

Report of the Symposium

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The International Institute of Space Law held the 10th Annual Eilene M. Galloway Symposium on Critical Issues in Space Law on December 9, 2015 at the Cosmos Club in Washington, D.C. The theme of the decennial installment of the symposium was fittingly “Through the Looking-Glass of Time: What has been Achieved and Where it Leads,” and the symposium was used to reflect on the near past of space law as well as its immediate future. The symposium spent the day exploring the dynamism over time in the development of space law.

The morning sessions of the symposium framed this theme of past and future through a variety of perspectives. The symposium started with a tribute to the conference’s namesake, Eilene M. Galloway. Marcia Smith (Editor, SpacePolicyOnline.com & President, Space and Technology Policy Group, LLC) gave a brief biographical sketch and read a statement from Jonathan Galloway (Honorary Director, International Institute of Space Law), Eilene Galloway’s son. Both Smith’s and Galloway’s remarks emphasized Eilene Galloway’s historical work in helping to establish and maintain the use and exploration of space for peaceful purposes. They emphasized that Eilene Galloway was a visionary thinker who was concerned with the future of human exploration and innovation in space. Smith stated that Eilene Galloway’s work was “[a]s timely today as it was then.” Jonathan Galloway noted that his mother would have approved of the forward-looking nature of the 10th Symposium because of its focus on innovation and opportunity. Eilene Galloway, he said, “would hope that outer space would witness the evolution of cooperation, incrementally and pragmatically, and, despite setbacks and problems our frontiers in space are still filled with amazing opportunities that can supplant conflict and zero-sum thinking.”

The first keynote speaker of the day turned the symposium’s attention away from history and to the present and future. Representative Brian Babin (Chairman of the Space Subcommittee of the House of Representatives Science, Space, and Technology Committee) gave the opening keynote which addressed a major topic for the day, the recently passed U.S. Commercial Space Launch Competitiveness Act (CSLCA).¹ His comments reflected on each of

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1 U.S. *Commercial Space Launch Competitiveness Act*, Public Law 114-90 (2015).

the four titles of the new legislation: I. Spurring Private Aerospace Competitiveness and Entrepreneurship; II. Commercial Remote Sensing; III. Office of Space Commerce; and IV. Space Resource Exploration and Utilization. Chairman Babin stated that one of the goals of the act – and of the future regulation that the act contemplates through its extensive reporting requirements – was to “unburden” private industry through clear regulations that allow the industry to innovate. He said that the government must not lose sight of its duty to protect the public but that it should also try to “facilitate innovation.” Finally, Chairman Babin noted that he felt there is still a great deal to be done in the future for space regulation including ensuring that the United States complied with its Article VI obligations as new technologies emerge.

Chairman Babin’s remarks highlighted the role innovation plays in changing legislation. The first panel of the day further investigated the dynamic technologies that are at the heart of this process. The panel was moderated by Chris Hearsey (Counsel, Bigelow Aerospace) and Clay Mowry (President, Arianespace, Inc.). Each of the panelists highlighted the legal and policy challenges of space technology. Kevin O’Connell (President and CEO, Innovative Analytics) spoke first on innovation in the remote sensing field. He stated that remote sensing is an example of a clear path to commercialization, and that the law and policy in that field was being driven by the fact that remote sensing is a single component of “an emerging global geospatial ecosystem.” He also stressed the need to view commercial remote sensing as information capability, rather than as aerospace technology. The next speaker, Brian Weeden (Secure World Foundation), discussed the technology of space situational awareness, on orbit servicing and active debris removal – in that order, indicating the current level of progress in decreasing order. He noted that there has been a “shift in thinking from satellites as static investments to dynamic investments.” This shift is pushing operators to be more data driven and opening commercial opportunities for extending operations. The panel was rounded off by Jay Falker (Early Stage Portfolio Executive, Space Technology, NASA HQ), who discussed visionary technologies such as long-term habitations in space. He stated that NASA supports commercial actors in innovative projects, and that many of these projects would be the disruptive technologies pushing law in policy in the future.

The second panel, titled “Business Models, Finance & Risk Management,” was moderated by Maury Mechanick (Counsel, White & Case) and Francesca Schroeder (Principal, Fish & Richardson, P.C.). If the first panel served to show the possibilities of space technologies, the second looked at questions of why, commercially speaking, a private actor would engage in these possibilities. The panel was held in a round robin format with panelists Demetrius Anthony (Associate General Counsel, DigitalGlobe, Inc.), Carissa Christensen (Managing Partner, The Tauri Group), and Chris Kunstader (Senior Vice President, XL Group) each highlighting different aspects of fu-

ture space business models. Christensen discussed the effects of venture capital in the space industry and the limits on its ability to fund startups in space, although venture capitalists are attracted to this business because of the promise of large returns and large growth. Christensen noted that the valuations of many start-ups were exaggerated. Anthony, on the other hand, discussed the government as a partner and customer through the perspective of remote sensing. He noted that the government was key in commercialization of the remote sensing industry, as a regulator and as a customer of the industry's data (through advance contracting, which allowed financing of the spacecraft). Finally, Kunstadter discussed how to manage risk from an insurance perspective. He stated that insurance companies could improve their risk management practices by being less "reactive" and more "proactive." In the next five years, all launch vehicles would be replaced by new ones, and the satellite manufacturing market is changing as well, from five or six Western manufacturers of large satellites to dozens of new ones worldwide. Hence, insurers need to "get smart on technology".

