SUCCESS Act requires the USPTO to prepare a written  
24 report to Congress. The written report is being done  
25 in collaboration with the Small Business Administration

1 and in cooperation with some other agencies.

2 So, for instance, we are reaching out to the  
3 Department of Treasury, who that group was actually  
4 involved in the study that was mentioned a minute ago  
5 by Damian that came out of Harvard, which they  
6 connected patent records to the Treasury tax records,  
7 and were able to talk about women and minorities -- not  
8 veterans, per se -- in the patenting process. It's a  
9 very interesting and important paper. So we're working  
10 collaboratively -- and I'm so happy that Constance was  
11 here today and was able to talk to you all for a  
12 moment -- to go ahead and prepare this report. What  
13 does this report require?

14 And we have to stick to the requirements. We  
15 can't really go beyond the scope of what we've been  
16 asked to do, so let me just highlight what we've been  
17 asked to do. And I want and I would really urge all of  
18 you to stay focused on those particular objectives,  
19 because to the extent that you can, you will help us to  
20 write a better report for Congress. So you are also  
21 participating here in the process. The first thing  
22 that we'd like to know is are there any publicly  
23 available data? Are there any publicly available data  
24 that shed light on the participation of women,  
25 minorities, or veterans as inventors in the U.S.

1 innovation system? And what is publicly available  
2 data?

3 Publicly available data is information that  
4 we can collect for free. It's not a database that's  
5 owned by a company that you need to pay a subscription  
6 for. So are there publicly available data sources? We  
7 really would like to know. We would like to know as  
8 well what are the benefits to women, minorities, and  
9 veterans from receiving a patent? And so this could be  
10 a personal sense of achievement, but it could also  
11 translate into economic returns of some kind. One step  
12 further than that, the third component here, is what  
13 are the benefits to women, minority, and veteran-owned  
14 firms -- and this is where the SBA is very much a key  
15 player -- what are the benefits to those firms from  
16 receiving a patent?

17 And this is particularly focused on the  
18 marketplace and commercialization, as you might -- as  
19 you might imagine. So the final part of our report is  
20 to provide recommendations to Congress and for the  
21 Federal government to consider for increasing the  
22 participation of women, minorities, and veterans in the  
23 patent system. So we want to promote the participation  
24 of women, minorities, and veterans, and we want to  
25 increase the number in participation of women,

1 minorities, and veterans so that we have a more diverse  
2 and inclusive patent system. So what are the  
3 recommendations, the actions that we can take to  
4 actually get this done? And to the extent that you all  
5 can help shed light on that, we're very, very happy.  
6 So thank you very much, and a thank you to Damian, and  
7 I'm looking forward to all of your testimony today.

8 MR. PORCARI: Cool. So with that, I would  
9 like to introduce our first speaker. Our first speaker  
10 is Dr. Danny Briere. He's the Chief Entrepreneur  
11 Officer of The Henry Ford, and he's the Global Director  
12 of Invention Convention Worldwide. Danny, I'm going to  
13 turn that little timer on, and if you can glance that  
14 way, it'll give you 15 minutes. Thank you.

15 DR. BRIERE: Okay. Thanks a lot. I want to  
16 thank the USPTO for the opportunity to address the  
17 exciting opportunities presented by the Study of  
18 Underrepresented Classes Chasing Engineering and  
19 Science (SUCCESS) Act. My name is Danny Briere and I  
20 am the Chief Executive Officer of The Henry Ford here  
21 in Dearborn, Michigan, and I'm also the Global Director  
22 of its Invention Convention Worldwide initiative.

23 The Henry Ford is an internationally  
24 recognized cultural destination that brings the past  
25 forward by immersing visitors in the stories of

1 ingenuity, resourcefulness, and innovation that have  
2 helped shape America. It's also a global force in  
3 extending this same knowledge and experiences worldwide  
4 so that everyone can experience the learning and  
5 innovation that has marked our nation's past.

6 The Henry Ford Invention Convention program  
7 is an invention education program as an outreach  
8 program that empowers young people in grades  
9 kindergarten through 12, to develop the skills and self  
10 confidence they need to identify and solve real world  
11 problems through the inventing process. The Invention  
12 Convention encourages students to explore ideas based  
13 on their own life experiences, and to develop real  
14 inventions worthy of taking to marketplace. The  
15 Invention Convention program is designed for all  
16 students of different abilities, and its accessible,  
17 free curriculum and extensive professional development  
18 programs are available across the U.S. and almost a  
19 dozen countries globally.

20 The curriculum is based on significant  
21 research on the efficacy of the project-based  
22 personalized learning undertaken by educators and  
23 neuroscientists who understand the benefits of  
24 undefined problem solving on brain development. You  
25 can find invention conventions programs in schools in

1 48 U.S. states, and formal large scale Henry Ford  
2 Invention Convention programs across 21 states and in  
3 eight countries.

4 Now, the stated goal from Congress with the  
5 SUCCESS Act is to work with the private sector to close  
6 the gap in the number of patents applied for and  
7 obtained by women and minorities to harness the maximum  
8 innovation potential and continue to promote the U.S.  
9 leadership in a global economy. The SUCCESS Act  
10 specifically seeks to: (A) promote the participation  
11 of women, minorities, and veterans in entrepreneurship  
12 activities, and (B) increase the number of women,  
13 minorities, and veterans who apply for and obtain  
14 patents.

15 The Henry Ford believes that to address these  
16 two issues, and the larger issue of future American  
17 innovation and global economic power, we need to start  
18 in K through 12. If we start in K through 12, the  
19 adult participation of women, minorities, and veterans  
20 will naturally increase at a greater rate than other  
21 classes because of other focused programs to support  
22 their entry into the innovation ecosystem.

23 While there are many university, government,  
24 and private sector initiatives -- including co-working  
25 spaces, incubators, accelerators, and hubs -- that are

1 designed to try to coax would-be entrepreneurs to leave  
2 their jobs and start companies or become entrepreneurs  
3 during and after their college years, we need yet more  
4 entrepreneurs to power the growth of our local  
5 ecosystems.

6           Trying to change the mindsets of adults is  
7 really hard, particularly when they have kids,  
8 mortgages, and other family expenses to pay, increasing  
9 the risk of taking a shot at being entrepreneurial.  
10 It's a big leap for most to make this change in mindset  
11 later in life when they have not been thinking about  
12 this way all along. We need to think about changing  
13 this mindset earlier so we raise them thinking that  
14 being an inventor and entrepreneur is as valid as  
15 becoming a doctor, a lawyer, or a police chief from the  
16 start, and train them in core skills in invention,  
17 innovation, and entrepreneurship for any job they get,  
18 whether they create their own job or not.

19           Problem solvers solve problems, creating many  
20 inventions. If we make more problem solvers, we make  
21 more inventions, which should lead to more patents,  
22 more innovation, and more success for America. The  
23 Henry Ford's Invention Convention program teaches  
24 students how to invent to solve problems, and how to  
25 take products to market. They create real inventions.

1 We teach them about Intellectual Property, and a not  
2 insignificant number file for patents and each year.  
3 And each year, a good number take their products to  
4 marketplace.

5 We do this largely in school, alongside math,  
6 science, history, and other core coursework, and we  
7 train teachers how to teach invention and  
8 entrepreneurship education. We're doing this all  
9 across America today with more than 120,000 students  
10 annually, and we're rapidly growing. At our recently  
11 concluded 2019 Invention Convention U.S. Nationals held  
12 here in Dearborn, The Henry Ford hosted a student  
13 inventor pool that was 58 percent female -- okay, let  
14 that sink in -- 58 percent female, 31 percent non-white  
15 ethnic minority, 10 percent English as second language,  
16 27 percent financially underserved, and 51 percent  
17 below median household income in the U.S.

18 We are already helping solve the problem that  
19 Congress has asked the USPTO to solve under the SUCCESS  
20 Act. We are graduating into the local communities a  
21 diverse study workforce specifically trained to be  
22 inventive, innovative, and entrepreneurial. Some of  
23 our schools, like the Charles H. Barrows STEM Academy  
24 in North Windham, Connecticut, are doing this every  
25 single year. I know several young inventors who are

1 serial inventors who have been inventing for seven or  
2 eight years straight. Emma Ruccio from Southington,  
3 Connecticut and the Connecticut Invention Convention  
4 program, is a seven-time serial inventor who has  
5 created, among other inventions, a means to help  
6 students with scoliosis track the success of their  
7 physical therapy while at home. She's in the 9th grade  
8 now, and she's be in the workforce in eight years.

9 So let's talk about what sort of impact this  
10 approach would have on a community. We are designing a  
11 new urban community initiative with a partner that will  
12 involve all the students in our partner city's  
13 surrounding metro area, some 600,000 students in the  
14 local K through 12 school systems. All the students  
15 will review invention education in K through 5,  
16 innovation education in 6 through 8, and  
17 entrepreneurship education in 9 through 12 and compete  
18 at an Invention Convention annually.

19 Over time, each year, the schools will be  
20 graduating into the local workforce and colleges more  
21 than 50,000 students, specifically trained in these  
22 skills. That will fundamentally change the local  
23 ecosystem, and this is a top 50 city we're talking  
24 about, and importantly, the population of the people  
25 who are behind new products, companies, and patents.

1 Imagine that. 50,000 Emma Ruccios entering the  
2 workforce every single year. Now, suppose we did that  
3 all across America.

4 So when it comes to trying to encourage  
5 women, minorities, and veterans to become patent  
6 filers, if they were raised that way from kindergarten,  
7 they would be problem-solvers and critical thinkers  
8 predisposed to invention and entrepreneurship  
9 opportunities when they arise throughout their entire  
10 life, and this is fundamental community-wide approach  
11 that will raise their engagement in innovation and  
12 intellectual property pursuits. A curriculum-based in  
13 problem solving and innovation is a necessary shift in  
14 how schools move from rote memorization and  
15 standardized knowledge to creating change makers with  
16 critical thinking, creativity, and problem solving  
17 skills.

18 So that's the first thing The Henry Ford  
19 would suggest we do, work with the U.S. Department of  
20 Education to create a more national policy around  
21 invention, innovation, and entrepreneurship education  
22 in K through 12. That will grow and sustain American  
23 innovation for all classes. Now, we need to make sure  
24 we can protect these students' intellectual property,  
25 and that we want to make sure that what they invent

1 stays within their purview. When the USPTO moved from  
2 a first to invent to first to file system, the issue of  
3 protecting inventions very much became a timing issue,  
4 making sure you don't wait to file for your protection,  
5 because you need to file before anybody else. But for  
6 someone to undertake the time and expense of patenting  
7 their invention, they generally need to have the  
8 confidence that their invention is worthy of that  
9 investment. That takes time too.

10 A challenge for the underrepresented classes  
11 we're talking about today is that they often do not  
12 have the confidence, time, and resources to make that  
13 assessment that quickly. Consider the typical K  
14 through 12 or college student who has done research and  
15 created an invention. Within his or her world, it  
16 might seem like a great idea, but until shown to others  
17 for feedback, it's hard to tell if it's really unique  
18 and substantive.

19 It is highly typical that student will  
20 present his or her invention at their school's science  
21 fair, invention convention, STEM fair, entrepreneurship  
22 expose, pitch competition, or other public event. Many  
23 of these events are competitions and select the most  
24 promising student inventions for recognition and  
25 ascension to higher competition levels, like national

1 and global competitions. It is this recognition and  
2 acclaim that sparks the idea, hey, I might be on to  
3 something. I need to get a patent.

4 The good news here is that these national and  
5 global competitions often provide pro bono patent  
6 application awards to students who win. Indeed, at The  
7 Henry Ford's 2019 Invention Convention U.S. Nationals  
8 showcase and competition, for instance, nine students  
9 were provided with free patent searches, and if  
10 applicable, patent applications, from leading IP firms  
11 like WilmerHale, Cooley, and Cantor Colburn. Some  
12 state feeder competitions do the same. The Connecticut  
13 Invention Convention, for instance, awards one pro bono  
14 patent application from McCormick, Paulding & Huber.  
15 More good news is that over half of the available  
16 patent applications went to girls, and from households  
17 where parents earned income is below the national  
18 average.

19 The bad news is while these are great  
20 solutions for a few of the topmost student inventions,  
21 nationally, more than 120,000 students also created  
22 inventions this year. In all of these inventions,  
23 largely are not protected by any intellectual property  
24 or patent application. Some of these are indeed  
25 patentable and even ready for market to be

1 commercialized. What's more bad news is because they  
2 are displaying log books about how their inventions  
3 were created and prototyped, and poster boards and  
4 pitches explaining the details, these students incur a  
5 public disclosure risk relative to their inventions.  
6 This is true of every science fair, invention  
7 convention, STEM expo, pitch competition and other  
8 public events in local schools and other venues across  
9 America.

10 We need to protect these students' inventions  
11 sooner. What we need is a more accessible, provisional  
12 patent process. This process requires funds, which  
13 some women, minorities, veterans, and K through 12  
14 students don't have. Just the \$70 or more to file a  
15 provisional patent for an invention that they might not  
16 know is worth anything is a burden for low income  
17 students.

18 The practical reality is that most students  
19 in the described situation find out that they might be  
20 on to something within 6 to 12 months of their first  
21 disclosure of that invention. We at The Henry Ford  
22 would propose that the USPTO, together with Congress,  
23 consider creation of a more underrepresented class  
24 friendly provisional patent process. With age, we  
25 specifically suggest that the USPTO consider a waiver

1 of all provisional patent fees for filers 21 years of  
2 age or younger, to allow them to file and give them  
3 temporary protection and enough time to assess whether  
4 their invention is worthy of a full non-provisional  
5 patent application.

6 There's a precedent for the USPTO to treat  
7 filers differentially based on age. There is a  
8 petition to make special for any applicant who is 65  
9 years of age or more to advance the time frames for  
10 examination of the application. We would urge the  
11 USPTO to consider such a petition to make special for  
12 age for filers 21 years of age or younger, the outcome  
13 of which would be a waiver of the filing fees.

14 With such a process in place, students in  
15 K through 12 and college will be incented to take part  
16 in the patenting process in a more early fluid fashion.  
17 For instance, The Henry Ford builds into our Invention  
18 Convention curriculum the process of creating a  
19 provisional patent cover page and taking pictures of  
20 the poster and log book to document and protect their  
21 inventions as soon as they make repeated public  
22 displays and disclosures as they weave their way  
23 through the competition layers. However, few students  
24 take advantage of this because of the cost. A  
25 fee-waived process will protect them from disclosure

1 issues, which will have an impact both here and outside  
2 the U.S., and protect them from intellectual property  
3 thieves at public events.

4 For other underrepresented classes, we should  
5 also consider a similar treatment if we want more  
6 filings from underrepresented populations, although not  
7 all underrepresented class entrepreneurs are limited by  
8 the costs of filing. But even at its lowest cost, \$70,  
9 this is still too much of a burden for many in America.

10 The Henry Ford encourages the USPTO to  
11 consider a broader mandate in its response to Congress  
12 so that age is considered as part of the  
13 underrepresented class analysis, alongside gender,  
14 race/ethnicity, and military service history. With  
15 age, we're not only talking about K through 12. The  
16 world of entrepreneurship and innovation ecosystem  
17 building is replete with programs designed to encourage  
18 greater participation of college students, adults, and  
19 senior citizens as well. Indeed, it's not unusual to  
20 find development planners that are talking about K  
21 through Gray, which represents their focus across the  
22 whole age spectrum, from kindergarten all the way  
23 through senior citizenship.

24 A rising tide floats all boats. Inventing  
25 and entrepreneurship are team sports. If you train the

1 students in school to work together and to work to  
2 integrate local out-of-school programs as well, we  
3 believe that women, minorities, and veterans will  
4 advance in their participation in the local ecosystems  
5 organically. We have already seen this with our  
6 programs. Recall that our invention engineering  
7 programs are 58 percent female, and that's a national  
8 number.

9 We recognize we need to craft specific  
10 policies and programs to help underrepresented classes.  
11 The Henry Ford does this now. For instance, we have  
12 programs specifically designed to ensure students in  
13 inner city schools have a level playing field with  
14 their peers in wealthier areas by providing additional  
15 mentoring, school supplies, resources, and other extras  
16 for teachers and students. We want to raise all  
17 students with the confidence, experience, and tools to  
18 be successful inventors and entrepreneurs. We don't  
19 want women, minorities, and future veterans being  
20 raised thinking they are any different from anybody  
21 else in these regards. Equal capability means equal  
22 opportunity.

23 Finally, our researchers need to have access  
24 to accurate data to evaluate our impact. We need to  
25 track their efforts in the U.S. patent system. To that

1 end, the USPTO necessarily needs to add fields to it  
2 patent application forms for gender, race, veteran  
3 status, and date of birth, or at least age of inventor.  
4 The Henry Ford is thankful to you for allowing us time  
5 today to present our thoughts. We believe that while  
6 short-term policies, like reduced fees, will help, it  
7 is the long-term approach to basic and sustained  
8 education in invention, innovation, and  
9 entrepreneurship for K through 12 students that will  
10 make fundamental advances in the fabric of American  
11 innovation.

12 We need to start early. And as we think  
13 about American competitiveness on the global stage, we  
14 should consider the example of Korea, where all K  
15 through 12 students are required to have invention  
16 education before they graduate high school. All  
17 students. America was founded on principles that  
18 included respect for invention and self-determination.  
19 If we want to promote such characteristics in our  
20 underrepresented classes, let's raise our children that  
21 way. Thank you very much for our time.

22 MR. PORCARI: Thank you, Danny. Thank you so  
23 much. Thank you so much, Danny. So Dr. Cook -- is Dr.  
24 Cook here? Not yet? Okay. So we're going to take our  
25 speakers out of order, because we have a change of

1 lineup. So our next speaker is going to be Marjorie  
2 Weir. She's an independent inventor from Minnesota  
3 Inventors Network. Marjorie, thank you so much. Thank  
4 you so much.

5 MS. WEIR: Thank you. Okay. I wasn't  
6 planning to be this much after that. But I do -- I  
7 guess there's some things that it triggered listening  
8 to those well-thought out plans. I'm an independent  
9 inventor, and I have been for 20 years, and I have not  
10 yet been able to monetize my first patent. And that  
11 utility patent, I'm still working on it, because it's a  
12 very -- it's a great product, and every woman I talk to  
13 understands it and feels that it's something worth  
14 doing, but it's hard to find venture capital. It's  
15 hard to find investment, especially when we have a PTAB  
16 that will take away your rights to your patent once you  
17 are -- you know, once it does matter. Because our  
18 patent system is becoming so weak, knockoffs are  
19 allowed all over the place, and it's so easy with the  
20 Internet to find ways around. And I feel like that's  
21 where the Patent Office has to put all of its energies.

22 So when I first showed my -- the first time  
23 it went to Electronic Retailing Association event in  
24 Florida, and that is a -- it was a trade show. And I  
25 was so excited, because a company was interested in my

1 product, said this is really a great idea. And mind  
2 you, this was many years ago. And they said this is --  
3 you know, call her up. Call this guy at our office  
4 when you're back, and after the show, and we'll talk.

5 And on my way home, I got on my cell phone in  
6 the car, and I was excited to talk to him, and it was a  
7 major company. And that guy said, I don't need to talk  
8 to you. Your patent's on the Internet. I can read  
9 everything there. It hadn't been issued yet. This was  
10 2014. And it was slightly terrifying, because it was  
11 like I had no idea from my attorney that because I was  
12 going to file internationally, that it would be  
13 displayed on the Internet. And so he -- and nobody had  
14 told me it had already been put out there, because what  
15 happens is that within -- I think it's within 18  
16 months; I'm going to be not correct on some of this --  
17 but within 18 months, it's showing online, even though  
18 it didn't get issued until 2008, and it required -- it  
19 was over \$40,000 in the end.

20 So I think leading children, and women, and  
21 minorities, and veterans down the path of let's invent,  
22 let's invent, and you're never going to make money off  
23 of it is just leading them to the poor house. I'm  
24 just -- I feel that patents have to be taken more -- it  
25 needs to be either better on the front end when you

1 issue them, or at least uphold what has happened. And I  
2 hope everyone here and everyone that sees this has that  
3 opportunity to watch the movie -- I'm going to forget  
4 the name -- Josh Malone put out about the balloon, his  
5 balloon invention. And they've spent 20 or 40 million  
6 to fight knockoffs, which means there's a lot of money  
7 that got made off of a kid's invention, because you  
8 wouldn't have 20 to 40 million to fight it.

