



# Technology Driving Collaboration

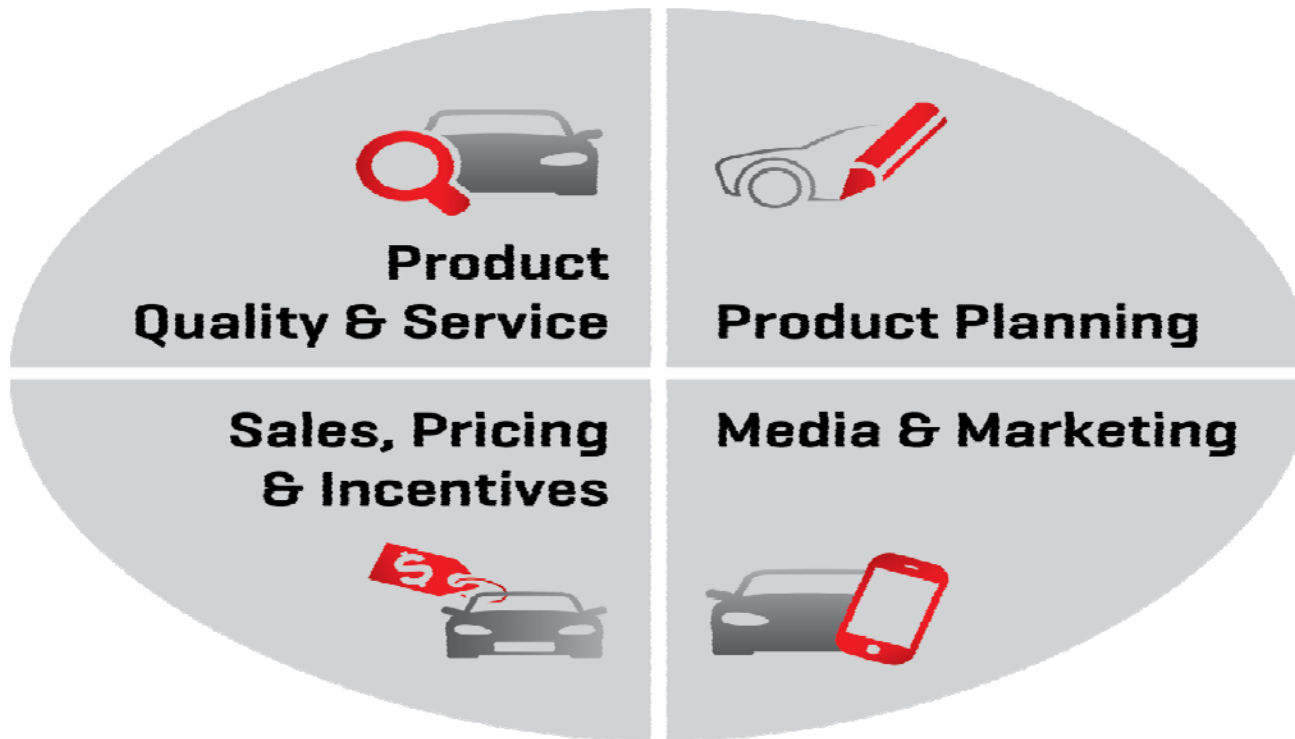


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Vice President, U.S. Auto Quality

