

WILMERHALE WEBINAR

Autonomous Vehicles: The Next Frontier in IP Litigation? *The Impact of Technology on IP Litigation in Connected Cars*

JUNE 5, 2019

Speakers: Greg Lantier, Arthur Coviello, and Natalie Pous

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Webinar Guidelines

- Participants are in listen-only mode
- Submit questions via the Q&A feature
- Questions will be answered as time permits
- Offering 1.0 CLE credit in California and New York*

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WEBINAR

Speakers



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Agenda

1. Recent Developments in Connected Cars and Autonomous Vehicles
 - Emerging Technologies
 - Technology Partnerships
2. The Increased Risk of IP Litigation in the Automotive Industry
 - Patent Litigation Trends & Developments
 - Increased Trade Secret Litigation
3. Technology Standards and the Impact on Automotive IP Litigation

/Autonomous
/Sensing
/Communication
/Battery
/Navigation
/Mirrorless
/Ecology

Recent Developments in Connected Cars and Autonomous Vehicles

Self-Driving
Mode

8
mph



Defining Autonomous Vehicles

Cars **sense their surroundings** and move **without human input**



Advantages

“There will be 21 million autonomous vehicles on the world’s roads by 2035”

Disadvantages

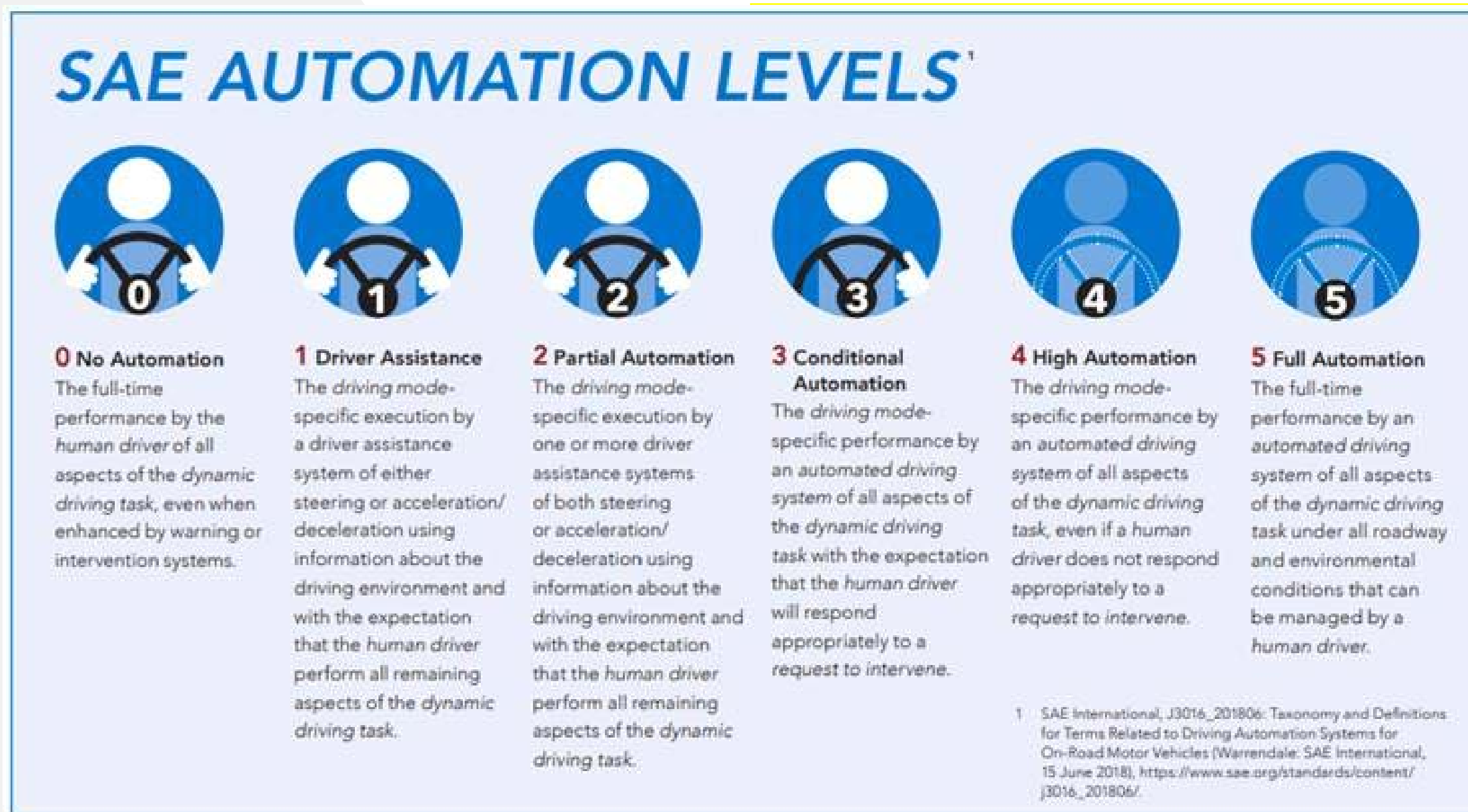
- Reduced cost of accidents
- Increased safety
- Reduction in traffic collisions and injuries
- Increased traffic flow
- Environmentally friendly
- Increased human welfare
- Lower operational costs

- Legal framework and government regulations
- Loss of privacy; security concerns
- Loss of driving jobs in road transport
- Increased suburbanization
- Potential worsening of urban congestion



What Do We Mean by “Autonomous Driving”?