9 But it's the PTAB, if they can just take back  
10 a patent that's been issued without any -- without --  
11 really without a jury trial or anything, that's a huge  
12 problem for others, or if knockoffs are allowed so  
13 easily. So I have another -- I have a couple patents  
14 pending, because I feel that they're still important,  
15 and before I ever had seen that money. But I feel like  
16 getting -- nowadays, it's very hard to license  
17 something, unless you already make it, and show it, and  
18 people see it, and you have your proof of concept. And  
19 then you have to run fast so somebody doesn't knock you  
20 off.

21 I have a great little invention that's  
22 selling, but once -- you know, once some -- I can't go  
23 to a bigger venue, because once somebody sees that  
24 that's -- that that is viable and they actually do some  
25 testing, they'll be able to, you know, easily work

1 around and knockoff something like that. So I feel  
2 like patent pending should be private until it is  
3 actually patented. I don't feel 70 is a -- if you  
4 can't come up with seven people putting in 10 bucks to  
5 pay for your provisional, maybe it isn't a great idea.  
6 I mean, you should at least talk to seven people in  
7 your family and say -- I don't feel that the fees -- I  
8 didn't know about micro entity when I started.

9 I feel like attorneys should -- any patent  
10 attorney should have to give information to independent  
11 inventors that micro entity as a status where the fees  
12 are 75 percent off. I don't know how many of you know  
13 about that, but I was -- I got a bill for 1500 to renew  
14 my fee, which that attorney never even told me that it  
15 was -- that I was a micro entity, and could pay 400. I  
16 think it was 400. I'm hoping I'm giving the right  
17 amounts, but it was something I wasn't even told, and I  
18 found that out from the USPTO office.

19 So every attorney should have to -- I mean,  
20 there should be information, and the information out  
21 there more widely of what the steps are. And, you  
22 know, that first to file is a problem when it is first  
23 to invent. So the first to invent, get a provisional,  
24 maybe the provisional time needs to be longer. I'm not  
25 sure how to make that work, but I feel like, you know,

1 you really have to do your due diligence on whether  
2 it's a valid product, and then how are -- if no  
3 companies are going to license it anyway, if we don't  
4 have a strong patent office, we're not going to have a  
5 company license it anyway. So why go down that path?

6 I do think creativity in school is very  
7 important. I feel like there was a lot that was said  
8 that makes sense, but there's so many inventors who  
9 have not -- what do they say? -- 2 percent make money  
10 off their patents. And that's -- I don't know if  
11 that's including corporations or not, but independent  
12 inventors as a group should be treated differently. I  
13 think if we're trying to make a more equal world, equal  
14 capability equals equal opportunity, then it should be  
15 independent inventors, man, woman, veteran, minority,  
16 and independent inventors should be treated differently  
17 than corporate inventors, because the corporations have  
18 the big bucks, and can work around you.

19 And part of that is just getting the  
20 information out. When I started with that first  
21 patent, I had a woman who I'd met a trade show, at the  
22 housewares show, who had done something similar to my  
23 product. And I didn't meet her. I met the husband at  
24 the trade show. And I came on the booth, and I was  
25 like I already invented this. I already have a patent

1 issued on it. And he was surprised, took my name, and  
2 she called me, you know, just to -- kind of upset  
3 later. But she had looked it up, and she said, you  
4 know, my patent attorney never said that I should do a  
5 search first. So she spent \$7,000 on a patent that was  
6 totally worthless, because mine had already been  
7 issued.

8 And it was very -- virtually the same thing.  
9 It was, and we talked quite a bit after that. But I  
10 just feel that it's really important to get correct  
11 information out, and the patent office already has a  
12 lot of resources, but a lot of us don't even know about  
13 it. So that's, to me, the main thing. I'm sorry that  
14 I don't have this a little bit more in order, but I  
15 think most of the points, this -- the PTAB is a big  
16 deal, and being first to invent, and having a way to  
17 get that information in as a provisional patent.

18 And even if it was a provisional patent, with  
19 that fee, if it was a first look where there might be  
20 some questions brought up right away, that this -- you  
21 know, before you spend a year on it -- I know  
22 provisional patents aren't even looked at, but maybe  
23 with independent inventors, they need to be looked at  
24 and say, please do better research. You know, this  
25 already exists, or, you know, this -- you know, here's

1 five questions we see. That could maybe be done by  
2 that same board of inventors that are the volunteers  
3 that help at the patent office with information.

4 But that would be my points. I still am sure  
5 that I will end up making money off my patents, and it  
6 might take awhile, or it might end up that something  
7 makes money. I just think that they're valid ideas.  
8 And I did a lot of work in the beginning having people  
9 give me opinions. I did survey in groups, and changed  
10 my product because of -- because of the information I  
11 got from my end users. And I think that's so  
12 important, because I do see -- I'm on that board of  
13 inventors network. I'm in different invention groups  
14 online.

15 I see some crazy inventions that I just can't  
16 even believe people put the kind of money -- I mean, I  
17 know somebody who's, you know, just sold their house,  
18 and, I mean, they're going all in on something that I  
19 do not -- I can't even envision that that'll make them  
20 money. But because you watch Shark Tank and you think  
21 this person made it with this, now I can do the same  
22 thing. And it's like you need some real solid opinions  
23 on whether that's doable. So I'm worried about giving  
24 kids false hope, but I do think creativity is something  
25 that we can certainly teach in school.

1                   And the way the world is working, companies  
2 do not take care of you anymore. You, you know --  
3 every -- they say that the vast majority of the  
4 population will be freelancing. I've freelanced for 20  
5 years, so I'm very -- for 20 years before I did this,  
6 so I'm really used to being -- working independently,  
7 and making my own money, but it's hard road, you know,  
8 if you don't have companies that are taking care of the  
9 details. So thank you.

10                   MR. PORCARI: Thank you so much. Thank you  
11 so much. So our next speaker is going to be Dr. Lisa  
12 Cook. Dr. Cook is an associate professor in the  
13 Department of Economics and International Relations at  
14 James Madison College at Michigan State University, and  
15 as a Marshall Scholar, she received a second MBA from  
16 Oxford University in philosophy, politics, and  
17 economics. Dr. Cook earned a Ph.D. in economics from  
18 University California Berkley, and her current research  
19 interests are in economic growth and development at the  
20 National Institution and Market Innovation and Economic  
21 History, and is the senior economist with the  
22 President's Council of Economic Advisers during the  
23 2011 through 2012 academic years. Dr. Cook worked on  
24 the Euro zone financial instruments, innovation,  
25 entrepreneurship. Thank you, Dr. Cook.

1 DR. COOK: So just because this is being  
2 recorded, I don't want my -- I don't want to make my  
3 deans mad, but I'm actually in the Economics Department  
4 and at James Madison College, so I want to make sure  
5 that that is recorded. Thank you so much, Directors  
6 Porcari and Logan, for having me here today to testify  
7 about the SUCCESS Act, and thank you to Andrew Toole  
8 for the invitation to do so.

9 While we have my cousin, Percy Julian, to  
10 thank for cortisone, which he developed in the 1950s,  
11 it was difficult living as an African-American inventor  
12 at that time. His home in Oak Park, Illinois was  
13 fire-bombed twice. We as a society have made progress  
14 since then, but invention and innovation could be more  
15 inclusive and beneficial to everyone as a result.  
16 Unequal access to invention and innovation could lead  
17 to suboptimal outcomes for individuals and for the  
18 economy as a whole.

19 My research with Concherin (phonetic) offers  
20 evidence that women in underrepresented minorities are  
21 less likely to participate in invention and innovation  
22 at each stage of the innovative process, education and  
23 training, the practice of invention, and  
24 commercialization of invention. For women and  
25 African-American participants or would-be participants,

1 this can result in an earnings income, employment, and  
2 wealth gap. For the economy as a whole, this can  
3 result in lower output and living standards. My and  
4 others' research calculates that the size of the  
5 economy could be roughly 3 to 4 percent higher if women  
6 and underrepresented minorities were included in the  
7 innovative process from beginning to end; that is,  
8 living standards could be higher for all Americans with  
9 a more inclusive innovative economy.

10 My research with Cocherin (phonetic) in 2010  
11 was to first study to systematically examine racial and  
12 gender gaps in innovation and invention. Allow me to  
13 say a little about my and related research. In the  
14 early stages of education and training in STEM fields,  
15 women and underrepresented minorities lag in  
16 participation in nearly every STEM field. In 2014,  
17 women were awarded 35 percent of the bachelor's degrees  
18 in STEM fields. For advanced degrees, women outnumber  
19 men in some STEM fields like biology. And in 2016,  
20 women received 53 percent of the doctoral degrees in  
21 biological science, but only 23 percent of doctoral  
22 degrees in engineering, and 17 to 18 percent of those  
23 in computer science and physics went to women.

24 The recent literature on the gender and  
25 racial gap related to participation in the STEM fields,

1 including the impact of social norms and gender  
2 stereotypes, peer effects, and professors' gender on  
3 tests scores and college majors -- sorry -- let me --  
4 let me repeat that. The recent literature on the  
5 gender gap and racial gap related to participation in  
6 STEM fields attempts to identify the factors affecting  
7 these differences, including the impact of social norms  
8 and gender stereotypes, peer effects, and professors'  
9 gender on test scores and college majors.

10 With respect to practicing invention and  
11 creating new knowledge or products, women and  
12 African-Americans not only engaged at generally lower  
13 rates than their counterparts, but they earn less and  
14 are employed less than their counterparts. In 2010,  
15 the median salary for whites was \$72,000 in the  
16 innovation economy, and for African-Americans, it was  
17 \$56,000, which was 78 percent of the median white  
18 salary. In 2015, the share had only moved slightly to  
19 79 percent.

20 In 2015, the median salary for men was  
21 \$87,000 in the innovation economy, and \$62,000 for  
22 women, which was 71 percent of the median male salary.  
23 Among scientists and engineers, in 2015,  
24 African-American unemployment was 4.7 percent compared  
25 to 2.9 percent for whites in the innovation economy.

1 Unemployment for underrepresented minority men at just  
2 above 4 percent is higher than for white and Asian men,  
3 and higher than the average for all scientists and  
4 engineers. A few papers in the last decade have  
5 focused on the misallocation of talent among inventors  
6 and other high-skilled workers.

7 My research found that coed patent teams are  
8 more productive at commercialization than single sex  
9 male or single sex female patent teams. Harmon and  
10 Monroe investigate the gender gap for commercialized  
11 patents, and show that the gender gap among science and  
12 engineer degree holders is due primarily to women's  
13 underrepresentation in patent intensive fields and  
14 patent intensive job tasks. They also find that  
15 closing this gap could increase U.S. GDP per capital by  
16 2.7 percent.

17 My 2018 research with Yang executes a similar  
18 exercise using more recent patent data, and finds that  
19 GDP per capita would be 0.6 percent to 4.4 percent  
20 higher, if more women and African-Americans received  
21 some training and worked in related jobs. Shea,  
22 Hirsch, Jones, and Clinow (all phonetic) analyze a  
23 gender and racial distribution for highly skilled  
24 occupations over the last 50 years. They show that the  
25 change in the occupational distribution since 1960

1 suggests that a substantial pool of innately talented  
2 women and African-Americans in 1960 were not pursuing  
3 their comparative advantage, and this misallocation of  
4 talent affects aggregate productivity in the economy.  
5 They find one-quarter of growth in aggregate output  
6 from 1960 to 2010 could be explained by an improved  
7 allocation of talent.

8 Bell, Chetty, Jaravel, Petkova, and Van  
9 Reenen investigate the characteristics and life  
10 trajectories of inventors, and find that income, race,  
11 and the gender gap in invention find -- and income,  
12 race, and gender gap in invention that is primarily due  
13 to environment barriers in acquiring human capital. A  
14 lack of mentoring and exposure to careers in science  
15 innovation in childhood, and they're not due to  
16 differences in ability. This evidence suggests  
17 policies that target lower income underrepresented  
18 minority and female children may be more effective in  
19 closing the gender gap than other policies.

20 Concerning the final stage of commercializing  
21 invention or innovation, outcomes are starkly  
22 different. Women are only 8 percent of new hires at  
23 venture capital firms. Female CEOs receive only 2.7  
24 percent of all venture funding, while women of color  
25 get virtually none, 0.2 percent. Women and African-

1 Americans are often found in legal and marketing  
2 departments, but are largely missing in technical  
3 positions and among executives and on boards. In 2014,  
4 Fortune ranked several large tech firms based on  
5 recently released demographic data. With respect to  
6 women executives, one firm was ranked highest with  
7 women constituting 43 percent of leadership roles, and  
8 two firms who ranked lowest with 19 percent of those in  
9 leadership roles.

10 Women constituted just 18.7 percent of boards  
11 of S & P firms in 2014, which is up from 16.3 percent  
12 in 2011. In 2015, 11 percent of venture capitalists  
13 were women, and 2 percent were African-American. This  
14 is a state where incomes can be high, and wealth  
15 generated can be substantial. It is also the stage at  
16 which one would observe the most unequal outcomes by  
17 gender and race. This is immediately apparent when  
18 considering the prominence of tech firms, and the most  
19 valuable public firms, and the relative size of these  
20 firms. The trillion dollar valuations of tech firms  
21 put them roughly on par with the GDP of The  
22 Netherlands, Mexico, or Australia.

23 Workplace issues for women and minorities go  
24 beyond the opportunity to participate in invention and  
25 innovation. Recently tech workers in the U.S. have

1 demonstrated to protest sexual harassment and  
2 misconduct, lack of transparency includes forced  
3 arbitration for sexual harassment claims, workplace  
4 culture, and pay, and opportunity, and equality. To be  
5 clear, this is not just the pipeline. Among the Forbes  
6 list of richest people in the world, five of the top 10  
7 derive their wealth primarily from the innovation  
8 economy. The nine tech firms with IPOs last year were  
9 valued at roughly \$36 billion, and the most valuable  
10 one was valued at approximately \$20 billion.

11 In the last two decades, researchers have  
12 made substantial progress in studying the participation  
13 of women and African-Americans at each stage of the  
14 innovation process. Nonetheless, if the aforementioned  
15 losses to GDP were to be tolerated, firms, technology,  
16 officers, and patent teams are not being good stewards  
17 of America's human capital and inventive capacity.  
18 This is a classic coordination problem and market  
19 failure. Public policy can help in the research,  
20 analysis, and promotion of diverse participation in  
21 inventive activities.

22 Legislation, such as the SUCCESS Act, would  
23 be critical to researchers to develop this research  
24 further. Having patentees or their agents and  
25 attorneys voluntarily and separately report demographic

1 data, gender, race, ethnicity upon submission of a  
2 patent or other IP application would advance this  
3 important line of research further with more precise  
4 data. Having the USPTO report on these data annually  
5 will shed light on important dimensions of the problem  
6 and changes over time. I would propose adding two  
7 additional data series for collection, disability  
8 status, and veteran status.

9 The literature on innovation related to the  
10 inclusion of these groups is just developing, and this  
11 would be an opportune time to include these inventors  
12 in the counts proposed in the legislation, which would  
13 be in line with data collected by the Small Business  
14 Administration, for example. Thank you for the  
15 opportunity to speak to you today about the timely and  
16 important issue of building an inclusive innovative  
17 economy that has the potential to raise living  
18 standards for all Americans.

19 One of the things that I would point out is  
20 that the testimony before the House Judiciary  
21 Committee, the subcommittee that deals with  
22 intellectual property, said that this was the lost  
23 Einstein's testimony. But I want to say to you that  
24 based on my research, I would call it the lost  
25 Katherines, the lost hidden figures' testimony, because

1 we're not only looking for the people we already know.  
2 We're looking for the people we don't know who haven't  
3 been included in the past. So I will end there, and I  
4 look forward to any questions, if they can entertained,  
5 if we have time to entertain them. We don't? Okay.

6 DR. TOOLE: No questions.

7 DR. COOK: Okay. We're not taking questions.  
8 Okay. All right. Thank you.

9 MR. PORCARI: Thank you, Dr. Cook.  
10 Appreciate your time.

11 DR. COOK: Thank you.

12 MR. PORCARI: If you can stay until later in  
13 the afternoon, we'll have a round table<sup>2</sup>. At that  
14 time, people can chat with you.

15 DR. COOK: Okay.

16 MR. PORCARI: So I was told that I have to  
17 speak closer to the microphone and louder. I was  
18 reminded that I didn't give you all the housekeeping.  
19 Our wi-fi password is up there. Our public wi-fi is  
20 over on the whiteboard, and we have coffee that's  
21 available. So thank you. Thank you, Dr. Cook, for  
22 that. Our next speaker is Maria McKendrick. She is  
23 the Director of the Inventors Association of Metro  
24 Detroit. The Inventors Association is a not for profit  
25 association established to educate inventors of all

1 levels to navigate through the invention process. In  
2 addition to being a resource center, the IAMD serves as  
3 a support group for inventors who can exchange  
4 information, experience, and advise others on how to  
5 successfully complete a project. Maria? Thank you so  
6 much.

7 MS. MCKENDRICK: Thank you, Director Porcari.  
8 I don't know if I'm coming across very clearly, but  
9 thank you for having the opportunity to speak today.  
10 I'm going to be a lot more informal than Professor  
11 Cook, and I'm the boots on the ground. I'm the closest  
12 Inventors Association to the Patent Office here. I  
13 want to reach out to Alexandria and just acknowledge  
14 the fact that we are so very grateful that we got the  
15 first satellite here.

16 It is impactful, and I really do see that our  
17 work here and my relationships that interact with our  
18 outreach coordinators -- Director Porcari has been  
19 supportive, the previous director has been supportive,  
20 and numerous support staff that I've gotten to interact  
21 with since their opening here in 2012, and really got  
22 direction in 2013, has been impactful. So being that  
23 boots on the ground, I can speak now a little bit about  
24 reflecting, because I know that it radiated out from  
25 Detroit down to -- over to Denver, Silicon Valley, and

1 Houston. I know the East Coast is all Alexandria, and  
2 I know there's a need.

3 I know that I've been working in this space  
4 for 3 or 4 years, and this is all my non-profit work.  
5 I bring 30 years of intellectual property strategic  
6 management. I'm a business degree. I know that on  
7 some of the paperwork today, it says doctor. I have to  
8 correct that. I am not a Ph.D., a doctorate. I am a  
9 business school graduate, proudly from U of M. The  
10 Dearborn --

11 AUDIENCE MEMBER: Go Blue.

12 MS. MCKENDRICK: -- yes, Go Blue -- and it's  
13 the Dearborn campus, so we're more known for, you know,  
14 the commuting, the working, boots on the ground. So I  
15 sometimes like to identify myself as Maria imported  
16 from Detroit via Dearborn. I enjoy a good relationship  
17 with academia in the community, Automation Alley is  
18 also all liaison, industry, and my background, I want  
19 to just share with you, comes from tooling. Okay?  
20 Actually having to make, use engineering surfaces,  
21 produce engineering surfaces, and I know that gives me  
22 a unique perspective that has put me in community where  
23 advanced manufacturing lies. And to be able to see  
24 that and where we evolve has given me that unique  
25 perspective that I hope to capture and relate.

1           So now I want to tell you about my Investors  
2 Association Metro Detroit. I help people who show up.  
3 It's \$30 a year membership. And if you can't afford  
4 it, the first meeting is free. Come in. Tell us what  
5 you want. We're a community of like-minded people. I  
6 do want to take a moment at the mike here to say we are  
7 ridiculously underfunded. Global Inventors Association  
8 Metro Detroit, shoot me an e-mail. I'll give it to you  
9 at the end. And if you see that we can do some good,  
10 engage with us.

11           And that's where I feel I can bring the most  
12 to this dialogue and this conversation. It's about the  
13 community outreach and it's about the engagement. I  
14 know the plan going forward for Detroit, especially the  
15 Midtown, between the main branch of the Detroit Public  
16 Library, and the exciting things that are happening in  
17 Midtown, I'd like to be based in the heart of it, and  
18 I'd like to have that opportunity to community  
19 outreach.

20           With that said, how? I want to engage with  
21 people who are like-minded and want to invent. What we  
22 are dealing with in our community today is AI is moving  
23 very fast. We've got a lot of incredible technology  
24 silos, and I just want to say take a breath. Lead with  
25 compassion, and then engage. Go about engaging,

1 because there is nothing more human in the qualities of  
2 human behavior at our best as human beings than  
3 invention. That doesn't come with AI. It's uniquely  
4 human. And if we can re-evaluate, focus, and give  
5 people who say I have an idea, where do I go next, and  
6 direct them to community resources, it can prove to be  
7 impactful.

