

nielsen
.....

AN UNCOMMON SENSE
OF THE CONSUMER™

2016 AUTOTECHCAST REPORT LITE

**PROVIDING INSIGHTS ON CONSUMER'S AUTOMOTIVE
TECHNOLOGY INTERESTS**

AUGUST 2016



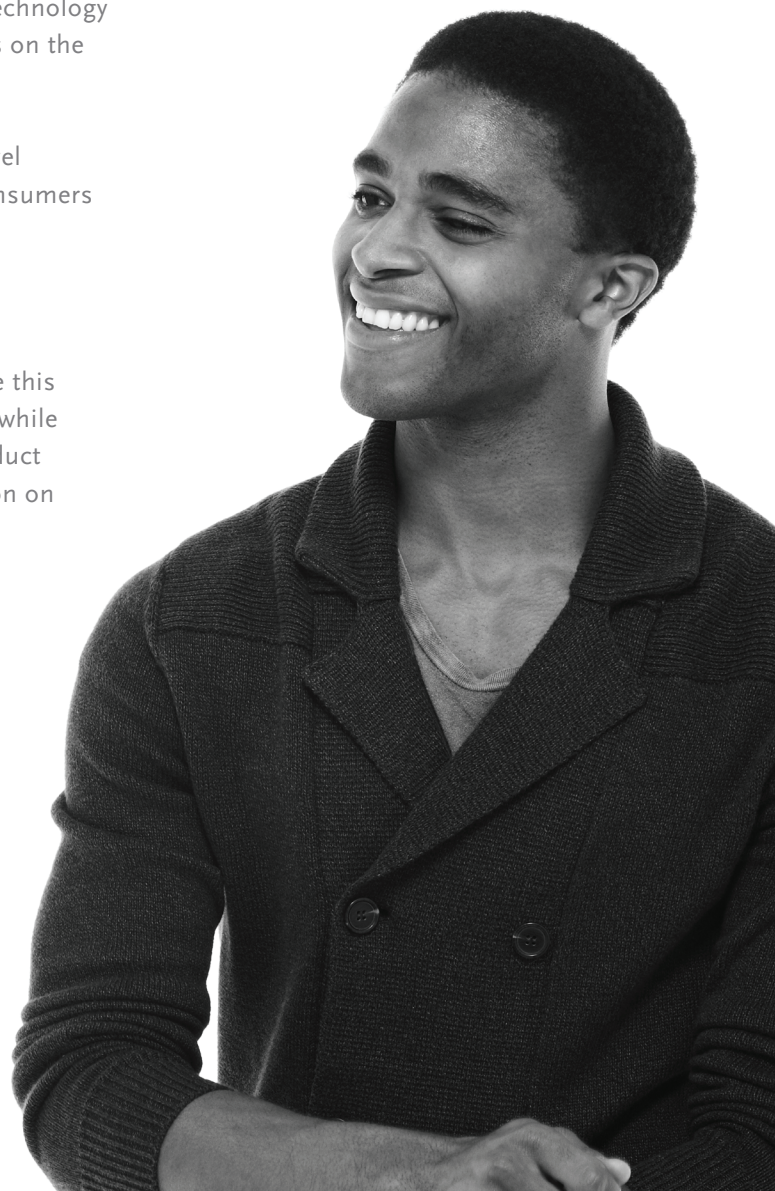
2016 AUTOTECHCAST REPORT LITE

The pages here represent a selection of highlights from the 2016 Nielsen AutoTECHCAST report, a comprehensive, in-depth study of consumer interest and sentiment around automotive technology in the U.S.

Automotive manufacturers and suppliers need to innovate and differentiate to capture new business and build brand equity. Selecting and integrating the right advanced technologies—ones that **drive business performance, product differentiation and customer loyalty**—is essential. Nielsen's AutoTECHCAST study is designed to provide these insights directly from today's automotive consumers. Nielsen annually conducts AutoTECHCAST, a syndicated study of consumer demand for advanced features and technology. This study measures 44 different automotive technologies amongst 13 technology categories and also includes a deep dive into consumer views on the connected car.

This "lite" report features a glimpse into some of the high-level findings of this year's study, including which technologies consumers are most interested in, the importance of safety as a tech consideration, attitudes about replacing smartphone ubiquity and more.

