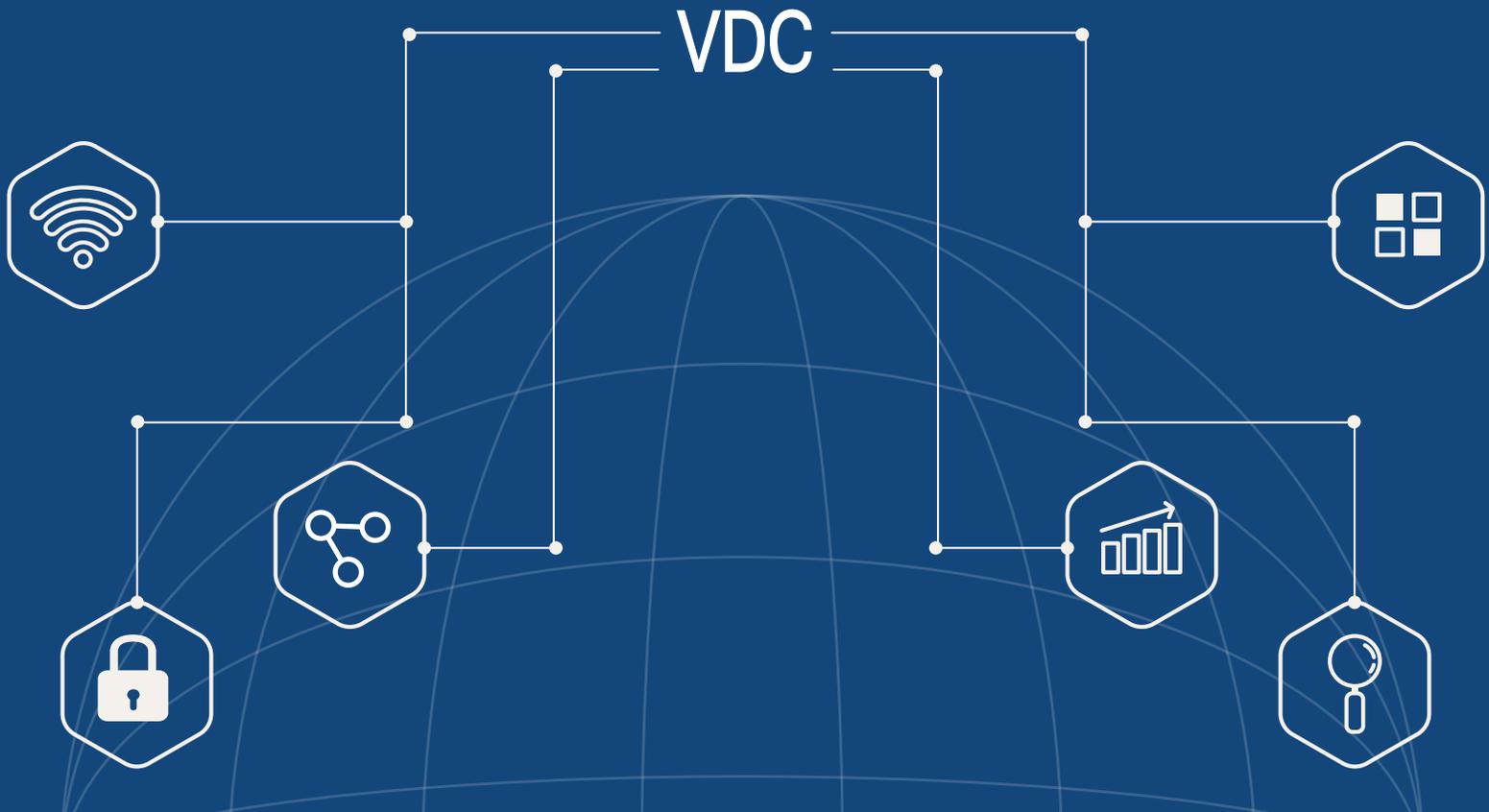


2022 IoT & Embedded Technology

HARDWARE VENDOR SATISFACTION AWARDS



VDC|VIEW

VDC|Research

June 2022
by Dan Mandell, Director and
Chris Rommel, Executive Vice President

THE SITUATION

VDC Research is recognizing the leading vendors of embedded processors, boards, modules, systems, and servers with the 2022 “Platinum and Gold” vendor satisfaction awards, as rated by IoT, embedded, and edge solutions providers sourcing commercial hardware platforms. These award winners have helped usher OEMs, systems integrators, and software/service providers through dramatic business challenges and technological change through the past couple of years. Design and solution requirements are not easing, and neither is the macroeconomic landscape with a variety of geopolitical, environmental, and supply/logistics issues across the world. It is more important now than ever to have a strong hardware technology platform provider to remain competitive in an increasingly complex and challenging landscape.