8 I don't have the statistics. I'll look to  
9 Dr. Cook for that, and I know she'll be amazingly  
10 incredible as an ally to get that information to where  
11 it's needed. But then I say look at this. Let's scale  
12 it, and once we perfect it here in the next 3 years in  
13 Detroit, and recognize that as its regional satellite,  
14 we've served -- eight or nine states? --

15 MR. PORCARI: Nine.

16 MS. MCKENDRICK: -- nine. So what we do  
17 here, we know is going to be impactful in Wisconsin, in  
18 Kentucky, in Illinois, Missouri, and through the other  
19 nine. So as that radiates and we grow these concentric  
20 circles that overlap, it's that beehive activity that  
21 will generate that innovation. So any more thoughts or  
22 questions, I'd like to field them.

23 I see Mr. Coughlin in the audience, and I  
24 used to have lunch with Jerry Rivard at Rotary. And  
25 one of the things -- a retired Ford Motor chief

1 engineer -- one of the things I can give you  
2 anecdotally about women inventing more and getting  
3 engaged more, what he was when the economy crashed,  
4 they actually did a lot of studies. And the studies  
5 indicated that it was two engineer couples, the husband  
6 and the wife, the woman always dropped back for that,  
7 and they got by. And we lost a lot of women in  
8 information technology and in engineering as a result  
9 of the economic downturn.

10 So working toward quality of life in the  
11 community is imperative, and providing support systems  
12 is what will help to grow those numbers. But at the  
13 end, when it comes to getting STEM and women in STEM,  
14 young women in STEM, we have to start early, middle  
15 school, lots of math in 4th and 5th grade -- we know  
16 these things work -- engage in the first robotics,  
17 engage in what Danny Briere, who spoke ahead of me,  
18 did. These are all things that help build traction in  
19 our community. We're very proud to show this off in  
20 Detroit, and we really do work toward the goal of  
21 expanding it, getting traction, and implementing it in  
22 the other nine states -- eight. We're here. We're on  
23 our way. Questions? Anyone can e-mail me.

24 MR. PORCARI: After.

25 MS. MCKENDRICK: Anyone can e-mail me, if

1 you've got questions, [artcraft@umich.edu](mailto:artcraft@umich.edu). Thank you.

2 MR. PORCARI: Thank you. Thank you, Maria.

3 Appreciate that. So we don't have an opportunity to

4 take question during the public testimony, but we'll

5 have a round table later in the afternoon where you can

6 chat with all of the speakers and presenters. So our

7 next speaker is William Coughlin. He is the CEO of

8 Twin Manor Farm. Before that, he was the president and

9 CEO of Ford Global Technologies. That was the IP

10 office of Ford Motor Company, and while there, he

11 supported innovation and inventorship, and he was my

12 boss there for 20 years. Before that, he led

13 Chrysler's IP group and the Daimler Chrysler IP group,

14 and was an adjunct professor at Western College of Law

15 and taught IP there. Bill? Thank you.

16 DR. COUGHLIN: Thanks, Damian. Appreciate

17 the opportunity to talk to you today. So in -- at

18 Ford, I led a very successful effort to increase the

19 number of inventors, and almost frighteningly

20 successful. So this can be done. And my goal was not

21 to be let's hire more inventive people, but really get

22 the people that we had, who are very bright people, to

23 be more inventive. And it was, you know, really

24 successful. And once someone starts thinking like an

25 inventor, they can't turn that off.

1           They see, you know, challenges as fun  
2     opportunities to invent. So but this creates a good  
3     problem to have for corporate IP departments, because  
4     now you've got many more inventions than maybe you had  
5     before, and most corporate patent teams have got  
6     budgets that are either fixed or renewed annually,  
7     usually with some downward pressure from the finance  
8     staff. So, you know, we want to be able to, you know,  
9     make a difference here, big, small organizations, which  
10    leads me to my recommendation, because corporate patent  
11    teams in particular are under a lot of pressure.

12           You don't see them here today frankly,  
13    because they already have too much patent work to  
14    handle, to be candid, and, you know, the pressure is  
15    on, so that it'd be nice to do. They would love to  
16    support an effort like this. You know, it's difficult  
17    to do when, you know, you're trying to drain the swamp.  
18    So, you know, it's clearly our national interest to be  
19    able to have all segments of society being as inventive  
20    as possible. And, you know, frankly to me, whether  
21    some -- like it's an underrepresented group or not, can  
22    we increase, you know, their inventiveness? It'd be a  
23    great thing for our country.

24           So I would urge the USPTO, with the blessing  
25    of Congress, to create an incentive program that

1 financially encourages organizations to experiment with  
2 ways to increase inventiveness where it's really  
3 needed. For example, the USPTO could reduce the fees  
4 for some period of time in some sensible ways, such as  
5 a first time female, minority inventors, veteran  
6 inventors, the first time. Why not give them a break,  
7 you know, from a fee standpoint and encourage the  
8 organizations to participate?

9 The requirements of such a program could be  
10 fairly simple. You know, designate a leader for the  
11 program, interview your female, you know, minority, and  
12 veteran inventors. See what inspires them. See what's  
13 maybe held others back. What a difference, you know,  
14 they would make. Take two action steps, whatever that  
15 may be, and then report it out to the USPTO that next  
16 year. To me, experimentation is the key. We're a  
17 nation of thinkers, so let's use that to our advantage.  
18 I doubt that there's a one size fits all answer to  
19 this, but frankly Ford Motor has proven that you can  
20 take people and make them much more inventive, and I  
21 look forward to seeing what answers that come out of  
22 this program. Thank you.

23 MR. PORCARI: Thank you. Thanks, Bill.  
24 Appreciate that. With that, we are going to take a  
25 short break. I think our program says we're going to

1 regroup. Does that say 10:40? Okay. So we're going  
2 to be starting back up at 10:40. There's coffee there.  
3 Bathrooms are off to the left, and the wi-fi's there.  
4 Thank you so much.

5 (Off the record at 10:08 a.m.)

6 (Back on the record at 10:39 a.m.)

7 MR. PORCARI: Okay. So thank you so much for  
8 that. We are 2 minutes late for our break, and so  
9 I'm -- all right. We are starting our program up  
10 again, and our next speaker is Paul Morinville. He is  
11 the founder of U.S. Inventor, and he has nine U.S.  
12 patents. And, Paul, please come up and take the stand.  
13 We have moved our timer to the front, and I will get it  
14 running. So thank you so much.

15 MR. MORINVILLE: Okay. Thank you. So I  
16 testified to the Senate two weeks ago, and an old, old  
17 friend of mine who I've known since I was 13 said I was  
18 too grouchy, so I'm going to try to be a little nicer  
19 this time. I'm Paul Morinville. In World War II my  
20 grandfather was a Navy corpsman, serving with the  
21 Marines as they island-hopped across the Pacific, and  
22 on to Hiroshima after the war ended. He was my hero,  
23 and soon -- as soon as I turned 17, I joined the Marine  
24 Corps. The Marine Corps shapes the character of young  
25 men and women. It taught me to stand up and keep going

1 until the mission is completed. The Marine Corps made  
2 me a patriot, proud of my country, and its heritage.

3 I worked for Dell in the 1990s. My first  
4 invention was invented there in late 1999. I brought  
5 it to Dell executives, who told me to put it into a  
6 business plan, and Dell would fund it. So I left there  
7 on April 3rd, 2000 with high hopes and big dreams.  
8 Within a few weeks, the dot.com bubble collapsed, Dell  
9 Ventures was shuttered, and that ended my funding. The  
10 next four years, I kept inventing. And over time, my  
11 inventions became industry standards in multiple areas  
12 of enterprise software. There is over \$50 billion of  
13 infringing product on the market right now with -- on  
14 my inventions.

15 But it wasn't until 2011 that I was able to  
16 obtain funding again. And I started a company called  
17 OrgStructure, and started working with the Purdue  
18 Technology Center to commercialize these inventions. I  
19 helped to create a couple hundred jobs in Gary,  
20 Indiana, one of the poorest areas of the country. But  
21 in 2013, the 90 percent kill rate of the PTAB was  
22 revealed. This turned my patents into junk assets. My  
23 company was in a market controlled by big tech  
24 monopolies. If patents can't be defended, big tech  
25 just steals them, and using their huge markets and deep

1 markets, massively commercializes them. Big tech has  
2 huge market reach, political influence, and in many  
3 cases, owns the media.

4           So my investors stopped investing, and that's  
5 when I hopped in my pickup truck and drove to  
6 Washington. Today my mission is to educate the  
7 government about what patents -- what the patent system  
8 means to America and Americans. My mission will be  
9 complete when my government gives me my rights back to  
10 me by restoring the patent system for individual  
11 American people. The Patent Act of 1790, only the  
12 third act of Congress, granted patents to he, she, or  
13 they at a cost even a pauper could afford. At the time  
14 when most women and African-Americans could not own  
15 property, both could own patents, and both did.

16           In 1809, Mary Kies became the first woman  
17 patentee for an invention of weaving straw hats.  
18 During the 1800s, more than 3,000 women patented 4,196  
19 inventions, and made -- many made their living by  
20 licensing or commercializing their own inventions. In  
21 1821, Thomas Jennings became the first African-American  
22 patentee, inventing a method of dry, scour, and close.  
23 Granville Woods, who people of the day called the Black  
24 Edison, patented dozens of railroad-related inventions  
25 in the late 19th century. The patent system leveled

1 the field regardless of race, gender, or economic  
2 status. In many ways, it was the first equal  
3 opportunity law.

4 The patent system fueled the greatest  
5 economic expansion in the history of man, propelling  
6 America to lead the world in every technology  
7 revolution from potash processing to Smart phones. But  
8 for women, minorities, and veterans, the patent system  
9 was a social and economic equalizer enabling them to  
10 invent things that built some of our largest and most  
11 powerable corporations. Everyday Americans could  
12 unseat huge incumbents and take their place in society  
13 based on the merits of their contributions to society,  
14 not based on money, power, or lobbying. But in the  
15 last 15 years, all of that has been destroyed.

16 The government changed the rules in prior art  
17 scope, invention priority, injunctive relief, venue,  
18 claim construction, error correction, disclosure  
19 requirements, mental step and abstract idea doctrine,  
20 invalidation proceedings, damages models, fee  
21 reversals, and much more. Every single long-held  
22 construct of patent law was changed. Many of these  
23 changes are the result of Supreme Court decisions often  
24 directly contradicting statutes and without public  
25 debate. Congress, thanks to lobbying and political

1 contributions by the biggest companies, optimized the  
2 patent system for corporations, the largest customers  
3 of the USPTO.

4 In the dust of this rebel, the USPTO set up  
5 the PTAB skewed to invalidate huge percentages of the  
6 very same patents that it just granted. The PTAB  
7 invalidation rate is a shocking 84 percent. Only 16  
8 percent of patents survive unscathed. The cost of  
9 defending a PTAB assault is \$450,000. But only  
10 commercially valued patents are challenged at the PTAB.  
11 These are the patents that inventors have put their  
12 trust in, betting their careers and sometimes their  
13 entire life savings to commercialize or license them,  
14 only to have that trust betrayed, and then to lose  
15 everything.

16 Even if a patent is never challenged in the  
17 PTAB, the market effects of the huge invalidation rates  
18 harms all inventors by making investors, customers, and  
19 others believe their patent cannot be defended. It is  
20 a CEO's fiduciary duty to their shareholders to steal  
21 patented inventions and massively commercialize them,  
22 thus running the inventor into the dust bin of history,  
23 and this efficient infringement enables high stock  
24 prices, which fuels CEOs' pay, and CEOs earn hundreds  
25 or thousands of times more than workers.

1           Most contingent fee attorneys and investors  
2     have left the patent business for more predictable  
3     investments. Individual inventors are now defenseless  
4     against this theft. Inventors are duped into revealing  
5     their trade secrets under the false promise that they  
6     are going to get patent protection, only to have the  
7     protection destroyed after the fact with no way to take  
8     that secret back. The SUCCESS Act is intended to  
9     increase participation of women, minorities, and  
10    veterans in the patent system. It also extended PTO's  
11    temporary fee setting authority. The PTAB has not been  
12    financially solvent. It loses money.

13           So the USPTO transferred fees paid for  
14    examination and maintenance to the PTAB to make it  
15    solvent. Most recently the USPTO increased fees to  
16    make the PTAB self-sufficient. This diversion of  
17    applicant owner -- applicant and owner fees robs  
18    resources intended to grant better patents, and  
19    transfers those resources to the PTAB to destroy  
20    patents. The only reasonably expected result that can  
21    come from this is to create lower quality patents with  
22    higher invalidation rates. With the passage of the  
23    SUCCESS Act, the USPTO raised fees for examination and  
24    maintenance. This significant fee increase makes it  
25    more likely that women, minorities, and veterans will

1 be forced to abandon patent applications and issued  
2 patents.

3           The goal of the SUCCESS Act is to encourage  
4 women, minorities, and veterans to invent new things  
5 and patent them. It is unfortunate that the SUCCESS  
6 Act has been used to achieve an opposite result.  
7 Constitution secures a patent for an inventor, a human  
8 being, not a corporation. Somehow this simple fact is  
9 lost by current patent theorists, lobbyists, and  
10 lawmakers. The foundation of American law is to  
11 protect the fruit of one's labor. The labors of one's  
12 mind must also be protected. If nobody discloses their  
13 invention, innovation in America will collapse.

14           This is proving to be true. China has  
15 already taken the lead in many technologies critical to  
16 our national and economic security. This is directly  
17 related to China improving their patent system while we  
18 were busy destroying ours. Today tech inventions are  
19 protected in China, but not here. We responded to  
20 China's threat with a trade war that is hobbling  
21 China's tech companies, apparently to protect our own  
22 big tech monopolies from superior Chinese products.  
23 But the root of the problem is that our patent system  
24 is destroyed. We have done nothing to fix it, again to  
25 protect big tech monopolies by eliminating the threat

1 of creative destruction served up by inventors with  
2 better innovations.

3 Big tech monopolies are built on business  
4 methods and software. These are inventions that are  
5 core to their businesses and the very types of  
6 inventions that cannot be patented and are invalidated  
7 by the courts and the PTAB. If business methods and  
8 software cannot be patented, big tech cannot be  
9 challenged, and their monopolies are untouchable. If  
10 you can't measure it, you can't manage it. The first  
11 step to including more women, minorities, and veterans  
12 is to measure it. But the USPTO cannot determine who  
13 is inventing what.

14 Small inventors are grouped in with huge  
15 universities with multi million dollar endowments. If  
16 a small inventor licenses a patent to a large entity,  
17 no matter what the license pays, the inventor is  
18 classified as a large entity. And we should not lump  
19 in investors who assign their rights to big  
20 corporations. People who don't use a patent to attract  
21 investment to start up a company or license it are not  
22 real inventors. They do not understand why patents  
23 matter. Just patenting an invention can cost tens of  
24 thousands of dollars. Commercializing inventions often  
25 requires millions of dollars. Big corporations have

1 this kind of money, but that cost is too high for  
2 women, minorities, and veterans.

3 If you don't believe me, at the most recent  
4 PPAC meeting on May 1st, three PPAC members took to  
5 task the USPTO chief economist for his report that  
6 failed to deal with the main barrier for women to get  
7 patents and grow their businesses: lack of investment.  
8 A stable and predictable patent can attract investment.  
9 That was the case for the first 215 years of our patent  
10 system. For two years, I drove across the country in  
11 my pickup talking to inventor clubs and recruiting the  
12 13,000 citizen activists of U.S. Inventor. Go to any  
13 small town in about any state, and find the biggest,  
14 oldest mansion. It was probably built by an inventor.

15 Their stories are told in small-town  
16 libraries and historic societies across America. It is  
17 our story. It is America. We all want women,  
18 minorities, and veterans to climb the social and  
19 economic ladders, but to do that, we must have -- we  
20 must be -- a patent must be capable of attracting  
21 investment. It must be a presumed valid, exclusive  
22 right, and can't cost so much to obtain and defend that  
23 nobody can do it as it does today. \$450,000 to defend  
24 just one PTAB procedure is outrageously expensive for  
25 small inventors, especially if there's only a 16

1 percent chance that the patent will escape unscathed.  
2 If it does not escape, you gain nothing -- excuse me --  
3 if it does escape, you gain nothing. The only  
4 difference is that you're a lot poorer and your patent  
5 term is several years shorter.

6 Director Iancu has made very important steps  
7 to eliminating BRI and switching to Phillips in PTAB  
8 procedures. This will eventually help, but the PTAB  
9 kill rate has barely changed. Far too many meritorious  
10 inventions are still being destroyed. We need a lot  
11 more work. U.S. Inventor is happy to help. I am too.  
12 Thank you.

13 MR. PORCARI: Thank you. Our next speaker is  
14 going to be via Webex. Jermaine, are we ready to  
15 introduce our next speaker? Okay. So I'd like to  
16 introduce Tesia Thomas. She's our next speaker, and  
17 she'll be presenting remotely via Webex. Tesia, are  
18 you ready?

19 MS. THOMAS: Hello?

20 MR. PORCARI: Thank you so much. And then  
21 before you start, is it possible -- I don't know if she  
22 has -- does she have a video feed, or is this just  
23 going to be an audio feed? So it's audio only. Can  
24 you hear? Can you just say your name again, so we can  
25 confirm that we can hear you?

1 MS. THOMAS: Yes. Tesia Thomas.

2 MR. PORCARI: Oh, Tesia Thomas? Okay. We  
3 can hear you. You can proceed. Thanks.

4 MS. THOMAS: So you know that I hoped to be  
5 there, but I'm just going to present in audio. I'm a  
6 little under the weather. So I currently own a small  
7 business, so I want to speak as an individual inventor,  
8 a single human being with ingenuity. As a young  
9 minority female inventor and entrepreneur, I do not  
10 expect that my ingenuity will be rewarded by the U.S.  
11 Patent system. The trouble is that my older white male  
12 non-veteran counterparts I have faced give me a sense  
13 of foreboding.

14 The real disparity that we need to address is  
15 one of financial resources, and not of color, or sex,  
16 or veteran status. After all, my mind and its  
17 abilities are not of color or of a sex. However, I am  
18 of limited financial means, as are many of my white  
19 male and non-veteran peers, and we all struggle to  
20 provide the world with something more than our wealthy  
21 incumbent competitors can provide. I don't expect to  
22 participate in the U.S. Patent system any further,  
23 unless this financial disparity is addressed. The  
24 USPTO should eliminate the IPI process for all of the  
25 patents initially filed by a small entity, a micro

1 entity, and for inventor owned and/or control  
2 companies.

3 When large corporations undergo the idea  
4 process, they utilize less than one percent of their  
5 resources. When my peers and myself of limited  
6 financial means have to undergo the IPI process, then  
7 we face business and personal bankruptcy just to afford  
8 to defend ourselves. If we cannot scrounge up half a  
9 million for attorney fees, then we cannot defend our  
10 patent, and there's nothing to gain even by a  
11 successful defense. We will end up spending half a  
12 million dollars just to maintain the status quo, and  
13 then still face personal and business bankruptcy. We  
14 pass laws to lower fees to micro and small entities for  
15 the same reason. The true disparity is of financial  
16 resources and means. Thank you.

17 MR. PORCARI: Thank you. Thank you so much.  
18 Thank you for that. So our next speaker Dr. Nichole  
19 Mercier from Washington University in St. Louis. Dr.  
20 Mercier leads the tech transfer and business  
21 development department at Washington University. She  
22 evaluates academic discoveries in biotechnologies, and  
23 partners with potential biotech companies for their  
24 further development. Dr. Mercier?

25 DR. MERCIER: First, thank you for the

1 opportunity to address the SUCCESS Act and to Director  
2 Porcari for the invitation to be here today. As  
3 Director Porcari pointed out, my name is Nichole  
4 Mercier, and I run tech transfer at Washington  
5 University in St. Louis. I have been with the  
6 University for the better part of 14 years since moving  
7 to St. Louis. Washington University is a major  
8 research institution comprised of a Tier I medical  
9 school, and a strong engineering school as well.