Automotive original equipment manufacturers (OEMs) utilize this data for product content, choice and differentiation analysis, while automotive suppliers depend on this data to understand product demand, price point margin analysis and technology validation on highly attractive emerging technologies.



AWARENESS OF ADVANCED AUTO TECHNOLOGIES IS LOW

Make no mistake about it, tech is everywhere. From the ubiquitous devices in our pockets to advances in biometric security that aim to secure our identities and valuables, the modern world is clearly a plugged in one. The downside of the rapidly advancing tech landscape, however, is that consumers likely can't stay on top of every new bell and whistle.

This is perhaps what's happening in the U.S. auto industry, as this year's AutoTECHCAST study found that many Americans are actually in the dark about many of the advancements now available in new automobiles. The study, which polled almost 12,000 U.S. consumers, found that the average base familiarity with 44 auto technologies was low at 25%, highlighting a notable opportunity for automakers. Despite the lackluster overall awareness score, Americans are much more dialed in to technology that pertains to safety and connectivity.

However, consumer sentiment about practical vehicle characteristics continues to decline on a year-over-year basis. Even so, they remain the most important characteristics to consumers when shopping for their next vehicle, with price (39%), reliability/dependability (29%) and fuel economy (28%) topping the list.

Advanced technologies are gaining steam, but have yet to be fully embraced. Over the past year, consumer sentiment about the influence of advanced tech in purchase decisions grew 3%, rising to 24% from 21% last year. Consumers are most interested in advanced technologies that pertain to safety and improved fuel economy/mileage. Notably, the importance of features related to safety has increased the most over the past three years while the importance of fuel economy features has declined the most over that same time period.