# Voice of the Customer across entire ownership experience



# Rate of Technology Change



# Quality Improvement In The US Market

## IQS Over the Last 10 Years

### Reported Problems

Overall Vehicle Problems



### Reported Problems by Vehicle Category

Interior Problems



Feature / Control / Display Problems



Ride and Handling Problems



Exterior Problems



Tire Problems



HVAC Problems



Engine / Transmission Problems



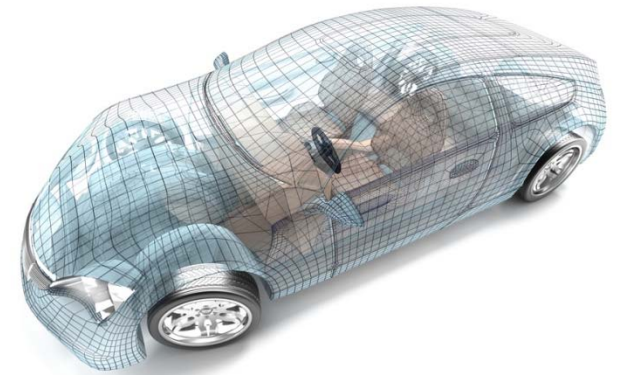
Seat Problems



Multimedia Problems



Navigation System Problems



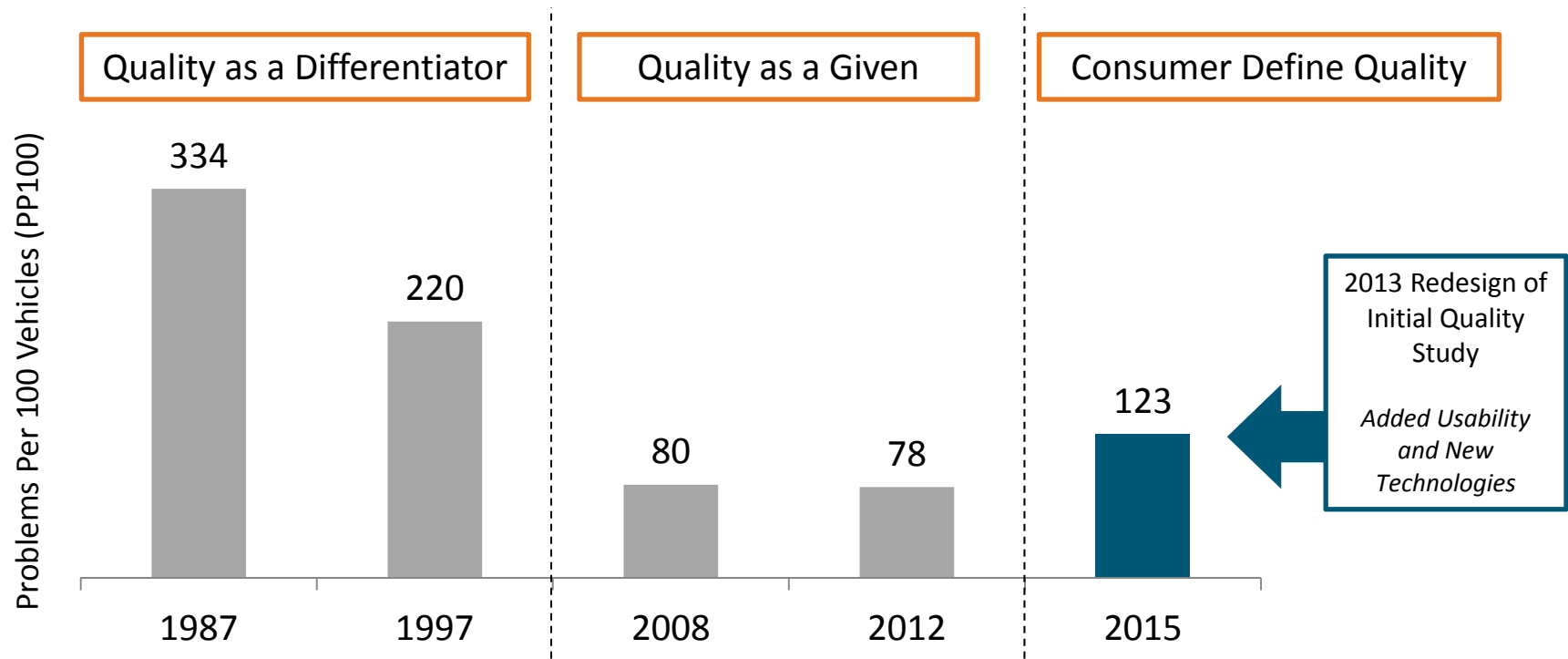
Usability has Taken on Greater Importance