10 Collectively, the University has greater than  
11 700 million in sponsored funding for research. We have  
12 almost 4,000 faculty members, of which 33 percent are  
13 women, and 11 percent are minorities. The perspective  
14 I bring to you today is that of the University where I  
15 would argue many inventors in industry, startups, and  
16 non-profits get their start, and where they should gain  
17 exposure to patenting and commercialization of their  
18 research findings. We are here today because there is  
19 a clear disparity in how women and underrepresented  
20 populations engage in patenting. The data is clear,  
21 and it goes back decades in the university space as you  
22 can see from the limited number of publications I have  
23 here.

24 Despite the disparity, there is a body of  
25 work that details the reasons why we see these gaps,

1 and there are groups out there who are piloting, and so  
2 we can point to them as pilots to -- for closing this  
3 gap. So we first need to start by understanding the  
4 why behind the disparity, and there are several papers  
5 that corroborate the evidence in the differential way  
6 men and women approach commercialization. I highlight  
7 Stefan's paper published in the Journal of Technology  
8 Transfer in 2007, because it pulls together the  
9 collective of rationales for why women differentially  
10 participate in commercialization and patenting of their  
11 research findings. And while there are varying factors  
12 weighing in here, certain of these are easy targets to  
13 tackle, and the ones I've highlighted have become the  
14 basis of solutions at our University and others.

15 When it comes to minorities and how these  
16 populations engage in entrepreneurship and patenting,  
17 there is far less data available. But there are  
18 certain things we know, and again, some of these are  
19 easy to tackle in trying to bridge the gap and promote  
20 a diverse pipeline of inventors and entrepreneurs. Bio  
21 STL in St. Louis is an example of an economic  
22 development entity with an interest in diversity and  
23 inclusion whose programming for underrepresented  
24 populations has engaged almost 900 individuals in the  
25 St. Louis region in four years. This targeted

1 programming has led to 94 future company founders  
2 trained in entrepreneurship. Eight new companies  
3 formed, and over 38 million in capital raised since  
4 2015.

5 But what is the incentive for universities to  
6 pilot efforts in diversifying inventors and  
7 entrepreneurs at their own institutions? I think that  
8 the limited number of institutions with actual  
9 programming in the innovation space suggests that a  
10 large number of academic entities haven't yet made the  
11 correlation to the advantages for them, and most  
12 institutions, including my own, are not resourced to  
13 take on diversity and inclusion efforts in this space.  
14 Yet, there are groups such as WashU who, despite the  
15 lack of resources, believe it is important to engage at  
16 the university innovator level. And with enough  
17 examples, individual institutions may find models that  
18 work for their specific needs and institutional  
19 culture.

20 Additionally, external groups that support  
21 tech transfer have been active in thinking about how to  
22 close this gap. The Association of University  
23 Technology Managers, or AUTM, has been working to  
24 create awareness around the problem, specifically right  
25 now as it relates to women engaging in patenting and

1 commercialization. AUTM, through its women inventors  
2 special interest group, has made an earnest attempt to  
3 convince university tech transfer offices to track  
4 gender. To this end, the group has successfully  
5 convinced AUTM to put questions relating to gender on  
6 its annual survey of metrics of tech transfer offices.

7 For the last three years, tech transfer  
8 offices have been encouraged to submit how many  
9 invention disclosures, which is the very start of the  
10 innovation process at the University, and how many  
11 patents have a woman listed on them. The AUTM women  
12 inventors group has helped tech transfer offices also  
13 to understand the barriers of the problem, and they've  
14 produced a tool kit for institutions to download off  
15 the website and start their own diversity programs.  
16 More recently, the AUTM Foundation has been attempting  
17 to put together somewhat individualized programs that  
18 universities will have the opportunity to institute in  
19 their home turf. And full disclosure, I am on the AUTM  
20 Foundation Board and tasked with driving this effort.

21 But I want to highlight the benefits of such  
22 a diversity program, and obviously the program I know  
23 best is the one at Washington University, which we call  
24 WIT, Women in Innovation and Technology. WashU is a  
25 pioneer in putting together programming for women

1 innovators in hopes of converting researchers to  
2 inventors and entrepreneurs. We started in 2013 with  
3 support from our Provost. In the early phase of the  
4 grant, we took a hard look at our data pertaining to  
5 female participation in our own tech transfer office.  
6 Our program was primarily based on the barriers that I  
7 showed you on the previous slide.

8           So the critical factors in WIT provide the  
9 education around patenting and commercializing  
10 technology, showcase women who have commercialized  
11 their work through startup companies or direct  
12 licensing with existing companies, and provide  
13 opportunities for participants to grow their networks  
14 with individuals who can actively help participants  
15 with strategic direction, capitalization, and  
16 connections. And importantly, our program relies on  
17 the invitation to participate. We actively solicit  
18 names of women who might benefit from WIT. We make  
19 calls and stop by their offices, and we provide  
20 personalized invitations with specific reasons why she  
21 might be a good person to participate.

22           One note, we started with women because of  
23 the density of faculty as compared to minorities, and  
24 this enabled us to track meaningful data before and  
25 after the start of WIT programming. When we started

1 our programming, we relied on a cohort model, but we  
2 have been able to expand the model to modular  
3 programming where we engage more than 150 women each  
4 year, graduating women as they leave for post docs and  
5 faculty positions at other institutions. Our  
6 programming consists now of two large events, an annual  
7 kickoff and a fall day symposium.

8 In addition to that, we provide specific and  
9 topical programming throughout the year, where we bring  
10 an injury representative, or a venture capitalist to  
11 engage in a more intimate grip of women innovators, and  
12 next June, we are planning the first academic women  
13 pitch competition that will national where academic  
14 inventors will pitch to and be coached by strategics  
15 and investors. And we have seen a difference. We have  
16 seen the overall population of women far outpace new  
17 male innovators, and we see a higher increase in our  
18 women faculty population compared to our male  
19 population.

20 When we looked at traditional science of  
21 engagement, we went from just over 30 percent of  
22 invention disclosures to last year breaking 50 percent  
23 for the first time of women representation. We also  
24 track patent filings, and we have seen a growth in  
25 representation on patents as well. What I haven't

1 shown you here is the data around women engagement in  
2 startup companies. When we started out program, we had  
3 zero startups with female founders, or where our female  
4 inventors were heavily engaged. Now we have four  
5 companies that fit this description, two with female  
6 founders, and two that have in licensed intellectual  
7 properties from our women inventors, and where the  
8 woman inventor is on the board or actively engaged in  
9 some other meaningful capacity.

10 This means we now have role models at our own  
11 institution. In 2018, our program was recognized by  
12 the Association of Medical Colleges, and we published  
13 our early findings in Technology Innovation Journal out  
14 of the National Academy of Inventors so that other  
15 universities could see that these efforts are  
16 meaningful. Despite the institutions that are working  
17 hard to enable diversity and inclusion, and university  
18 and entrepreneurs, it's simple not enough. So the  
19 USPTO could represent a real partner to academic  
20 institutions to help drive conversations around  
21 diversity and inclusion, and help these institution  
22 this to better engage women and minorities in patenting  
23 their research.

24 As I mentioned before, three years ago the  
25 AUTM women inventors special interest group launched an

1 effort to encourage technology transfer offices to  
2 track data around gender, both on invention disclosures  
3 and patent applications. Unfortunately, there's not a  
4 consistent practice in tracking, and what we found  
5 after three years of asking these survey questions is  
6 that there's limited consistency of those reporting  
7 year to year. Some universities reported in year one  
8 or two with no follow-up, and many universities have  
9 never reported on this data.

10 As you can see, there's a downward trend in  
11 the number of respondents, and only 69 schools have  
12 reported their data for all three years, which is only  
13 about a third of the institutions that report to the  
14 AUTM survey. This means that trying to make sense of  
15 progress over time is impossible, unless we are able to  
16 get a rigorous set of data. Moreover, at least right  
17 now, most universities and academic institutions are  
18 not tracking minority status or veteran statistics in  
19 the innovation space.

20 Therefore, the USPTO has the opportunity to  
21 be the driver that, one, strengthens partnerships with  
22 academia to educate women, minority grad students, post  
23 docs, and faculty around patenting, two, enables  
24 opportunities for underrepresented academicians to find  
25 networks and branch points, three, engages with

1 universities to establish the importance of this topic,  
2 and communicate the variety of ways to attract and  
3 retain underrepresented innovators, enabling them to  
4 become inventors and entrepreneurs, and four, track  
5 dynamic data in the USPTO system in order for the USPTO  
6 to make a clear statement that diversity matters, and  
7 provide a source for institutional benchmarking. Of  
8 course, certain data may be sensitive, and could be  
9 kept confidential in the USPTO system, which might give  
10 more assurances to inventors about providing this  
11 sensitive information, but would also provide a robust  
12 source of data. Again, I'd like to thank you for your  
13 attention and the opportunity to address this Act  
14 today.

15 MR. PORCARI: Thank you, Nicole. Thank you  
16 for coming. So our next speaker is Holly Fechner.  
17 She's with Covington & Burling. So she is an adjunct  
18 lecturer in public policy, and is a partner at  
19 Covington & Burling. Ms. Fechner handles teams that  
20 handle public policy, government affairs, and  
21 regulatory matters for clients in Washington, D.C. and  
22 around the world. Prior to joining Covington in 2007,  
23 she was the policy director for Senator Edward Kennedy,  
24 and in that position, she developed policy initiatives,  
25 legislation campaigns on a broad range of issues,

1 including the economy, health care, employment,  
2 education, retirement policy, and civil rights. She  
3 was the chief labor and pensions counsel for the Senate  
4 health, education, labor, and pension committee. Ms.  
5 Fechner served as the chief negotiator on legislation  
6 to reform the private pension system and increase the  
7 Federal minimum wage. Thank you.

8 MS. FECHNER: Well, thank you so much,  
9 Director Porcari, and I also want to recognize Director  
10 Logan, and thank Mr. Toole. It's a pleasure to be here  
11 today to discuss the SUCCESS Act. As Director Porcari  
12 said, my name is Holly Fechner, and I'm a partner at  
13 Covington & Burling in Washington, D.C. But just to  
14 connect myself to this area, I'm also a proud graduate  
15 of the Adrian, Michigan public school system and the  
16 University of Michigan Law School, and it was my honor  
17 to clerk for Judge Jon Feikens of the Eastern District  
18 of Michigan here in Detroit. I appreciate the  
19 opportunity to discuss the state of gender, race,  
20 income, and veteran diversity in our patent system, and  
21 to propose policy solutions for the USPTO and the SBA  
22 to consider as you prepare the SUCCESS Act report on  
23 these topics.

24 We are indebted to the leading researchers in  
25 this field, including Dr. Lisa Cook, who testified

1 earlier, and also Drs. Barbara Gault and Jessica Milli  
2 at the Institute for Women's Policy Research, and Alex  
3 Bell and his colleagues at Harvard. They have found  
4 that women, people of color, and lower income  
5 individuals, patent inventions at significantly lower  
6 rates than their male, white, and wealthier  
7 counterparts. Fewer than 20 percent of all U.S.  
8 patents today list a woman as an inventor among college  
9 graduates. Fewer than half as many African-Americans  
10 and Hispanics hold patents compared to their white  
11 counterparts.

12 Moreover, a child born in the U.S. to a  
13 family living below the median income is 10 times less  
14 likely to receive a patent in his or her lifetime than  
15 a child born to a family in the top 1 percent of  
16 income. And incredibly, we see these patenting  
17 disparities even at the very top income levels. So  
18 children born in the top 1 percent of income are 22  
19 percent more likely to patent an invention in their  
20 lifetime than those born in the top 5 percent.

21 As the USPTO and SBA know, patents are a  
22 critical driver of U.S. innovation and economic  
23 prosperity. Patent rights incentivize high risk, long  
24 horizon investments in innovation. By ensuring that  
25 inventors own their inventions, intellectual property

1 rights provide monetary reward for resource intensive  
2 research and development by inventors. Patent rights  
3 also facilitate commercialization, collaboration, and  
4 follow on invention, especially by small inventors, by  
5 ensuring that invention can be freely bought, sold, or  
6 licensed. This allows patent owners to reap the  
7 benefit of their invention while transferring their  
8 invention to the party best positioned to commercialize  
9 it.

10 Intellectual property protections unlock a  
11 vast innovation economy in the United States, that  
12 according to the USPTO, accounts for more than 8  
13 trillion in economic activity, which is more than  
14 one-third of the U.S. GDP. Public policy plays a  
15 critical role in ensuring that we create equal  
16 opportunity for all inventors. We cannot afford to  
17 leave the full measure of our country's talent,  
18 creativity, and ingenuity out of the innovation  
19 ecosystem. Achieving greater gender, race, and income  
20 diversity in inventing and patenting will unlock a  
21 wealth of innovation, economic growth, and job creation  
22 that is now untapped, bringing new inventors, new  
23 ideas, and new technologies into the innovation  
24 pipeline.

25 The SUCCESS Act report is an important step

1 in understanding these disparities and in identifying  
2 how public and private action can address them. In  
3 addition to the important efforts of the USPTO and the  
4 SBA, the House and Senate judiciary committees have  
5 also recently held bipartisan hearings on increasing  
6 patent diversity. We know that lives will be improved  
7 by the countless innovations that we cannot envision  
8 today.

9 As one example, Jessica Matthews, the CEO of  
10 Uncharted Play, invented a soccer ball that can harness  
11 energy and power lamps, an invention inspired by a  
12 power outage during a family wedding in Nigeria.  
13 Today, Uncharted Play holds 15 patents for technology  
14 that can be installed in any device that can harness  
15 kinetic energy, such as baby strollers, floor panels,  
16 and furniture. Without her perspectives and  
17 experiences, innovative ideas to solve significant  
18 problems might not have emerged.

19 Numerous factors contribute to gender, race,  
20 and income patent gaps, including lack of exposure to  
21 inventors, inadequate STEM education, a lack of formal  
22 and informal mentoring, and support networks, and  
23 systemic discrimination and bias, and of course, the  
24 complexity and expense of the patent system itself.  
25 Exposure to invention and inventors has effects that

1 are hard to understate. Most obviously, according to a  
2 study by Alex Bell, those with inventor parents or  
3 parents in high innovation fields are substantially  
4 more likely to hold patents later in their lives.

5 Indeed, Bell found that simply growing up in  
6 an area with a high number of inventors makes a child  
7 more likely to become an inventor in the future. STEM  
8 education, of course, also plays a critical role in  
9 feeding the patent pipeline. According to the  
10 Institute for Women's Policy Research, women make up  
11 only a quarter of the STEM workforce today, and  
12 underrepresentation of women in STEM fields is only  
13 part of the story, because even women with STEM degrees  
14 patent at significantly lower rates than their male  
15 counterparts.

16 Patent gaps are also driven by a lack of  
17 social networks and mentoring. Informal social  
18 networks contribute to professional development and  
19 lead to innovation. Public policy and the private  
20 sector can help close these gaps. A key initial step  
21 in closing the gaps is diagnosis. Who becomes a U.S.  
22 patent holding inventor is extraordinarily difficult  
23 for researchers to study now. The USPTO does not  
24 currently collect demographic data on patent  
25 applicants. Researchers have to rely on sophisticated

1 name matching software to identify the demographics of  
2 U.S. inventors.

3           So we believe that it is critical that the  
4 USPTO begin collecting this data, both to fully  
5 evaluate the scope of the patent gaps that exist today,  
6 but also to have a baseline to begin measuring future  
7 progress. As with other Federal programs, this  
8 information would be separated from the patent  
9 application itself to ensure the consideration of the  
10 application is free from bias. More broadly, we need  
11 to expand opportunities to expose young Americans from  
12 all demographic groups to inventors and entrepreneurs.  
13 Michigan is an important case in point.

14           According to USPTO study, the state ranks  
15 near the very bottom of states when it comes to women  
16 patent holders. At the same time though, the Bell  
17 study shows that Detroit is among the top five areas in  
18 the United States where children are most likely to  
19 grow up to be inventors. Midwestern regions around  
20 cities like Detroit, Minneapolis, Madison have among  
21 the highest patenting rates in the country. Detroit  
22 and its environs are fertile ground for closing patent  
23 gaps -- patent diversity gaps, as high innovation with  
24 significant room for diversity growth, policies and  
25 programs to expose children to innovation, supports

1     STEM education, promote patenting among university and  
2     industry inventors, and teach women and people of color  
3     about the importance of patents to the  
4     commercialization process would accelerate the  
5     reduction of race, gender, and income disparities in  
6     patenting.

7             A number of private, public, and university  
8     programs offer models for promoting patenting and  
9     commercialization. Here in downtown Detroit, for  
10    example, wireless technology Qualcomm partners with the  
11    University of Michigan and the Detroit Public Schools  
12    to offer its Think Of It lab. Think Of It is an  
13    initiative that engages elementary and middle school  
14    students with cutting edge technologies through a  
15    hands-on approach. Students participating in the Think  
16    Of It program learn about 5G wireless, the Internet of  
17    things, and careers in technology, and then they  
18    program a simple circuit board to act as the core of  
19    their own TOI invention.

20            And we know about other model programs, such  
21    as the previous speaker spoke about. There's one at  
22    the University of Illinois Urbana, Champagne, called  
23    Accelerated Women and Underrepresented Entrepreneurs.  
24    There's a strong program at the University of Florida,  
25    Empowering Women in Technology Startups. The Federal

1 government also offer programs that can engage  
2 underrepresented communities in innovation and  
3 commercialization. For example, the Department of  
4 Energy's Small Business Technology Transfer program  
5 works one-on-one with women and minority small business  
6 owners to help them apply for competitive grants. But  
7 importantly, that program also includes an intellectual  
8 property consultation.

9           Businesses and trade associations are also  
10 taking important steps to build pro patent and pro  
11 diversity initiatives into their culture. And I think  
12 the more we can do to encourage industry and trade  
13 associations to develop and facilitate best practices  
14 accuracy in their industries, that will have a very far  
15 reach in terms of changing this dynamic. Congress and  
16 the USPTO can also directly reduce some of the  
17 disparities in patenting. High fees associated with  
18 filing and defending a patent can pose a substantial  
19 barrier to patenting.

20           Programs like the USPTO pro bono assistance  
21 and the pro se assistance program can help mitigate the  
22 high cost of patenting, but they could be expanded to  
23 help small businesses and individual inventors for whom  
24 attorneys' fees are a major barrier. Efforts to  
25 promote equality and innovation must ensure that

1 non-discrimination laws in education and employment are  
2 fully enforced. It is essential to promote paid family  
3 and medical leave and work life balance to ensure that  
4 everyone can contribute to the innovation economy while  
5 also participating fully in their personal and family  
6 lives. Greater inclusion in the innovation ecosystem  
7 means more perspectives and more ideas in the  
8 innovation pipeline. Without broader perspectives and  
9 experiences, innovation ideas to solve significant  
10 problems might not emerge.

11 Equal opportunity to invent, patent, and  
12 commercialize innovative ideas will drive the U.S.  
13 innovation economy ever forward creating countless new  
14 products and cures, and will create jobs, stimulate  
15 economic growth, and improve the quality of life for  
16 millions of people. Thank you for inviting me to  
17 testify here today, and I look forward to our  
18 discussion later on.

19 MR. PORCARI: Thank you so much. Thank you  
20 so much, Holly. Nicholas, do we have -- Nicholas is  
21 our next speaker. Okay. Thank you. Our next speaker  
22 is Nicholas Ripplinger; right?

23 MR. RIPPLINGER: Close enough, yeah.

24 MR. PORCARI: He's a U.S. veteran and a  
25 founder of Battle Sight Technologies, and he's traveled

1 to Detroit from Dayton, Ohio. Battle Sight  
2 Technologies makes products to help military and first  
3 responders as they enter battle fields or dangerous  
4 areas. Nick, thank you so much.

5 MR. RIPPLINGER: Thank you. Good morning,  
6 everybody, and thanks for the opportunity to speak to  
7 the Directors, the Detroit USPTO office, and the  
8 inventors in the crowd, and the opportunity to kind of  
9 share our story with you today. First and foremost, I  
10 want to apologize. We were kind of still editing these  
11 5 minutes ago. So my name is Nick Ripplinger. I'm the  
12 found and CEO of Battle Sight Technologies in Dayton,  
13 Ohio, former U.S. Army soldier, operations  
14 non-commissioned officer in charge, and completed  
15 several tours between Iraq and Afghanistan, both with  
16 U.S. and coalition forces.