THE AVERAGE
BASE FAMILIARITY
WITH 44 AUTO
TECHNOLOGIES
WAS LOW AT

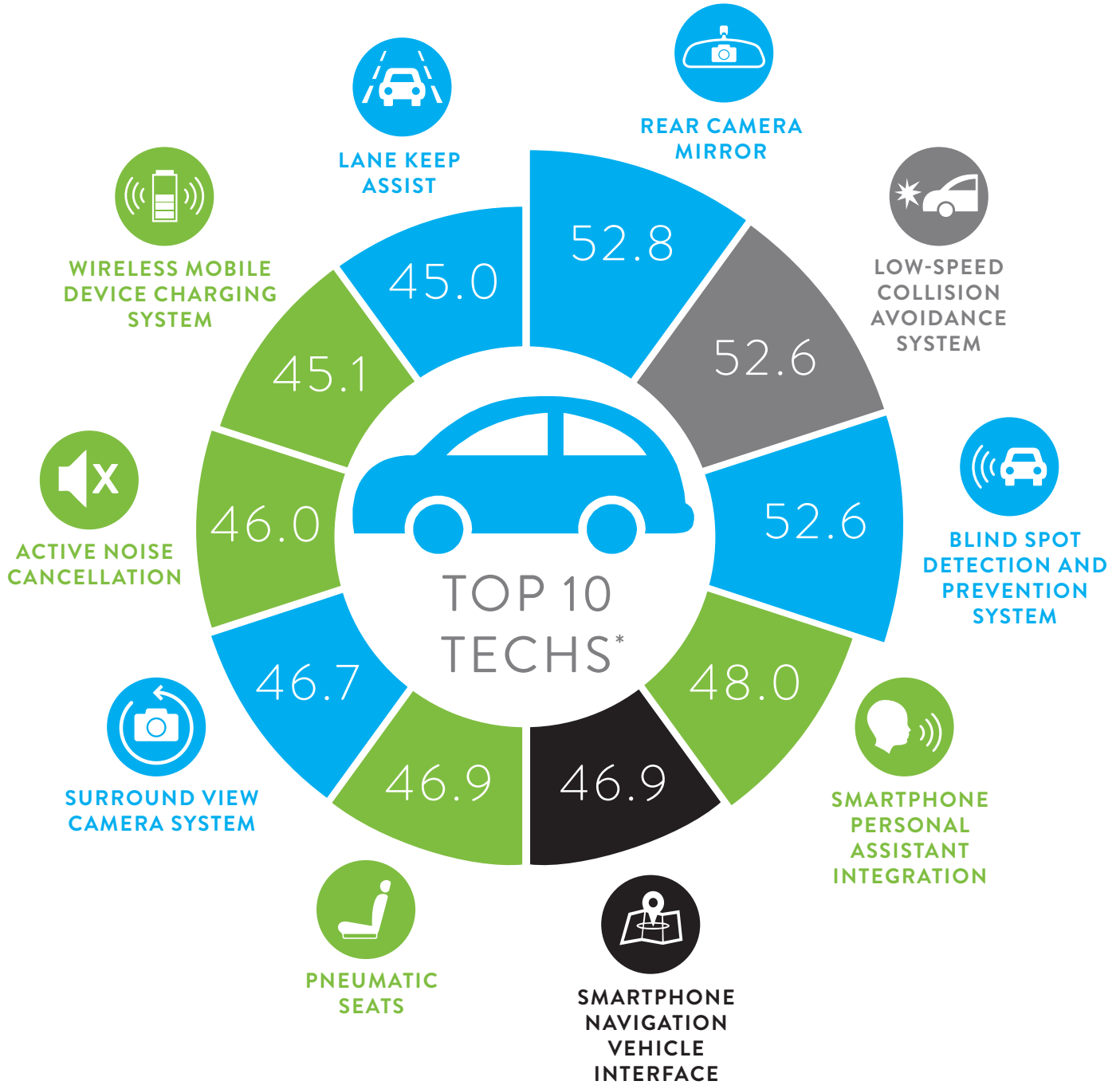
25%

OVER THE PAST
YEAR, CONSUMER
SENTIMENT ABOUT
THE INFLUENCE
OF ADVANCED
TECH IN PURCHASE
DECISIONS GREW

↑ 3%

TOP AUTO TECH

ACCIDENT PREVENTION FEATURES ARE AT THE TOP OF CONSUMERS' LISTS



● SAFETY ● COMFORT AND CONVENIENCE ● DRIVER ASSISTANCE ● CONNECTIVITY

READ AS: Interest Index scores reflect the combination of two key technology metrics: Consideration at market price and differentiation. To arrive at a total interest score, survey responses of “very likely” and “extremely likely” for each of these two metrics were combined to arrive at an overall Interest Index. In the 2016 AutoTECHCAST survey, “rear camera mirror” earned the highest overall Interest Index score.

* Based on Interest Index

SAFETY FIRST

Despite the growing allure of topics like connectivity and autonomous cars, consumers are most interested in technology geared toward safety. As a category, safety ranks highest among the five categories in Nielsen's AutoTECHCAST survey. With an average interest index of 41.3, safety ranks more than a full point above connectivity, which comes in at No. 2 with an average interest score of 40.6.



SAFETY FIRST CONNECTIVITY AND CONVENIENCE ARE KEY, BUT SAFETY IS CONSUMERS' TOP TECH CONSIDERATION



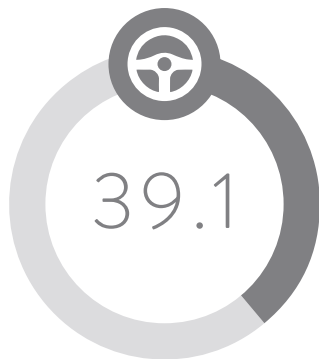
CONNECTIVITY



COMFORT AND
CONVENIENCE



SAFETY



DRIVER ASSISTANCE



FUEL EFFICIENCY

READ AS: Safety has the highest interest index score of the five tech categories included in the 2016 AutoTECHCAST survey, indicating consumer focus on technologies that can help prevent accidents as well as those that better protect occupants in the event that an accident is unavoidable.

Not all safety features score high among consumers. In fact, some even obtained “poor” interest index scores this year, notably biometric security features and augmented reality head-up displays (transparent display that presents information to the driver on the front windshield without requiring them to look away). But seven of the 11 safety technologies scored above the average interest index score of 38.8 for all technologies. Rear camera mirror, blind spot detection/prevention and surround view camera system scored highest in the category, with index scores of 52.8, 52.6 and 46.7 respectively.