**Increased Complexity**  
Design Issues: Soft "Inadequacies"

Source: J.D. Power 1987 through 2014 U.S. Initial Quality Study (IQS)

# Soft Quality Inequality

## Quality gap between best and worst models



Source: J.D. Power 1987 through 2014 U.S. Initial Quality Study (IQS)

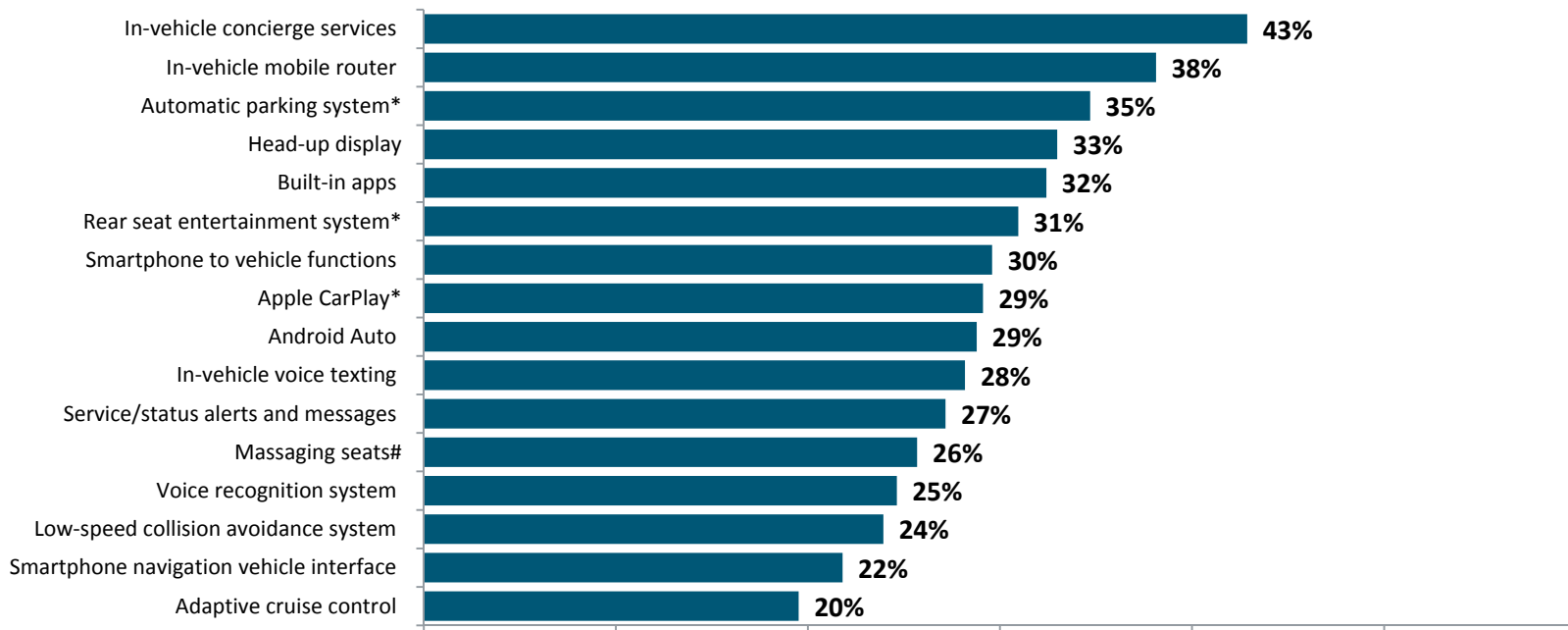
# Complexity of Driving



**Add in the Complexity of Connected Services**

# Top technologies consumer have but “never use”

## Technologies Consumers State Are Never Used - Industry



Note: \* indicates small sample size ( 29 < n < 100 )

# indicates insufficient sample size ( n < 30 )

Source: J.D. Power 2015 DrIve 1<sup>st</sup> Gear Study

Q: For each of the features and functions below, please indicate how frequently you use that feature or function when driving your vehicle.

