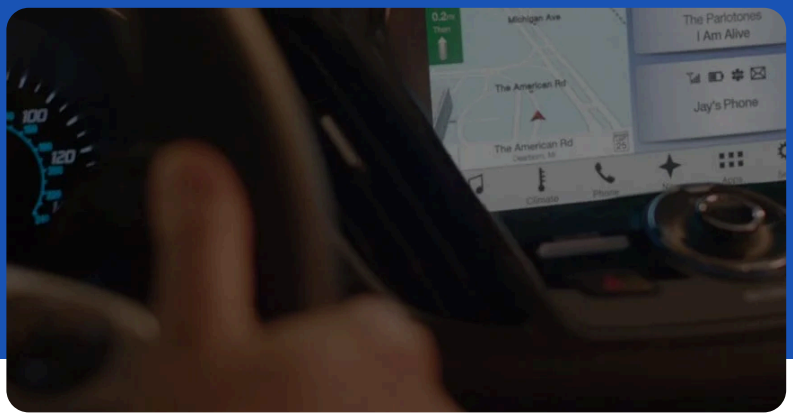
Inside the development of Ford's SYNC® 3



To global automakers, there may be no more important recognition than the J.D. Power Initial Quality Study. The research looks at problems vehicle owners encounter in the first 90 days of ownership. Quality is determined by the number of problems that occurs per 100 vehicles. If a model gets a low score, that means few problems, and a high-quality ranking. In J.D. Power's 2017 report, the Ford brand shot up the list. It achieved its highest ranking since the study was launched, placing fourth overall and second among non-luxury makers. "The Ford SYNC® 3 Infotainment System is a primary contributor to Ford Motor Company's strong performance," according to J.D. Power.

"As Ford accelerates the pace of innovation, we believe this best-ever quality ranking demonstrates our new technologies are reliable and easy to use," said Bennie Fowler, Ford's Group Vice-President, Quality, after the study came out this summer.

Innovations that work

Vehicles are way more complex than smart phones, but few consumers want to think about a car's complexity. Car buyers want "wow" technology. They want to jump in their car and have their infotainment system work as easily and quickly as their handheld. What we've learned after almost a century of consumer technology development at Panasonic, is that the "wow" wears off quickly—if the machine doesn't work. Companies that successfully introduce innovations design them so consumers intuitively understand their features. With intuitive use comes delight, trust, and ultimately, from a consumer's perspective, technology that disappears behind the experience it supports.

Voice recognition that hears over Bruno Mars

One interesting example is voice recognition technology. Some of the earliest voice recognition work dates to the 1950s. Back then, Bell Labs announced a machine that could understand a voice's simple sounds, kind of like baby talk. Today consumers want vehicles with voice recognition technology that understands what they're saying at the same time horns are blaring, passengers are talking, while Bruno Mars croons in the background. They hate it when the voice recognition system gets it wrong.

The good news is that cloud computing can provide more data processing power than ever, which enables speech recognition tech to more easily handle evolving grammar rules, word choices and an individual's speech amidst background cacophony. As a result, consumers can use wow speech recognition tech without worrying about how to make it work. In fact, during a test with consumers, SYNC 3 was able to decipher what users were saying despite having their mouths full of food.

Consumer-centric approach

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Panasonic took on the SYNC 3 project in 2013. With our consumer electronics experience and more than 60 years' experience as a Tier 1 auto supplier, Panasonic had already established itself as a leading global supplier for in-vehicle technology for brands such as General Motors, Fiat Chrysler Automobiles, Toyota and Daimler and others.

Ford SYNC 3 is a prime example of the consumer-centric approach Panasonic takes when developing solutions. Its role was to lead SYNC 3's software and hardware design, development and implementation for a fast, easy-to-use system with enhanced response to driver commands.

Fast track to market

Panasonic is one of only a few auto suppliers that offers full end-to-end software and hardware development capabilities to automakers. When we became involved SYNC 3, we knew it would have unique challenges, and be on a fast track to market. Ford leaders made decisions early that would ensure we hit the challenging 18-month timeline. Fundamentally, Ford recognized Panasonic's historic success creating infotainment systems that rank high with consumers, and shared the idea that technology —even wow technology–should fade into the background, behind the experience it supports. Ford set up the project almost like an internal initiative with Panasonic software developers and engineers collaborating with their counterparts at the OEM. That meant if changes had to happen, they could happen fast.

Moving rapidly with quality can be done on large collaboration programs such as SYNC 3, but a supplier can't do it alone. Ford did a fantastic job exposing SYNC 3 to its development fleets before the technology went into market. We did it too—gave out cars to non-engineers to test out the infotainment system and let us know how things worked. The result was high quality and robust design.

Today SYNC 3 scores so well, it's considered a competitive advantage for Ford.

Looking for the next SYNC 3

Coming up with solutions that will provide OEMs a competitive advantage in the future is the crux of what we do. The Harvard Business Review in a recent article makes the case that to develop a great idea, you should start by imagining the worst idea possible. Silicon Valley is a place where you can see some of the worst ideas, but also some of the best. To soak in those newest ideas on consumer experience, electronics, autos and disruptive innovations, Panasonic has a Silicon Valley office that works with startups and the region's largest players. We also learn a lot from customers. Ford, for instance, plans to have a fully autonomous vehicle by 2021, operating without a steering wheel or gas pedal or brake pedal.

Without doubt, self-driving cars represent wow technology. One area we're concentrating on is machine vision so that the autonomous vehicle sees what's going on around it. Panasonic's history in acoustics, cameras, light detection, sensors and other innovations gives us the know how to lead in the area of object detection vision. We are also working on the car cabin and the passenger experience of tomorrow. Ever drive with someone who maneuvered too fast around corners, or followed too closely to the car in front? A future autonomous car will have to learn its passengers' preferences for driving style, speed, horn use, and approach in poor weather. We're doing lots of work around how algorithms learn consumer preferences and helping to define the future of driving.

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