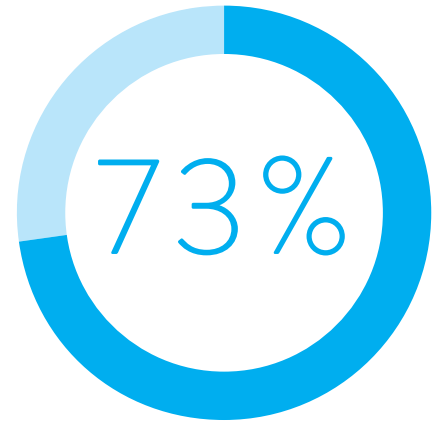
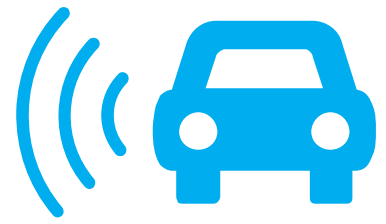
Interest and familiarity aside, blind spot detection/prevention is most viewed (73% very/extremely likely to purchase a vehicle with this technology vs. one without) by consumers as being a differentiating technology on a vehicle they’re considering buying. Other top differentiating safety technologies include laser headlights (62%), rear camera mirror (62%), surround view camera system (61%), lane keep assist (58%) and remote vehicle diagnostics (53%).

A LITTLE COMFORT GOES A LONG WAY

No longer just a means to get from point A to point B, our vehicles have become comfort havens with wheels—transportation that features the best of what we look for in our homes and offices. And with many Americans spending greater periods of time in their vehicles because of commutes for work, U.S. consumers hold personal comfort features in very high regard when it comes to their cars. Consequently, many view the technologies associated with a better driving experience as differentiators when compared against vehicles that are behind the tech curve.

As a category, comfort and convenience ranks below safety and connectivity, but above driver assistance and fuel efficiency. Within the overall category, however, comfort as a sub-category of comfort and convenience has the highest index ranking of all categories across the tech landscape, at 43.3, notably higher than even safety.

When it comes to comfort and convenience technologies, consumers are most aware of wireless device charging, hands-free door opening/closing and smartphone integrations. The technologies that consumers are least aware of include gesture/motion control, predictive suspension, automatic window tinting and pneumatic seats. From a differentiation perspective, however, consumers say the top comfort and convenience technologies include predictive suspension, hands-free door opening/closing, pneumatic seats and active noise cancellation.



VERY/EXTREMELY
LIKELY TO
PURCHASE A
VEHICLE WITH
BLIND SPOT
DETECTION

THE SMARTPHONE CONNECTION AND CONNECTED CARS

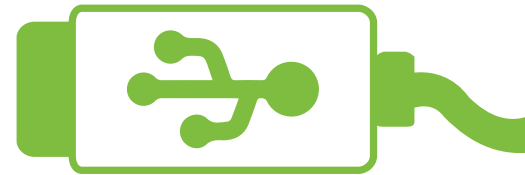
Connectivity is now a way of life. Many Americans have their smartphones and mobile devices with them and on at all times. This doesn't change when they get in their cars. In fact, despite advances in auto tech and embedded connectivity, many consumers are more apt to stick with their devices than use the connected features of their vehicle.

That's not to say, however, that connectivity ranks low in the AutoTECHCAST survey. In fact, it comes in at No. 2, right behind safety. The rub, however, is that most consumers find that their cars can't compete with their mobile devices. So as a result, smartphone navigation integration is the top-scoring technology and the only technology in the category that garnered a "good" interest score—placing among the top 20% in automotive technology interests historically—from consumers (46.9).

But connectivity goes well beyond our smartphones. The connected car—those with built-in access to the internet, cloud services, other vehicles and the surrounding infrastructure—is still a relative unknown to many, but awareness is growing. Currently, 28% of Americans say they know what connected cars do, while another 41% have heard of them but don't know what they do. That leaves about one-third (31%) of U.S. automotive consumers who are completely unaware of connected cars.

Given the relatively low awareness, interest in connected cars isn't significant—but it is up from a year ago. In the most recent survey, one in five Americans reported being very/extremely interested in owning a connected car (21% vs. 19% last year). Nearly one-third (27%) say they're not interested at all, but that's a decrease from 31% last year.