17 When I was first asked to speak, I was pretty  
18 excited to dig into the data my fellow veterans,  
19 especially the service disabled veteran inventors;  
20 however, it's incredibly difficult to find any  
21 significant data on the topic. As an inventor and the  
22 founder of commercialization firm with several patents,  
23 licenses under our belt, I reached out to my network of  
24 fellow veterans as well as investors and government  
25 agencies who support service disabled veteran-own small

1 businesses to get their personal stories. While their  
2 stories and challenges were different, for each party  
3 there is one sentiment that everyone shared, that we  
4 desperately need better resources to support -- and  
5 support for veteran entrepreneurs and inventors.

6 John Norton, a veteran entrepreneur inventor  
7 and creator of the Rope Safe Edge Protection system,  
8 was able to obtain a patent, because he found a patent  
9 attorney with the University of Connecticut who was  
10 willing to give her time and expertise pro bono;  
11 however, most veterans don't have access to pro bono  
12 services, making it difficult to navigate the  
13 complicated and lengthy patent process. Additionally,  
14 most universities do not provide these resources as  
15 continuing services to graduates. Danny Lipschitz -- I  
16 believe that's how it's pronounced -- the executive  
17 director of the EBB Foundation, an organization that  
18 supports and invests in disabled veteran-owned  
19 businesses, shared that the EBB Foundation Board often  
20 invest hours and personal funds to cover the cost of  
21 patents for veteran businesses.

22 They'd like to see this option for expedited  
23 patent approvals and reduced fees for men and women who  
24 served our country. The Institute for Veterans and the  
25 Military Family Affairs, run out of the University of

1 Syracuse, is an organization that supports veteran  
2 entrepreneurs to launch, grow -- to launch and grow  
3 their business, provides no cost training and resources  
4 to assist companies to getting to the point of filing  
5 for IP protections. This organization is a game  
6 changer to most veterans, but only supports up to the  
7 point of filing, and the filing fees and additional  
8 legal fees are what holds most veterans back from  
9 filing.

10 The government's SBIR program, the Small  
11 Business Innovative Research program, encouraged  
12 domestic small businesses and veteran-owned companies  
13 to engage in Federal research and development, and has  
14 the potential for commercialization. The phase three  
15 contract award is sole sourced to the SBIR firm without  
16 competition, according to the SBIR and STTR law. The  
17 program is the source of non-diluted funding that helps  
18 small businesses to examine the feasibility of  
19 technology solution and develop that prototype to  
20 demonstrate.

21 While exploring commercial and DOD markets,  
22 while this is an incredible opportunity for veteran  
23 businesses, the SBIR program cannot fund the filing or  
24 legal fees for these IP protections. At Battle Sight,  
25 our business model is to license technology from, you

1 know, people that are a lot smarter than us for the  
2 purpose of commercialization; however, we often have to  
3 file our own patents and trademarks for our products.  
4 In our experience, as a service disabled veteran-owned  
5 small business, the process has been long, costly, and  
6 at times, overwhelming. I firmly believe that veterans  
7 are underrepresented as patent trademark holders;  
8 however, there's no data to confirm that.

9 Discounted prices already exist for small  
10 businesses, so there's really no reason that we cannot  
11 include lower tier pricings for the underrepresented  
12 demographics, including veterans. Delays might not  
13 seem significant -- might not seem like a significant  
14 challenge for veterans due to the first -- wow.  
15 Somebody screwed up these remarks. Delays might not  
16 seem significant -- like a significant challenge to  
17 veterans, but additional time and office actions add up  
18 to significant hours of work, legal fees, and financial  
19 resources that many veterans do not have. The  
20 resources could be used to further innovation, expand  
21 company growth, expand product lines, and expand  
22 additional protections.

23 I strongly believe that there should be  
24 additional pricing tiers for veteran innovators, if the  
25 goal is to balance these demographics. I want to

1 ensure that all veterans are supported by reducing the  
2 cost and time required for veterans to file both  
3 trademarks and patents, we are allowing the men and  
4 women who served our country to build and grow their  
5 own businesses and become self-sufficient, productive  
6 members of the civilian society. Thank you for your  
7 time.

8 MR. PORCARI: And our next speaker -- thank  
9 you so much, Nick. Thank you for coming up to Detroit.  
10 Our next speaker and our last speaker before we break  
11 for lunch is Kelly Sexton. She is the -- an associate  
12 vice president of research, technology, and innovation  
13 partnerships at the University of Michigan. She works  
14 to connect the University with companies and facilitate  
15 commercialization of university research discoveries.  
16 Thank you so much.

17 DR. SEXTON: Well, I'm standing between  
18 everyone and the next break, but I want to thank  
19 Director Porcari for the invitation to be here, and  
20 especially thank all of you for your time and attention  
21 to this important issue. And so my perspective on the  
22 gender disparity issues around gender, race, and  
23 veteran status are largely informed by my experience,  
24 having spent a career at universities, first conducting  
25 basic research in the sciences, and then more recently

1 in supporting the commercialization of university  
2 research discoveries. And, you know, I'm of the  
3 opinion that if we want to increase the participation  
4 of women and underrepresented groups in innovation and  
5 entrepreneurship and in patenting, we need to also be  
6 focused on addressing the parity issues and their  
7 participation in STEM disciplines, and you really can't  
8 start early enough.

9           Simply put, we need to ensure that those  
10 engaged in science and engineering fields actually  
11 represent the diversity of our society. As a society,  
12 we face tremendous challenges, health care outcomes,  
13 social, environmental, and we need to ensure that our  
14 scientists and engineers are developing broad and  
15 innovative solutions to these challenges. We need to  
16 ensure that those engaged in the STEM disciplines  
17 represent the diversity of our society. I'm sure that  
18 I'm not the only one who shares the concern that the  
19 predominantly white male engineers designing the  
20 software and AI solutions for the future from Silicon  
21 Valley might not have the best interests of diverse  
22 communities in the Midwest at heart in their product  
23 solutions, and we need to ensure that there's  
24 opportunity for everyone to participate in the future  
25 innovation economy.

1           So from this perspective, in my view, I think  
2   universities are important for a variety of reasons.  
3   First, universities are major contributors to  
4   innovation and discovery. The Smart phone that we take  
5   for granted, the search algorithms, if you think about  
6   your phone, everything from the batteries to the LED to  
7   the software, all of these things can trace their roots  
8   to basic research that occurred on a university campus,  
9   often with funding from the National Science Foundation  
10   and other Federal programs. The lifesaving  
11   innovations, the medical devices, the therapeutics, a  
12   recent study showed that from 2000 to 2007, every  
13   single FDA approved drug could trace its roots to basic  
14   research that had been funded by the National Institute  
15   of Health.

16           So we know that universities are important  
17   contributors to the innovation that saves lives,  
18   improve health care outcomes, and improve our quality  
19   of life, and drive economic growth. We need those  
20   teams at universities to be comprised of diverse  
21   individuals, and so in that regard, I applaud my  
22   colleague Nichole's remarks and all of the wonderful  
23   programmings that they're putting in place to help  
24   increase diversity. We know that the Internet itself  
25   had foundations in basic research conducted at

1 universities, and we know that if we can create an open  
2 and inclusive environment for all innovators, we will  
3 increase the overall diversity of participants in the  
4 innovation pipeline, with the outcome of finding  
5 solutions for a much wider set of the ground challenges  
6 that face our society and shared planet.

7 But there's another reason that we need to  
8 look to our universities for leadership on this front.  
9 Our universities are responsible for inspiring and  
10 educating the next generation of innovators and  
11 leaders, so it's important that our campuses are  
12 creating environments where all individuals have the  
13 opportunity to access an exceptional education, and  
14 it's also important that while these students are on  
15 campus, they witness diverse teams of researchers, they  
16 see people of color and women in positions of  
17 leadership, and actually participating in the process  
18 of innovation, bringing their research forwarded,  
19 having it patented, participating in technology.

20 We know that mentorship is so important in  
21 training the next generation of innovators, and so we  
22 need them to see role models who have this language of  
23 innovation of patents, of licensing, of  
24 entrepreneurship, and who have that skill set, and can  
25 pass it on to the next generation. I always think in

1 order to understand where we are and how we came to  
2 have such gaping disparities in participation in  
3 innovation, entrepreneurship, and the STEM fields, it's  
4 important to think about how we got here. And I like  
5 to look at the model of computer science as an example.

6 We know that women were leading innovators in  
7 the computer science field in it's earliest days. A  
8 lot of the early programming work was unglamorous, and  
9 it tended to be accomplished by women and people of  
10 color. We heard earlier this morning reference made to  
11 the mathematicians at NASA from Hidden Figures. You  
12 can look into programs like the Harvard Computer, which  
13 was a female run initiative. We have notable  
14 individuals like Grace Marie Hopper, who created one of  
15 the first computer programming languages, and that is  
16 actually still in use today. But then something  
17 happened. And that was the advent of the personal  
18 computer in the '80s.

19 Visionaries, like Bill Gates, had a vision of  
20 a personal computer, a laptop on every desk, but the  
21 marketing was almost exclusively to men and boys. If  
22 you go back and look at the early advertisements, it's  
23 really quite shocking today, because it's almost always  
24 a man or a boy at the computer while their sisters and  
25 wives look on admiringly. And so personal computers

1 tended to be purchased by affluent parents for their  
2 male children. And so when these kids grew up and  
3 entered the classroom, something happened. The women  
4 in the classes suddenly felt like they had missed a  
5 secret prerequisite.

6 Everyone who didn't grow up with a computer  
7 in their home and in their bedroom felt like they  
8 couldn't speak the same language. They felt like they  
9 were lacking an innate ability for computer science,  
10 but, of course, that wasn't the case. They just had  
11 not had that exposure. And so the women, minorities,  
12 people who didn't feel like they belonged in these  
13 classrooms, they left in droves. And we know that  
14 nationally the data does not look great. According to  
15 National Center for Education Statistics, 28 percent of  
16 bachelor degrees in computer and information science  
17 went to women in 2000. In 2016, it was 18 percent.  
18 But there are reasons to be hopeful. It's not an  
19 insurmountable problem.

20 There have been some innovative practices at  
21 places like Carnegie Mellon University and also Harvey  
22 Mudd that we can look to. Universities like this are  
23 tackling this head on with innovative programs that  
24 they've piloted that we can expand and learn from. For  
25 instance, at Harvey Mudd, they make computer science --

1 introduction to computer science a required course,  
2 creating an environment that is supportive and engaging  
3 for everyone. The outspoken individuals who tend to  
4 know all the answers and want to lead the discussion,  
5 they quietly ask them, let's talk during office hours.  
6 I love your enthusiasm, but you're kind of dominating  
7 the conversation in the classroom, so let's find  
8 another way to engage. And really importantly, and I  
9 think the biggest take away is they are instilling the  
10 concept of a growth mindset, the idea that ability in  
11 computer science is gained through hard work and  
12 practice.

13 It is not an innate ability. It is not  
14 something you were born with. It is something you can  
15 gain through education, through hard work. Just  
16 because you may not have the skills today does not mean  
17 that you cannot acquire them. Harvey Mudd actually  
18 graduated its first majority female computer science  
19 class in 2017. So when you think back to the fact that  
20 as recently as 1971, they had actually had a policy  
21 that limited the total percentage of women that could  
22 even be enrolled at the University, capped at 11  
23 percent. That highlights just how far we've come and  
24 how hard we need to work to overcome these barriers to  
25 access in STEM, which are going to be very important

1 drivers of future economic prosperity.

2 At the University of Michigan, we are a  
3 leader in these efforts as well, prioritizing  
4 diversity, equity in inclusion at all levels. As our  
5 President, Mark Schlissel, recently said, as a  
6 physician, scientist, professor, and university  
7 president, I believe wholeheartedly that talent is  
8 ubiquitous in our society, but opportunity most  
9 certainly is not. And it is for these reasons that the  
10 University of Michigan over the past several years has  
11 launched a number of innovative programs. Starting in  
12 2017, the University began offering HAIL, High  
13 Achieving Involved Leader scholarships, offering up to  
14 \$60,000 in free tuition over the course of four years  
15 to high achieving low income students from throughout  
16 Michigan. That fall, there were 262 HAIL scholarships.

17 This program was informed by research by  
18 Susan Dynarski, Professor of Public Policy Education  
19 and Economics, who showed that with an early commitment  
20 of aid, high school students were twice as likely to  
21 apply to the University of Michigan, 67 percent as  
22 compared to 26 percent, and twice as likely to enroll,  
23 26 percent as compared to 12 percent. So think about  
24 that. These were kids that were qualified for a  
25 University of Michigan education, but because of the

1 economic concerns, they didn't consider themselves to  
2 be viable applicants. Simply by changing that  
3 conversation and making them aware of the financial aid  
4 opportunities that were already available, we've been  
5 able to change that dynamic.

6 And so based on the success of this program,  
7 the University has boldly expanded it with what we're  
8 now calling the Go Blue Guarantee, which promises free  
9 tuition for families with incomes of \$65,000 a year and  
10 under for all in-state students admitted at the  
11 University of Michigan-Ann Arbor campus. Tuition  
12 support is also available under the programs for  
13 families of annual household incomes up to \$180,000.  
14 In addition, U of M supports a program called Wolverine  
15 Pathways, which is a free year-round college readiness  
16 program for grades 7 through 12 for students who live  
17 in Detroit or within the boundaries of Southfield  
18 Public or Ypsilanti Community School Districts.  
19 Students who successfully complete the program and are  
20 admitted to the University of Michigan's Ann Arbor or  
21 Dearborn campuses receive four-year tuition  
22 scholarships.

23 We're proud of the fact that the University  
24 of Michigan ranks number three in the country for the  
25 number of women engineering graduates, and we're very

1 proud of the progress we've made in our college of  
2 engineering where half of the faculty leadership  
3 positions are held by women. Again, it's mentoring is  
4 important. Role models are important. At the  
5 University of Michigan, we ascribe to the belief that a  
6 diverse leadership can help overturn a system that  
7 suppresses talent. On campus, we have a  
8 student-run program called Women Who Launch, a  
9 student-led group that is working to achieve gender  
10 parity in our campus' entrepreneurial ecosystem.  
11 Mentorship, role models, these things matter.

12           When I arrived at the University of Michigan  
13 to lead their technology commercialization efforts last  
14 year, we began to talk about the way that women are  
15 represented in technology commercialization at the  
16 University. We began to look at the committees we were  
17 putting together at the panels we were hosting at the  
18 awards we were providing. We found that for one  
19 committee that selected the recipient of a very  
20 prestigious innovation award, there were no female  
21 participants on that committee. How can we select and  
22 highlight the diversity of our research community with  
23 a committee that doesn't reflect that diversity?

24           We had examples throughout our campus of very  
25 successful women innovators, successful women

1 entrepreneurs, but we were not finding the  
2 opportunities to highlight their stories and to share  
3 them. We realize that an area within our office that  
4 we had set aside to honor our University's innovators  
5 and entrepreneurs was essentially a wall of men, and we  
6 have worked to recast how we celebrate and honor our  
7 diverse community of innovators. We have also begun  
8 tracking the percentage of women that engage with our  
9 office to receive patents and to commercialize their  
10 inventions, and yes, we are reporting those stats to  
11 AUTM, so we're happy to be one other the universities  
12 that's now participating, and will continue to  
13 participate.

14           You can't improve that which you can't  
15 measure. I applaud the USPTO's efforts to begin to  
16 assess the participation of women, veterans, and  
17 minorities in the patenting system, and I encourage you  
18 to continue this work. We realize there's difficulties  
19 around it. It's a fraught topic, but surely within the  
20 USPTO there are ways to keep certain information  
21 confidential as you work through the patenting process.  
22 In order to impact gaps in the participation of women  
23 and underrepresented groups in innovation and  
24 entrepreneurship, we believe it's important that  
25 universities are part of the conversation and are

1 leading the way. Universities exist to serve society  
2 by creating new knowledge and by inspiring and  
3 educating future innovators. We need our work and we  
4 need our campuses to reflect the diversity of the  
5 communities that we exist to serve.

6 In conclusion, this is both a massive  
7 challenge and a massive opportunity. There is not a  
8 single easy fix. We are who we are due to history, and  
9 our resulting societal and economic disparities. We  
10 need to be mindful of the problem. We need to work in  
11 ways large and small to address and recognize our  
12 inherent biases, and address underlying problems. The  
13 opportunity we have here is tremendous. Unlocking the  
14 creative and innovative potential of our entire society  
15 can both increase access to economic opportunity and  
16 drive our nation's economic competitiveness and future  
17 prosperity. So we need to measure, we need to  
18 understand, and we need to keep at it.

19 I want to close with a quote from an article  
20 in yesterday's New York Times. In a piece about  
21 inherent bias in artificial intelligence, the Times  
22 included a quote from Peggy Johnson, Executive Vice  
23 President of Business Development at Microsoft, who  
24 said the way to turn anything around is to shine a  
25 light on it. You keep the light on there until the

1 data surfaces, and then you have to find a way to fix  
2 it. It's not a check the box, move on, everyone take  
3 the unconscious bias training, and we're all good now.  
4 You have to keep at it, keep at it, keep at it. So  
5 thank you for your efforts. I encourage you to keep at  
6 it, and that's certainly what we plan to do at the  
7 University of Michigan. Thank you.

8 MR. PORCARI: Thank you. So thank you for  
9 that. That'll conclude the morning presentation. I  
10 just wanted to recognize Darlene McCoy. I spoke a  
11 little bit about who we are named after, Elijah J.  
12 McCoy, and this is Elijah McCoy's grandniece --  
13 correct? --

14 MS. MCCOY: Great-grandniece.

15 MR. PORCARI: -- great-grandniece -- sorry --  
16 I missed a generation there -- great-grandniece. So  
17 she -- we are going to break. If you wish, there is a  
18 small cafeteria downstairs. I'm going to try to grab a  
19 very quick lunch, so that I can come back here and be  
20 ready to start up around 1:00 o'clock. So thank you so  
21 much.

22 (Off the record at 11:51 a.m.)

23 (Back on the record at 1:06 p.m.)

24 MR. PORCARI: Thank you very much for coming  
25 back from lunch. It was really nice talking to people

1 at lunch. So I wanted to introduce our next speaker,  
2 whom I had the pleasure of meeting at the Smithsonian  
3 three years ago. He had a display there, and I had a  
4 display there as well, and I got the chance to talk to  
5 Dr. Cooper three years ago, and found him to be just  
6 fabulous. I remember sending him an e-mail afterwards.  
7 So Dr. Cooper is a Distinguished Professor at the  
8 University of Pittsburgh. He is a U.S. Army veteran  
9 with a spinal cord injury, and he has used that to  
10 really advance the cause of people with spinal cord  
11 injuries. He is an inventor of 25 patents. He is  
12 senior scientist at the VA Rehabilitation Research and  
13 Development Center in Pittsburgh, and he's a pioneer in  
14 the field of improving wheelchairs and their use, and  
15 advancing mobility devices in assistive technologies.  
16 And I'm very pleased to introduce Dr. Cooper as our  
17 next speaker.

18 DR. COOPER: I appreciate this opportunity to  
19 share my thoughts. I am a U.S. Army veteran with a  
20 spinal cord injury resulting in paralysis of the lower  
21 extremities. After my injuries, I attained  
22 undergraduate and graduate degrees in engineering with  
23 the assistance of the U.S. Department of Veterans  
24 Affairs. In 1994, I established the Human Engineering  
25 Research Laboratories (HERL), which is a joint effort

1 of the University of Pittsburgh and U.S. Department of  
2 Veterans Affairs. HERL has grown to become one of the  
3 largest research and development organizations in the  
4 world focused on technologies to individuals with  
5 disabilities and older adults, especially veterans of  
6 the armed forces.

7 Our goal is to promote full inclusion through  
8 the creation and application of appropriate advanced  
9 technologies. Our team has developed over 100  
10 inventions and holds numerous patents related to  
11 wheelchair, robotics, and wearable instruments that  
12 have improved the lives of people with disabilities and  
13 military veterans. We continue to make a real and  
14 positive difference in people's lives. A key to our  
15 success is diversity in all of its forms. A high  
16 percentage of our team are people with disabilities and  
17 veterans. Among them and our other team members are  
18 engineers, physicians, therapists, statisticians, and  
19 business experts. We are also engaged with community  
20 based organizations and industry from large companies  
21 to startups.

22 We promote the participation of women,  
23 minorities, and veterans in entrepreneurial activities.  
24 Institutions of higher education and technical  
25 industries must do more to create inclusive

1 environments for women, minorities, and veterans  
2 especially in science, technology, engineering, and  
3 mathematics. People need role models that reflect  
4 their life experiences, and who are similar to  
5 themselves, or who were at a similar point in their  
6 life. Fewer than 3 percent of faculty in institutions  
7 of higher education have a visible disability despite  
8 that fact that they represent about 15 percent of the  
9 working age population. The percentages are worse in  
10 most other sectors of the economy. There needs to be  
11 investment capital available to people from  
12 underrepresented groups.