## No longer want feature – Did not see value

Built-in Apps



48%

Fuel Economy Indicator



44%

In-Vehicle Voice Texting

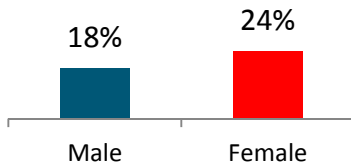


41%

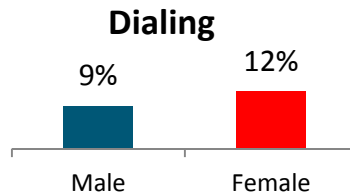
# Outreach needed to female buyers on Entertainment/Connectivity features

## Percent Do Not Know They Have the Feature

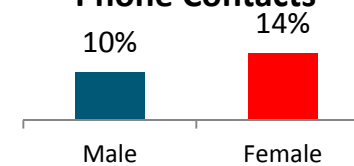
**Built-in Apps**



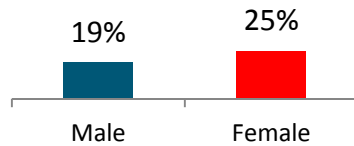
**In-Vehicle Phone**



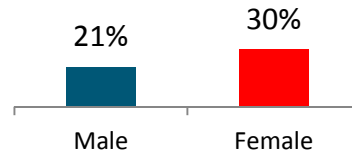
**In-Vehicle Access to Phone Contacts**



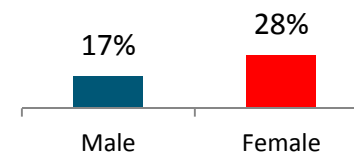
