

Apple Awarded Patent for Augmented Safety Restraint

Apple was recently granted a patent ([10,189,434](#)) for an augmented safety restraint. Say that again? Yes, with the rise of autonomous vehicles comes the need for changes in the safety devices placed within these vehicles. If you are wondering why this is an important patent, you are probably not alone. Currently, the states that have addressed the use of autonomous vehicles have done so with little emphasis (if any) on the safety features within the vehicle, beyond requiring what is currently mandated under the federal regulations for non-autonomous vehicles.

So, what is different about Apple's augmented safety restraint? The patent provides that the restraint, beyond securing the passenger within the vehicle, can

- provide holistic monitoring of passenger status;
- supply entertainment and comfort;
- allow communication or interaction between the passenger, vehicle, and other passengers within the vehicle; and
- generate power sufficient to run the aforementioned capabilities.

The reason for all of these features is to “allow for enhancement of passenger activities, improved interaction with the vehicle and/or other passengers, and energetic autonomy while at the same time meeting regulatory safety requirements.”

In order to perform the above, the device(s) will be attached to an exposed surface or embedded within the restraint. The suggested devices include contact sensitive features, such that the passenger would need to touch the device for engagement (example: a fingerprint sensor) and non-contact sensitive features (example: optical or voice-activated sensor).

In addition to the common three-point seat belts, other restraint types (e.g., inflatable belts, webs, harnesses, etc.) are noted as being possible designs for the augmented restraints. Some of the proposed features are even proposed to be activated either with or without a passenger present in the vehicles (such as devices to help aid passenger ingress or when the vehicle is transporting only packages).

In what appears to be an effort to maintain compliance within current safety standards in place, the restraints may also include an airbag and any or all of the augmented safety restraints can include a pre-tensioner device. The restraints have a passenger-securing structure, for example, a belt or a harness secured to either the vehicle or the passenger seat. There is also a passenger-facing surface that can engage the body of the passenger to restrain motion of the passenger relative their respective seat.

Apple's patent suggests numerous iterations of how the augmented safety restraint can look and work. How these iterations affect the safety of a vehicle have yet to be determined. Without any guidance, manufacturers are left creating designs for standards that may not apply to autonomous vehicles or standards that have yet to be created. As the federal government continues to fail to pass any legislation regarding autonomous vehicles, this may be yet another area in which states will need to act on their own while autonomous vehicles proliferate on our roadways.