13 Most people with disabilities in the USA live  
14 on very low incomes, and the unemployment rate among  
15 people with visible disabilities is nearly 75 percent.  
16 Entrepreneurship is likely a good avenue for social  
17 mobility, but opportunities need to be available. The  
18 risks of being an entrepreneur need to be mitigated.  
19 Most people do not become wealthy, but their work may  
20 be of tremendous social good, for example, creating  
21 technologies to help people with low-incidence injuries  
22 or diseases. There needs to be capital available to  
23 target entrepreneurs with disabilities. For people  
24 with disabilities, there are risks to losing social  
25 benefits that they rely on to survive before achieving

1 a sustainable income to replace public services.

2 The USA and most other countries still  
3 include many physical, social, and economic barriers to  
4 people with disabilities that are a deterrent to  
5 assuming the inherent risk of becoming an entrepreneur.

6 People with disabilities are America's largest  
7 underserved population. It is diverse and anyone can  
8 become a member in an instant. It is by and large a  
9 smart, clever, and technically savvy population of  
10 tremendous untapped potential. Veterans are a growing  
11 population of entrepreneurs and many have become very  
12 successful, but their measures of success are  
13 non-traditional. For example, veterans have had a  
14 propensity for service to others and personal  
15 sacrifice. This has led veterans to focus their  
16 entrepreneurial activities on organizations that  
17 support social good, such as Mission Continues, Wounded  
18 Warrior Project, Team Red White & Blue, Travis Manion  
19 Foundation.

20 Veterans are also entrepreneurs in goods and  
21 services too. Many still focus on serving others  
22 through job creation for veterans and other  
23 underrepresented populations. The armed forces are one  
24 of the most integrated and socially equitable  
25 organizations in the USA, and has a culture of

1 improving in this area as can be seen by the growing  
2 population of women serving and the variety of military  
3 occupations available to them. The Armed Forces are  
4 one of the USA best leadership academies. Everyone is  
5 trained to lead. This translates into their desire to  
6 continue to lead and to serve once they become  
7 veterans. Selfless service and leaderships are traits  
8 and skills that need to be valued and encouraged. They  
9 are a good investment.

10 We need to increase the number of women,  
11 minorities, and veterans who apply for and obtain  
12 patents. It has become nearly prohibitively expensive  
13 to apply for and obtain a patent for most small  
14 entrepreneurs. Because many people with disabilities  
15 live on low income levels, the patent application  
16 process is cost prohibitive and the costs of defending  
17 a patent unreachable. If the process of applying for a  
18 patent were simplified and less costly, I and others  
19 like me would have many more patents. For most of my  
20 career and as a student, I could not afford to pursue  
21 patents or defend them. It was only when I became a  
22 prominent professor at a major university that I was in  
23 a position to pursue patents.

24 I have helped to start several successful  
25 businesses both with and without patent protection. It

1 is really a matter of weighing the cost benefit of  
2 pursuing and protecting a patent. The USPTO has a  
3 program to assist individual inventors, but it is  
4 understaffed, and underresourced, and insufficiently  
5 advertised. There needs to be more legal aid, free or  
6 at very low cost to help people apply for patents from  
7 underrepresented or low income groups.

8           There are many great people at the USPTO.  
9 They work hard, are committed to the mission, and they  
10 are friendly and genuinely interested in helping  
11 inventors and entrepreneurs. My experiences with USPTO  
12 have been genuinely positive. The challenges that  
13 underrepresented populations face tend to be less  
14 related to USPTO, and more related to access to  
15 capital, lack of appropriate mentors and role models,  
16 and the costs of attorney fees associated with  
17 obtaining and defending a patent. There has developed  
18 a culture of large tech companies dominating the patent  
19 process, and to some extent patent trolls, filing for  
20 patents that are little more than ideas or concepts.  
21 There needs to be an alternative pathway for applying  
22 for patents for underrepresented populations and for  
23 patents to improve the social good.

24           Lastly, USPTO should be encouraged to develop  
25 strategic partnerships and creative programs such as

1 the Collectible Card series, the activities with the  
2 Smithsonian Institute, National Academy of Inventors,  
3 National Inventors Hall of Fame to include encouraging  
4 greater recognition of inventors from underrepresented  
5 populations, especially those not focusing on financial  
6 gain, and the AAAS-Lemelson Foundation Invention  
7 Ambassadors. So that's the end of my testimony. I'd  
8 be happy to answer any questions. Thank you for this  
9 opportunity.

10 MR. PORCARI: Thank you so much. That was  
11 terrific. We don't have opportunities for questions at  
12 this time, but as we have our round table, if you can  
13 hang on during that, we can make it available at that  
14 time. And so our next speaker -- and I didn't set a  
15 timer for that -- I'm sorry -- is Quintina Williams.  
16 Is Quintina here? Oh, thank you. So I'd like to  
17 introduce our next speaker. Quintina Williams is a  
18 local inventor and entrepreneur. She holds multiple  
19 patents on extension, attachment apparatus, and other  
20 related products, and we're very grateful to have you  
21 join us today. Thank you so much.

22 MS. WILLIAMS: Thank you. Yes. My name is  
23 Tina Williams. I am the owner of QT Business  
24 Solutions, and inventor of Quick-Do Strips. I want to  
25 first thank everyone for inviting me to testify, and I

1 want to first say that I am super proud to be an  
2 American and also a patent holder. So I am obviously  
3 African-American. I'm obviously a woman. And this was  
4 a feat for me. My patent was just issued October of  
5 last year, and we're in the process of getting it to  
6 market. And it was very important for me to come here  
7 to let you know what my process was and how long it  
8 took, and, you know, some of the pitfalls and greatness  
9 of the process. So I filed my patent in 2015, and I  
10 was -- it was November of 2015. I came up with the  
11 idea because, you know, my daughter's hair was -- she  
12 kept waking me up in the morning saying, glue my hair  
13 down, so I didn't want to do that. So I kind of came  
14 up with the idea, you know, went to sleep, and was  
15 praying before. Went to sleep, and woke up, and the  
16 idea and everything came to me, even the name. So I  
17 immediately went to Kmart, bought me some ghetto  
18 prototype stuff, and sewed it together. And my patent  
19 attorney, which happened to be across the aisle from my  
20 office, I called him on Monday. And I said, hey,  
21 Arnie, I think I have an idea for a patent. So he  
22 comes over and he sees this is a hair extension. He  
23 says, oh, no, there's so much prior art. But mine  
24 doesn't have hair attached to it, which was kind of  
25 weird, because he's like a hair extension with no hair.

1 So have asked for drawings. I gave him my ghetto  
2 prototype, and he said, I think you have something  
3 here. So to make a long story short, went through the  
4 patent search, you know, filed it. Everything's great.  
5 Asked my parents -- well, after I filed the  
6 provisional, went to my family and friends, and raised  
7 about \$30,000 from mostly my husband, my mom, and, you  
8 know, my friends. Some of my friends gave me money  
9 too. So then we went and I went through all of the  
10 patenting processes. What happened was there was  
11 nothing like it. There is nothing like it on the  
12 market. There was something that was a Velcro wig from  
13 1920 that they had, but the patent -- which was totally  
14 nothing like mine. It was kind of similar, but it's  
15 Velcro and not what I had. And so, you know, got a  
16 rejection. Had to turn some things around. My  
17 attorney was really great. Got to 2017, and got it --  
18 got -- my attorney got an agreement to move forward,  
19 and then next thing you know, he called her back when  
20 he didn't get the letter or whatever you're supposed to  
21 get, and she had changed her mind. And I was amazed,  
22 because I'm -- how do you get an agreement -- and my  
23 attorney said in his years, he had never heard of that  
24 before, and he's older. So he had never heard someone  
25 get an agreement, and then change their mind. So then

1 he asked for the supervisor. Then she said, no, no,  
2 no, we can get it done. And so she didn't have to --  
3 he didn't have to go to the supervisor, but a couple of  
4 months later, we got a letter of abandonment. So then,  
5 now, I found this out after the fact, because my  
6 attorney didn't tell me any of this after he fixed it,  
7 because he was upset with the process of getting a  
8 changed mind, and then an abandonment right after it.  
9 I did end up getting a letter stating that -- you know,  
10 stating that they apologized for any inconvenience that  
11 was caused, and they sent me a letter of rescinding  
12 notice of abandonment. If my attorney had not cared  
13 about me, I would not have my patent. So it's  
14 important to me to let people know that this process,  
15 it should be a little bit easier for people that are  
16 like me, you know, that went to my family and got  
17 money, and, you know, there's nothing like that there.  
18 So proudly to say, I then got my letter of issuance  
19 right after that, and then I have my patent today. So  
20 just want to say please help us. Help us. We're  
21 underrepresented, and we don't know what we're doing.  
22 And many of the time, most of the time, we're trying to  
23 get our family to help us, so that we can help our  
24 families become better and give, you know, some  
25 legacies and generational wealth to our children, and

1 then things like this could help -- could harm us. So  
2 a better process in the patent, getting all the way  
3 through. But thank you, guys.

4 MR. PORCARI: Thank you. Thank you, Tina.  
5 Thank you so much. So our next speaker is supposed to  
6 be Calvin Flowers, but I didn't see him. Is he online  
7 or, is he walking in at this second or not? Okay. And  
8 I think we're going to move forward with our speaker  
9 after that. Kelly, you're up after that. So our next  
10 speaker is Kelly Burris. She is the owner and founder  
11 of Burris Law. That's just downstairs. It's the  
12 office with all the cool Shinola bikes made in Detroit.  
13 Her energy and enthusiasm for client goals combined  
14 with her deep experience in mechanical, material  
15 science, and electrical arts help the clients secure  
16 hundreds of U.S. and foreign patents each year.

17 She's a licensed pilot since 1985, and an  
18 aeronautical engineer in her prior career. Kelly has a  
19 natural affinity for aerospace technology, but also  
20 works in other sectors, including automotive,  
21 semiconductor, and medical technology. She has  
22 significant experience with design patents, and has  
23 testified twice before the U.S. Congress in opposition  
24 to propose legislation that would significantly impact  
25 the term of those patents. And prior to practicing

1 law, Ms. Burris spent more than 11 years in the  
2 aerospace industry with McDonnell Douglas and Boeing  
3 where she was an inventor, and worked in areas of  
4 advanced composite material, structural design,  
5 production, manufacturing, ballistic research, virtual  
6 reality, CAD/CAM, and many other applications. She's  
7 also an adjunct professor at Western Michigan  
8 University and Thomas Cooley Law School. I'd like to  
9 introduce Kelly.

10 MS. BURRIS: Thank you. Thank you very much,  
11 Damian. I appreciate that lovely introduction. And as  
12 my dad always tells me, I don't let the grass grow  
13 between my toes. So it really is a pleasure to be here  
14 today. It's an honor. I really appreciate the  
15 opportunity that the Patent Office has opened this up  
16 for discussion. It's a topic that's very near and dear  
17 to my heart as you maybe could tell by my background.  
18 So I was an aeronautical engineer in the late '80s,  
19 early '90s in St. Louis for a defense contractor. Not  
20 very women and minorities down there; however, a lot of  
21 veterans. And I was working with a senior engineer on  
22 some really cool technology -- we were in an R and D --  
23 and he was my mentor.

24 And one day, he came to me and said, hey, you  
25 know, I think we really -- I think we should get a

1 patent on this idea that you have. And I thought --  
2 this was 1994, '93 -- what is a patent? And that right  
3 there, that's a problem, because I had an undergraduate  
4 degree in aeronautical, had a master's -- well, I  
5 didn't quite have my master's yet from WashU at that  
6 point, but I didn't know what a patent was. I didn't  
7 really know what an invention was, so obviously one  
8 of -- I mean, we -- this has been a theme throughout  
9 the day, but a big component of this is education and  
10 exposure, and getting people to know about what a  
11 patent is, and what an invention means.

12           And from a personal standpoint, I thought oh,  
13 that's really neat. I like that idea, and the company  
14 would pay us a little bit of money. You know, you're  
15 young and money's always good, good to have a little  
16 extra money. And at the end of that process, when we  
17 got our patent, once a year, the company would have a  
18 big awards ceremony that was at the corporate  
19 headquarters, in the auditorium, and I got to go with  
20 my mom and dad, and be amongst a group of engineers,  
21 and get my plaque, and it was a very proud moment for  
22 me. The invention really didn't go anywhere. It was  
23 just too costly, but, you know, I could just see -- I  
24 felt really good about myself as a -- as an engineer.  
25 I could see my mom and dad were really proud, and I

1 thought wow. This should be a -- everybody should know  
2 about this. This is like exercise. This is like a  
3 good diet. It's like a good night's sleep. This is  
4 something that's really energizing and good for  
5 everybody.

6 So that's my background. And so during that  
7 process, I got to know a patent attorney, and I learned  
8 about patent law, and honestly, you know, okay, so I  
9 can make a little more money being a patent attorney,  
10 and I might be able to afford that airplane versus  
11 those engineering salaries, so I became a patent  
12 attorney. And, you know, in that experience as an  
13 engineer in the defense industry and still now in the  
14 field of intellectual property law, there's a lot of --  
15 there's not much diversity. And it's a topic that's  
16 very important to me, because I've experienced  
17 diversity. I've been around it and seen how it can  
18 really just open up your world and your thinking.

19 And so I want to make an observation -- I  
20 want to show a video, and make an observation about a  
21 point that has been mentioned a couple of times today  
22 just about exposure, and about, I think -- there's --  
23 like there's one of me -- I think, Nichole, you  
24 mentioned something in your presentation about, oh, one  
25 of -- there's me too, or there's one of me there. I

1 don't know if you've seen the Tony awards recently, but  
2 there was a young woman who was in a wheelchair who won  
3 a Tony award for her performance in Oklahoma, Ali  
4 Stroker. And there was a young man -- so I do have a  
5 video. It's a minute and 45 second video. But before  
6 we launch that video, the mother -- I see heads nodding  
7 in the room.

8           There was a mother who took a video of her  
9 son who was in a wheelchair, who was watching this  
10 wheelchair-bound woman receive a Tony award, a very  
11 prestigious award. And he just covered his face, and,  
12 mom, that's me. And he cried. It was just this, kind  
13 of like, I get it, buddy, I get it. When you see  
14 there's one of you out there, it opens up that  
15 possibility to your world. So I have a video that I  
16 would like to show, and this is a commercial, a TV  
17 commercial that I saw just the other day on TV, that's  
18 a Volkswagen commercial for one of their new, I guess,  
19 electric initiatives, but an electric vehicle. So I  
20 will stop talking as soon as the video starts, and I'll  
21 mention a few things after the video's over here.

22           (Playing of video)

23           MS. BURRIS: So great commercial; right?  
24 Awesome. And even the audience they're marketing to  
25 seems to be a younger audience that wants to, you know,

1 do great things for the planet, drive electric  
2 vehicles. But what did you notice about that  
3 commercial? If that would have been a minority  
4 designing that car, would have been African-American  
5 woman, think about how much more powerful that would  
6 have been. And if there was a young woman or a young  
7 minority seeing themselves designing that car would  
8 have, I think, helped open up that possibility to them.  
9 So I think -- I'm going to talk financial in a  
10 minute -- but I think that there's this whole social  
11 part of this issue that we're facing that we need to  
12 set examples.

13 The gentleman that spoke last talked about  
14 mentors, about role models. That is -- you can't  
15 overstate the importance of having that. That's how I  
16 got my patent, not an important patent at all, but the  
17 only barrier I had was knowledge or information. And I  
18 had a role model. I had somebody who said, hey, kiddo,  
19 let's go get a patent on this, and that's what we need  
20 more of. I think that this Invention Convention  
21 program that The Henry Ford talked about is phenomenal,  
22 and I can't wait until tomorrow morning, because I'm  
23 going to make some phone calls and find out how we can  
24 help out, because you're grabbing them at a younger  
25 age, and making it a part of their -- you know, part of

1 the curriculum.

2 You know, why is -- why didn't we have -- I  
3 mean, it's in our Constitution -- this is what I didn't  
4 want to do, for crying out loud -- it's in our  
5 Constitution. Why are we not teaching this in the  
6 classrooms to our children? Not just patents, but  
7 trademarks, and copyrights, and, you know, making this  
8 a part of our education. I think it's getting better,  
9 with STEM especially, and in high school curriculum,  
10 and college curriculum, but the education, providing  
11 opportunities for people that wouldn't have those  
12 opportunities, the mentoring in addition, a very key  
13 component to solving this problem. And then the  
14 financial aspect of it.

15 You know, I actually am a lawyer, so I read  
16 through the language of the Act, and in Section 2,  
17 paragraph A, subparagraph 2, it talks about many  
18 innovative small businesses, subparagraph 3 talks about  
19 universities and then the next subparagraph talks about  
20 women and minorities. Well, in that first paragraph,  
21 small business, you get a discount. It's small, you  
22 know, you get to pay half. Universities pay half.  
23 Women and minorities, there's no -- I mean, clearly in  
24 the fee setting authority in this Act, there -- it's  
25 like the door's been opened. It's very obvious to me

1 that there are fee setting programs that can be put in  
2 place to address this. Now, I think everyone knows  
3 that the patent office fees are only one component to  
4 the fees. You have legal fees as well, which are, I  
5 think most cases, are more, a lot more than the USPTO  
6 fees.

7 So how do you address that problem? I would  
8 love to do more work with small inventors. It seems  
9 that sometimes it's more engaging, because you have  
10 a -- like a personal stake in helping them succeed.  
11 But as a small business owner, I can't afford to  
12 represent individual inventors, because there's -- you  
13 don't get paid a lot of times, which is fine. I like  
14 doing pro bono work, but I can't run my business that  
15 way. So I'm forced to work -- not forced -- but I work  
16 with larger companies who pay their bills, and that's  
17 just -- that's business. And I enjoy working with  
18 those inventors as well, but there has -- you know,  
19 there's got to be some discussion around how do you  
20 help fund these individual inventors and small  
21 companies that can't afford the legal fees.

22 And there was mention about the PTAB a couple  
23 of times, so I will take this as an opportunity to  
24 express some observations about the PTAB. When the  
25 post grant proceedings were announced, I got really

1 excited. I thought, wow, this is great, because there  
2 will be proceedings that will be much less expensive,  
3 much less time consuming, get out of the courts and  
4 litigation. And I respect litigators, but sometimes  
5 it's an awful darn, large, huge massive waste of money.  
6 And I thought this is going to be very efficient and  
7 great. We can go back to the Patent Office, and get  
8 down to what the claims really should cover. And  
9 that's not how it's turned out so far.

10 I have participated in many European patent  
11 office proceedings. They're called oppositions or even  
12 oral hearings, where you go in, the opposing party goes  
13 in. And there's a panel and you talk about what your  
14 claims cover, what they don't cover in the prior art,  
15 and you iterate, and you iterate, and you iterate, and  
16 you walk out of that room with a decision. And I think  
17 if everyone's honest about those proceedings, you feel  
18 pretty good about what you walked out with. I don't  
19 know why the Patent Office can't have proceedings like  
20 EPO opposition proceedings. And the main reason why  
21 European don't use our post grant proceedings is  
22 because they're too expensive. They can't afford that  
23 \$500,000 that everyone was talking about earlier.

24 If I have the EPO opposition, it's an order  
25 of magnitude less than that, maybe 25-, maybe \$50,000

1 tops. So why can't we have proceedings like Europe  
2 has, where you can get down to really what, what  
3 those -- what should those claims really cover?  
4 Because in all honesty, as a patent attorney, I'm  
5 trying to get the biggest, broadest claim I can for my  
6 client. And, yeah, it might be a little too broad,  
7 which is why I write more claims. And someone's going  
8 to come and challenge it with prior art, but if I end  
9 up proceeding, I have a chance to make amendments  
10 multiple times. They're called auxiliary requests in  
11 those proceedings. I'm going to be able to walk out  
12 with a good patent for my client.