**Smartphone to Vehicle Functions**



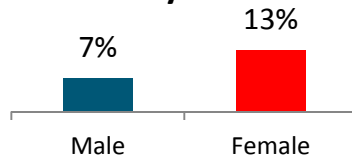
**Vehicle Health Diagnostics**



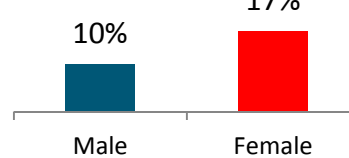
**In-Vehicle Mobile Router**



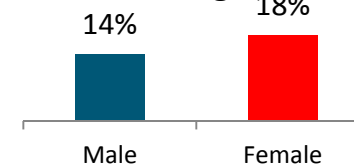
**Voice Recognition System**



**Multi-Media Controls**

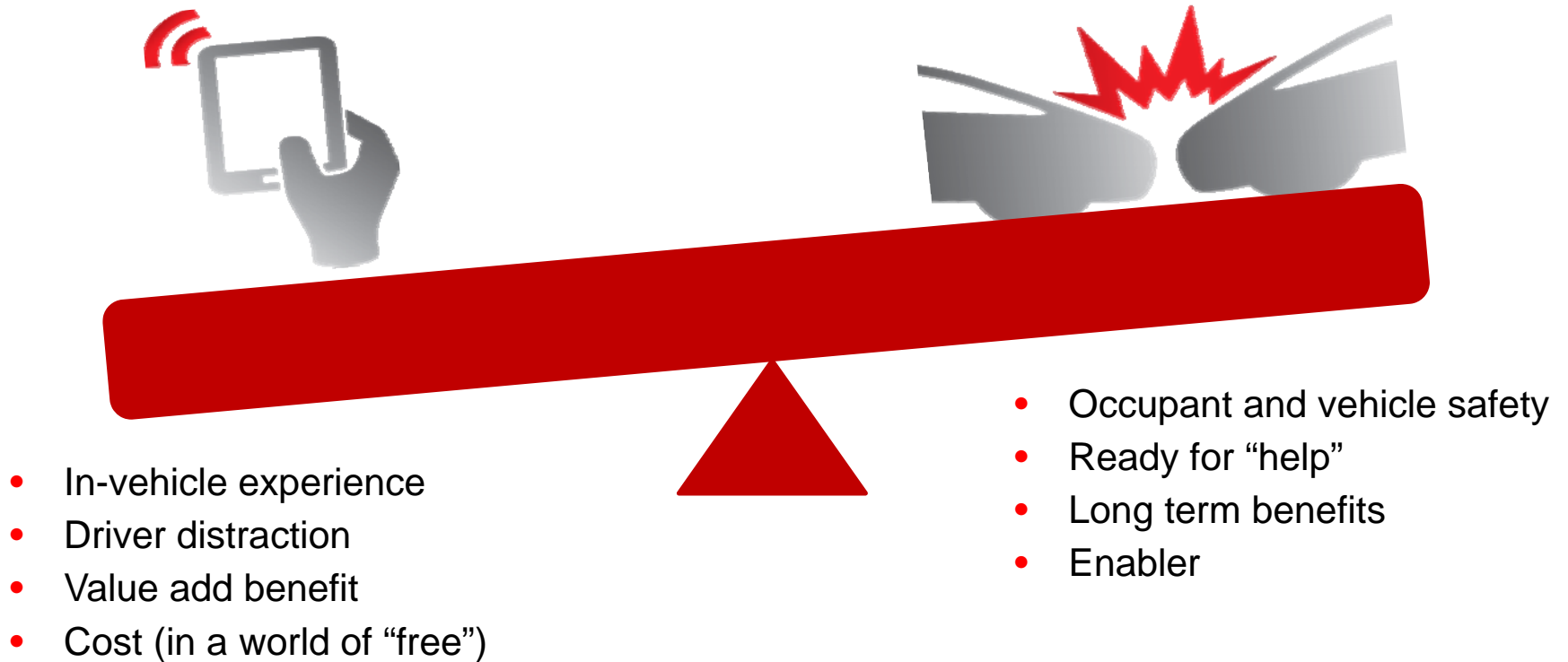


**In-Vehicle Concierge Services**



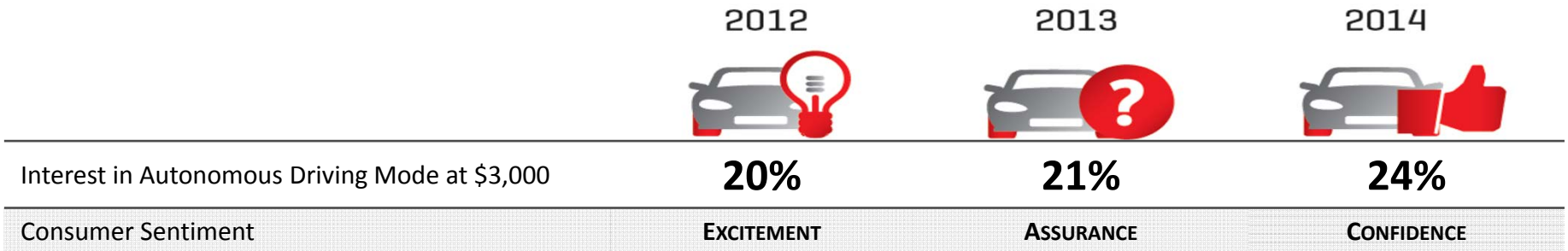
Q: Which of the following features do you currently have on your [MAKE AND MODEL], regardless of whether or not you use the feature?

