

Autonomous Vehicles Arrive

Connected cars bring excitement – and regulatory challenges

The age of autonomous cars – or at least highly connected ones – is upon us, and things are only going to get more interesting (and complicated) in the years to come. Attorneys at Akin Gump, like Susan Lent, Kevin Cadwell and Natasha Kohne, are already working with clients, and collaborating with one another, to anticipate and shape the changing regulatory and legal landscapes heralded by this new technology. While no one knows exactly what the automotive world will look like in 10 years, the Akin Gump team has a pretty good idea of what to expect. The interview has been edited for length and style.

Each of you has significant expertise and experience – specifically in intellectual property (IP), commercial litigation, infrastructure and transportation, cybersecurity, privacy and data protection. What is your recipe for working together on behalf of clients involved with autonomous and connected vehicles? And how do you ensure that they derive maximum value from such multidisciplinary representation?

Susan Lent: We focus on collaboration across practice groups in all areas, not just autonomous vehicles (AVs). However, it is particularly important in this emerging area because there are so many issues for clients to consider. Our strength is being able to offer our clients a one-stop set of solutions.

Kevin Cadwell: Companies don't necessarily think in terms of division of labor within practice groups. They don't usually think, "I have an IP question or a cybersecurity question, therefore I'm going to talk to this type of lawyer." They may, but most often – especially in new and developing areas – they think in terms of an industry and an overall problem. And how we solve that issue on the firm side is by identifying the areas of expertise needed within an industry – and looking internally to fill out our team.

The team listens to a company's concerns and is then able to identify what solutions are available. From a company standpoint, they see the ability to pick up the phone and speak with Natasha or Susan or me or whomever. And who we bring to that matter, that's on our end. What we're really trying to do, like Susan said, is present a one-stop resource where you can call us and, no matter what your issues are, we're going to be able to offer solutions without the client having to worry about calling the exact right person in the firm.

Natasha Kohne: For emerging fields like autonomous vehicles, being siloed is obviously a tremendous disadvantage. Many experts agree that companies can extract value out of more interdisciplinary efforts both in terms of efficiencies and innovation. This is something we have a true commitment to at Akin Gump. I think it's great that as a firm we've been able to identify this area as important, with explosive potential for growth. The needs of AV companies really fall within our cross-practice initiative where we all get to work together in our different areas of expertise to provide innovative and targeted services to these special clients.

The regulatory focus, at least in the EU and in the U.S., has been on enabling testing of autonomous vehicles and providing guidelines for their development, but many observers think that the EU's directives and the various U.S. regulatory initiatives fall short of the comprehensive framework needed to move AVs from the proving ground to the commercial mainstream. How are you advising clients who are struggling to deal with today's patchy regulatory environment?

Lent: With regard to the U.S., everything you said is true. There could be more certainty if Congress passes legislation that would require the Department of Transportation (DOT) to develop regulations to establish safety standards for the new technology and in the interim authorizes more exemptions from the current standards. Currently DOT only has voluntary guidance and a number of state and local governments have their own patchwork of laws and regulations with regard to the technology and the testing and operations of autonomous vehicles. So it's challenging.

One of the benefits of the legislation currently moving through the House and Senate would be federal preemption, which would make it a bit easier for companies to understand whose regulations they're supposed to be following. In terms of helping shape the regulatory environment, our firm has a public policy practice where we have lawyers and advisors who are advocating on these types of issues.

Many of the automakers and technology providers are advocating for a legislative and regulatory structure that is easy to follow and will encourage innovation.

Kohne: Within the EU, the Intelligent Transport Systems (ITS) directive was really the start of a series of governmental actions related to this space. The directive provides a broad legal framework to support the coordinated deployment and use of these intelligent transport systems within the EU. But we're still waiting for centralized EU action on the issue. Then, there are also the individual countries that are experimenting with different approaches to AV innovation. For example, the Finnish Transport Safety Agency has embraced autonomous vehicle trials and is actively promoting trials throughout the country. And then there's Germany, which drafted the world's first ethical guidelines for autonomous vehicles. It's interesting to see what the different countries have focused on nationally. This is a period of exciting experimentation and innovation. And as Susan mentioned, it's critical that our clients have the ability to get involved and make an impact at an early stage and then, of course, to continually monitor guidance and regulations as they emerge.

Given the many platforms in place for autonomous vehicles, do you think the market will follow the example of the mobile phone industry and adopt standardized technology to ensure smooth communication among connected cars and between connected cars and their environment? What do you see as the barriers?