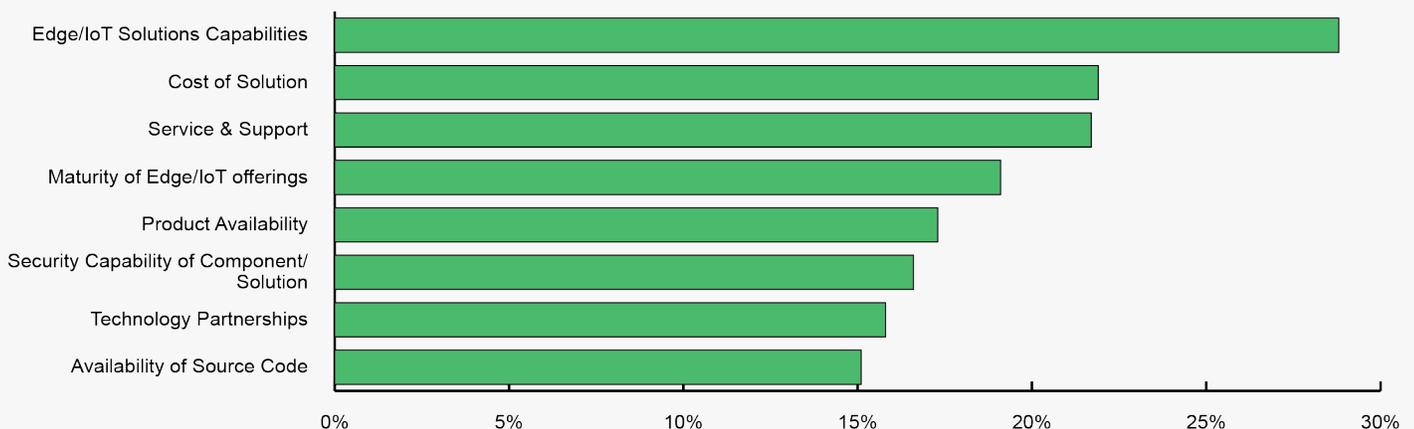
The awards are determined based on the results of vendor satisfaction ratings from VDC Research’s 2022 global IoT and Embedded Engineering & Development Survey. Respondents of this survey include more than 700 project/product management and sourcing decision makers such as CTOs, engineering and product managers, hardware engineers, and software developers from OEMs, systems integrators, engineering services companies, and other organizations. It is worth noting that respondents only rated satisfaction with vendors from which they had purchased merchant computing hardware in their most recent project.

Vendors that ranked in the top three for satisfaction scoring in one of the three designated hardware categories (Processors, Boards & Modules, and Systems & Servers) were awarded the “Platinum” status. Vendors that scored within the subsequent 6 positions were awarded the “Gold” status. These awards focus on those vendors whose market penetration yielded a sample size of at least 20 current customers for analysis.

EDGE COMPUTING REDEFINES VENDOR SELECTION

The emergence of edge computing and OT/IT convergence has ignited a variety of market opportunities across different industries to enable new business models and deployment support. Relatively newer technologies to the embedded/OEM domain, such as AI and hybrid clouds, are valuable differentiators for new industry solutions. Enabling support for those capabilities and application-specific workloads are becoming more important to edge/IoT vendor selection. In-field computing requires more than standard hardware to be able to create an efficient hardware architecture, with more customer-tailored solutions optimized for dynamic workload requirements, form factors or environments, and (extended) lifecycle management. Other important factors include more traditional criteria aimed at the cost of solutions and service and support availability, with the maturity of edge/IoT offerings remaining less of a concern as the pace of innovation has accelerated the need for more cutting-edge computing solutions.

Exhibit 1: Most Important Elements When Considering Suppliers for Edge/IoT Components and/or Solutions
(Percentage of Respondents, Top 8 Selections Shown)



