Structuring Contract Provisions for Risks Arising from Automated Driving Systems

By Jeffrey Richardson

At a Glance

Within the automotive supply chain, the relationship between original equipment manufacturers (OEMs), Tier 1 suppliers and sub-suppliers is changing due to the entrance of new market participants focused on opportunities for the sale of automated driving systems, components for automated driving systems, and services such as ride-sharing offered to consumers to utilize vehicles with automated driving systems. The contractual provisions and risk allocation involved must account for the participation of new market participants and the changing focus of automotive business models.

New market participants within the automotive supply chain are quickly changing relationships between original equipment manufacturers (OEMs), Tier 1 suppliers, and subsuppliers. The new participants are focused on opportunities for the sale of automated driving systems (ADS), components for automated driving systems (ADS components), and services such as ridesharing offered to consumers to utilize vehicles with ADS. The changing landscape creates confusion within the supply chain as traditional market participants evolve time-tested supply terms to allocate new risks introduced by new market participants.

Traditional theories of automotive liability and defect types

The theories of automotive products liability include negligence, strict liability in tort, and breach of warranty. Regardless of theory of liability, plaintiff must prove defect, injury, and causal relationship between defect and injury.

Liability claims

Product liability claims based on negligence center on failures to properly label the vehicle, warn of dangers associated with the vehicle's use, give proper instructions, design adequately, manufacture adequately, inspect adequately, and test adequately.[1]

As to strict liability in tort, Section 402A of Restatement (Second) of Torts provides special liability for a seller of products in cases of physical harm resulting to a user or consumer.[2] Precisely, one who sells any product in a defective condition unreasonably dangerous to the user, consumer, or their property, may be subject to liability for physical harm caused to the user, consumer, or their property.

For breach of warranty, claims arise from defects in workmanship or materials and breach of an express warranty or implied warranty. The latter including claims under implied warranty of merchantability under UCC Section 2-314 and implied warranty of fitness for a particular purpose under UCC Section 2-315.

Defect types

Traditionally, product liability may extend to the product designer, manufacturer, component part manufacturer, distributor, or retailer that sells the product or provides a service utilizing the product. So product liability may arise for design, manufacturing, or marketing defects:

- A design defect is common to each product of the same design, and exists before the product is even manufactured, though usually unknown to the manufacturer at the time of manufacture.[3]
- A manufacturing defect exists when a vehicle fails to conform to the design or specifications.[4] The manufacturing defect results from the manufacturing process and is unique to the individual product or group of products manufactured.
- A marketing defect (or failure to instruct or warn) is based on the product's foreseeable uses and misuses, reflecting a plaintiff's assertion that the manufacturer failed to forewarn the user of potential harms or defects.[5]

OEMs and traditional suppliers must carefully assess the impact of defect risks for ADS and ADS components introduced by new market participants. ADS service providers must assess and develop warnings for foreseeable risks arising from the use those services.

OEMs and traditional suppliers within the supply chain

OEMs and traditional suppliers have time-honored component testing and validation protocols designed to support new product development.[6] However, OEMs are new to ADS, and ADS components are new to the marketplace. Therefore, I have found that ADS and components may lack the same full and complete testing and validation—including physical testing, design verification, and manufacturing validation—prior to the OEM requesting traditional suppliers to manufacture the ADS components or subsystems, and ADS and ADS components may require wholly different types of virtual simulation testing prior to validation.

Generally, ADS and ADS components are delivered in small-batch production runs with limited volume to amortize the costs of traditional component testing and validation, which exacerbates the lack of completed component testing and validation protocols. Because of this, risk allocation between an OEM and the traditional supplier requires structuring contract provisions to focus on breach of warranty as well as design and manufacturing defects.