Autonomous Driving Levels 0 to 5





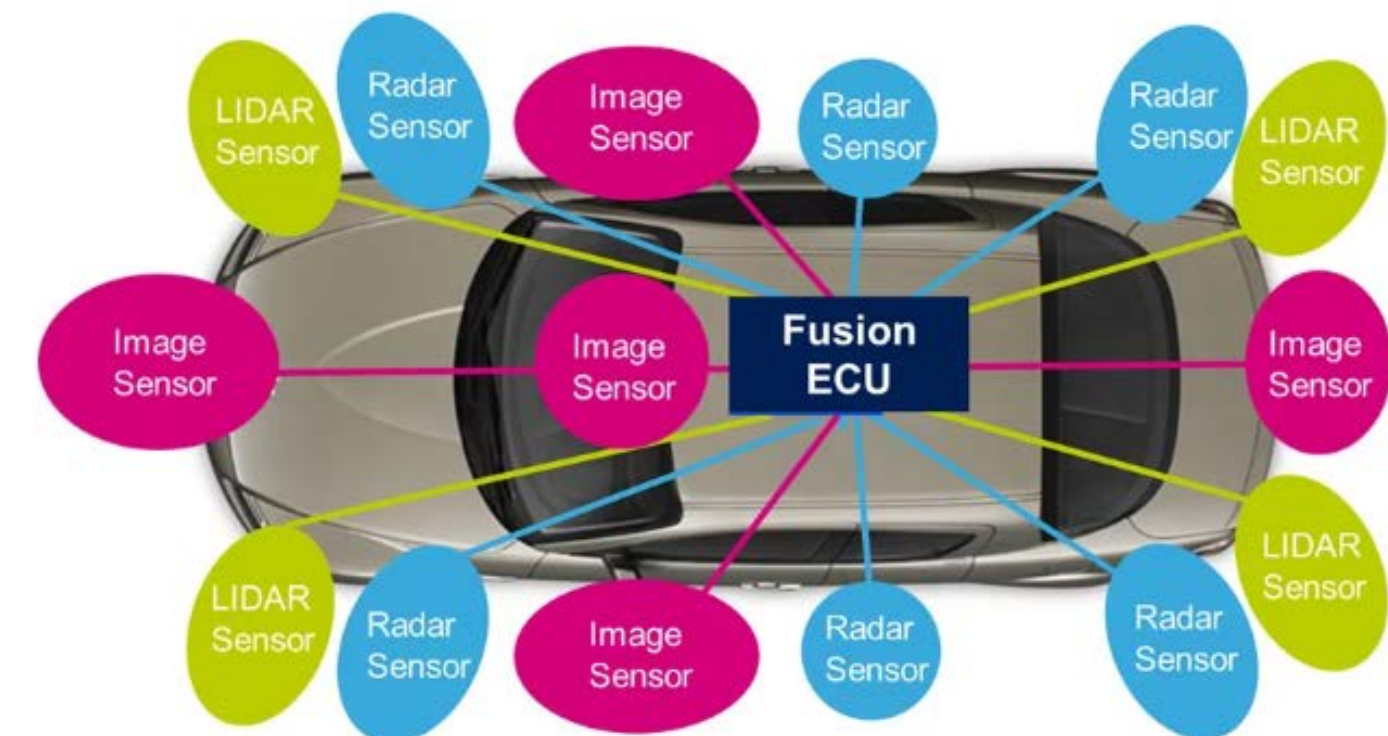
Potential for Technological Innovations from Level 2 to Levels 3 - 5

- Technology companies now bringing new technology to automotive industry
 - WiFi
 - Cellular technology
 - Security
 - Connectivity
 - Voice recognition
 - Sensors
 - GPS

Potential for Technological Innovations from Level 2 to Levels 3 - 5

Improved Sensors and Navigational Systems

- Replacing human sight and situational awareness with array of sensors
 - LiDAR - Short range sensor that can detect shapes of objects
- Radar sensors - Can sense objects in the distance through fog and rain
- Cameras - 2-D and 3-D cameras with high dynamic range
- Improved navigation systems
 - High precision GPS systems provide improved accuracy for autonomy vehicles
 - Map-less navigation uses a combination of sensors and GPS data



Potential for Technological Innovations from Level 2 to Levels 3 - 5

Improved processor systems

- Processing technology to understand sensed conditions and initiate action in response much more complex
 - Software has to process large amount of information coming into the car, make the right decision about what to do and then cause vehicle to act in response
 - Compare with simpler driver assist functions like adaptive cruise control or emergency braking



Automated vehicles that accurately detect, recognize, anticipate, and respond to the movements of all transportation system users could lead to breakthrough gains in transportation safety.

<https://www.transportation.gov/sites/dot.gov/files/docs/policy-initiatives/automated-vehicles/320711/preparing-future-transportation-automated-vehicle-30.pdf>

Potential for Technological Innovations from Level 2 to Levels 3 - 5

Next generation user interfaces

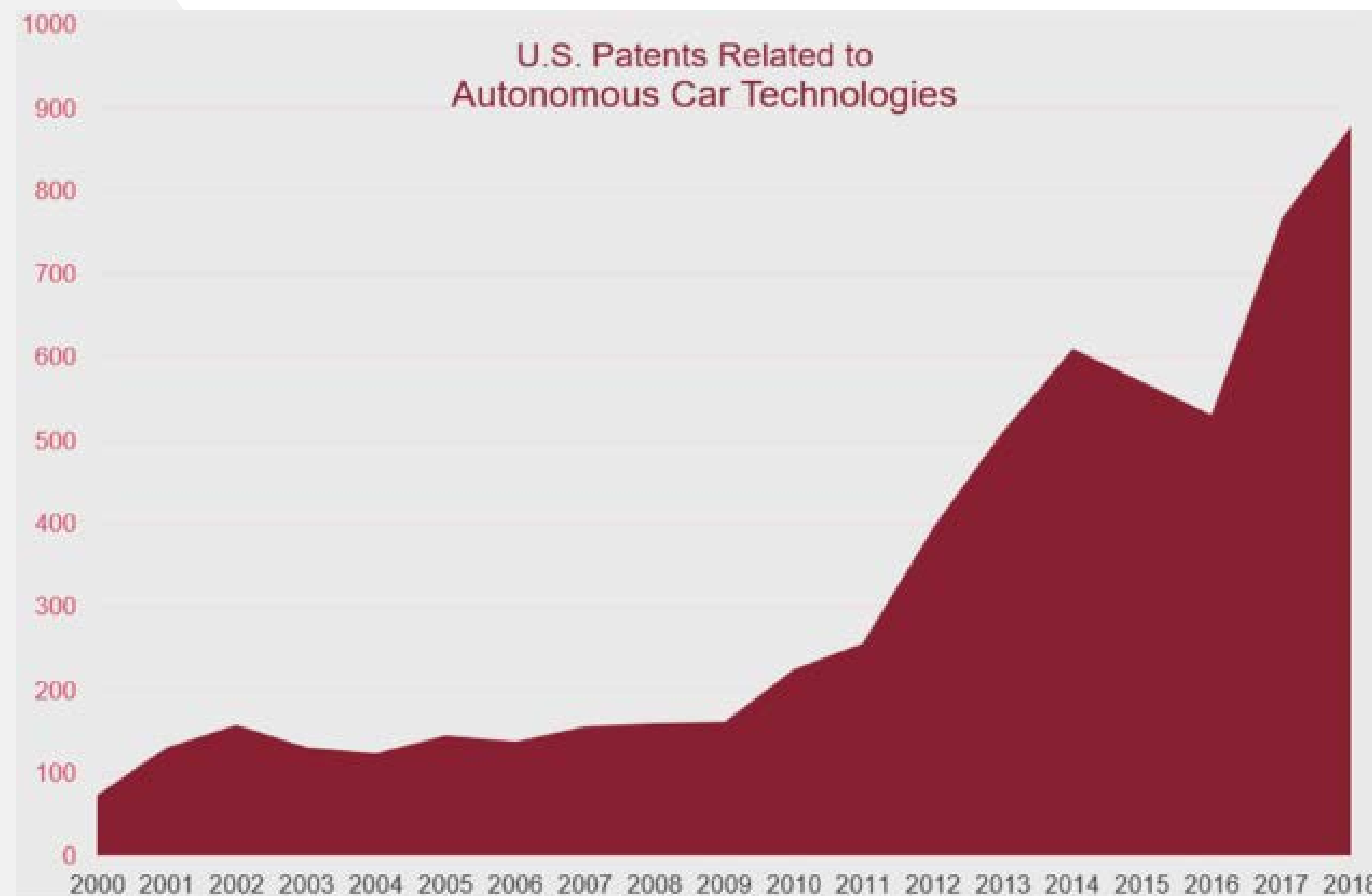
- Build trust in users that system is functioning including detecting and responding to external conditions
 - Ease transition for users with combination of manual and automated controls
- Infotainment systems combine entertainment with vehicle controls and information