2022 AWARD WINNERS

PLATINUM EMBEDDED HARDWARE VENDORS



PROCESSORS	BOARDS & MODULES	SYSTEMS & SERVERS

GOLD EMBEDDED HARDWARE VENDORS



PROCESSORS	BOARDS & MODULES	SYSTEMS & SERVERS

EMBEDDED HARDWARE SOURCING TRENDS

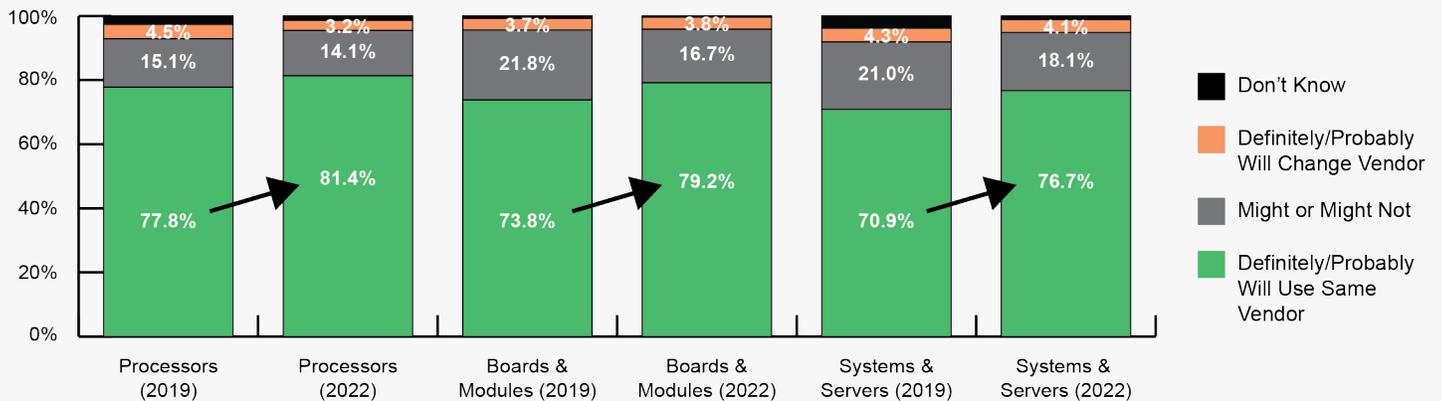
Exhibit 2: Most Important Characteristics when Selecting Embedded Hardware, Other than Price
(Ranked by Percentage of Respondents)

SECTION CRITERIA	PROCESSORS	BOARDS & MODULES	SYSTEMS & SERVERS
Most Important	CPU Performance	Quality & Reliability	Software Availability & Compatibility
2 nd	Power Consumption	Networking Capability	Processor Technology
3 rd	Programming Tools Available	Processor Type	Longer Product Availability
4 th	Engineer Experience	Longer Product Availability	Storage/Memory Size
5 th	Compatibility with Existing SW Assets	App SW Frameworks & Libraries	Low Power Consumption

Selection criteria for embedded hardware products themselves vary drastically depending on the level of integration being built versus bought by OEMs and others in the development of their solutions. The selection criterion ranked first for each hardware category has not changed in the past three years, but other criteria have been elevated in that time. For example, OEMs sourcing embedded processors now place more emphasis on power consumption and engineer experience (given talent shortages), while boards/modules users care more now than ever about networking capability and processor type for flexible, high-performance support. System and server OEMs have similarly elevated their requirements for processor technology, as workload optimization becomes more critical for solution enablement.

LIVE AND DIE BY THE TECHNOLOGY VENDORS

Exhibit 3: Likelihood of Using the Same Embedded Hardware Vendor
(Percentage of Respondents)



OEMs and others sourcing embedded hardware have become more loyal to their technology suppliers over the past three years due to a variety of factors. Changing hardware architectures and/or vendors can be extremely disruptive to internal design and engineering/development teams, which may need to learn new toolsets/platforms, port software/IP to new environments, or face new certification challenges, etc. Years ago, there were also many organizations still evaluating their hardware architecture to support the early days for the current generation of IoT/edge computing. As the market has matured, so to have the relationships between most embedded hardware providers and their customers looking to develop new intelligent edge applications and solutions.

ABOUT THE AUTHORS



Dan Mandell

Dan supports a variety of syndicated market research programs and custom consulting engagements in the IoT and Embedded Technology practice. He leads VDC's annual research services for embedded processors, boards, integrated systems, edge gateways, and other computing hardware. Dan's insights help leading technology providers align their go-to-market planning and competitive strategies with the dynamic embedded landscape and its constantly evolving buyer behaviors, technology adoption, and application requirements. His working relationship with VDC dates back to 2005 and includes time supporting Business Development as well as the AutoID practice. Dan holds a B.S. in Information Systems Management from Bridgewater State University.

Email Dan at dmandell@vdcresearch.com



Chris Rommel

Chris leads VDC's syndicated research programs and consulting engagements focused on development and deployment solutions for intelligent systems. He has helped a wide variety of clients respond to and capitalize on the leading trends impacting next-generation industrial and device markets, such as security, the IoT, and engineering lifecycle management solutions. Chris has also led a range of proprietary consulting projects, including competitive analyses, strategic marketing initiative support, ecosystem development strategies, and vertical market opportunity assessments. Chris holds a B.A. in Business Economics and a B.A. in Public and Private Sector Organization from Brown University.

Email Chris at crommel@vdcresearch.com

ABOUT VDC RESEARCH



Founded in 1971, VDC Research provides in-depth insights to technology vendors, end users, and investors across the globe. As a market research and consulting firm, VDC's coverage of AutoID, enterprise mobility, industrial automation, and IoT and embedded technologies is among the most advanced in the industry, helping our clients make critical

decisions with confidence. Offering syndicated reports and custom consultation, our methodologies consistently provide accurate forecasts and unmatched thought leadership for deeply technical markets. Located in Southborough, Massachusetts, VDC prides itself on its close personal relationships with clients, delivering an attention to detail and a unique perspective that is second to none.

www.vdcresearch.com | 508.653.9000 | info@vdcresearch.com