Cadwell: I believe we will see standards and protocols, and that we have to. The mobile phone industry is a great example, but it actually goes back farther than that. We had broadcast standards decades ago – standards for the protocol governing the "handshakes" that allow the transmission of a broadcast signal. Out of that came standards and protocols for satellites and computers. And out of that came standards and protocols for mobile phones. This is the next derivation of that, and it really has to happen in order to facilitate smooth connectivity.

Also, from a collaborative standpoint, the way things are right now, we have many different players that are pursuing the same goals, but there's very little collaboration between the camps. We have an automaker and maybe a software company that are working together, but they're not necessarily working with other competing automakers and software companies. But when standards start developing, we start seeing more collaboration, because then people

start talking with each other and building off of what their competitors are doing.

So protocols not only allow for smooth connectivity and a stable system, they also help with the development quite a bit. As far as where we are now, that's actually something that's really been lacking in this space. This is different than what we saw with mobile phones, where we had our first set of GSM protocols a decade and a half before people were really using GSM-standardized cell phones.

SAE International has been tasked with coming up with standards, and they are now actively investigating what those standards are going to look like and what the collaborative effort is going to be. At this point, time is a barrier. I do think this is time-sensitive because there are companies and inventors that are going full speed ahead, and there is a real need to get those standards in place so that we know what we are working toward and what that universe is like.

It's easy to get lost in the wow factor of connected vehicles and lose sight of the enormous infrastructural changes needed in this space. Let's talk about the opportunities, risks and challenges associated with the development and deployment of an AV-friendly infrastructure.

Lent: Obviously the infrastructure that exists now was built with traditional passenger vehicles in mind, so cities are going to have to make a number of improvements, including installation of traffic signals and sensors to communicate with the autonomous vehicles and better pavement markings.

Ultimately we're going to have to integrate AVs into our roadways with conventional vehicles and pedestrians, which is going to require a certain level of investment by state and local governments. Then there are issues with regard to liability and risk and how that all comes together. And there are going to be questions about who pays for these improvements and who can change them later on, which will have to be addressed over time.



You have many potential issues of liability, many potential areas of indemnification.

– Susan Lent

Kobne: Experts are just beginning to define what the true risks and challenges are with regard to integrating autonomous vehicles into our lived environments. From the perspective of municipal authorities, or U.S. car makers, the biggest challenge may be whether autonomous vehicles will ameliorate urban congestion. I think that the AV community should try to demonstrate a beneficial impact to traffic patterns and urban congestion. This is something public leaders will be watching carefully as autonomous technology is integrated into our transportation networks.

The level of collaboration and consolidation in this space is breathtaking. To give just a few examples: Qualcomm is acquiring NXP, which makes semiconductors for use in connected devices. Samsung is acquiring connected-technology-maker Harman. Google is teaming up with 28 original equipment manufacturers (OEMs) and 15 tech companies to bring its Android platform to cars. General Motors is investing \$500 million dollars in ride-sharing company Lyft to develop a fleet of autonomous taxis. The list is seemingly endless. What are the legal and business issues your clients are confronting, including ownership and sharing of core IP assets?

Cadwell: The best recent example is the smartphone and the cell phone carriers. Today, we all have smartphones in our hands that have more computing power than we had in computers 15 years ago. It's absolutely incredible. Before the smartphone came out, we had desktop or laptop computers and we had cell phone carriers. But when the smartphone arrived, all of a sudden we had smartphone manufacturers – the Apples and Samsungs of the world – that needed the infrastructure and backbone of the cell phone carriers to be able to make their smartphones useful.

The business differences and relationships really are key here. Fifteen years ago, cell phone companies hadn't really had to think about how they were going to interact with computer companies – and vice versa. Then, all of a sudden, we need really close relationships in order to be able to bring this new product to customers. So as far as AV goes, challenge number one is going to be the business and relational aspect, because there are industries that up till now haven't truly collaborated. Sure, they put a GPS in your GM car, but that's very different than having a GM car that has autonomous technology throughout the vehicle.

So we have endless opportunities, but we also have brand-new business marriages, and we'll have to see how they play out. As far as ownership and the sharing of core ideas, I think we're going to start seeing a whole lot of licensing issues if we get into the standards and start having standard-essential patents. We're going to start having brand issues and questions about the real value of the intellectual property as compared to the value of the car overall. For companies that house everything from the nuts and bolts all the way to the brain of the car it's going to be a bit easier. For those that have partnerships, like the ones mentioned earlier, we're going to have to divide up these IP assets and decide how important they are to the car, and that's where brand issues are going to come in.

The car industry is 100-plus years old, and we have this very new high-tech industry merging with it. We're going to have to see how that plays out in real time.

