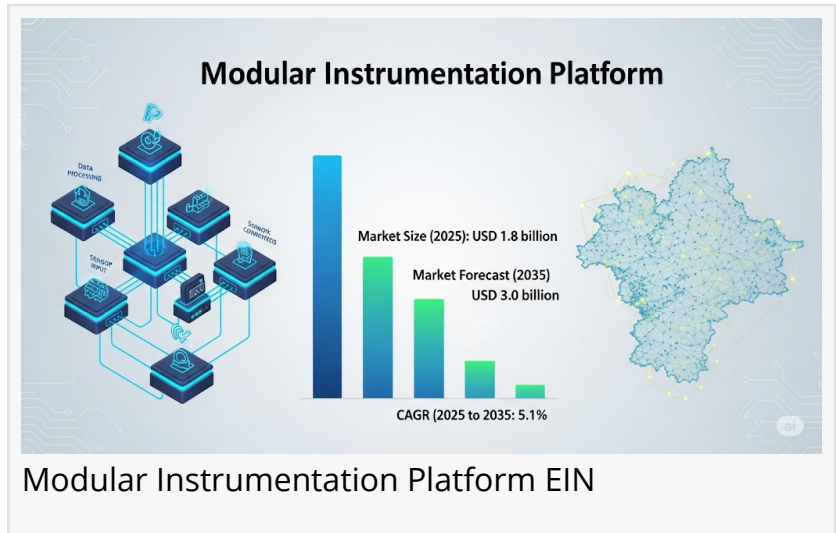


# Modular Instrumentation Platform Market to Reach USD 3.0 Billion by 2035, Driven by Flexible Testing Solutions

*Rising demand for scalable and reconfigurable testing solutions accelerates adoption of modular instrumentation platforms globally.*

NEWARK, DE, UNITED STATES, August 18, 2025 /EINPresswire.com/ -- The [modular instrumentation platform market](#) is projected to grow from USD 1.8 billion in 2025 to USD 3.0 billion by 2035, advancing at a CAGR of 5.1%. Growth is fueled by rising demand for flexible, scalable, and high-performance testing solutions across electronics, aerospace, and automotive industries.



## Rising Adoption in Automated and Industry 4.0 Frameworks

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Manufacturers are increasingly shifting to modular instrumentation platforms to streamline testing, improve throughput, and support Industry 4.0 adoption.”

*opines Nikhil Kaitwade,  
Associate Vice President at  
FMI*

By 2025, more than 60% of modular platform demand is expected to come from industries adopting Industry 4.0 frameworks. Automotive, telecommunications, and aerospace sectors are leading this shift, driven by the need for high-throughput, reconfigurable test environments.

The adoption of 5G networks, EV powertrain validation systems, and semiconductor testing has accelerated uptake. In 2023, over 45% of new automated test benches in semiconductor fabrication facilities in the USA and Taiwan deployed PXI-based modular systems.

Platform Innovation Driving Growth

PXI/PXIe platforms remain the top architecture, forecast to hold 42% market share in 2025,

supported by their modularity, synchronized measurements, and compatibility with LabVIEW. Engineers rely on PXI-based systems for 5G, aerospace, and semiconductor testing, with demand for scalable slot configurations supporting complex test requirements.

Meanwhile, PCIe-based systems are projected to capture 33% market share, enabling ultra-fast communication between modules. This interface is particularly valuable for telecom, defense, and industrial automation, where real-time testing and parallel processing are essential.

### End-Use Demand Anchored by Automotive and EV Testing

The automotive and EV industry is forecast to lead demand with 18% market share by 2025. EV manufacturers are deploying modular platforms for testing batteries, motors, and charging systems, while automation in ADAS testing further boosts requirements. Integration with CAN, LIN, and automotive Ethernet protocols is making modular systems indispensable for holistic test setups.

### Strategic Role Across Industries

The modular instrumentation platform market holds a strategic position across global high-tech sectors:

- Accounts for 6–8% of the USD 40 billion test and measurement equipment market.
- Represents 10–12% of automated test equipment demand, particularly in semiconductor and telecom testing.
- Contributes to 5–6% of the industrial automation market, where faster integration and custom workflows are vital.
- Plays a role in aerospace and defense electronics, with 8–10% modular adoption, supporting evolving mission requirements.

### Regional Growth Outlook

Between 2025 and 2035, China is forecast to lead with a 6.8% CAGR, driven by industrial automation and semiconductor growth. South Korea follows with 6.0%, powered by semiconductor innovation. Germany posts 5.5%, led by EV and aerospace applications. The USA maintains steady demand at 5.3%, supported by defense and aerospace R&D, while Japan registers 4.3% CAGR as electronics manufacturers modernize test infrastructure.

### Key Market Players and Industry News

The market is dominated by National Instruments and Keysight Technologies, together accounting for over 70% of PXI chassis sales globally. Keysight's strength lies in 5G and RF testing, while NI emphasizes software-driven compatibility and modular customization.

Other notable players include Rohde & Schwarz, scaling its EMC and automotive radar testing solutions; ADLINK Technology, delivering AI-enabled PXI and CompactPCI systems; and AMETEK, focusing on niche power electronics and defense applications through VTI Instruments.

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## Outlook

From semiconductor labs to aerospace test benches, modular instrumentation platforms are becoming essential for manufacturers seeking to reduce test cycle times, streamline reconfiguration, and meet rising throughput requirements. With strong adoption across emerging economies and growing alignment with Industry 4.0, the sector is positioned for sustained expansion through 2035.

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