## Consumer Shift Toward Collision Protection Technologies



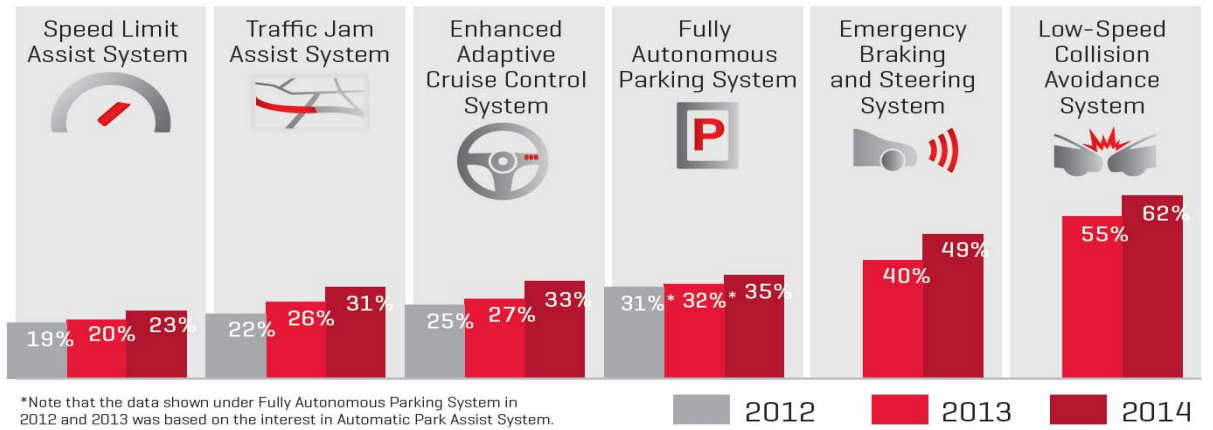
Source: J.D. Power 2015 U.S. Tech Choice Study and 2015 U.S. DRIVE 1<sup>st</sup> Gear Study

# Semi-Autonomous Features Pave Path for Success



- As consumers are becoming more aware of semi-autonomous features or even experiencing firsthand their benefits, these **driver-assist features are gaining consumer trust** and paving the way for **acceptance of fully autonomous vehicles**

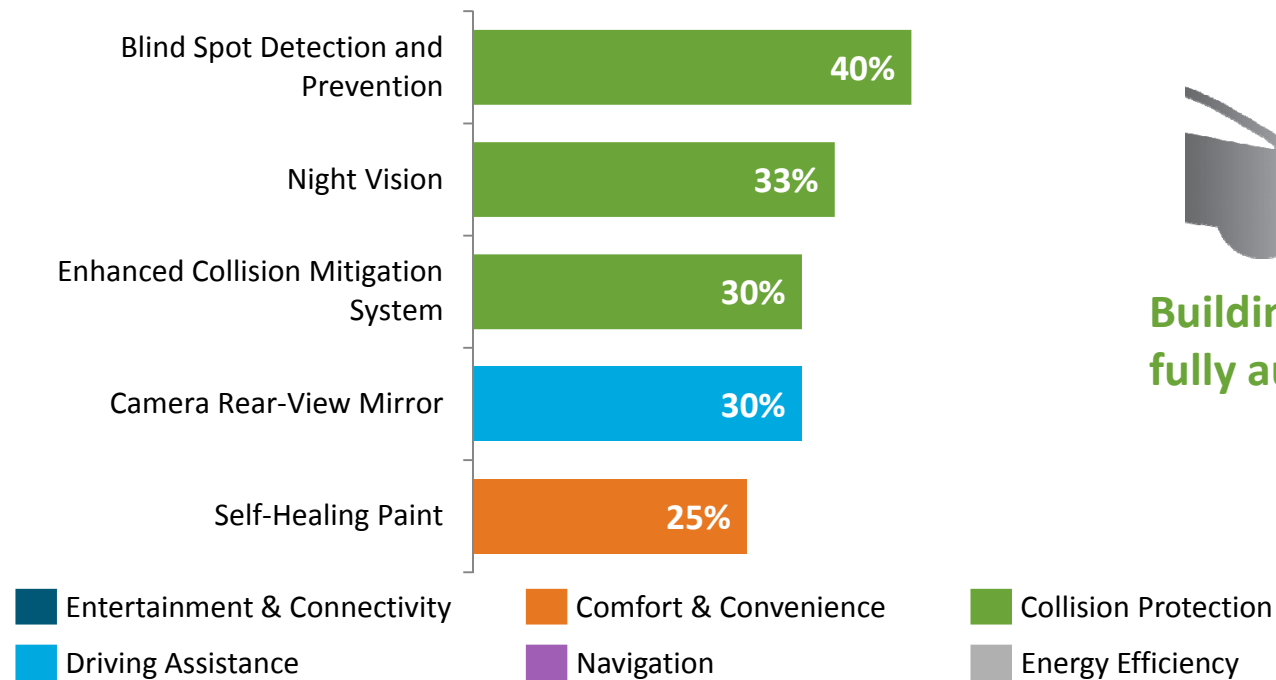
## Interest in Semi-Autonomous Features Continues to Grow