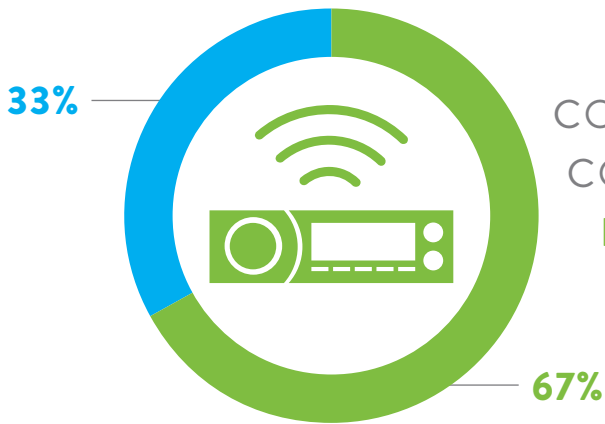
While privacy and lack of need remain barriers to interest, privacy concerns are declining. Two-thirds expressed concern that owning a connected car would compromise their privacy (62%, down from 66% last year), while 57% said they feel these cars provide more connection than people need (unchanged from last year).



TWO-THIRDS

EXPRESSED
CONCERN
THAT OWNING
A CONNECTED
CAR WOULD
COMPROMISE
THEIR PRIVACY

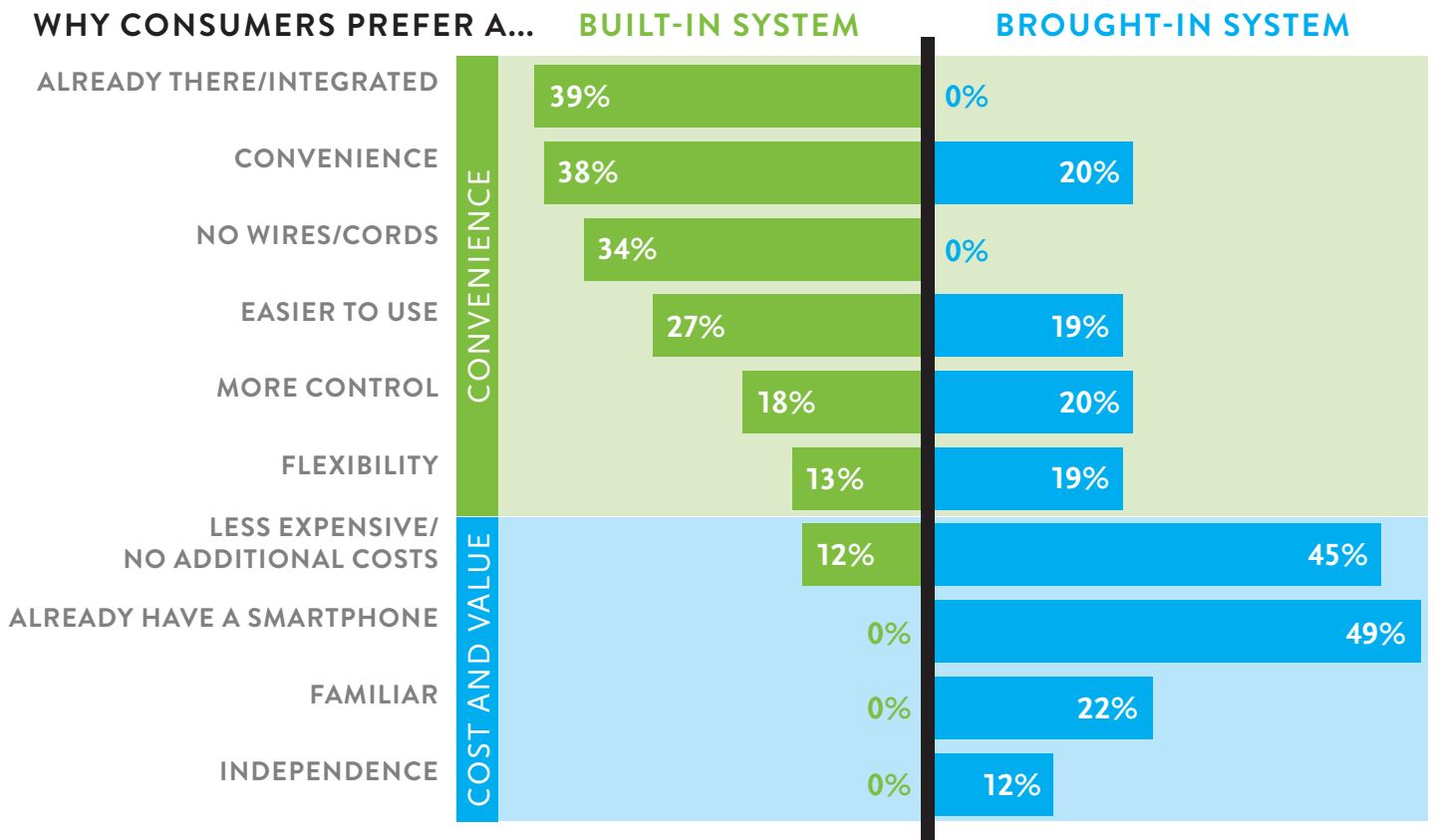
Unlike consumer preferences around GPS systems, consumers interested in connected cars prefer built-in systems (67%) over brought-in systems (33%). The primary reasons for this preference primarily pertain to convenience and comprehensive integration, while the primary reasons some consumers prefer brought-in systems relate to cost and value. Notably, 43% of consumers say they would be somewhat less or much less likely to buy a vehicle that uses a different data plan than their smartphone does.



