

## DISRUPTIVE TECHNOLOGIES DRIVE AUTOMOTIVE DESIGNS

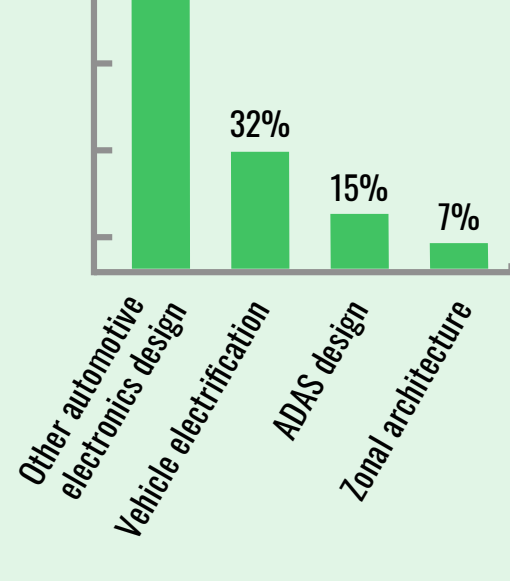
Avnet and Electronic Design have conducted an online survey of readers in the automotive industry. They have responded by sharing their experiences in creating efficient, safe automotive designs.

### Vehicle electrification and ADAS design

Nearly one in three in survey respondents (32%) are involved in vehicle electrification, and 15% are involved in ADAS design.

- It is not a surprise to see the high percentage of designs involved in ADAS and electrification, as those are the most common applications Avnet sees from a support perspective.
- Many new OEMs and technology companies are getting involved in the electrification and ADAS design.

WHAT TYPE OF SYSTEM DESIGN ARE YOU INVOLVED WITH?

