AVNET

POWERING THE INTELLIGENT FACTORY

As the drive to make factories more efficient strengthens, engineers are pursuing multiple potential paths to creating the ultimate intelligent factories. To shed light on these key trends, Avnet and Electronic Design have conducted an online survey of readers involved in industrial systems design. In the key findings below, respondents shared their experiences with power supplies, components, communications technologies, and AI/ML.

PERFORMANCE

is the most important factor for industrial designs, according to

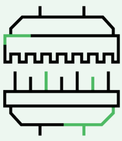
34% of respondents

27% cite cost, while

19% choose reliability

POWER SUPPLIES

are ubiquitous, ranging from board-level subsystems to standalone products.



31% of respondents design switch-mode power supplies rated <2 kW

32% use wide-bandgap semiconductors or plan to do so within a year

SENSORS

Of the 73% of respondents who specify sensors,

87% use temperature sensors

57% specify pressure sensors

MCUs AND PROCESSORS

are increasingly capable and cost-effective.

53% use 32-bit real-time MCUs

31% choose 64-bit processors

COMMUNICATIONS TECHNOLOGIES

Low Cost Communications

RS232/RS485 (61%) and CAN (28%) remain low-cost communications workhorses, but Single Pair Ethernet (17%) is beginning to eat into their market share.

Wireless Protocols

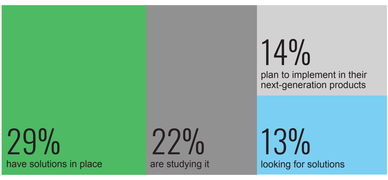
3% use or plan to use IP-based Thread, while Bluetooth (mesh, 56%), Zigbee (17%), and Z-wave (5%) remain the preferred choices for home-automation networks.

Open-Source Connectivity Standard

4% plan to use Matter and 27% are considering it

CYBERSECURITY

is a concern of the majority of respondents.



29% have solutions in place

22% are studying it

14% plan to implement in their next-generation products

13% looking for solutions

AI/ML

is gaining traction, with predictive maintenance a key target application.

8% currently use AI/ML

10% plan to in their next-generation products

32% evaluating AI/ML use

ElectronicDesign