13 With the PTAB, they're not there yet.  
14 They're starting to move in that direction, and I  
15 understand that's a big ship to turn around, but there  
16 are some things that could be done there as well. On  
17 the fees, I mentioned there is an opportunity to reduce  
18 the fees personally. I will just say that without  
19 trying to get emotional, no veteran of this country  
20 that volunteers to fight for our freedom should pay a  
21 dime for a patent application. Period. Shouldn't  
22 happen. I'm sorry, but there should be no charge for  
23 veterans. And I'm happy to write patent applications  
24 for them as well. There we go. I'm a patriot. What  
25 can I say? You know, and there's other programs that

1 can be put in place too as well, in terms of grants.

2 You know, maybe there can be law firms that  
3 qualify as a government -- qualified law firm to help  
4 these small businesses, if you meet certain criteria,  
5 and then, you know, the government can help fund that  
6 somehow, some way. I think there's a lot of -- we have  
7 a lot of smart people in this country to come up with a  
8 solution. But I agree that the independent inventors  
9 and the small businesses, it's unfair. It's unfair,  
10 because they're up against a huge gigantic wall versus  
11 these big companies that have, you know, real deep  
12 pockets. So with that, I will again thank you for this  
13 opportunity, and thank everybody for coming today.  
14 It's an important -- it's a very important Act, and has  
15 big significance. So thank you very much.

16 MR. PORCARI: Thank you Kelly. That was  
17 terrific. Thank you. So did Calvin -- did Calvin  
18 Flowers come by? No? Okay. With that, I'm going to  
19 go to our next speaker, Katrina Anderson. Katrina is a  
20 local entrepreneur and owner and founder of  
21 ComodiTeas, a Michigan based business that offers  
22 premium tea, and related gifts. Her company is a  
23 previous recipient of the Detroit Economic Growth  
24 Corporation's Motor City Match Program, and we're very  
25 glad to have you here today.

1 MS. ANDERSON: Thank you, and good afternoon  
2 again. My name is Katrina Anderson. I am the owner of  
3 ComodiTeas Company here in Detroit. I'm going to  
4 mention a little bit of my background, and you'll  
5 figure out why it's relevant in a minute. I hope you  
6 connect those dots. I grew up as a daughter of a Ford  
7 Motor Company executive. He was a member of the recall  
8 department, and that this how he spent all of his  
9 waking hours. And I grew up as a scientist, very  
10 interested in science as a student. In elementary  
11 school, won multiple science awards, and all of that  
12 sort of thing. Decided I was interested in health  
13 care, so pursued the typical path into medical school,  
14 became a med student here at Wayne State University  
15 here in Detroit, and from there, embarked on a career  
16 path that involved medical ethics, bio ethics.

17 Now I own a tea company. Okay? I want to  
18 use my experiences to give you an anecdotal analogy of  
19 what the life cycle of an idea is, the life cycle of an  
20 invention. So it starts off as a question; right?  
21 Then you wind up with some kind of an answer, usually  
22 in the form of an idea. From there, you wonder if it's  
23 a good idea. Then you explore whether it's a worthy  
24 idea, and hopefully you wind up with a patented idea,  
25 what we call an invention here in our culture. The

1 conversations I had along that journey were both  
2 internal and external. They involved large paradigms.  
3 They involved my micro culture. They involved a lot of  
4 things. It started off with me sipping tea. I'm using  
5 a tea bag in my living room, and I said, man, I hate it  
6 when my tea bag does that. Someone -- someone --  
7 should do something about that. Hum.

8 Two weeks later, two weeks worth of tea  
9 later, aw, why does my tea bag keep doing that? This  
10 is a simple problem of physics. Someone should do  
11 something about that. Grrr. Tea bags. Grrr. Okay?  
12 Then you walk into, you know, this is simple problem of  
13 physics. All you have to do is modify this tea bag  
14 this way. Yeah, that would probably work. It's really  
15 simple. Why isn't this on the market? Eventually as  
16 I'm developing a tea company, and I'm also tinkering  
17 with tea bags in the meantime, I stumble upon a  
18 competition for pitching, a pitch competition for  
19 businesses here in Detroit. I signed up for the boot  
20 camp, prepared for the pitch.

21 My mentor one day is watching my slides.  
22 He's watching me go through my presentation, and he  
23 says wait. Back up. I said okay. What did you just  
24 say there? Oh, yeah. Yeah; yeah. I tinkered with the  
25 tea bag. I made some modifications. Blah, blah, blah.

1 He goes why is this the first time I'm hearing that in  
2 week 10? I didn't think it was worth mentioning. I  
3 just threw it in there. Have you explored a patent?  
4 Why would I do that (in my mind)? Has it been done  
5 before? It's not on the market. I checked on a couple  
6 of things, but there are major differences from the way  
7 I handled this problem, and the way everybody else is  
8 doing it. Katrina -- he did everything short of curse  
9 at me; I kid you not -- why have you not explored a  
10 patent?

11 Now, again, remember all of that lovely  
12 science background. It never once occurred to me that  
13 my idea was not only good, but it was worthy and  
14 potentially patentable. Never occurred to me. With  
15 all of my STEM training, I did forensic science for the  
16 Detroit Police Department. I did a DNA manipulation  
17 here at Wayne State. I was a part of a qualitative  
18 research team here at Wayne State, studying HIV  
19 research in southeastern Michigan, and not once did it  
20 occur to me that my idea was good enough to take to the  
21 government and say, hey, this is mine. Paradigm shift.  
22 So once my coach got finished yelling at me -- in front  
23 of everybody, I might add -- it occurred to me that you  
24 know what? Maybe the issue is me. Why didn't I think  
25 I was worthy of this? Where did that come from? A

1 woman that could not find a local university to teach  
2 her bio ethics went to Wayne State, went to the  
3 interdisciplinary studies department, and created her  
4 own degree for a master's of arts, but I did not have a  
5 clue that my ideas were worthy of someone else's  
6 resources, someone else's time, someone else's  
7 documentation.

8           Why would Uncle Sam care what I think? I am  
9 not like your typical African-American woman. I was  
10 raised in a middle income household. I have two  
11 children. We are going through some very hard times,  
12 so yes, I qualify as low income seasonally. I am  
13 raising my kids to prepare them to think outside of the  
14 box, but I was a victim of the only box that I had ever  
15 known, which was telling me that you had to be a white  
16 male in order to succeed at these things. The middle  
17 of the night when you see those lovely commercials of,  
18 hey, if you have an invention, come to our service, and  
19 we will help you get a patent on it. They use a white  
20 cave man to invent that little wheel, and you only see  
21 it at 3:00 in the morning. So when I have insomnia,  
22 I'm staring at the white cave man. Yeah, he invented  
23 the wheel. I get it. What does that have to do with  
24 me? He doesn't look like me.

25           It took a male to tell me why aren't you

1 patenting this? He didn't sound like me. His  
2 background had nothing to do with my background. Then  
3 we get into the patenting idea, and I did investigate  
4 this, and I am in the process of investigating it. I'm  
5 speaking to an attorney. Call up the State Bar  
6 Association. Yeah, you pay us \$25, and we'll refer  
7 you. Okay. Great. Had the initial phone call. He  
8 says three things to me. He says have you researched  
9 this? Yeah. Okay. Well, what did you do? Okay.  
10 Well, I did some Google. I went to the USPTO website,  
11 and I did some initial, you know, searching, and this  
12 is what I'm finding. And he says okay. Good. I need  
13 you to spend 2 hours, research that, because you don't  
14 want me to charge you \$300 an hour for research. You  
15 want to do that yourself.

16 All of a sudden, this woman with 15 years of  
17 academic research in her CV is questioning whether she  
18 is capable of researching this for herself on a level  
19 that would be relevant enough to spend money. Ah.  
20 Number two, well, then you have to think about the  
21 ambiguity. Is this obvious to somebody with minimal  
22 skills? Obvious? That is a gray area. Obvious. It  
23 wasn't obvious to me when I was sipping tea the first  
24 two weeks, but then when I did it, it became obvious.  
25 I don't know what obvious means, sir. Is this worthy

1 of money, paying you \$300? Then the third thing was  
2 there's a statute of limitations. When was the first  
3 time you discussed this publicly? Bless God, it was  
4 just a week ago. But had it been 11 months and 3 weeks  
5 ago, I would be in deep trouble. Okay? So now we've  
6 got the statute of limitation.

7 I won the pitch competition, thank you, Lord,  
8 but that grant money was earmarked for something else.  
9 But now you're telling me that all of that grant money,  
10 all of that funding that I worked 10 weeks for will  
11 likely go to this guy that I've never met, the faceless  
12 male on the phone, saying are you sure you want to do  
13 this. Because his next recommendation was, you know  
14 what you could do, is just sell the heck out of this  
15 for two years, and then when somebody starts knocking  
16 it off, just do something else. I hung up the phone,  
17 and I said, was he trying to talk me into a patent or  
18 out? I'm not sure. And on top of that, I heard a  
19 voice outside of myself say you were willing to assume  
20 that your pet peeve was exclusively your pet peeve.  
21 You took ownership of the pet peeve, but you're not  
22 willing to take ownership of the solution. Again, this  
23 is a paradigm problem.

24 So moving forward, STEM is a great way,  
25 absolutely, to approach people and get more innovators

1 into the system. What about the innovators like myself  
2 who are not in a lab, not on a hospital floor, doing  
3 things that seemingly have nothing to do with  
4 technology? I was drinking tea in my living room. How  
5 do you find them? Your next great innovator might be  
6 at a Mommy and Me club right now, playing in a sand  
7 box. Your next great innovator -- I was telling Ms.  
8 Burris that my daughter has an interest in technology  
9 and aerospace, but she chose to go into the arts. So  
10 she is now doing music and visual arts, but if ever  
11 there was a person that is well-groomed to marry  
12 creativity and technology, to marry the creative space  
13 with technology, or even to partner with somebody else  
14 that has an engineering background, and create  
15 something incredible for our society, it is her. I can  
16 prep her, but I need you to go get her.

17 Stop showing us white cave men. Don't limit  
18 yourself to just the STEM program. I am a product of  
19 the STEM program, so I am absolutely thrilled that my  
20 kids have the opportunity to go to more science camps  
21 and to learn things in school. However, go to some of  
22 the art fairs. Go to Mommy and Mes. Go to community  
23 groups, because technology is not just about the  
24 laboratory. It's also about everyday life. So the  
25 U.S. Patent Office has the opportunity to do something

1     incredible. Descartes said, I think, therefore I am.  
2     If this holds true, validating someone's idea could,  
3     indeed, validate their existence as a U.S. citizen.  
4     Ooh, paradigm shift. And that, ladies and gentlemen,  
5     is how you leave your mark on society. Thank you for  
6     your time.

7                   MR. PORCARI: Thank you, Katrina. That was  
8     terrific. I appreciate your time coming down here.  
9     And we will have search programs that you can take  
10    advantage of in our office. And I think -- so before  
11    we have our last speaker, just kind of housekeeping,  
12    we're going to have one more speaker. Then we're going  
13    to wrap up, and then we're going to have a round table  
14    where you can ask questions of the people that are  
15    here, as well as those people that are online. And if  
16    Calvin Flowers shows up, you're going to let me know,  
17    Jermaine.

18                   But our last speaker is going to be via  
19    Webex. Is that set up? Okay. So I want to introduce  
20    Carrie Hafeman. She's our next speaker. She is the  
21    founder of World Computer Security Front Door Software  
22    Corporation, and she holds multiple patents in computer  
23    security, advertising, and communication, including  
24    Find My Phone patents in the U.S. and in Europe. She  
25    has a long history of working in the computer security

1 and software industry, and is skilled in startups,  
2 business planning expertise, enterprise software,  
3 entrepreneurship, venture capital software license,  
4 patent litigation, and marketing. Carrie?

5 MS. HAFEMAN: Yeah. Hi. Can you hear me?

6 MR. PORCARI: Yes, we can hear you fine.

7 Thank you.

8 MS. HAFEMAN: Okay. Well, thank you. Thank  
9 you for letting me contribute, and hopefully I have  
10 something to contribute. But I also apologize. I was  
11 planing on trying to be there in person, and then  
12 something came up so that I can't. But I did do a  
13 couple slides, and I just want to just say that I did  
14 speak to -- regarding the SUCCESS Act last week. I  
15 think in the middle of the week, they were talking  
16 about what they were kind of looking for, and it was a  
17 study on participation of women, minorities, and  
18 veterans, and, you know, entrepreneur activities in the  
19 patent system, and just some of the challenges that the  
20 USPTO had.

21 And so anyhow, I've -- I mean, and obviously  
22 I don't know as much about the USPTO as the people at  
23 the USPTO, but listening to these challenges, you know,  
24 perhaps I could be helpful. So if you go to the next  
25 slide or slide two, so this is me. My background, I

1 have 10 patents, and I have 9 U.S. patents, and I have  
2 a European patent, one in Germany and other countries  
3 in various continuations. And I actually am getting my  
4 10th U.S. patent today. It's being published today,  
5 which I'm actually very proud of, because I applied for  
6 it in 2002, so this was various continuations. So it's  
7 been a long time, and it's the best one, and I actually  
8 survived a 101 challenge. So you know, there were  
9 challenges regarding that, so that was good.

10 And then a little more about me is, you know,  
11 I guess the reason why I probably, you know, ended up  
12 applying for a patent, because my father is very  
13 entrepreneurial, and he has 10 patents. Growing up  
14 with my dad was kind of growing up with that guy like  
15 from Chitty Chitty Bang Bang. It absolutely was. He  
16 literally was like that guy. I mean, lights would beep  
17 in our house, you know, when the power would go out,  
18 and he'd wear things on his head, and go down the  
19 street. I'm going to check this transmitter, you know,  
20 so let me know if you get the signal sort of guy. So  
21 that's how I grew up, so I think, you know, that had a  
22 lot to do with -- my environment had to with like the  
23 fact that I'm an entrepreneur and have applied for  
24 patents.

25 And I've been the founder of various startups

1 in computer security. I've been lucky, lucky enough to  
2 have had millions in sales, and tens of thousands of  
3 downloads in over 100 countries, and then I've sold my  
4 patents, which were licensed to inventions at Cornell,  
5 UCLA, USC, Brown, Johns Hopkins. I have two girls, and  
6 they both graduated. My youngest one graduated last  
7 month, so it was our last college payment, which we're  
8 excited about. The first one was in engineering, and  
9 the second one was in bio chem. So if you could go to  
10 the third slide -- thanks for helping me with this  
11 slide thing. So basically this is what I heard last  
12 week, you know, that the USPTO was trying to get -- how  
13 do you get data? You know, you're trying to get the  
14 number of women that are applying for a patent in your  
15 studies, minorities and veterans, and they were saying  
16 how minorities and veterans were harder to collect that  
17 data, and that for women, you were kind of guessing at  
18 the names, but coming up with studies.

19 And then how -- you know, a second challenge  
20 was how do you rate the participation by women,  
21 minorities, and veterans. And then where do you focus  
22 the resources? Somebody said, you know, to focus on  
23 young girls or women grads. I mean, I'm more familiar  
24 with the women issue than the other ones. And then  
25 should you do more study or time for action? So just

1 the way I'm wired, I'm always for action, and I think  
2 when you start action, you can actually learn more  
3 faster, just from making the stakes quicker and  
4 pivoting. So if you want to go to the next slide, so  
5 basically here's action number 1, I was thinking about,  
6 regarding some of those challenges that somebody  
7 mentioned on the phone. And that was like how do you  
8 create -- how do you find out, you know, who's really  
9 applying? And you could create an optional checked  
10 box, you know, when you're applying for a patent, you  
11 know, minority -- you know, women, minorities, and  
12 veterans. And then some people won't check that box,  
13 and probably, you know, a lot of people won't. So you  
14 could create an economic incentive.

15 So it's similar to the small entry fee, and I  
16 think one of the speakers had just mentioned it,  
17 because I just watched them. I think Kelly Burriss.  
18 And why couldn't you have like a discounted fee for any  
19 of those categories? And I don't know whether that's  
20 appropriate or not, or what the rules are based on  
21 that, so the other idea would be that they could -- if  
22 they checked that box, they could get -- apply for a  
23 grant or its continuation. I had a rumor -- I heard a  
24 rumor a week ago that the Patent Office actually breaks  
25 even more when people file for continuations, so you

1 could get like a 500 dollar grant if they checked a box  
2 for a continuation, if they got the first patent. And  
3 that way, it wouldn't really cost the Patent Office  
4 very much, and it would accomplish two birds with one  
5 stone. You would be able to collect the data, and you  
6 would actually encourage people to file for  
7 continuations.

8 And then you could also -- to get the data,  
9 you could provide a spotlight series on your website.  
10 So you could have women inventor spotlight, you know,  
11 veteran spotlight, and you could shift all that work  
12 actually to the applicant. I mean, people after the  
13 month or after the spotlight, they could actually send  
14 in a video to you why they think they might be women  
15 inventor, you know, of the month, or whatever, the  
16 spotlight. So lots of inventors would actually want to  
17 do this, because they would want to promote their  
18 business and get some, you know, notoriety, and help  
19 with investments and sales. So that would be  
20 something, you know, possibly you could do to actually  
21 collect that data.

22 And speaking of website, which gets me to the  
23 next slide of what you could do, is you really should  
24 think about updating your website. So I was on your  
25 website, and I was trying to go to the USPTO. Like,

1 you know, women incentives was what I, you know,  
2 Googled, and I couldn't really find anything. But then  
3 what I did was, I looked at like NASA. This is an  
4 example of NASA. And then this is just one. There's a  
5 Natural Education Society. There's all kinds of  
6 websites like this, The History Channel, National  
7 Geographic. And what they're doing is they're  
8 leveraging their information with STEM. And even this  
9 website is NASA/STEM. So basically you could actually  
10 do something similar, and by doing that, you could  
11 leverage -- the United States Patent Office could  
12 leverage getting their information to women,  
13 minorities, and veterans, you know, through the STEM  
14 organization that's already growing.

15 The STEM people, they're just totally hungry  
16 for -- they're hungry for information; right? They  
17 want content. So you could actually provide content  
18 for them to actually share with kids in the classroom  
19 and that kind of thing. And, you know, this NASA thing  
20 had featured the 8, the Figure 8 girls from -- or women  
21 from NASA. That kind of story, you could have role  
22 models, videos, all kinds of things. So, I mean, that  
23 was just an idea. And then you can see they have all  
24 these downloads. They download information. So  
25 anyhow, speaking of downloads -- you can go to the next

1 slide -- the next slide is -- what people were talking  
2 about earlier is -- I think Kelly was talking about it  
3 too -- is you really need to have -- you need to see  
4 and hear role models that look like you.

5 And I just -- you know, just yesterday, I was  
6 looking at -- I think everybody in this room might have  
7 seen this Schoolhouse Rock Bill, which is a popular  
8 video with, you know, how do you make a bill, you know,  
9 for the patent -- I mean, for the government, and it  
10 has over 5,000,000 views. If you look at that video,  
11 which that actually is a link, you can see that there's  
12 all different type of people in the video. I mean,  
13 they're trying to have minorities shown, women shown,  
14 all kinds of things in the background. But the other  
15 thing I found was Schoolhouse Rock for Patents. And  
16 basically that's like some old lady there. She's  
17 called the Mother of Necessity. And she's literally in  
18 this video, you know, has a problem, and then is  
19 asking, you know, what do I do about it, and then it's  
20 just a bunch of guys, and it's, you know, a very  
21 important inventor side, you know, helping solve the  
22 problem.

23 So basically what the -- and I think the  
24 Patent Office could do is actually create videos that  
25 would be for different -- you know, avoid the

1 stereotypes, and be age appropriate for different  
2 years. So if you look at the NASA website, they  
3 actually have videos for, you know, the 8- to 12-year-  
4 olds, and videos for 13- to 16-year-olds, and maybe  
5 females, and males. You could have all kinds of  
6 different videos, and if you have that concept out  
7 there, then people could download it and share it. And  
8 I think it's just also -- you know, just super  
9 important to see people that look like you that can do  
10 something.

11 I mean, I personally, you know, I was a math  
12 major and in high school, I got skipped in math. And  
13 I'll never forget the teacher saying to these two girls  
14 and this guy, you know, I can't believe we're skipping  
15 you in math. I can't believe it, because girls are  
16 typically not good in math. This is my sophomore year  
17 in high school. It's a very good high school. And I  
18 was like what are you talking about? I mean, I have no  
19 idea what you're talking about, girls aren't good math.  
20 I mean, that was my favorite subject. I mean, luckily  
21 I didn't hear that when I was younger, so I just think,  
22 you know, that's very important. I mean, just, you  
23 know, the whole idea of role models is just -- it's  
24 just a huge factor in identifying what you -- you know,  
25 what the possibilities might be, and just to avoid kind

1 of role models on different videos that you might be  
2 posting.