The attribution of liability and fault relative to autonomous vehicles raises complicated and intriguing legal issues, many of which may play out in the courts. Talk to us about liability and related issues, such as insurance. Is an explosion of litigation on the horizon?

Lent: I would say, potentially, yes. Again, these are first-impression issues. You have a situation where different parties are responsible for different aspects of an autonomous vehicle's operation which is compounded by the fact that once you operate outside a controlled setting, conventional vehicles and pedestrians may play a role in an accident. Trying to apportion responsibility is presumably going to result in litigation as accidents and other incidents occur. To start with, you have the software manufacturer and the OEM, which may or may not be the same company, and you have the person sitting in the vehicle who can cause the vehicle to stop, but is not the driver. Another factor is the state or local government that is responsible for installing and maintaining the infrastructure that the vehicle can communicate with to operate. If an autonomous vehicle malfunctions: Is it the fault of the software manufacturer or the vehicle manufacturer? Is it the fault of the operator of the car who could have pressed some type of automatic stop? Or is it the fault of the municipality because they weren't properly maintaining their roadways or their



Protocols not only allow for smooth connectivity and a stable system, they also help with development.

– Kevin Cadwell

radios or sensors? We have many potential issues of liability, many potential areas where parties will want indemnification.

Then there's also the issue of insurance. Some states are mandating certain levels of insurance, but, again, apportioning liability is something that could become very complicated.

Kobne: Think about the concept of cybercrime, for example: When a hacker comes in and compromises personal information, there is often tension that exists about the company that was hacked. Do we think of that company as a victim, or do we think of them as being at fault for alleged failure to maintain reasonable security?

If you look at this in the context of AVs, there's really no difference, and regulators are struggling with this issue. Who will they hold accountable if there is a hack? Most of us have heard about the nearly infamous demonstration in which hackers were able to take control of a Jeep Cherokee. That was a planned demonstration requested by the journalist in the car. Imagine a similar, malicious attack on a large scale. When we work on AV issues, many of our clients cite this issue of hackers taking control of a vehicle and driving it off the road.

If these types of issues are not thought about and worked through ahead of time, contractually, there's going to be confusion – and litigation usually follows from that.

The privacy and data security issues arising from the development of autonomous and connected vehicles are daunting. For example, the EU's General Data Protection Regulation requires companies to think ahead about data protection so that safeguards can be incorporated from day one – so-called "privacy by design." What do you think are the most significant information governance, data protection and cybersecurity issues AV companies are likely to confront?

Kobne: When we look at all of our AV clients, they're citing cybersecurity and privacy as the top issues, and that's probably not surprising. In order for the autonomous vehicle industry to flourish, there has to be that balance between privacy and protecting our personal information while allowing for convenience and innovation. These autonomous vehicles are going to continue to collect more and more information. Much of that information may very well improve our lifestyles, by making our lives more efficient and our routes safer. Collecting that data also means maintaining a reasonable level of security. This is a difficult balance and one that policymakers are trying to figure out.

Given the number of parties and companies involved in developing and operating autonomous vehicles, communicating and agreeing on requirements between contractors, suppliers, and customers within the supply chain will be very challenging. Ensuring that there is a reasonable standard of security across the board and that there is no weak link will be one of the most difficult things companies in the AV space will have to tackle. The interconnectedness of the systems within autonomous or semi-autonomous vehicles does include risk for different companies. This is probably the main challenge.

Do you see any massive battles brewing over core pieces of intellectual property, like what we witnessed with Apple and Samsung going head-to-head in the smartphone space?

Cadwell: It is almost certainly going to happen. Any time you get this level of creativity of business acumen in an area this big, with game-changing technology, we're going to have IP issues, trade secret issues, patent issues. Especially because we have so many really smart people all working independently toward the same goal. We're going to have overlap, we're going to see patent infringement, we're going to have all of those types of battles. What the specific issue will be, when it's going to happen, only time will tell, but I think it would be exceptional if it did not happen.

So, the automotive industry is enmeshed in systemic technology-driven developments such as electric vehicles and smart cities. If you could wave a magic wand and bring about any single legislative action that you believe would advance the orderly development of the AV sector, what would that be?

Lent: Having a regulatory framework in place that would allow the National Highway Traffic Safety Administration to provide more exemptions for vehicles

Continued on following page

Autonomous Vehicles

Continued from previous page



The interconnectedness of the systems does include risk for manufacturers and other companies.

– Natasha Kohne

that have the same or equivalent safety features as today's passenger vehicles could make a real impact. And having a clear-cut approach for developing regulations, but that takes into account the emerging nature of the technology and the need to foster innovation from the technology companies and OEMs. If we have a process by which the vehicles can be approved for operation, and then we have state and local regulations that govern how the vehicles are licensed and operated on the road, I think that would provide much more clarity in this space.