CONSUMERS INTERESTED IN CONNECTED CARS PREFER BUILT-IN SYSTEMS OVER BROUGHT-IN SYSTEMS

BUILT-IN VS. BROUGHT-IN

CONSUMER SENTIMENT IS PRIMARILY DRIVEN BY PRICE AND CONVENIENCE



TECHNOLOGY RESONATES MOST WITH THE YOUNG AND AFFLUENT

When it comes to car tech, safety and advanced innovation are the biggest drivers of consumer interest. Practical vehicle characteristics like price, reliability and fuel economy remain the most important elements to consumers, but interest in this realm has declined from a year ago. Comparatively, advanced tech is becoming more important to consumers, with sentiment around this area rising to 24% from 21% last year.

SO WHO'S MOST INTERESTED IN
CAR TECH? MILLENNIALS AND
LUXURY CAR OWNERS.



MILLENNIALS ARE THE MOST INTERESTED IN ADVANCES TECH

	MILLENNIALS AGE 21-38	GEN X AGE 39-50	BOOMERS AGE 51-69	SILENT AGE 70+
COMFORT AND CONVENIENCE	52.0	38.8	32.0	27.1
CONNECTIVITY	52.9	37.7	33.1	28.1
DRIVER ASSISTANCE	49.5	36.6	31.2	31.6
FUEL EFFICIENCY	46.8	31.7	25.1	22.3
SAFETY	51.1	39.1	34.9	34.5

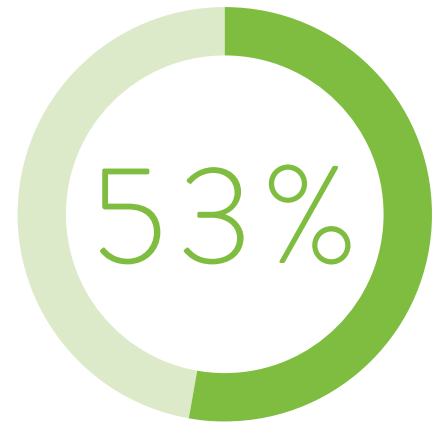
HIGH INTEREST

LOW INTEREST

As with anything that's new, the keys to increasing awareness about tech advances, especially those not related to safety, rests in the hands of manufacturers. This is particularly true with respect to connected cars, as privacy and lack of need are key barriers to interest. That's where education comes in, especially with respect to data collection and privacy.

Overall, U.S. consumers are more excited and less confused, distracted and indifferent about technologies in their vehicle than they were in any of the last three years. Car manufacturers are making good choices when it comes to safety, as 53% (up 6% from last year) of consumers strongly/somewhat agree that car manufacturers are doing what is needed to keep vehicles safe from too many distractions. That said, Americans are more interested in having the latest technology (up 7% from last year), reinforcing the notion that consumers are beginning to expect their vehicles to be ahead of the curve rather than behind it.