To focus on warranty, the traditional supplier may narrowly state the express warranty focusing on manufacturing an ADS component that matches the provided or agreed-upon design specifications as opposed to a broad implied warranty of merchantability or fitness for a particular purpose not supported by the completed component testing and validation protocols. The traditional supplier may narrowly state the express warranty to conform with the fully developed OEM specifications while avoiding an implied warranty of merchantability or fitness for a particular purpose for ADS components which have not been through the fulsome rigors of component testing and validation due to the condensed production schedule.

To focus on design and manufacturing defects, the OEM and traditional supplier should document the design responsibility. Moving forward with clear design specifications and design responsibility parameters allows the OEM and traditional supplier to focus on achieving the design specifications within the manufacturing process. Pointedly, the traditional supplier may not be in a position to evaluate and accept the risk of integrating the ADS component. If the traditional supplier accepts certain design risk, then it should take steps to ensure the schedule allots sufficient time within the supply agreement to perform component testing and validation of the ADS components within the system.

Nontraditional ADS and ADS component suppliers within the supply chain

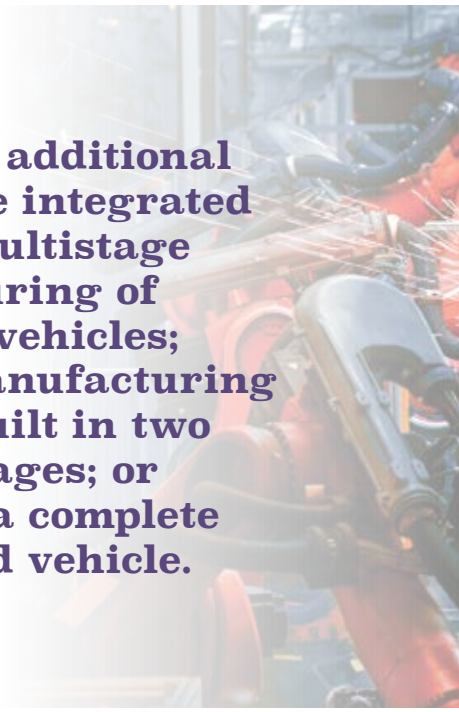
Nontraditional suppliers lacking experience with automotive component testing have entered the automotive supply chain. The nontraditional suppliers include manufacturers of computer chips, radar, light detection and ranging (LiDAR) vision systems, and related ADS components. Traditional Tier 1 suppliers and subsuppliers are being asked to integrate components from nontraditional suppliers. To allocate risks from ADS components sourced to nontraditional suppliers, the traditional Tier 1 suppliers and subsuppliers may structure contract provisions so the OEM directly buys ADS components from the nontraditional supplier or the OEM designates a nontraditional supplier to supply components to the Tier 1 suppliers and subsuppliers.

These direct-buy sourcing strategies allow the OEM to take the lead in setting the warranty scope and design specifications with the nontraditional supplier while continuing to utilize the traditional Tier 1 suppliers and subsuppliers for their known component integration and assembly capabilities. The strategy allows the OEM to aggressively utilize cutting-edge technology while taking an active role to evaluate and set risk parameters with the nontraditional supplier. Since the OEM is pursuing the use of the cutting-edge technology, it is usually in the best position to set the risk parameters with the nontraditional supplier.

Using a direct-buy sourcing strategy, the risk allocation within the contract between the OEM and nontraditional supplier may focus on design defects and manufacturing defects for ADS components. This strategy allocates the risk to the party intended by the OEM to receive the risk; i.e., the OEM chose the nontraditional supplier to manufacture the ADS component and chose the Tier 1 suppliers and subsuppliers to perform the assembly and integration of the components. Therefore, the OEM should take proactive steps to structure the contracts to best allocate the risks directly to the most responsible party.

Alterers and ADS integrators

For decades, multistage manufacturers, intermediate manufacturers, and alterers (ADS integrators) have turned OEM vehicles into ambulances, police cars, and delivery trucks in accordance with clear, long-standing federal motor vehicle safety standards as promulgated by the National Highway Traffic Safety Administration (NHTSA).[7]



Traditionally, additional systems may be integrated as part of multistage manufacturing of incomplete vehicles; intermediate manufacturing of vehicles built in two or more stages; or alteration of a complete and certified vehicle.

