Intellectual Property—Driver of Innovation: Making Our Lives Healthier, Safer, and More Product

Questions for the Record Submitted May 2, 2017

Questions from Senator Coons for Kay Eron

1. **Your testimony speaks of the need for better quality patents.**
    a. **In your view, is the U.S. Patent and Trademark Office falling short in this regard, and if so, where?**
    b. **What steps should the U.S. Patent and Trademark Office take to address patent quality beyond the initiatives it already has underway?**

Intel strongly supports the Patent and Trademark Office's efforts to improve both the quality of patents and the opportunities for those in the innovation industries to participate in such efforts. As the General Manager of the Health and Life Sciences Division in the Data Center Group of Intel Corporation, I know firsthand how innovation continues to revolutionize medicine—something in which Intel is proud to being playing a critical role. Intel is similarly invested in helping the PTO ensure that the US intellectual property system can continue to foster such new and exciting advances. At Intel, we believe that continued innovation depends on a patent system that produces high quality patents.

High patent quality as a concept encompasses at least two features. First, high quality patents must faithfully adhere to all of the standards of patentability legislated by Congress and illuminated by sound judicial decision making. Second, high-quality patents must provide clear notice of the scope of the claimed invention. If patents are overly broad or vague, the public is deprived of the fundamental bargain underlying the patent system: The patent holder receives a limited monopoly-like right but the public does not benefit from a full and accurate disclosure of the invention, and thus science and the useful arts are not advanced. Uncertainty about exactly what is covered by granted patents also greatly hinders the public's ability to develop new and follow-on innovations. A patent system that issues patents of questionable validity or ambiguous scope fails "to promote the progress of science and the useful arts" regardless of how efficiently or quickly it operates.

As the PTO itself has admitted, the dawn of the modern computer and internet age led to the granting of tens of thousands of low-quality patents that never should have been granted. While the PTO and the courts have taken steps to mitigate this problem going forward, there are still thousands of vague and overly broad patents in the system. Because these patents have little to no economic value, they tend to get swept up by less-principled entities—entities whose focus is not about real innovation but more about short-term financial gains—and then asserted in opportunistic patent litigation. The significant costs of litigating low-quality patents in our courts diverts critical financial and personnel resources that could have been spent on research and product development. It forces companies like Intel to spend millions of dollars a year on lawyers to prove that these patents should never have been granted. A system that requires years of effort and millions of dollars to show that a single patent should not have been granted is an inefficient system.

Companies like Intel that can afford to fight these battles in the courts often succeed. A study found that 42% of patents challenged in federal court are found to be invalid. But the fact that our patent system is flooded with so many low quality patents reduces the markets' confidence in the validity of all

patents, and introduces wasteful risk and uncertainty into the product development process. Ideally, any patent granted by the PTO would never be challenged because everyone would be entirely confident that that patent was valid and property granted. Of course, this is not the case in the real world. The PTO simply does not have the time or resources to perform the same detailed scrutiny that a patent undergoes during patent litigation. Nevertheless, there are always ways to improve patent quality. Intel supports those efforts, and principal among them is the Inter Partes Review (IPR) process.

IPRs are an administrative procedure at the PTO in which any party can petition the PTO to reconsider whether an existing US patent was properly granted. Although IPRs were only recently created as part of the America Invents Act of 2012, they have already proven to be a relatively cost-effective and efficient means for challenging the validity of patents. This is especially important in industries where non-practicing entities hope that their targets will settle these cases for some fraction of what it would cost to defend them. IPRs provide American innovators who create products and foster engineering jobs a faster and less expensive means of clearing out the thicket of low quality patents that plagues the high tech industries. They are, in our view, one of the single best ways to ensure high quality patents in the future.

High patent quality is essential to innovation because modern technology—including cutting edge medical technology—exists in a highly interdependent and connected world. Long gone are the days when new technologies would be introduced as stand-alone products. Today's innovative new products operate in an interconnected web, collecting, processing, and transmitting data to other devices through constantly updated networking technologies. The integration of data analytics, data processing, and interconnectivity into medical products will revolutionize the way that doctors monitor and treat patients. For this revolution to succeed, the patent system must also rise to the challenge. This means higher quality patents moving forward and the availability of efficient and effective IPR processes for removing the low quality patents that are already in the system.

2. Based on Intel's experience hiring a domestic workforce, have you been able to readily find a workforce sufficiently educated for your business needs? If not, do you believe there are any steps Congress could take to help address a shortage of skilled workers?

Our drive to continuously innovate requires our having an educated workforce to meet our needs. We seek out the best and the brightest and continue to evaluate our college, conference, and event strategies to ensure we have the broadest access to the best talent. The U.S. education system produces highly educated students, especially in the graduate level STEM disciplines from which we hire. However, our university system is not producing enough qualified students to meet the demand by Intel and the larger tech industry. Congress can play an important role in educating our K-12 students. It can encourage and support more students entering and graduating with a degree or graduate level degree in STEM fields. And Congress can adjust the high skilled immigration program to allow more foreign national students studying in STEM fields to remain in the U.S. after graduation, especially those completing a master's or doctoral program.

3. Has Intel sought patent protection abroad? Are there actions the U.S. government could take to further facilitate the process of getting patent protection abroad?

As the owner of more than 90,000 patent assets worldwide, Intel knows that intellectual property is essential to economic growth, innovation and competitiveness for the U.S. and the rest of the world. As a multinational corporation operating in many countries around the world, Intel considers patent protection abroad as a fundamental part of its IP strategy. Intel has obtained patent protection outside of the U.S. for thousands of inventions.

Intel believes that the process for getting patent protection abroad is sufficient. The high cost of annuity fees levied by many patent offices for pending patent applications and granted patents, however, can be a deterrent to obtaining patent protection. This is especially the case for small and medium enterprises, but this also has a negative impact on companies like Intel. The annuity fees act as a worldwide tax on innovation. The US does not have such an annuity system and we would support the US seeking to influence the patent offices of other countries to reduce their annuity fees, thereby promoting increased innovation for US inventors seeking patent protection abroad.