Technology is a good way for manufacturers to differentiate and create a competitive advantage. The challenge, however, is finding the right mix for the target customer. Without insight into what different consumers are interested in, have knowledgeable about and experiences and capabilities they wish to have in their next vehicle, manufacturers will lack the information they need to deliver new, integrated experiences that meet their consumer's growing demands. For example, ever-evolving smartphone advancements are a primary reason why many consumers don't see a need for their cars to be connected. To combat this, manufacturers need to develop added functionality that matches or exceeds that of consumers' smartphones—and they need to ensure that they're fully integrated and intuitive to use.



OF CONSUMERS
STRONGLY/
SOMEWHAT
AGREE THAT CAR
MANUFACTURERS
ARE DOING WHAT
IS NEEDED TO KEEP
VEHICLES SAFE
FROM TOO MANY
DISTRACTIONS



ABOUT NIELSEN AUTOTECHCAST

Nielsen AutoTECHCAST is an annual multi-client study platform to collect and analyze consumer insights on advanced automotive technologies and features. The 2016 study includes 44 technologies: 11,886 U.S. consumers completed the 2016 study and data were collected between March 22, 2016 and April 27, 2016.

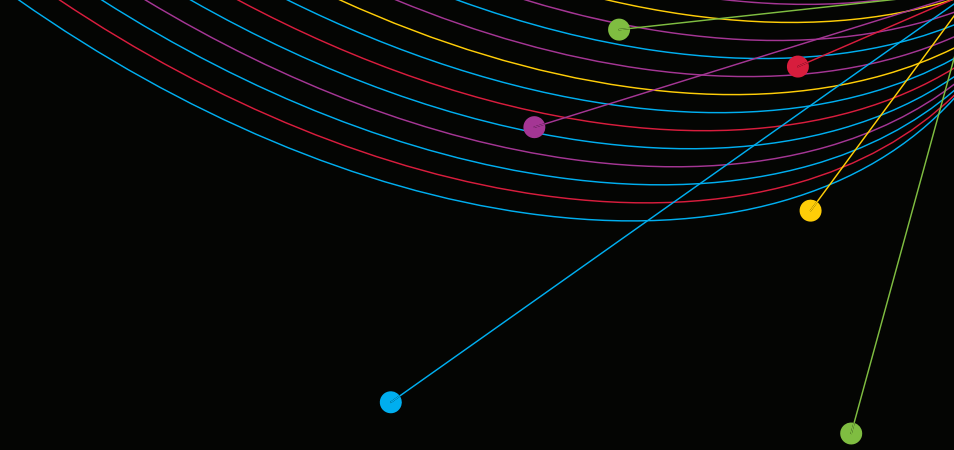
Data are weighted by demographics and a propensity score to ensure that respondents are representative of the total in-market vehicle buying population. Technology-specific data include familiarity, consideration (with and without market price known), differentiation, benefits, tech word association and in-depth analysis of the consumers' opinions and preferences concerning the usability and functionality of each technology.

ABOUT NIELSEN

Nielsen Holdings plc (NYSE: NLSN) is a global performance management company that provides a comprehensive understanding of what consumers watch and buy. Nielsen's Watch segment provides media and advertising clients with Total Audience measurement services for all devices on which content—video, audio and text—is consumed. The Buy segment offers consumer packaged goods manufacturers and retailers the industry's only global view of retail performance measurement. By integrating information from its Watch and Buy segments and other data sources, Nielsen also provides its clients with analytics that help improve performance. Nielsen, an S&P 500 company, has operations in over 100 countries, covering more than 90% of the world's population.

For more information, visit www.nielsen.com.

Copyright © 2016 The Nielsen Company. All rights reserved. Nielsen and the Nielsen logo are trademarks or registered trademarks of CZT/ACN Trademarks, L.L.C. Other product and service names are trademarks or registered trademarks of their respective companies.



nielsen
.....

AN UNCOMMON SENSE
OF THE CONSUMER™