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**The Journal of Robotics,  
Artificial Intelligence & Law**

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Self-Driving Vehicles**  
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Security Risks in IoT Investments  
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Washington Becomes the Third State with a Biometric Privacy Law: Five Key  
Differences  
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Andrew C. Moyle, Wenchi Hu, Simon Hawkins, and Stuart Davis

Everything Is Not *Terminator*: AI Today is the Wireless Industry in the 1990s  
John Frank Weaver

- 5** **Editors' Note: Welcome to *The Journal of Robotics, Artificial Intelligence & Law!***  
Steven A. Meyerowitz and Victoria Prussen Spears
- 11** **What Is a Robot (Under EU Law)?**  
Cándido García Molyneux and Rosa Oyarzabal
- 17** **Autonomous Vessels: How an Emerging Disruptive Technology Is Poised to Impact the Maritime Industry Much Sooner Than Anticipated**  
Sean T. Pribyl and Alan M. Weigel
- 27** **Use of Drones for Conservation Surveillance—Benefits and Regulatory Hurdles in the United States**  
Eric B. Rothenberg
- 31** **Federal Communications Commission Takes Action to Facilitate Development of Self-Driving Vehicles**  
Renee R. Gregory, Daniel K. Alvarez, and Stephanie B. Power
- 35** **Connecting the Dots: Key Developments and Best Practices for Evaluating Privacy and Security Risks in IoT Investments**  
Jeewon Kim Serrato
- 41** **Washington Becomes the Third State with a Biometric Privacy Law: Five Key Differences**  
Michelle J. Anderson and Jim Halpert
- 47** **Coining it in: ICOs as the New Fundraising Paradigm?**  
Andrew C. Moyle, Wenchi Hu, Simon Hawkins, and Stuart Davis
- 51** **Everything Is Not *Terminator*: AI Today is the Wireless Industry in the 1990s**  
John Frank Weaver

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# Federal Communications Commission Takes Action to Facilitate Development of Self-Driving Vehicles

Renee R. Gregory, Daniel K. Alvarez, and Stephanie B. Power\*

*The pursuit of connected and self-driving vehicle technologies has transformative legal, policy, and business implications for the personal, commercial, and public transportation industries, as well as related industries. The authors of this article discuss recent Federal Communications Commission action to increase the amount of spectrum available for vehicular radars and additional federal and state emerging transportation technologies activity.*

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The transportation landscape is rapidly evolving, as technology, telecommunications, and transportation converge. The pursuit of connected and self-driving vehicle technologies has transformative legal, policy, and business implications for the personal, commercial, and public transportation industries, as well as related industries such as insurance, urban planning, construction, and civil engineering. Action in July by the Federal Communications Commission (“FCC”) to increase the amount of spectrum available for vehicular radars highlights the central role that federal agencies are playing—and will continue to play—in the development and deployment of next-generation transportation technologies.

## FCC’S ROLE IN NEXT-GENERATION TRANSPORTATION

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The FCC is one of a number of federal entities that plays an important role in the development of Advanced Driver Assistance Systems (“ADAS”), self-driving capabilities, and connected mobility solutions for personal and commercial vehicles. The agency has numerous ongoing regulatory proceedings that have important implications for wireless connectivity generally, and transportation specifically, as individuals and industries demand more information and services regardless of where they are.

As part of its overall mission to oversee the use of spectrum, the invisible airways over which information flows to televisions, mobile devices, wireless speakers, baby monitors, fitness trackers, and vehicles, among many other things, the FCC has a significant role to play in enabling and regulating transportation-related wireless technologies. These technologies include:

- vehicular radars;
- GPS;
- vehicle-to-vehicle (“V2V”) and vehicle-to-infrastructure (“V2I”) communications; and
- in-car connectivity from both satellite and terrestrial sources.

These wireless connections enable everything from safety and mobility applications, to software updates, to in-car entertainment, business, and commerce.

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## FCC VEHICULAR RADAR RULES

The FCC’s recent decision to increase the amount of spectrum available for vehicular radars will accommodate both existing and newer generations of radar systems to improve safety and mobility for consumers and businesses. Specifically, at its monthly meeting on July 13, the FCC voted to approve new rules<sup>1</sup> that will make available a large segment of spectrum, the 76-81 GHz band, under revised, consolidated rules, to enable both existing long-range (“LRR”) and new, more accurate, short-range (“SRR”) vehicular radars.

While this decision was not particularly controversial or groundbreaking, it is clear evidence of the FCC’s critical role in enabling next-generation transportation solutions. These rule changes were widely supported by the auto industry, and will help automakers integrate their vehicular radar applications and support safety features such as forward-looking object detection and avoidance, collision warning and mitigation, lane change assistance, adaptive cruise control, blind-spot detection, parking aid systems, and pedestrian protection for both today’s vehicles and future self-driving vehicles. The changes are also consistent with international standards.

The FCC also consolidated the technical rules governing vehicular radar operations in the 76-81 GHz band under a license-by-rule

framework. This regulatory treatment protects LRRs and SRRs from interference. The FCC will also phase out radar operations from some lower-frequency spectrum bands that are not heavily used.

## ADDITIONAL FEDERAL AND STATE AUTHORITY AND ACTIVITY

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The FCC is not the only federal agency with an eye on emerging transportation technologies. The Department of Transportation (“DOT”), the National Highway Traffic Safety Administration (“NHTSA”), and the Federal Trade Commission (“FTC”) also play a significant role in developing policies and rules that will govern next-generation transportation. For instance:

- On September 12, DOT released new federal guidance, *Automated Driving Systems (ADS): A Vision for Safety 2.0*,<sup>2</sup> updating the previous Administration’s *Federal Automated Vehicles Policy*<sup>3</sup> released in the fall of 2016. This updated guidance is intended to support further development of automated vehicles policy.
- NHTSA is generally tasked by Congress with issuing Federal Motor Vehicle Safety Standards (“FMVSS”), with which motor vehicle manufacturers must comply. NHTSA also has limited authority to exempt vehicles from FMVSS requirements. To date, there have not been any proposed FMVSS regulations directed specifically at self-driving cars, but existing FMVSS requirements in some cases may conflict with self-driving car design. Late last year, NHTSA did propose a regulation<sup>4</sup> that would require new light vehicles to be capable of sending and receiving V2V communications messages for safety-related purposes.
- The FTC has taken an interest in the consumer protection aspects of next-generation transportation. For instance, this past summer, it held a widely-attended public workshop<sup>5</sup> in Washington, D.C., to examine the consumer privacy and security issues posed by automated and connected vehicles.

Congress has shown great interest in supporting the deployment of connected and self-driving cars. On September 6, the House unanimously passed the Safely Ensuring Lives Future Development



and Research in Vehicle Evolution (SELF DRIVE) Act,<sup>6</sup> defining the “Federal role in ensuring the safety of highly automated vehicles as it relates to design, construction, and performance, by encouraging the testing and deployment of such vehicles.”

The Senate Commerce, Science, and Transportation Committee also released in early September a bipartisan staff discussion draft of legislation, following its June release of bipartisan principles<sup>7</sup> for self-driving vehicles legislation. Legislative hearings and activity are likely to continue.

States also have been active, with state legislatures across the country considering and adopting legislation designed to advance the development and deployment of self-driving vehicles in their states, while protecting consumers’ safety.

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## FUTURE DEVELOPMENTS

Federal and state regulators are likely to maintain their keen interest in next-generation transportation issues, which will greatly affect multiple sectors of the economy.

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## NOTES

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