The lunchtime keynote speaker was Sumara Thompson-King (General Counsel, NASA). She began her talk with a discussion of the evolution of the National Aeronautics and Space Act (Space Act).² She noted specifically, that the Space Act was amended in 1985 to provide for NASA's support of commercial activities. She then highlighted the role that NASA's "other transactions authority" plays in fostering commercial innovation through programs such as the Commercial Orbital Transportation System and Commercial Crew programs. She stated that the emphasis on developing commercial transportation systems for low earth orbit would allow NASA to focus on its mission to explore space beyond low earth orbit.

Lunch was followed by an afternoon keynote by Doug Loverro (Deputy Assistant Secretary for Space Policy, U.S. Department of Defense). He emphasized the role of cooperation and coordination in creating opportunities as new actors, both state and non-state become stakeholders in space activities. He noted that these opportunities came with many challenges, a primary one being how to understand the role of entrepreneurship and innovation in space within the framework of national security. Loverro stated that we are seeing a renaissance in space business and that the national security community must be prepared to address both the risks and opportunities that these actors present.

The first afternoon panel was titled "Space Policy," and was moderated by Scott Pace (Director, Space Policy Institute, George Washington University) and Marcia Smith. The policy panel focused specifically on the CSLCA from

2 National Aeronautics and Space Act of 1958, Pub.L. 85-568 as amended.

a policy perspective.³ Each panelist highlighted the political negotiation that accompanied the bill. Nicholas Cumming (Senate Commerce, Science, and Transportation Committee, Ranking Member Bill Nelson) stated that the final act represented the voices of many stakeholders. Tom Hammond (Staff Director, Space Subcommittee, House Committee on Science, Space and Technology) noted that it is a substantial bill, but that there is still a great deal to do. He highlighted that the reporting requirements in the bill are forward looking to facilitate future regulation. Finally Benjamin Roberts (Assistant Director, Civil and Commercial Space, White House Office of Science and Technology Policy) discussed how the future regulation contemplated in the reporting requirements needs to contemplate new technologies to avoid “legal gray areas” and ensure that the United States complies with international obligations.

The final panel of the day served as a fitting capstone to the other panels. The panel, moderated by Peter Marquez (Vice President, Global Engagement, Planetary Resources, Inc.) and Matthew Schaefer (Professor and Director, Space Cyber and Telecommunications LLM Program, University of Nebraska), addressed “Frequency Spectrum & Regulatory Challenges.” The earlier panels focused on the dynamism found in technology, in the commercial market, and in law and policy. The final panel investigated how regulators meet the challenges presented by these dynamics. In particular, this panel focused on the interface between commercial interests and the goals of the regulator. First, Glenn Tallia (Chief, Weather Satellites and Research Section, Office of General Counsel) discussed the National Atmospheric and Oceanic Administration draft Commercial Space Policy. He stated that one of the key goals of this policy is to address the “dynamic tension” between full and open access to NOAA data and downstream commercial opportunity. Next, Laura Montgomery (Manager, Space Law Branch, Office of the Chief Counsel, Federal Aviation Administration, Department of Commerce) noted the specific example of the “government astronaut” definition in the new CSLCA. She stated that this solved a specific problem presented by the government procurement of commercial human space transportation. Anthony Dearth (Director of Licensing, Directorate of Defense Trade Controls) discussed the export control reform process that led to changes in the International Traffic in Arms Regulations (ITAR) last year. He noted that this reform was progress but that it did not deal with the larger problem of keeping ITAR “dynamic enough” to keep pace with innovation. Finally, Julie Zoller (Senior Policy Directorate, Economics and Business Affairs Bureau) and Don Jansky (President, Jansky-Barmat Telecommunications, Inc.) discussed the

3 Doug Loverro also participated on this panel but chose not to make opening remarks in light of his preceding keynote.

issue of spectrum allocation and how rapid innovation is outpacing regulators at both the national and international levels.

The day was concluded by Tanja Masson-Zwaan (President, International Institute of Space Law). Her comments highlighted the importance of international cooperation, stating that “we must build awareness that law has a role to play.” These remarks drew a fitting close to the 10th Galloway Symposium by reflecting the visionary spirit of Eilene M. Galloway and her vision of law as a mechanism to facilitate future opportunities in space.

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