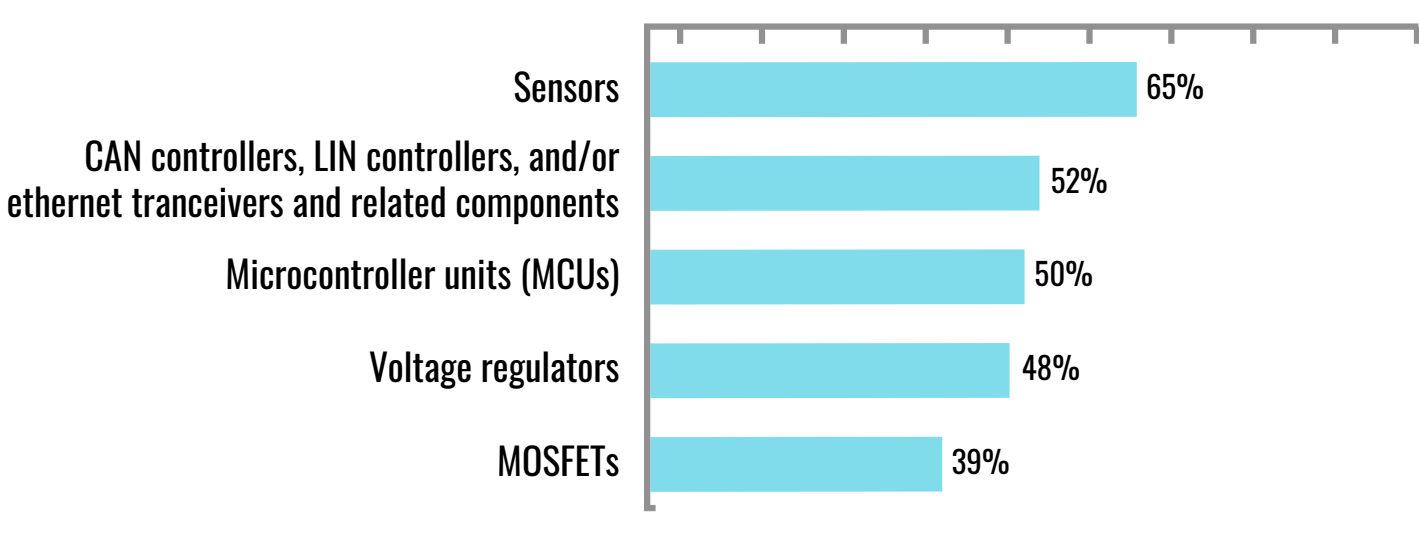


### Sensors and communications controllers



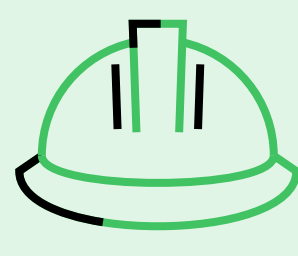
Nearly two-thirds of respondents purchase, specify, or influence the selection of sensors (65%). Respondents are also likely to be involved in the selection of communications devices such as CAN controllers, LIN controllers, and/or Ethernet transceivers (52%), and Microcontroller units MCUs (50%).

WHAT PRODUCTS DO YOU PURCHASE, SPECIFY, OR INFLUENCE THE SELECTION FOR AUTOMOTIVE APPLICATIONS?



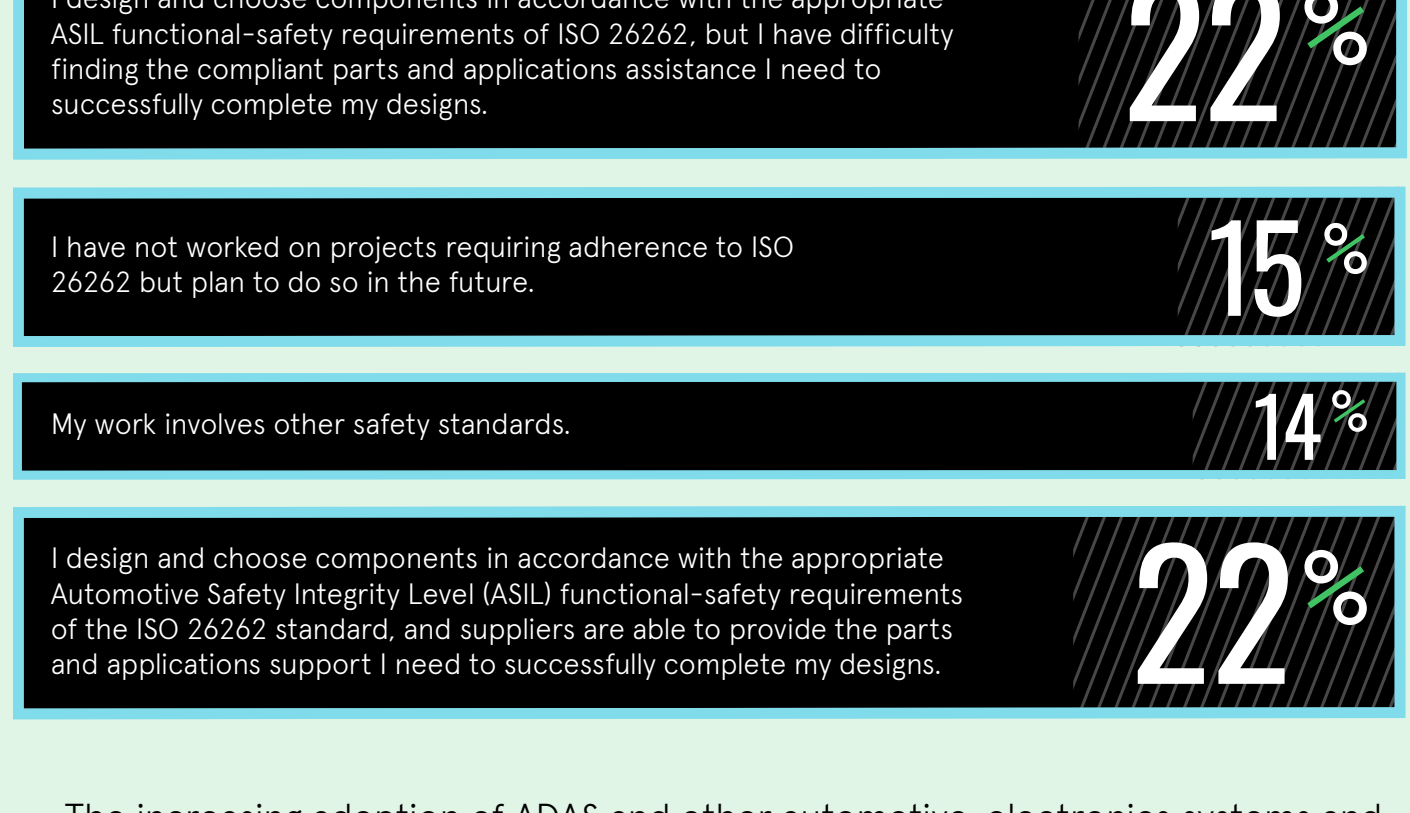
- Avnet has added dedicated technical resources to support customers in their designs with these technologies.
- These key top technologies enable the fastest-growing applications.