With regard to automated vehicles, NHTSA has published to date only voluntary guidance providing the industry with the flexibility to choose how to address a given safety design rather than promulgate federal safety standards.[8] For now, ADS integrators are tasked with integrating systems and components for which no federal safety standards exist.

ADS service providers are requesting system integrators to include or "upfit" vehicles with ADS at differing stages of the manufacturing process. These system integrators must comply with federal certification standards and requirements.[9] Traditionally, additional systems may be integrated as part of multistage manufacturing of incomplete vehicles; intermediate manufacturing of vehicles built in two or more stages; or alteration of a complete and certified vehicle.[10] The integration of ADS requires the system integrators to understand and assume certain legal responsibilities and certification-related duties under the Vehicle Safety Act depending upon the role of the ADS integrators in the manufacturing process.[11]

An incomplete vehicle is the first completed stage of a vehicle that will be built in two or more stages; minimally, an incomplete vehicle must include a chassis and power train as well as steering, suspension, and braking systems.[12] The key details of an Incomplete Vehicle Document (IVD) include the following:

- List of the vehicle types into which the incomplete vehicle may be appropriately manufactured (e.g. truck, multi-purpose vehicle, bus, trailer)
- One of the following three types of statements regarding each applicable federal motor vehicle safety standard for each potential vehicle type:
  - o The vehicle, when completed, will conform to the standard if no alterations are made in identified components;
  - o The specific conditions of final manufacture under which the incomplete vehicle manufacturer specifies the completed vehicle will conform to the standard; or
  - o The conformity with the standard cannot be determined based upon the components supplied on the incomplete vehicle.[13]

Under the regulations, the incomplete vehicle manufacturer is responsible for the IVD's accuracy. Intermediate and final-stage manufacturers may rely on the IVD statements as part of the basis to issue a future good-faith certification of the vehicle.[14]

An incomplete vehicle manufacturer assumes legal responsibility for (1) certification-related duties and liabilities under the Vehicle Safety Act with respect to the components and systems the incomplete vehicle manufacturer installs or supplies for installation on the incomplete vehicle (unless such components are changed by a subsequent manufacturer), (2) the vehicle as further manufactured or completed by an intermediate or final-stage manufacturer to the extent that the vehicle is completed in accordance with the IVD, and (3) the accuracy of the information contained in the IVD.[15]

Similarly, an intermediate manufacturer assumes responsibility for (1) certification-related duties and liabilities under the Vehicle Safety Act with respect to the components and systems the intermediate manufacturer installs or supplies for installation on the incomplete vehicle (unless changed by a subsequent manufacturer), (2) the vehicle as further manufactured or completed by an intermediate or final-stage manufacturer to the extent that the vehicle is completed in accordance to the addendum to the IVD furnished by the intermediate vehicle manufacturer, (3) the work done by the intermediate manufacturer on the incomplete vehicle that was not performed in accordance with the IVD or an addendum of a prior intermediate manufacturer, and (4) the accuracy of the information in any addendum to the IVD furnished by the intermediate vehicle manufacturer.[16]

Finally, an altered vehicle is a completed vehicle previously certified compliant with all applicable federal motor vehicle safety standards that has been altered other than by the addition, removal, or substitution of attachable components. The alterer has the duty to determine continued conformity with applicable federal standards affected by the alteration to the certified vehicle.[17]

To allocate federal motor vehicle safety standards compliance risk within contract provisions, OEMs and traditional suppliers should determine if the ADS integrator is serving as

an intermediate manufacturer, a final-stage manufacturer, or an alterer in order to confirm the responsible party for required certifications and assumed liabilities.