<https://www.theverge.com/2018/1/12/16880978/gm-autonomous-car-2019-detroit-auto-show-2018>



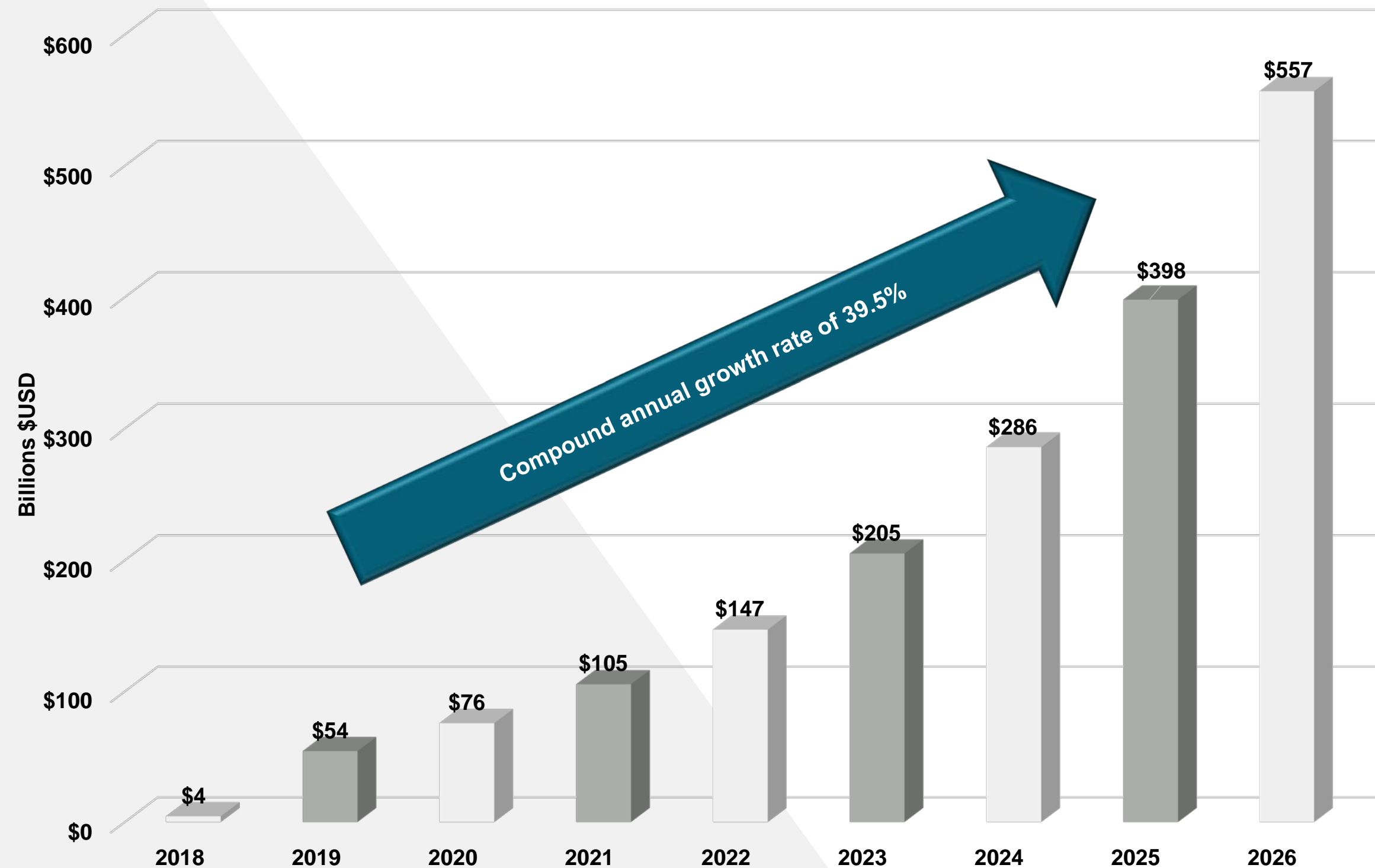
Patents for Autonomous Vehicles Have Increased



Michael Summersgill and Arthur Coviello, *3 Trends That Could Lead To More Auto Patent Litigation*
<https://www.law360.com/articles/1108946/3-trends-that-could-lead-to-more-auto-patent-litigation> (WilmerHale)