### Automotive safety



Functional safety is and will continue to be a requirement in customers' designs as the technology advancements continue.

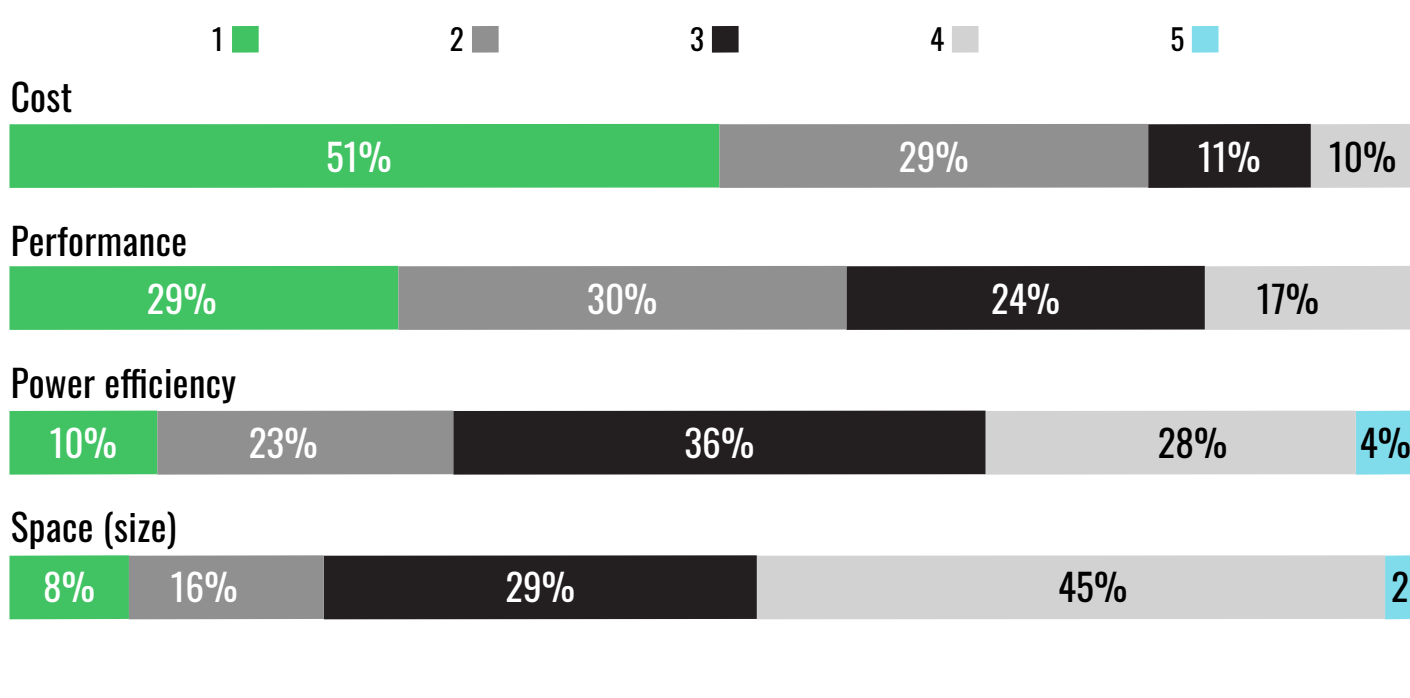
WHICH OF THE FOLLOWING STATEMENTS BEST DESCRIBES YOUR RESPONSIBILITIES CONCERNING AUTOMOTIVE SAFETY?



