Supporting Consumers’ Experiences with Advanced Vehicle Technologies

Automated Vehicle Technologies – Understanding What’s Here Now & Its Impact on Safety

Lifesavers 2018
The Advanced Vehicle Technology Consortium

- **Originators:** MIT AgeLab, Touchstone Evaluations & Agero

- **Founding Members:** Aptiv, Liberty Mutual, Jaguar Land Rover, Autoliv, Toyota

- **Full Members:** TBD

- **Affiliate Members:** Consumer Reports, Progressive & TBD

- **Focus:** To collect and analyze cutting edge data that objectively characterizes the behavioral and safety benefit of advanced driver assistance systems, higher levels of automation, and other in-vehicle technologies under real-use conditions.

Looking Beyond the Technology

An understanding of system performance and how drivers adapt to, use (or do not use), and behave with advanced vehicle technologies.
Where Do Consumers Learn About New Vehicle Technology?

- Technology Name
- Dealership Interactions
Technology Name Survey

- 19 systems addressed
- Seven categories of automation
  - Six categories (Levels 0 - 5) - based on SAE levels of automation
  - One conceptual category (Level 1.5) – distinguish between commercially available L2 systems that require hands on wheel and those that do not
- Particular focus on tasks the driver would perform versus those the system would perform
## Terminology Can Appropriately Guide Consumers’ Expectations

“Cruise” systems were correctly associated with lower levels of automation.

<table>
<thead>
<tr>
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<tbody>
<tr>
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## Terminology Can Create Unintended Confusion

"Assist" intends to inform the user they are being assisted by the technology, but the level of assistance is unclear.

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Terminology Can Broadly Confuse Consumers

Some systems had responses close to guessing

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Well-Trained Staff Can Mitigate Terminology Confusion

Hello!

Morning.

I'd like to buy a Google Assistant.

Oh, right. By the way, can it make calls using Hangouts? Wait, no... ALO?

Err, you mean Google Home?

You're probably thinking of Duo, but no.

Oh, okay... what about using your new landline calling service? I have Google Fi.

Ah, but can it send videos to my Google TV?

You mean Android TV?

Hmm... and can it play the audio of a YouTube video if I have a RedTube subscription?

That's YouTube Red.

All right, can I pay with Google Wallet?

You mean Android Pay.

Well you guys certainly like to confuse people at Google.

Alphabet.
Consumers Desire Technology Training at Dealerships

However, they want to spend a limited amount of time on-site.
What Does the Dealership Model Look Like?

Some safety brands focus on selling technology, while others remain focused on passive safety.

What Does the Dealership Model Look Like?

Luxury brands attempt to provide an expert to explain systems to the consumer.

FOCUS:
Providing a technical expert alongside a sales professional to support consumer needs.

Sales → Technical Experts → Consumer

What does the Dealership Model Look Like?

Mass-Market dealerships may not have room in their sales model to adequately communicate new safety features.

FOCUS:
High volume sales / consumer informing themselves

- Customers do not come in to negotiate price only – thus, the consumer should inform themselves
- Occasionally provided inaccurate information in attempts to answer questions
- Reported very little training from the manufacturer

"Mass-Market" Brands

Dealerships May Not be Equipped to Respond to Consumer Needs

<table>
<thead>
<tr>
<th></th>
<th>Safety</th>
<th>Mass-Market</th>
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Steps Forward

Consistent material throughout the purchase process helps reiterate key concepts.

- **Website**
  - Steps Forward
  - Consistent material throughout the purchase process helps reiterate key concepts.

- **In Dealership**
  - Website
  - In Dealership
  - After Purchase

- **After Purchase**
  - Website
  - In Dealership
  - After Purchase

What is EyeSight?
EyeSight is a driving support system that uses a range of functions to assist the driver in making decisions in order to provide for more safe and comfortable driving and to reduce driver fatigue. It is designed to help assist the driver, not replace them.

How Does EyeSight Work?
EyeSight uses stereo cameras to process stereo images and identify objects such as the vehicle in front, obstacles, traffic lanes and other items. Under the right circumstances, EyeSight will apply the brakes or increase the throttle to help reduce the severity of, or help avoid, a collision.

EyeSight Functions
- **Pre-Collision Braking System**
  - This function automatically monitors the distance and speed of the vehicle in front and can help to avoid collisions.
  - **Forward Collision Warning (FCW)**
    - This function warns the driver of an impending collision with a vehicle or obstacle in front of the vehicle.
  - **Pre-Collision Brake Assist**
    - If an impending collision is detected, the system can automatically apply full braking pressure in order to try to shorten the braking distance.
  - **Pre-Collision Throttle Management**
    - This function is designed to help prevent drivers from unintentionally accelerating into a stopped vehicle or obstacle in front of them. It simultaneously warns the driver and reduces engine power until the driver applies the brakes to help avoid an impact.

Adaptive Cruise Control and Lead Vehicle Start Alert
- This function determines the benefits of Cruise Control with active monitoring of the vehicle in front by EyeSight. It issues warnings and inputs a bonus braking when needed.
- Adaptive Cruise Control can regulate vehicle speed in order to keep a safe following distance from the vehicle infront. It does not replace conventional cruise control, which can still be used when desired. Lead Vehicle Start Alert notifies the driver when the vehicle in front has started moving but the EyeSight driven vehicle has not.
- Lane Departure Warning and Lane Sway Warning
  - Lane Departure Warning alerts drivers when they unintentionally move out of their travel lane.
  - Lane Sway Warning acts in a similar way, detecting any unusual back-and-forth vehicle movement within the driver’s lane of travel to indicate a possible drowsiness.
Steps Forward

In-Vehicle Training May Supplement Challenges to Training in the Dealership Model

Drivers are interested in in-vehicle training
When you don't know what it's called, it's like, "Oh, weird symbol on my phone, in the car," and "I don't know what that is."
Contact

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