Cadwell: The standards we were talking about before will help with collaboration. They'll help with communication, with the "handshake." That's going to go a long way in terms of moving us forward as the industry develops.

Kohne: Any legislative action aimed at advancing the sector really must address public safety – perhaps through substantially improved GPS accuracy, so that next-generation GPS networks are expected to locate devices within several centimeters. Similarly, because more than 50 percent of the world's population is now living in cities, there needs to be a concerted effort to ensure common standards between AVs and municipal authorities. Cities like San Francisco and London are enacting measures through special dynamic parking fees and congestion charges, for instance. These issues are critical to future AV development and implementation.

Susan H. Lent is a Partner at Akin Gump's Washington, D.C., office and leader of the firm's Infrastructure and Transportation practice. She advises clients on compliance with laws and regulations, representing clients before the Department of Transportation (DOT), other federal agencies and the U.S. Congress. She also advises clients on federal, state and local procurement laws and other regulations applicable to developers and operators of infrastructure projects. She can be reached at slent@akingump.com.

Kevin E. Cadwell is a Partner at Akin Gump's Houston office. He is an experienced trial lawyer and represents clients in intellectual property and complex commercial litigation matters. Mr. Cadwell has extensive experience in intellectual property litigation, including patent, trademark, copyright, trade secret and trade dress litigation. He can be reached at kcadwell@akingump.com.

Natasha G. Kohne is a Partner at Akin Gump's San Francisco and Abu Dhabi offices and serves as a co-leader of the firm's Cybersecurity, Privacy and Data Protection practice. Her practice also focuses on investigations, litigation and international arbitration, often involving complex multi-jurisdictional and international problems. She can be reached at nkohne@akingump.com.

Autonomous Future

Continued from page 23

Cybersecurity and privacy concerns have also arisen with regard to connected and automated vehicles. What privacy laws are currently in place to help minimize the dangers in this area, and what best practices should manufacturers follow?

Katz: With regard to privacy, there are the Privacy Principles for Vehicle Technologies and Services, which were established in 2014. This is self-regulation by the automotive industry, and currently about 20 automakers are signatories to those principles. With regard to cybersecurity, NHTSA (National Highway Traffic Safety Administration) and the Auto-ISAC have both released cybersecurity best practices.

On the cybersecurity front, as we said, both the Senate bill and the House bill are asking for a cybersecurity plan. We need to be extremely careful when we're talking about cybersecurity, and offering static solutions to a very dynamic problem. There could be a cybersecurity issue that doesn't exist today that exists tomorrow or next

week or next month, and we need to be prepared for that.

Another thing that's important, and I know many companies in the space are already doing this, is working with security researchers. Some call these folks "white hat" hackers, good-guy hackers; they do penetration testing and make sure they are our first line of defense. They try to find holes in the security before the bad guys do.

Drobac: Here we can talk about drones as an example: That industry has come together around the privacy issue and come up with its own set of principles that are guiding the use of UAVs (unmanned aerial vehicles), such that everyone within the industry has adopted these principles in terms of what data is being collected, how it's being used, how it's being shared, policies that they all agree to put on their websites and have as part of their company's use of UAVs.

There was a lively discussion about how the collection of data by vehicles – in this context, aerial vehicles – was different than other existing privacy regimes. The focus has really been on promoting technology that would ensure safety and efficiencies, while not doing anything that would stand in the way of progress and innovation.

That doesn't mean you don't address issues like consumer privacy. You do, but you make sure you're not doing so in a way that is out of step with how the industry has already been forward-leaning on these issues. This is an area where there is going to be a robust discussion about privacy, to decide where there needs to be specific new standards versus where existing laws are going to be sufficient.

Do either of you have anything else that you'd like to add?

Drobac: A little more perspective on where things are right now: Waymo, the self-driving car company that spun out from Google, submitted its first safety evaluations to NHTSA in October, covering the lessons learned over the course of the 3.5 million miles Waymo vehicles have driven.

It shows just how focused these companies are. This is a situation where we see leading, cutting-edge companies already beginning to show the U.S. government what they're learning, really focusing on safety and security and working in collaboration with the government, because these are situations where, again, in September the Department of Transportation suggested that the guidelines are voluntary for their reports, while the Senate and House bills have provisions that would make these reports mandatory.

The fact that Waymo already submitted a fairly extensive 40-page report to NHTSA really demonstrates the kind of energy, responsibility and incredible focus the industry and the U.S. government have on doing this the right way.

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