The Autonomous Vehicle Market is Growing Rapidly





Increasing Numbers of Players and Partnerships

- Of the top 25 applicants in number of EPO filings related to autonomous vehicles, many are technology companies, e.g., Samsung, Qualcomm, and LG
- Auto companies are increasingly interacting and partnering with high-tech companies in new ways, generating new legal conflicts

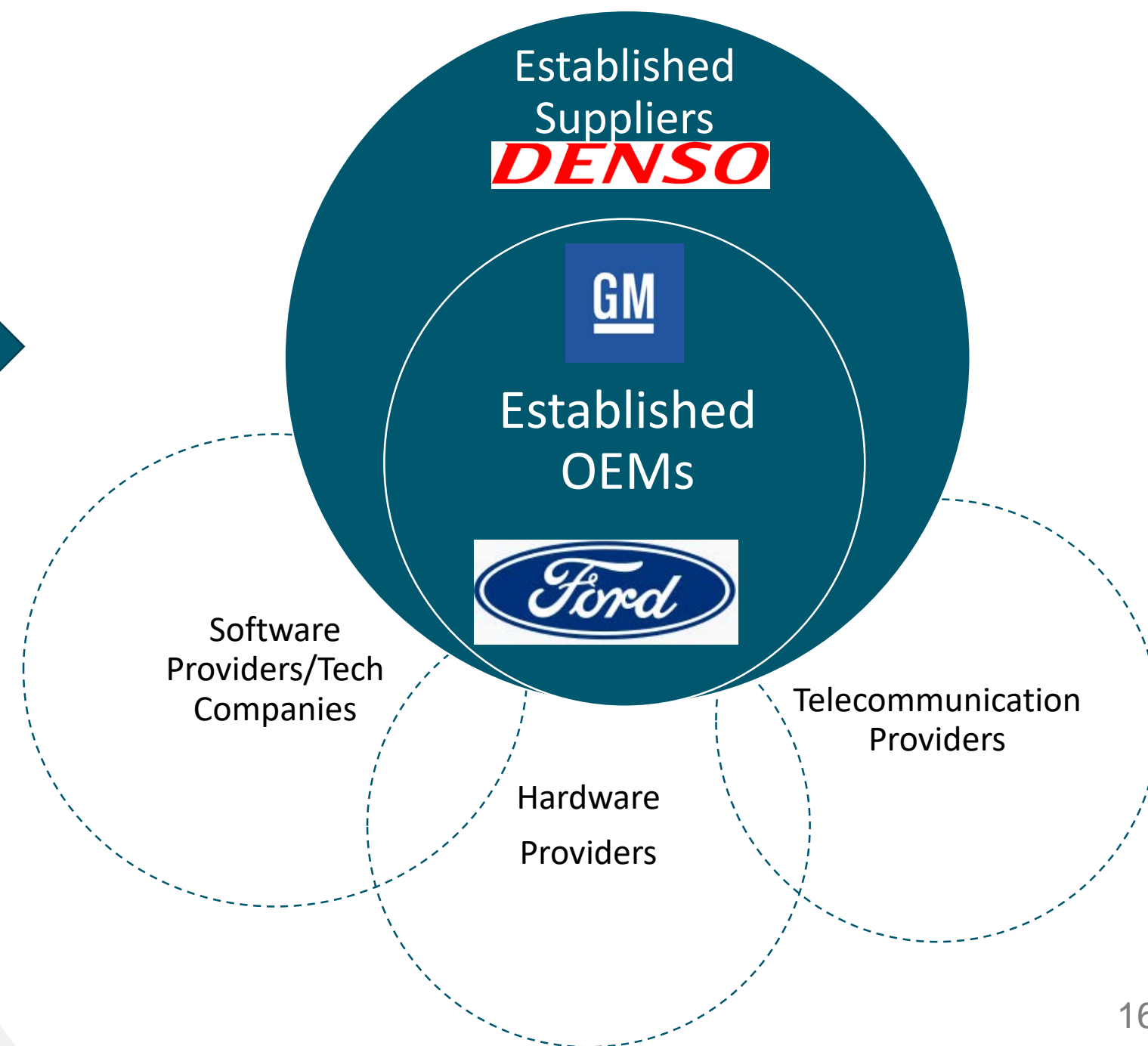


New Competition for Incumbent Players

Past: OEMs compete with one another



Future: OEMs compete in a complex competitive landscape





Impact of New Companies Entering the Industry

Lower Barriers to Entry: Through technology, more companies can provide discrete contributions to the auto industry, complicating traditional industry relationships.