Source: J.D. Power 2014 U.S. Emerging Technologies Study<sup>SM</sup>

# Strong Acceptance of Techs that Reduce Driving Burden

2015 Most Frequently Selected as Most Preferred



Building blocks to fully autonomous

# Evolution of Consumer Quality Pyramid

## Trust Issues Arise

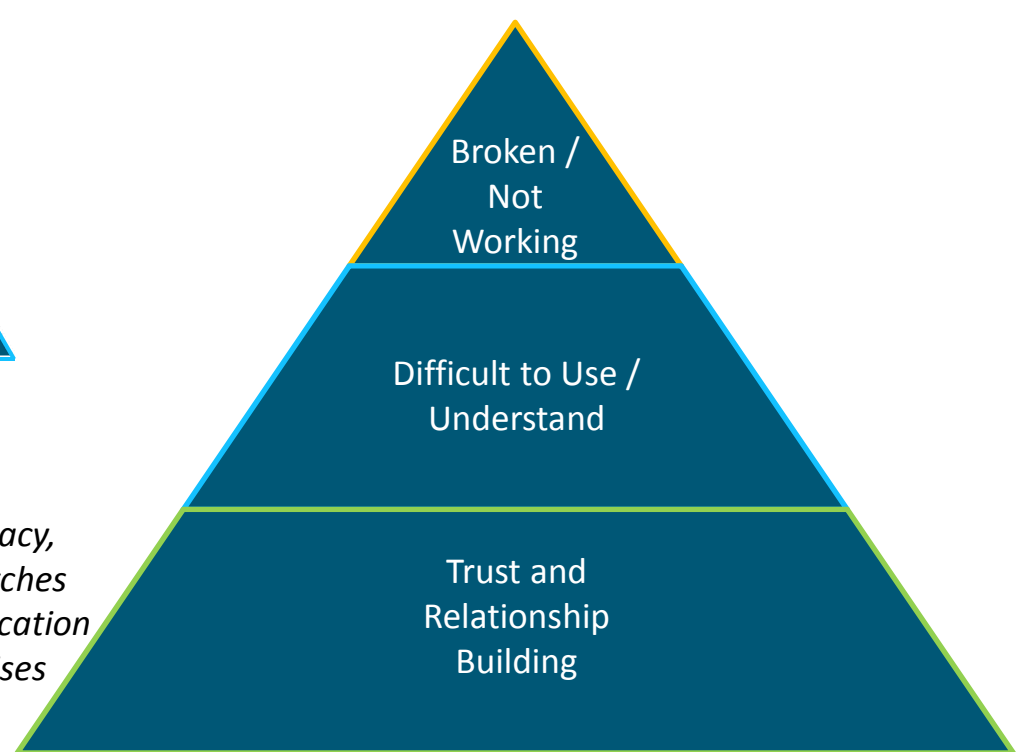
Traditional Quality



Consumer Quality



Evolution of Consumer Quality



*Comfort level: accuracy, vehicle behavior matches expectation, communication language, no surprises*

Source: J.D. Power 1987 through 2015 U.S. Initial Quality Study (IQS) and 2015 U.S. Drive 1<sup>st</sup> Gear Study

**Trust**

Takes years to **build**

Seconds to **break**

And forever to **repair**

Thank You

