IOT BEHIND THE CURTAIN: A LOOK AT THE TECHNOLOGY

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2015 marked the year when the number of devices connected to the Internet surpassed the world’s population. The Internet is no longer limited to personal computers and mobile phones as the era of the Internet of Things (IoT) ushers in virtually unlimited opportunities. Relying on integrated systems and network connections, IoT characterizes some of the most innovative, yet disruptive technologies to hit the global marketplace.

Setting the backdrop for the two-day ABA Section of Science & Technology Law 2016 IoT National Institute, a stellar panel of technology experts unraveled the complexities of IoT technology and the corresponding legal challenges. Panel speakers included Dr. Vijay Madisetti, a professor of Electrical & Computer Engineering at Georgia Tech; Thomas Jarvis, Chair of Winston & Strawn LLP’s International Trade Commission practice and Litigation Partner at the firm; and David Bodenheimer, a Government Contracts Partner and litigator at Crowell & Moring LLP, who also served as moderator.

Kicking off the discussion, David Bodenheimer highlighted the key factors driving IoT technology: (1) economic impact, (2) consumer benefits, (3) business efficiencies, (4) smart cities, and (5) Global innovation and competitiveness. Estimated to generate trillions of dollars in economic opportunities and unrivaled social benefits, IoT technology is playing a central role in bringing about the fourth industrial revolution. This means big impacts for governments, businesses, and individuals.

As noted by the panel, experts predict that there will be 50 million connected devices by 2020. Given that these devices will use vast amounts of bandwidth to function, establishing an IoT network that ensures reliable connectivity is essential. However, even at this early stage, the IoT network infrastructure is evolving because the traditional cellular LTE network is proving to be less reliable with the influx of IoT devices. Consequently, Dr. Madisetti predicts that the top three IoT networks will be LTE variants, such as LTE-M and BM-IoT, LPWA (low-power wide-area), and a hybrid combination model of the two. In addition to reliable infrastructure, pricing between these network carriers will need to be addressed. According to Thomas Jarvis, a promising model for predictive pricing will be based on the relative value of the data. The panel also examined several other network issues, such as licensed versus unlicensed carriers, revenue-sharing, and service quality. As for device interoperability, Mr. Jarvis encouraged industry stakeholders to develop a uniform technical standard as an effort to curb widespread IP infringement and excessive licensing fees.

Last, but certainly not least, the panel reiterated the need for the enactment of regulations that address the inherent privacy and security risks within IoT technology. Unfortunately, as connectivity increases so does vulnerability. Fueling the problem is the fact that IoT startups are manufacturing their products with cheaper components and currently lack the incentives to invest in costly security measures. Additionally, privacy concerns escalate as the automated collection of data from IoT devices reach new levels. Dr. Madisetti stressed the need for corporate IoT strategies to address controllability over IoT networks and remote access; visibility of systems and devices in the cloud; and implementing policies, such as self-reporting channels, to ensure consumer safety.