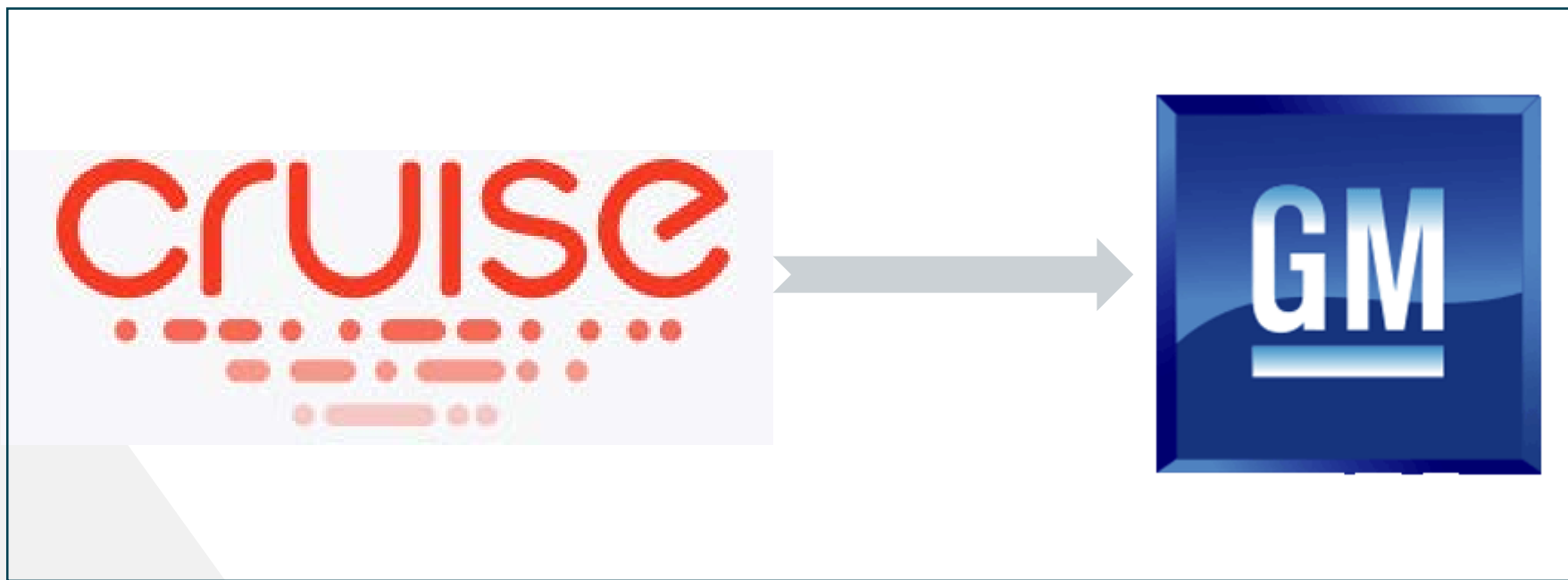
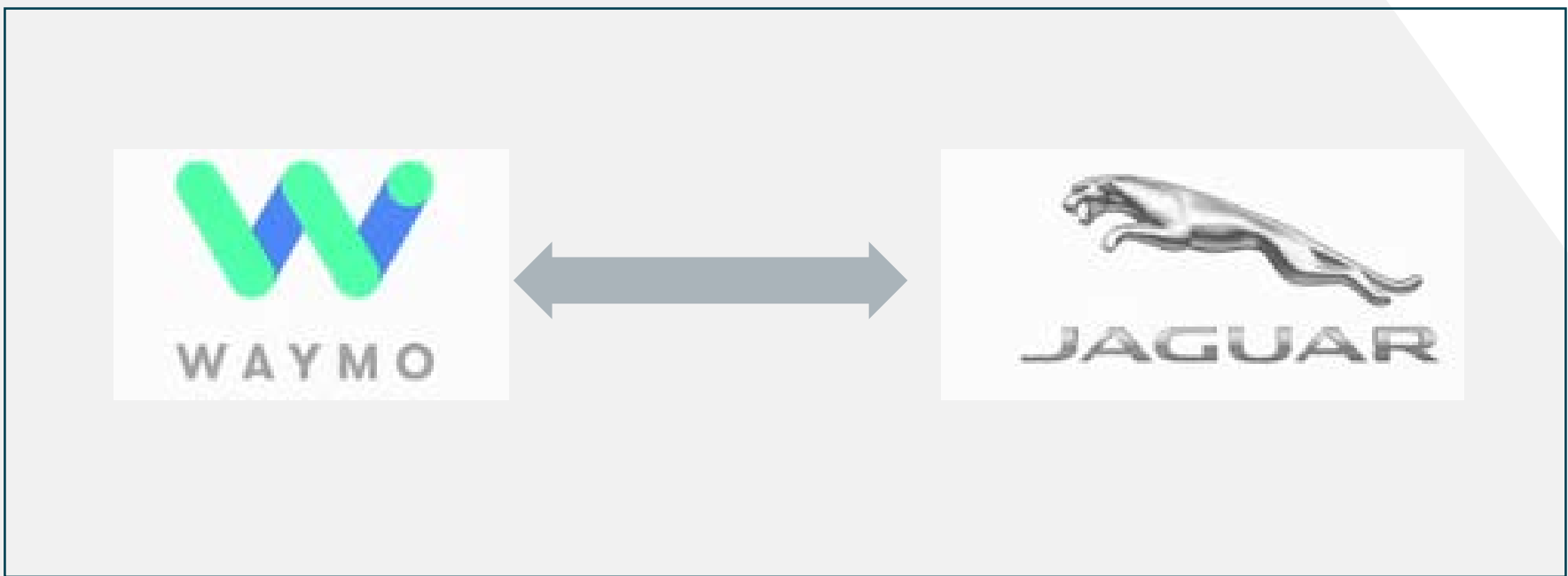
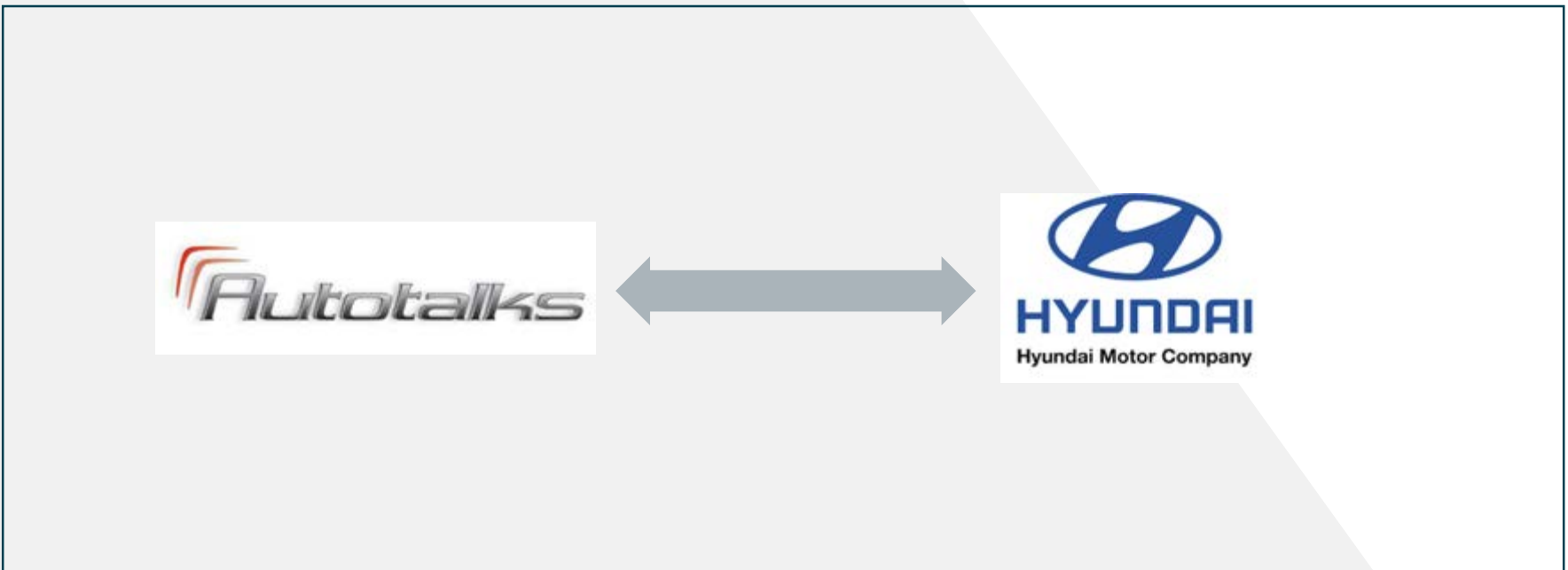


