Engineering Safety Solutions to Meet Real World Scenarios

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By John Fadgen

When it comes to product design testing, a specification is needed for determining proper performance, function, and more. This specification will detail how the product should operate and often how it should be tested. It is often difficult to depict real world scenarios in a repeatable fashion which is needed for product testing.

When it comes to radar sensors, the device must operate properly by detecting objects, but must also provide a meaningful user/operator experience. Testing specifications will detail detection requirements, but do not mention user experience. This means PRECO's engineering team must have an understanding of the operator's needs and requirements.

A big issue with radar is false positives, or the radar sensor reports an object when nothing is actually present. These false positives will cause a poor user experience, leading the operator to ignore all alerts provided by the system. Similar to the boy who cried wolf. Extensive testing should always be done to minimize these false positives.

Another necessity, specific to side blind spot radar sensors, is performance testing. Typical specified tests require other on-road vehicles be detected, but stationary objects (parked automobiles, guardrails, etc.) are to be ignored. The specification does not list the type of automobile or the shape of the guardrail. But there are hundreds of different automobiles and trucks – all with different shapes! Guardrails can be metal, plastic, and concrete. It would be foolish to list all possible combinations on a specification, but these are encountered in the real world, and to some degree should be tested.

In order to provide the operator with a sound sense of situational awareness, PRECO's engineering team works hard behind the scenes programming and testing until our radar sensors provide alerts for the objects that directly affect the vehicles and safety of those around it.

One such example is the PreView Side Defender®II. By adding new technology to PRECO's already successful lane change assist feature, the new system alerts operators on moving vulnerable road users (VRU) in crowded urban environments.

As the global leader in collision mitigation technology, PRECO has offered side blind spot monitoring and collision avoidance systems for heavy and medium-duty trucks for 20 years. Since 2016, PreView Side Defender® has been the most advanced side blind spot monitoring solution available. In reducing incident rates up to 85 percent, Side Defender® technology has been a proven solution to side blind spot collisions. Now, Side Defender®II takes its place as the new global benchmark.

APS USA
610 Gateway Center Way, Suites J & K
San Diego, CA 92102 USA
P: 1 619 263 4164
F: 1 619 263 6814

APS Australia
U48 / 9 Vision Street,
Wangara, WA 6065 Australia
Phone: 61 (8) 9302 2369
Fax: 61 (8) 6305 0047

APS: Singapore
Colombia
Chile
Perú
Brasil