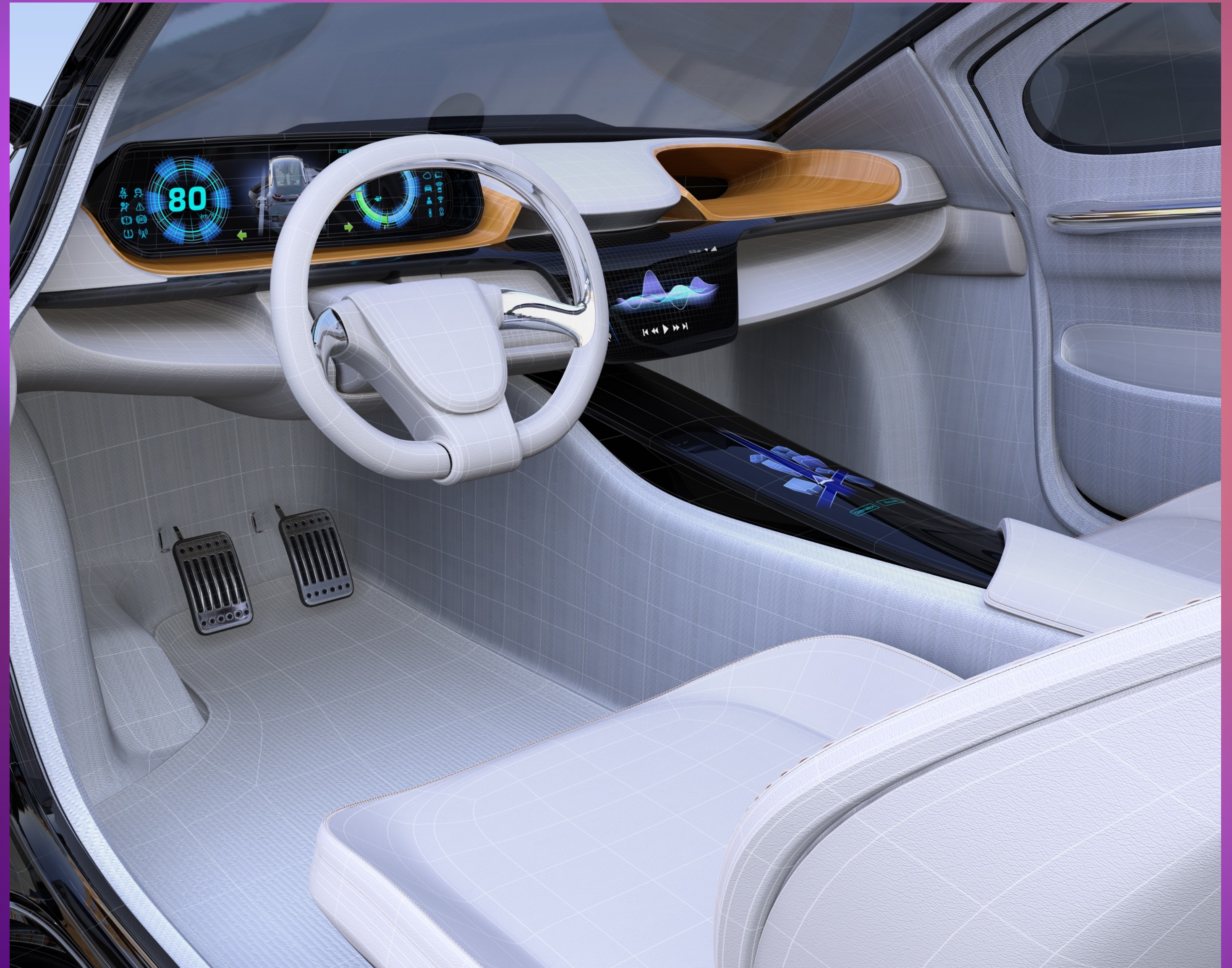


Future at your fingertips

Smart materials blend luxury
with functionality in next-gen
dashboard



Call for change

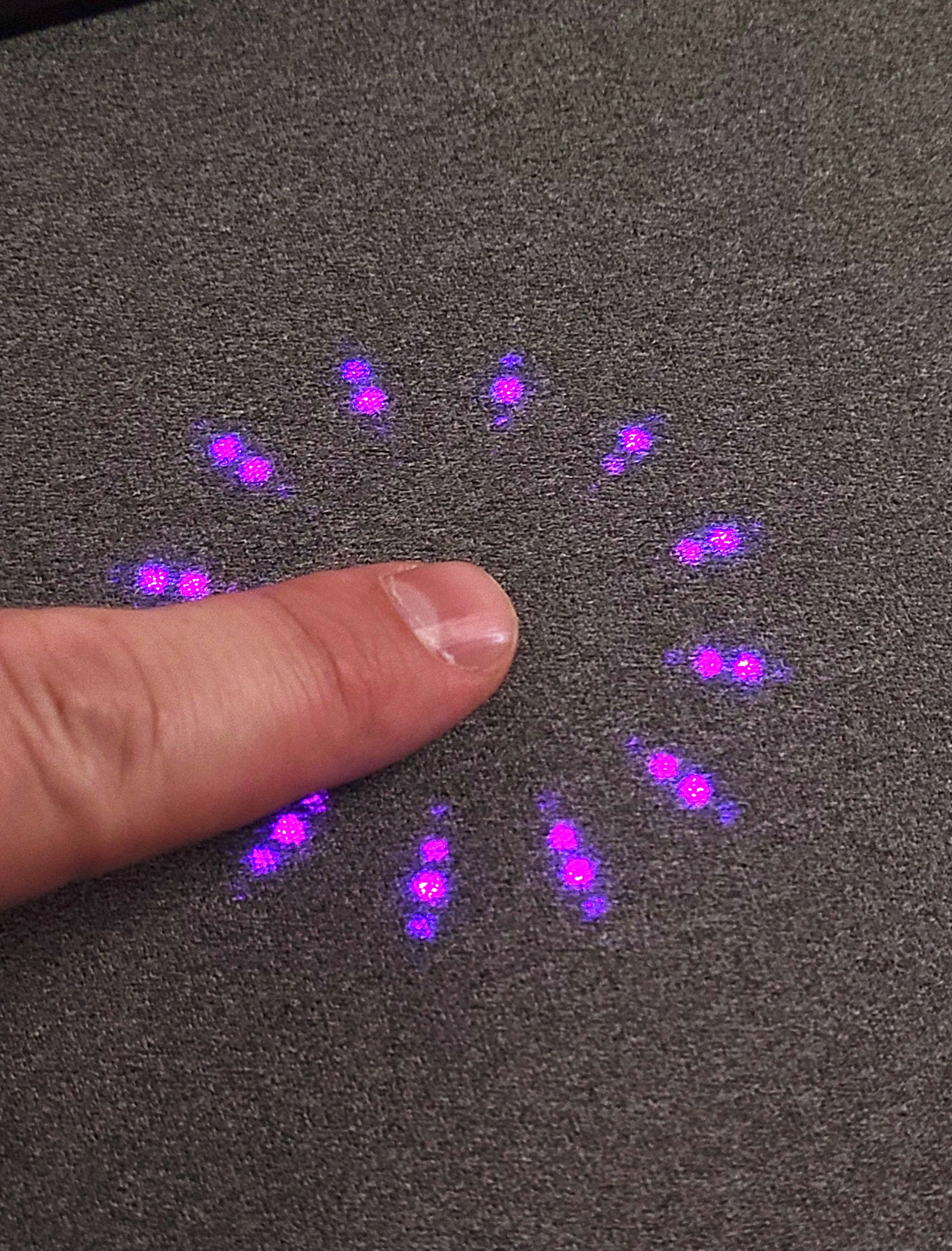
Form is as important as function in luxury cars

Luxury carmakers have continued to evolve their high-end cabins, moving towards sleek touchscreens, and away from the various knobs and buttons of older vehicles. Now, as they look to build even smarter luxury vehicles, the next step is creating an intelligent and seamless experience while retaining a minimalist aesthetic.

FORVIA, a leading global automotive supplier to many of the top brands, offers a variety of interior finishes, from basic ones—such as plastic or

fabric—to premium finishes, such as leather and real wood veneer. For the luxury car market, FORVIA wanted to stay ahead of the curve by adding more functionality while retaining the minimalist aesthetic of its dashboard. At the same time, Accenture was exploring how to embed smart materials into everyday objects to enable more seamless, intelligent interactions for smarter products and spaces.





When tech meets human ingenuity

Co-creating innovative products

Integrating touch interaction seamlessly into a dashboard is challenging. Dashboards have curves that make it difficult to incorporate the technology, and the already compact spaces leave limited room for added electronics. They're also likely to be touched by drivers as they search for a button or reach for something while driving, creating many opportunities for accidental activation. What's more, commonly used luxury materials for dashboard trim, like brushed aluminum, aren't compatible with capacitive touch technology in the first place.

FORVIA worked with Accenture to create a seamless, pressure-sensitive interface for dashboards using smart materials that could fit behind any interior finish. The team developed a high-fidelity proof of concept showing pressure-sensitive technology behind a wood veneer.

The solution is remarkably thin at less than 0.3mm. It's flexible, so it can be used behind complex dashboard shapes. It's triggered only by pressure, rather than touch, which leads to greater accuracy and means the system works even when a user is wearing gloves or their hands are wet. This approach also supports the use of gestures. In the prototype, a driver can change the color and brightness of an LED ring through either touch or gesture according to their preference. In a real vehicle, these options could be adapted to control music volume, change climate control settings, and adjust other aspects of the car.