- The increasing adoption of ADAS and other automotive-electronics systems and subsystems as well as the arrival of autonomous vehicles are boosting the need for functional safety.
- Customers are implementing functional safety into applications like motorcycles and agricultural equipment such as tractors as well as into automobiles.

### Cost, availability, and reliability

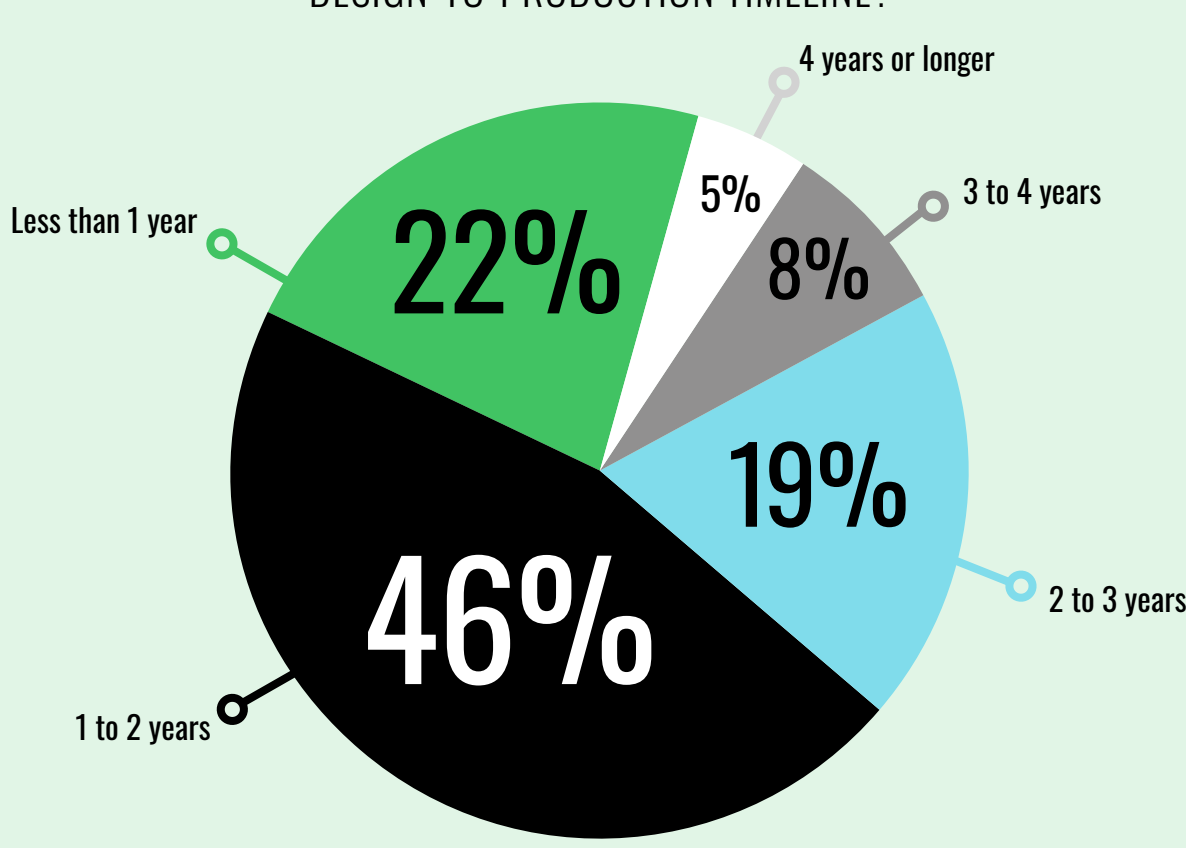
RANK THE FOLLOWING FACTORS IN ORDER OF THEIR IMPORTANCE TO YOUR AUTOMOTIVE DESIGNS, WITH "1" BEING THE MOST IMPORTANT, "2" BEING THE SECOND MOST IMPORTANT, AND SO ON.



