

The art of designing becomes a science



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Genus concept seat



*Railport vehicle
personalization system*



JCI Comfort Lab

During the past 10 to 15 years, automotive interiors have changed dramatically. The world's top automakers and suppliers have achieved an impressive makeover of the occupant space, as they've delivered major enhancements in every area, including performance, functionality, safety, quality, craftsmanship, materials, aesthetics, ergonomics, comfort, acoustics, versatility—and more.

These changes have been market-driven. Vehicle interiors have become far more important than previously was the case to the people who buy new cars and trucks, and to those who build them. A succession of industry studies has demonstrated that consumers increasingly are influenced by vehicle interiors when they're considering which car or truck to buy.

The growing market impact of automotive interiors is not surprising, given the fact that people spend more time than ever before in their vehicles. Commuting times and distances have increased with the ongoing expansion of suburbia, and cars and trucks are overwhelmingly the favored mode of transportation for vacation and leisure-time activities. For many consumers, the vehicle interior is becoming an extension of the home or the office.

Responding to consumer expectations, the industry has focused significantly more attention on interiors. The key selling attributes of modern vehicles no longer center exclusively on exterior styling, vehicle platforms, powertrains, and the like. Automakers have embraced interiors as a focal point to attract and retain buyers, offer consumer surprises and delights, and differentiate vehicles and brand nameplates.

The industry movement to improve vehicle interiors on an ongoing basis is likely to be sustained for the long term. And to continue such progress, automakers and suppliers have developed and implemented new approaches and tools to make better interiors a reality.

In the "old" days, developing, designing, and engineering interior systems and components was more of an art than a science. Determining what constituted an acceptable product—and creating that product—frequently was based on some combination of intuition, upholding the status quo, common sense, and guesswork.

Today, by contrast, **Johnson Controls**—and other industry leaders—are developing and implementing new scientific processes and tools to create the vehicle interiors of today and tomorrow. The development of interior systems and components is moving from art to science, as consistent, quantitative methods are deployed, design challenges are addressed with math-based solutions, and knowledge-oriented databases are mobilized and applied.

If you can't measure it, you can't manage it. And if you can't measure it, you can't improve it. That's why science and scientific approaches are so vital to suppliers of automotive interiors, as the cars and trucks of tomorrow are created.

At Johnson Controls, we have developed and implemented advanced methods for understanding and measuring consumer behaviors, requirements, and needs linked to automotive interiors. And science, mathematics, proprietary knowledge, and technology all are being applied to respond quickly and appropriately to what consumers need and want, and to anticipate future needs.

Leading-edge research laboratories and processes—as well as testing and validation units—have been implemented at Johnson Controls to bring new levels of advanced science to all areas of interior design and engineering, including comfort, craftsmanship, aesthetics, quality, safety, acoustics, ergonomics, and haptics.

An increasing reliance on science will enable today's leaders in automotive interiors to meet tomorrow's challenges, as consumer expectations continue to change and increase. **aei**