OEMs and ADS services

In certain cases, OEMs are partnering with ADS service providers to equip automated vehicles with the service providers' technology. Based upon market observation, service providers contemplate providing ADS services through fleets of automated vehicles by integrating the ADS with complete vehicles, so the ADS service providers will need capable vehicles to support ADS services. Consequently, ADS service providers are developing proprietary ADS to install on base vehicles and further the service fleet business models. These evolving consumer business models may eventually be based on user sharing and co-ownership uncommon to the historic marketplace which focuses solely on individual use and ownership.

By contrast to OEMs, the ADS service providers' business focus is ADS service sales rather than traditional vehicle sales, creating confusion within the supply chain. For ADS service providers and their OEM partners, I recommend the parties allocate potential claims for design and manufacturing defects while giving heightened scrutiny to marketing defects for products and services being provided directly to the consumer. This heightened scrutiny may require additional coordination between OEMs and ADS service providers to forewarn the consumer of potential harms arising from vehicle behaviors the consumer may not understand when such behaviors are dictated by preprogrammed software instructions providing the ADS service experience for which the consumer has no experiential basis to reasonably foresee the vehicle behavior.

The following is a potential risk allocation when structuring contract provisions among OEMs, alterers, and ADS service providers: OEMs responsible for design and manufacture of the base vehicle without the ADS; ADS service providers responsible for design and manufacture of the proprietary ADS; and the alterer responsible for installation of the ADS on the base vehicle. In addition, ADS service fleets will require vigilant maintenance, so claims for repair or service failures may arise based on aftermarket parts installed by repair or service providers or as a result of a defect in the repair or service to integrate the aftermarket parts with the original parts. Generally, the risks regarding repair or service of an ADS may best be allocated to the ADS service provider and their direct repair and service contractors.

Finally, liability allocation and mitigation steps among the OEMs, alterers, and ADS service providers may further include naming third-party beneficiaries to certain warranties; requiring indemnification of third-party claims pertaining to ADS components and ADS within OEM supply chain agreements; naming certain parties as additional insureds under insurance policies within OEM supply-chain agreements; and identifying the scope and proof requirements for recall claims and allocation of recall costs.

Conclusion

The movement to incorporate ADS within vehicles requires that automotive market participants allocate traditional risks for warranty and liability in new contexts. To allocate these traditional risks in new contexts, the OEMs, traditional supplier base, and new market entrants should focus on thoughtfully applying traditional warranty and liability principals within the new environment of ADS components, systems, and service providers. ■

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ENDNOTES

1. Restatement Torts, 3d, Products Liability (1998), § 2.
2. Restatement Torts, 2d (1965), § 402A.
3. Restatement Torts, 3d, Products Liability (1998), § 2.
4. *Id.*
5. *Id.*
6. *Production part approval process*, Wikipedia (September 5, 2020) https://en.wikipedia.org/wiki/Production_part_approval_process. All websites cited in this article were accessed September 14, 2020. Production part approval part process is used in the automotive supply chain for establishing confidence in suppliers and their production processes.
7. 49 CFR 571.
8. *USDOT Automated Vehicles 2.0 Activities*, US Dept of Transportation (August 13, 2018) <https://www.transportation.gov/av/2.0> [https://perma.cc/EZR4-AFUD], *Preparing for the Future of Transportation: Automated Vehicles 3.0*, US Dept of Transportation (December 13, 2019) <https://www.transportation.gov/av/3> [https://perma.cc/6BQU-GXHB], and *Ensuring American Leadership in Automated Vehicle Technologies: Automated Vehicles 4.0*, US Dept of Transportation (February 7, 2020) <https://www.transportation.gov/av/4> [https://perma.cc/JMT3-PKGU].
9. 49 CFR 567.
10. 49 CFR 567.7(b).
11. 49 USC 301.
12. 49 CFR 567.7 and 49 CFR 567.3
13. 49 CFR 568.4(a)(6) and 49 CFR 568.4(a)(7)(i)–(iii).
14. 49 CFR 567.5(d).
15. 49 CFR 567.5(b).
16. 49 CFR 567.5(c)(1)(i)–(iv).
17. 49 CFR 567.7.