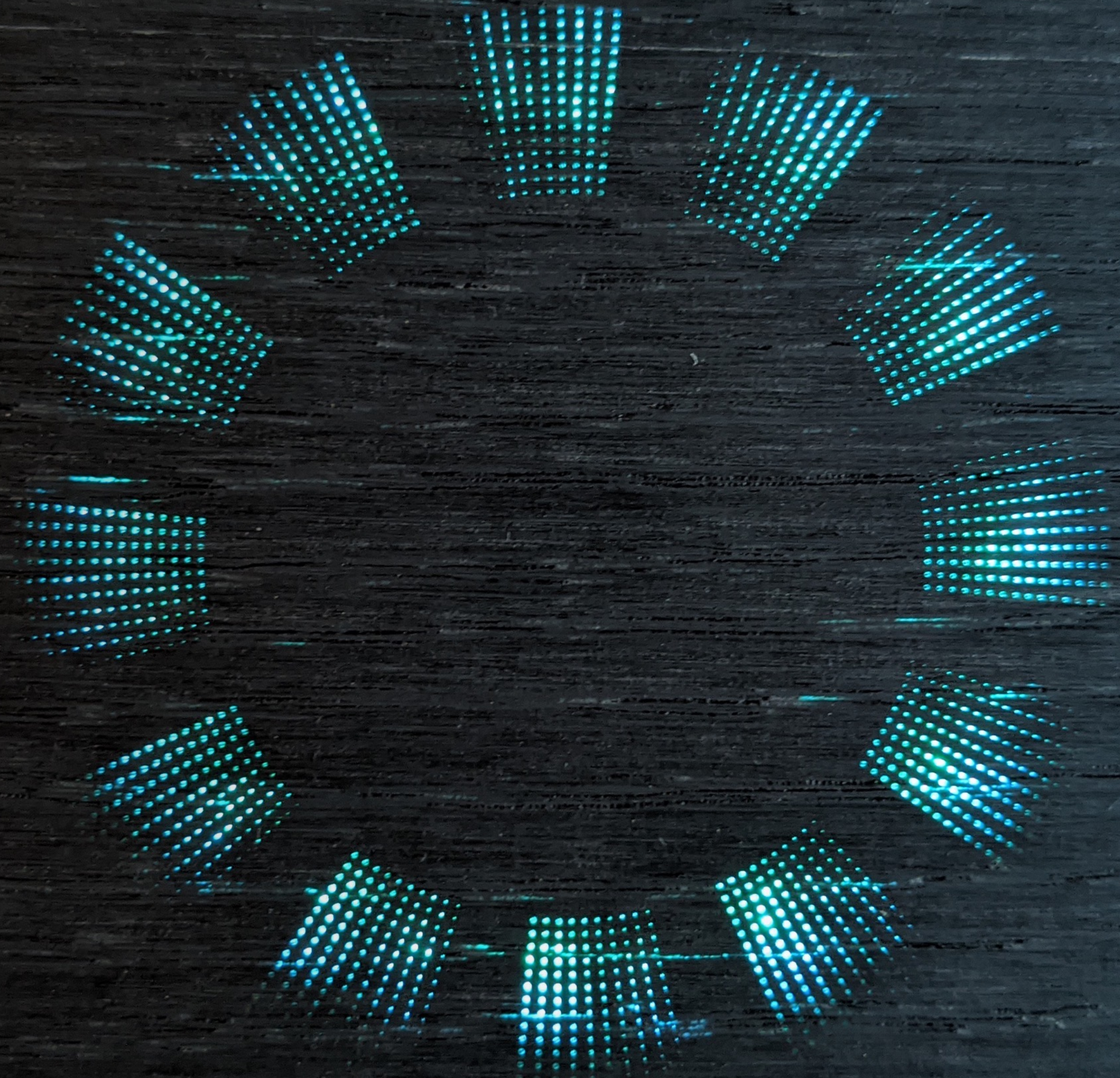
Accenture proved that the solution is scalable by designing a custom application of conductive ink to a circuit using conductive silver nanoparticles. Paired with FORVIA's micro-perforation technology that allows light to permeate the wood grain on a dashboard, this approach yields a functional and seamless interface.

A valuable difference

A new premium interior emerges

Smart materials enabled FORVIA to overcome the limitations of previous touch technology, powering a scalable and seamless solution. Accenture Labs leveraged its innovation skills and ecosystem partnerships to help FORVIA create a pressure-sensitive dashboard interface behind a wood veneer, which can be used to adjust music volume, climate control and other aspects of the car. Accenture Labs and FORVIA jointly filed a patent on this innovative smart dashboard technology.

FORVIA is using the prototype to pitch the technology to its original equipment manufacturers. This is one of many advancements being developed as part of a five-year collaboration between Accenture and FORVIA to design the future of transportation and accelerate innovation for mobility services.



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