Applications

Software

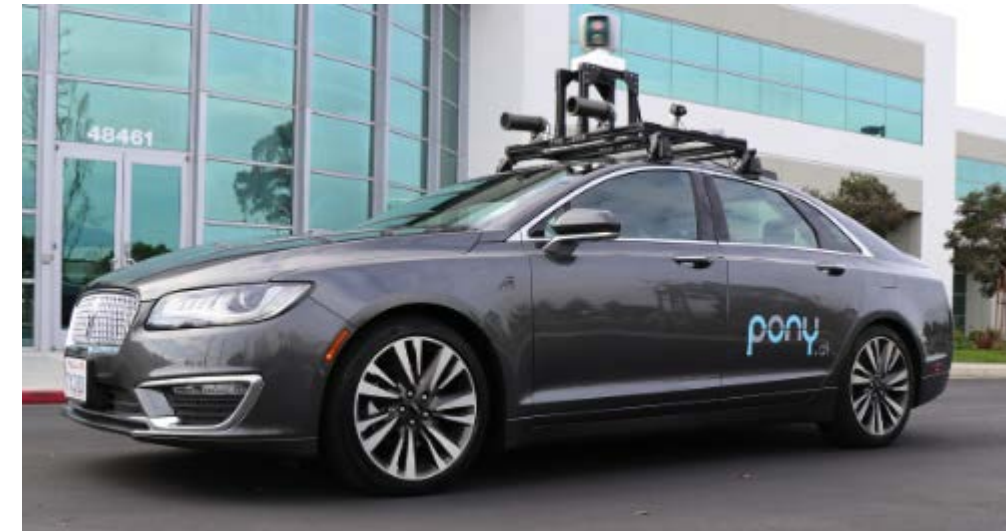
Hardware

WH *New Relationships Between Tech and Auto Industry*



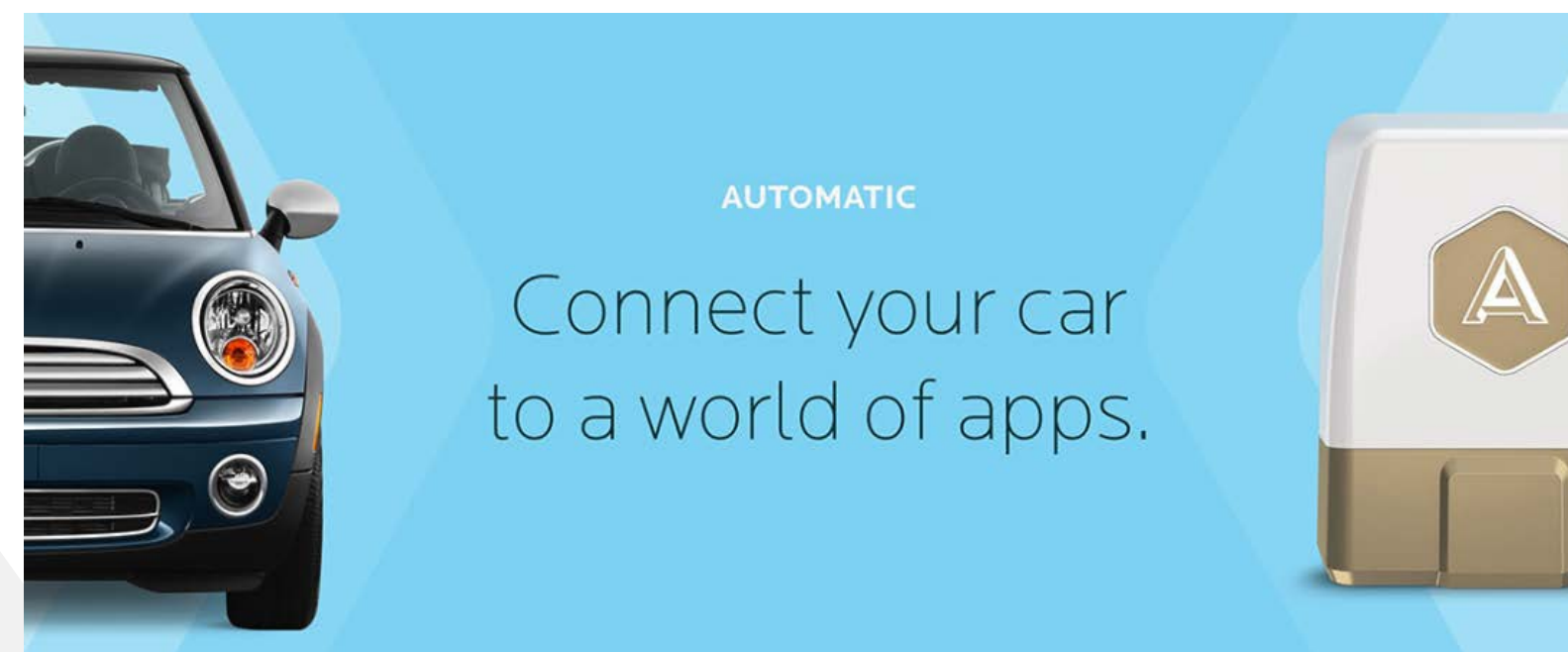


New Players in Autonomous Vehicles





New Players in Connected Car Technologies



/Autonomous
/Sensing
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The Increased Risk of IP Litigation in the Automotive Industry

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Changing IP Litigation Dynamics in the Automotive Industry

- Historically, there has been less patent litigation in the automotive industry compared to other technology industries – e.g., pharmaceuticals and consumer electronics
- Instead of pursuing IP disputes, automotive companies tended to focus on competing in the marketplace:
 - Product differentiation
 - Important incremental technology improvements
 - Branding and marketing