- Cost will always be a large consideration when customers are selecting components for their designs, but Avnet is seeing that availability is increasingly becoming even more important than cost.
- Customers are also beginning to view reliability as more important than cost. Many new players from component manufacturers to full-solution providers are entering the field, and OEMs must consider the reliability of new technology in safety-critical applications.

### Design cycle time

WHAT IS YOUR TYPICAL PRODUCT'S DESIGN-TO-PRODUCTION TIMELINE?



- Just a few years ago, the typical design cycle in automotive was in the two- to three-year and above range, but the industry has evolved in terms of how fast these designs get to market.
- The shorter design cycle time stems from the pressure OEMs face when releasing electric vehicles to meet market demand.
- Customers can now turn around designs faster due to suppliers providing ready-to-go reference designs that cut down on design cycles.

### Communications technologies



#### Automotive communications roughly fall into two categories:

1

**Communications for engine and body control**

CAN, Ethernet, and LIN predominate here.\*

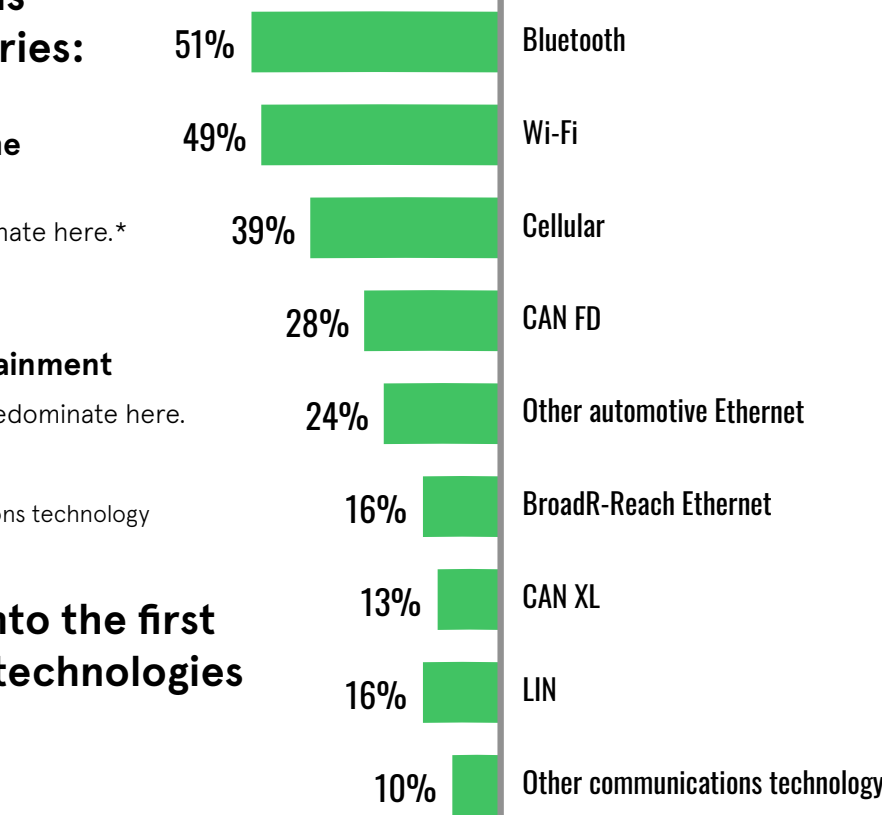
2

**Communications for infotainment**

Bluetooth, cellular, and Wi-Fi predominate here.

\*CAN classic remains the most used communications technology among survey respondents.

**Cellular will make inroads into the first of these categories as V2X technologies roll out to enhance safety.**



### Components for disruptive designs



- Disruptive automotive designs are incorporating components such as processors, controllers, sensors, communications transceivers, and power-electronics devices.
- Using the resources—including reference designs and evaluation boards—of Avnet and its partners will allow you to rapidly build a powerful version of your new automotive system or subsystem and get to market quickly.

For more information, visit [www.avnet.com/Transportation2023](http://www.avnet.com/Transportation2023)