3 I remember when my kids were in like I think  
4 it was 1st grade. They had a role model. You know,  
5 who is a stranger? And they put up this picture of  
6 this like horrible looking guy. You know, is this a  
7 stranger? And everybody in the class, just like yeah,  
8 that's a stranger. And then you put up this picture of  
9 a beautiful white woman, and it's like is this a  
10 stranger? And everybody in the class was just like,  
11 no, she's not a stranger. So I think that creating  
12 downloadable material that isn't contacted, that avoids  
13 stereotypes, and also targets early year students, is  
14 like, you know, very important. You know, obviously  
15 somebody could be older, and think they're going to  
16 invent a product, and that's fine. But the probability  
17 of planting a seed I think is super important when  
18 you're younger.

19 I mean, I have these two girls, and I don't  
20 know if you guys have kids, but I think for the ages  
21 from zero to 10, you have more influence over them, you  
22 know, than when they are 10, 12, or older, in which  
23 case they start listening to their friends a little bit  
24 more than their parents. So well, anyway, that's my  
25 possibly action number 3. And then number 4, which is

1 the last one, is if you could please fix the America  
2 Invents Act, and because, you know, things have changed  
3 lately, and it's been very -- it's had a devastating  
4 effect, I think, on individual patent owners, and, you  
5 know, currently. So either you get a patent or you  
6 don't. You can't get a patent and then have something  
7 where it's like six, seven years later, oh, maybe we  
8 made a mistake, and then they just take it away.

9 Just make all patents high quality in the  
10 first place, so that's it's important, and then people  
11 aren't second guessing. Because the AIA for me,  
12 personally, has had a devastating effect on me getting  
13 outside investors and funding. I mean, there's an 85  
14 percent clobber rate with the, you know, PTAB. So  
15 basically you have a patent, and that's great, but you  
16 only have a 15 percent of keeping it, and you have to  
17 spend another 450- to prove to keep it. The current  
18 cost of a good patent -- I mean, I'm sure people get  
19 patents, my dad has one, that nobody has breached it,  
20 so that's fine -- but if you want to get a good patent,  
21 you have to spend more than 8 to \$10 million.

22 You have to spend a half million dollars,  
23 because you have to go through all that as well. And  
24 if you're not getting the investors in Silicon Valley,  
25 in Europe, Boston, and Boulder, Colorado -- they have

1 told me this -- that they're not excited about patents  
2 since the AIA has come about. And there's another  
3 investor also not making investments in this current  
4 climate, and is after looking at me, because I do have  
5 10 patents and I'm going to continue them, and I'm  
6 going to keep up what I have going on right now, but I  
7 do actually -- I'm one of those people that do -- I do  
8 have a lot of other ideas, but I'm not going to invent  
9 and patent right now unless this gets fixed basically.  
10 So basically what I do is I write them down on a piece  
11 of paper, and I put them in a drawer.

12 So anyhow, that's my opinion on the whole  
13 PTAB situation. For me, it's like I religiously patent  
14 for property rights. It's like let's say you bought a  
15 car from General Motors, and you pay for the car, and  
16 you get a title, and you get a title, and you pay for  
17 it, pay for it, pay for it. You get the car, and then  
18 8 years later, a department in the thing -- group says,  
19 we shouldn't have given you car. It doesn't work  
20 right, and we made a mistake, and then they take the  
21 car back, and they don't even give you your money back.

22 So anyhow, I just want to thank everybody  
23 again for letting me speak. And so your potential  
24 ideas, drafted ideas, you know, are kind of like new  
25 action items. They really might not cost very much to

1 help get -- you know, help women, minorities, and  
2 veterans get more involved in the process. That's it.

3 MR. PORCARI: Thank you, Carrie. I greatly  
4 appreciate your participation and thank you for that.  
5 Do you want us to include your slides in the public  
6 record that goes with this hearing?

7 MR. WILLIAMS: Yeah, that's fine.

8 MR. PORCARI: Good. And to anyone I forgot  
9 to ask, if we have your slides, would they be  
10 acceptable if we put those in the public hearing? Just  
11 see me. I don't want to put them in the public record,  
12 unless you guys were okay with it.

13 MS. WILLIAMS: Could I just add one last  
14 thing?

15 MR. PORCARI: Sure.

16 MS. WILLIAMS: Could I just add one last  
17 thing?

18 MR. PORCARI: Absolutely.

19 MS. WILLIAMS: I really, really, really do  
20 like the new director. The new director has made all  
21 kinds of positive changes, which a lot of inventors are  
22 very excited about. And it was because -- I got a 101  
23 rejection last November, and then he had guidelines  
24 that he published, and it was very, very, very helpful,  
25 and I just want to appreciate everything he's doing,

1 and Laura Peter, and, you know, everybody trying to  
2 help. So I just wanted to say that.

3 MR. PORCARI: Thank you for those comments.  
4 Thank you. I'll pass those on. And so with that,  
5 before we close, I'm going to introduce -- I'm going to  
6 reintroduce Andy Toole, but I just wanted to say thank  
7 you to everyone for your participation and your energy  
8 and your enthusiasm. I came to this job so that I  
9 could connect with inventors and the public, and this  
10 is why I came to the PTO, and I'm very, very glad that  
11 I did. I believe that we will make a difference. We  
12 will increase the number of women, minorities, and  
13 veterans in our inventor population, and I especially  
14 hope that happens in Detroit and throughout the  
15 Midwest, because I think we could definitely take  
16 advantage of those jobs, and those ideas, and those  
17 innovations. And before we go off the record, Andy, do  
18 you want to say any last remarks?

19 DR. TOOLE: Just a couple.

20 MR. PORCARI: Sure.

21 DR. TOOLE: Thanks. I don't have a lot to  
22 say. Of course, I want to say thank you for all the  
23 great insights, such creativity, and interesting  
24 personal stories that I think really will help, and so  
25 I really -- I hope to incorporate those. The only

1 other thing that we did leave time for, if there were  
2 individuals that wanted to -- were unscheduled; right?  
3 Is that still --

4 MR. PORCARI: Sure. Unscheduled.

5 DR. TOOLE: -- is that still --

6 MR. PORCARI: Yup. We're going to take a  
7 short break --

8 DR. TOOLE: And then we'll do that?

9 MR. PORCARI: -- and then we'll have a round  
10 table where people can share their views and their  
11 opinions, and ask questions, and --

12 DR. TOOLE: Okay. So that'll be -- that will  
13 be all off the record?

14 MR. PORCARI: Yeah.

15 DR. TOOLE: Okay. Again, thank you so much.  
16 That's all I have to say. I've really appreciated all  
17 of your comments today. Thank you.

18 MR. PORCARI: So we're going off the record.

19 (Off the record at 2:08 p.m.)

20 (Back on the record at 2:29 p.m.)

21 MR. PORCARI: Hello. I told people we would  
22 start up at 2:30, and we're having a small change of  
23 schedule. So why don't you sit there for the next 15  
24 minutes, and then you can sit there? So we're having a  
25 little change of schedule. We have a request for our

1 last speaker. Our last speaker of the day -- this will  
2 be on the record, and Jermaine, this is being recorded,  
3 and it's being transcribed -- so this is our last  
4 speaker that will be part of the SUCCESS Act hearing.  
5 And I would like to introduce Darlene McCoy. She is  
6 the grandniece -- great-grandniece -- sorry; I've got  
7 to get that right -- she is the great-grandniece of our  
8 namesake, Elijah J. McCoy, who was a famous Detroit  
9 inventor, who I studied when I was in elementary school  
10 at Hunter School here in Detroit, and so he was one of  
11 the famous inventors that I got to follow when I was  
12 going to school. And I'm very, very happy to have  
13 Darlene here to talk to us about her experience and her  
14 family's experience. That would be terrific. Darlene?  
15 MS. MCCOY: Thank you. What an honor! Thank  
16 you very much, and I want to thank this office for this  
17 opportunity to be a part of this conversation, which is  
18 really important. I started out with a question on is  
19 this going to be a success because of the conversation,  
20 and it will be a success. But my question that I  
21 started out with, why should we have our students  
22 become interested in becoming inventors after they've  
23 majored in math? Well, it could be a he or she, but we  
24 want to focus on the young women, especially how they  
25 can become disciplined in the areas of the STEM

1 program. We should nurture them and encourage them  
2 that they are someone, and they can develop a mind to  
3 think and be creative like anyone else. We should  
4 encourage them, encourage that they can learn the  
5 meaning of what science can produce within them, and  
6 figure out the problem solving schemes. We should  
7 encourage them that they have logical skills, and they  
8 can do the things that increased their thinking outside  
9 of the box.

10 Everyone here that has spoken today has given  
11 us a lesson that we should learn about, you know, you  
12 can think beyond the figures, as Henry Ford has brought  
13 it out. Now they can give us the figures that we can  
14 go and make the money that we need to make from our  
15 intellectual properties. I think that's what this  
16 little office is all out. How can we produce to keep  
17 our country as a nation full of wealth? And as I want  
18 to close, in solving the problem, you know, young  
19 people are very creative, if we allow them the space.  
20 Yeah, they talk back to us. Yeah, they give us a hard  
21 time. But if we allow them the space and give them the  
22 right tools to think, to listen, to hear their ideas,  
23 to hear and use their five senses, they can become  
24 great entrepreneurs to build the wealth of our nation.  
25 And without that, we wouldn't be a weak nation. We'd

1 be a wealth of a nation that can work on their  
2 strengths. Thank you for this opportunity, and we're  
3 looking forward to great things from this office.

4 MR. PORCARI: And with that, we're going to  
5 close this, the third public hearing on the SUCCESS  
6 Act. We will put these chairs in a circle, and we will  
7 have a round table discussion, but it will be off the  
8 record. We won't have it reported. And anything else,  
9 Andy?

10 DR. TOOLE: No.

11 MR. PORCARI: We're closed.

12 (Off the record at 2:33 p.m.)

13 (Back on the record at 2:34 p.m.)

14 MR. PORCARI: Hello. To anybody online, if  
15 someone wants to speak on the record, Jermaine, do you  
16 have the ability to receive comments for someone who  
17 wants to speak on the record? Okay. So either send  
18 Jermaine a note, and he will unmute you. Raise your  
19 hand under the Webex. While we have our court reporter  
20 here, if there is anybody that would like to speak on  
21 the record during this time period, I'm happy to have  
22 them. We were going to have this as a -- because  
23 multiple people were going to be speaking in this round  
24 table, we couldn't have multiple people talking with  
25 the court reporter. But right now, anybody who's on

1 the Webex and wants to speak on the record before we  
2 have the court reporter leave us, please let us know,  
3 and make that available. Jermaine, is anybody raising  
4 their hand? Is it possible for you to show us -- oh,  
5 everyone now in the Webex is unmuted, so please  
6 identify yourself and let us know if you want to speak  
7 on the record where we have it recorded.

8 MS. GATHMAN: Hello. This is Laurie Gathman.  
9 Can you hear me?

10 MR. PORCARI: We did. It had a small  
11 dropout. Could you say your name again?

12 MS. GATHMAN: Sure. It's Laurie Gathman  
13 Kowalsky from Philips.

14 MR. PORCARI: Oh, hi, Laurie. I'm sorry. I  
15 didn't hear you. Can you spell your last name, Laurie?

16 MS. GATHMAN: Sure. It's Gathman,  
17 G-a-t-h-m-a-n.

18 MR. PORCARI: Okay. And you're with Philips  
19 Electronics?

20 MS. GATHMAN: Yes. It's Philips North  
21 America Corporation. It's a subsidiary of Koninklijke  
22 Philips, NV.

23 MR. PORCARI: Go ahead, Laurie. We can hear  
24 you fine.

25 MS. GATHMAN: Okay. Thank you, Director, for

1 providing me with this opportunity to speak on this  
2 very important topic of increasing the participation of  
3 women and minorities in the patent process. I'm a  
4 principle intellectual property attorney at Philips  
5 North America, a subsidiary of Koninklijke Philips, NV,  
6 a Dutch corporation. Now, a little bit background on  
7 Philips, we are a leading health technology company  
8 that generated in 2018 sales of 18 billion Euros, and  
9 we employ approximately 77,000 people with sales and  
10 services over 100 countries. We have filed over 1100  
11 new patent applications in 2018, with a strong focus on  
12 the health technology services and solutions area.

13 We also participate in many intellectual  
14 property industry organizations, including the AIPLA,  
15 the IPO, the NYIPLA, and LEF, among others, and we're a  
16 strong supporter of diversity and inclusion in all  
17 aspects of innovation and practice. The recent study  
18 taps on there is a significant gap in the number of  
19 patents applied for and obtained by women and  
20 minorities. As a large multinational corporation, we  
21 understand that patents are a driver of innovation. As  
22 a global organization, we embrace diversity in the  
23 broadest sense and we recognize the proven benefits of  
24 enhanced innovation that will derive from a diverse,  
25 inclusive workplace. As part of this culture of

1 diversity, we understand that having women in  
2 leadership roles is critical to narrowing the gender  
3 gap, including gender gap in innovation.

4           Philipps has a new bold agenda diversity goal  
5 to grow percentages of our women and seniors in  
6 leadership to 25 percent by 2020. From a corporate  
7 standpoint, we believe that more internal and external  
8 leadership opportunities should be available for women  
9 and minorities in the patenting industry, to not only  
10 provide women and minority role models, as mentioned by  
11 others today, but also to provide them a seat at the  
12 table to participate in role making and provide input  
13 on new initiatives at the patent office and on proposed  
14 legislation. This means we believe there should be  
15 more board opportunities for women and minorities in  
16 some of the IP organizations that provide input to both  
17 the USPTO and Congress on innovation. The inputted  
18 comments provided by the organization has a multiplying  
19 effect, as it typically represents a number of members  
20 of that organization, and can be very influential at  
21 the USPTO.

22           It is common for organizations to state the  
23 technology areas they represent, but is the question  
24 ever asked by the USPTO about diversity on their  
25 boards? A diverse board, before signing off on the

1 letters to the USPTO, perhaps will have at least to  
2 state the issues affecting women and minorities. Many  
3 organizations will have limited IP committees, but are  
4 they really providing women a seat at the decision  
5 making table when sending off their letters to Congress  
6 and the USPTO? If not, this might be the subject for a  
7 yearly survey by the USPTO to some industry  
8 organizations, requesting diversity percentages in  
9 their organizations, and more importantly, on their  
10 boards. Asking such a question at the minimum starts a  
11 conversation. As part of procedures of input, the  
12 USPTO could ensure that they are aware of the  
13 percentage of women and minorities leadership positions  
14 and on such boards when receiving such recommendations  
15 and considering the input.

16 A second aspect is that as part of internal  
17 processes for ensuring that invention disclosures are  
18 received from a more diverse workforce, including women  
19 inventors, and that there are no barriers to filing by  
20 this workforce. Corporations should start the process  
21 by making sure we have women and minority attorneys  
22 responsible for obtaining and reviewing patent  
23 applications for filing. Having diversity in the  
24 decision makers responsible for selecting and filing  
25 patent applications in a corporation provides less of a

1 chance of invention disclosures being tossed based on a  
2 conception that women derived invention disclosures are  
3 less valuable than invention disclosures for men. This  
4 process should continue at the patent office, making  
5 sure that the USPTO has a diverse patent examining  
6 workforce to help remove barriers to women originated  
7 inventor filings. Both of these initiatives should  
8 provide a first step improving women and minority  
9 participation in the patenting and innovation process.  
10 Again, I want to thank you, Director Porcari. I want  
11 to thank you for giving me this opportunity to provide  
12 input.

13 MR. PORCARI: Thank you so much, Laurie.  
14 That was terrific. Is there anyone else online that  
15 would like to speak and go on the record? So just  
16 raise a hand on the Webex or send a note, and Jermaine  
17 will read it. Paul, did anybody else text you that --

18 MR. MORINVILLE: No, looks like they did, but  
19 now they don't. I don't know.

20 MR. PORCARI: Okay. So, Jermaine, can you  
21 continue to monitor that? And if we do, we'll go back  
22 on the record, and -- we'll just go back on the record,  
23 if someone walks in in the next hour or so while we're  
24 having our little round table. But, Laurie, and  
25 everyone else online, please join us, ask questions.

1 Jermaine, they can hear us on the Webex? Okay. We're  
2 going to continue the Webex.

3 (Proceedings concluded at 2:43 p.m.)

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| <b>\$10</b> 137:21             | <b>1</b> 74:15,18 131:5  | <b>17</b> 36:22 52:23                        | <b>2010</b> 9:4 36:10<br>37:14 39:6                | <b>3</b> 36:5 45:4 47:12<br>101:6 115:18<br>125:4 136:25 |
| <b>\$180,000</b> 94:13         | <b>10</b> 17:15 30:4<br>41:6 74:13 122:2<br>125:10 129:1,13<br>136:21,22 138:5                                     | <b>1790</b> 54:11                            | <b>2011</b> 34:23<br>40:12 53:15                   | <b>3,000</b> 54:18                                       |
| <b>\$20</b> 41:10              | <b>100</b> 100:9 130:3   | <b>18</b> 28:15,17<br>36:22 91:17            | <b>2012</b> 34:23<br>44:21                         | <b>30</b> 45:5 69:21                                     |
| <b>\$25</b> 124:6              | <b>101</b> 129:8 139:22  | <b>18.7</b> 40:10                            | <b>2013</b> 44:22<br>53:21 68:2                    | <b>30th</b> 10:8,10                                      |
| <b>\$30</b> 46:3               | <b>10:08</b> 52:5  | <b>1800s</b> 54:18                           | <b>2014</b> 28:10<br>36:16 40:3,11                 | <b>31</b> 17:14  |
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| <b>\$40,000</b> 28:19          | <b>11</b> 6:22 40:12<br>64:13 92:22<br>110:1 125:4   | <b>1920</b> 107:13                           | <b>2018</b> 10:22<br>38:17 70:11                   | <b>38</b> 66:3   |
| <b>\$450,000</b> 56:9<br>60:23 | <b>11:51</b> 98:22   | <b>1950s</b> 35:10                           | <b>2019</b> 5:8 17:11<br>21:7                      | <b>3:00</b> 123:21                                       |
| <b>\$50</b> 53:12              | <b>11th</b> 5:8 8:1  | <b>1960</b> 38:25 39:2,<br>6                 | <b>21</b> 5:13 15:2<br>23:1,12                     | <b>3rd</b> 53:7  |
| <b>\$50,000</b> 117:25         | <b>12</b> 5:5,14 14:9<br>15:18 18:14,17<br>19:22 20:14<br>22:13,20 23:15<br>24:15 26:9,15<br>93:23 94:16<br>136:22 | <b>1971</b> 92:20                            | <b>215</b> 60:9                                    | <b>4</b>   |
| <b>\$500,000</b><br>117:23     | <b>12-year-</b> 135:3  | <b>1980s</b> 5:13                            | <b>22</b> 74:18                                    | <b>4</b> 36:5 38:2 45:4<br>136:25                        |
| <b>\$56,000</b> 37:17          | <b>120,000</b> 17:9<br>21:21   | <b>1985</b> 109:17                           | <b>23</b> 36:21                                    | <b>4,000</b> 64:12                                       |
| <b>\$60,000</b> 93:14          | <b>13</b> 52:17  | <b>1990s</b> 53:3                            | <b>25</b> 99:11                                    | <b>4,196</b> 54:18                                       |
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| <b>\$7,000</b> 32:5            | <b>14</b> 64:6   | <b>19th</b> 54:25                            | <b>262</b> 93:16                                   | <b>40</b> 29:5,8   |
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| <b>\$72,000</b> 37:15          | <b>150</b> 69:3  | <b>1:06</b> 98:23                            | <b>28</b> 91:15                                    | <b>43</b> 40:7   |
| <b>\$87,000</b> 37:21          | <b>1500</b> 30:13  | <b>1st</b> 60:4 136:4                        | <b>2:08</b> 141:19                                 | <b>45</b> 113:5  |
| <b>(</b>                       | <b>16</b> 56:7 60:25   | <b>2</b>                                     | <b>2:29</b> 141:20                                 | <b>450-</b> 137:17                                       |
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| <b>0.2</b> 39:25               |  | <b>20</b> 27:9 29:5,8<br>34:4,5 49:12 74:7   |  | <b>5</b> 5:6 7:2 18:15<br>74:20 82:11                    |
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