Three Trends Driving Increased IP Litigation Risk

- The traditional IP peace in the automotive industry may be ending, due to three trends:
 1. Convergence of Technologies on the Automotive Platform
 2. Increased Patenting of Automotive Technologies
 3. Emergence of New Players and Industry Relationships



Three Trends Driving Increased IP Litigation Risk

- Trend 1: Convergence of Technologies on the Automotive Platform
 - With more technology features, there is potentially more exposure to a greater number of patents held by a greater number of IP stakeholders.

| | |
|-------------------------------------|---|
| cellular technologies | Advanced Driver Assistance Systems (ADAS) |
| safety technologies | navigation systems |
| autonomous driving technologies | LiDAR |
| embedded processors | radar |
| security | camera and image processing |
| WiFi | Direct Short Range Communications (DSRC) |
| Telematics | infotainment |
| Vehicle-to-Vehicle (V2V) Technology | Vehicle-to-Everything (V2X) Technology |



Three Trends Driving Increased IP Litigation Risk

- Trend 2: Increased Patenting in Automotive Technologies
 - Increased patenting increases the potential for patent litigation
 - As just one example, there has been a **six-fold increase** in the rate of patenting in the last 10 years in patents related to autonomous driving and advanced driver assistance systems (ADAS)

Three Trends Driving Increased IP Litigation Risk

- Trend 3: Growing Number of Players in the Automotive Industry
 - More IP stakeholders creates the potential for more IP disputes
 - New technology companies entering the automotive space may be more likely to seek to enforce their IP
 - Winners and losers – dynamic competition will inevitably result in unsuccessful companies that seek to monetize their IP to recapture some of their investments

Increased NPE Litigation Against Automotive Companies

- Despite a decline in the number of NPE suits overall, there are indications that NPE litigation in the automotive industry is on the rise.
- There has been a significant increase in NPE litigation regarding automotive technologies in recent years, with multiple cases filed by NPEs such as:
 - Intellectual Ventures
 - American Vehicular Sciences LLC
 - West View Research LLC
 - Somaltus LLC
 - Location Based Services LLC



Tech Company Patent Suits Against Automotive Companies

— ***Broadcom v. Toyota et al.***

- **U.S. ITC**: *In the Matter of Certain Infotainment Systems, Components Thereof, and Automobiles Containing the Same*, No. 337-TA-1119 (June 12, 2018)
- **U.S. District court**: *Broadcom Corp. v. Toyota Motor Corp. et al.*, No. 2:18-cv-00190 (E.D. Tex. May 7, 2018)
- According to the complaints, Broadcom's asserted patents cover:
 - Navigation systems
 - processing of videos and graphics
 - management of memory and power



Patent Suits Between Automotive Competitors

— *Jaguar v. Bentley*

- **U.S. District court:** *Jaguar Land Rover Ltd. v. Bentley Motors Ltd. et al.*, No. 2:18-cv-00320 (E.D. Va. June 14, 2018).
- Jaguar's asserted patent (U.S. Patent No. RE46,828) relates to vehicle control technology that allegedly provides improved control of the vehicle on a broad range of surfaces.
- Jaguar alleges that the asserted patent is infringed by Bentley's All Terrain Specification for the Bentley Bentayga.
- Jaguar also alleges that Jaguar's own Terrain Response[®] technologies used in its cars practice the asserted patent.



Inter Partes Review of Automotive Patents

- Automotive companies have been heavily involved in IPR proceedings in recent years, particularly against patent assertion entities.
- Petitioners invalidated patent claims in the automotive space in approximately 82 percent of cases in 2018, above the overall rate of 70 percent.
- In a recent example, BMW succeeded in invalidating claims in an IPR proceeding against patent assertion entity Stragent, LLC.
 - *BMW of N. Am., LLC v. Stragent, LLC* (PTAB IPR2017-00677).



Increased Automotive Trade Secret Disputes

- Since the passage of the Defend Trade Secrets Act in 2016, overall trade secret litigation has increased by 30 percent—and has doubled in the last ten years.
- Trade secret litigation is also on the rise in the automotive industry, due to multiple industry trends:
 - The complexity of relationships among automotive OEMs and suppliers
 - Increased partnerships among automotive technology companies
 - Increased employee mobility among many new automotive technology companies



Increased Automotive Trade Secret Disputes

— *Eagle Harbor v. Ford*, No. 3:11-cv-5503 (W.D. Wash.)*

- The plaintiff sued Ford for alleged infringement of eleven patents related to collision avoidance and infotainment technology and sought over \$750 million in damages.
- During discovery, Ford learned that the Plaintiff had obtained confidential Ford documentation from one of Ford's suppliers and used that information to draft the patent claims it was asserting.
- Based on that discovery, Ford brought counterclaims for trade secret misappropriation.
- At trial, Ford defeated all of the plaintiffs' patent claims, and Ford also prevailed in its trade secret misappropriation claim.

* WilmerHale represented Ford.



Recommendations – Patent Litigation

- Among other things, companies should consider the following steps to reduce the risks of patent disputes:
 - Develop the company's patent portfolio strategically and with an eye to the competition
 - Develop plans for litigation against likely adversaries before the need arises, including potential patents to assert and prior art
 - Be prepared to mount a robust defense against patent assertion entities, including filing early IPR challenges at the Patent Office that can help drive early resolution



Recommendations – Trade Secret Litigation

- Among other things, companies should consider the following steps to reduce the risks of trade secret disputes:
 - Ensure that the company’s trade secrets are protected by appropriate safeguards (e.g., employee confidentiality agreements, access restrictions, encryption, appropriate confidentiality designations)
 - Develop trade secret policies for employee onboarding to ensure that new hires do not bring trade secrets with them from prior employers that could expose the company to trade secret liabilities
 - Develop trade secret policies for working with automotive technology suppliers—both to protect the company’s trade secrets and to reduce the risk of trade secret suits from suppliers or other competitors

/Autonomous
/Sensing
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FRAND Licensing and Auto Companies

Self-Driving
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Technology Standards

- Specify a common “language” that allow interoperability of products and services
- Often relate to an innovative solution
 - E.g., enable faster communication between a cellphone and satellite
- Common examples
 - Electrical plugs - consumers know they can plug an appliance into any outlet in the country and it will work
 - DVD – any DVD will play in any DVD player even if made by different companies
 - WiFi, LTE, near field communication, Bluetooth – consumers can call other users who have cell phones made by different companies



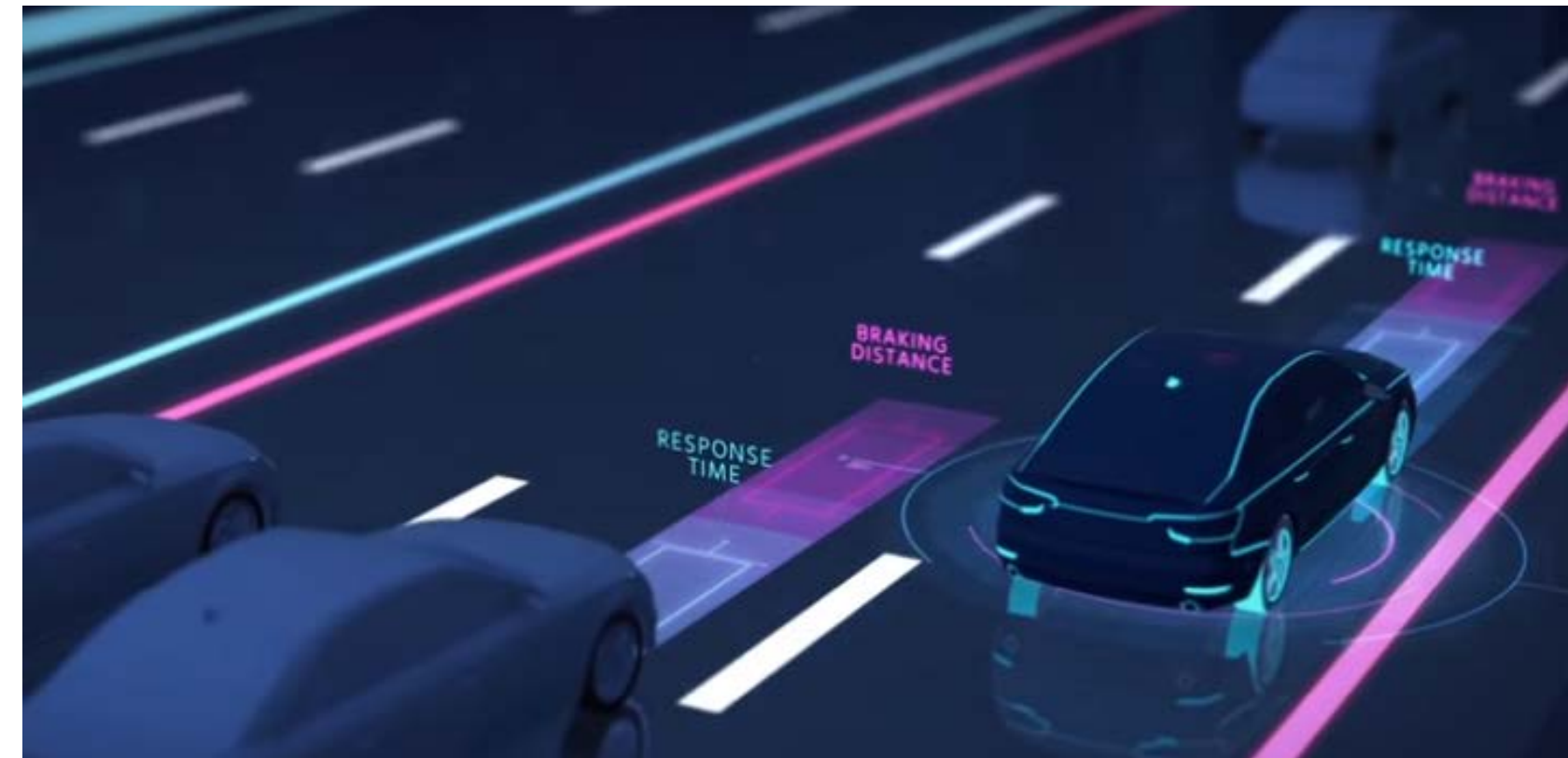
Role of Standards in Autonomous Vehicles

- For autonomous vehicles to function, they must communicate with:
 - Other cars on the street
 - E.g., if a pedestrian is unexpectedly crossing the road a car can be instructed to break and simultaneously signal to the cars behind it that it is doing so
 - Infrastructure, including traffic lights
 - E.g., network of traffic lights can control traffic depending on volume of cars
- To communicate with each other and with infrastructure, cars need to speak a common language

Role of Standards in Autonomous Vehicles

Example: a common language for responding to surroundings

- If all vehicles are using the same algorithm to ensure autonomous vehicles respond in a predictable way to unpredictable external situations
- For example, Responsibility-Sensitive Safety (RSS) is an open standard developed by Intel and Mobileye



<https://www.mobileye.com/responsibility-sensitive-safety/>

Role of Standards in Autonomous Vehicles

Example: a common language for Internet of Things (IoT)

- IoT connects multitude of devices through the Internet to collect and exchange data
- Allows cars to communicate with each other to create network
- Technology enabling communication between vehicles regarding speed, trajectory, malfunction may reduce potential for collisions





Role of Standards in Autonomous Vehicles

- As cars become more connected and autonomous, they are starting to use technology that has been historically associated with cellular telecommunications
 - For example, one of the potential options for standardizing vehicle to everything communication was developed by 3GPP and is based on the cellular LTE standard
- Automobile manufacturers may become a target for standards essential patent holders in the cellular communication space
 - For example, Nokia recently sued Daimler in Europe



What Can We Learn from Cell Phones?

- Over time, a body of caselaw related FRAND royalties for smartphones has developed
- No parallel body of law for connected cars
 - Given price differential between smartphones and cars, a similar framework may not be feasible
 - E.g., IoT patent pool licensor offering flat-rate licensing model for cars, in contrast to percentage-based model for smartphones



What Can We Learn from Cell Phones?

— Alternatives to formal standards – encouraging adoption and innovation through open source



- In 2014, Tesla pledged that they would “not initiate patent lawsuits against anyone who, in good faith, wants to use our technology”



- In 2019, Toyota announced royalty free access to nearly 24,000 patents on hybrid technology



Questions?



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