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Digital Evaluation Board Clears STEM Semiconductor Career Path

by Barry Kroeker

STEM products have often generated the spark for productive STEM-related careers, and a recent entry in the marketplace is showing promise as a pathway to lucrative long-term employment opportunities in the semiconductor industry.

According to the Deloitte business advisory group, knowledge of digital circuit logic is a key requirement for many roles within the rapidly growing semiconductor industry, particularly those in design and development. Digital integrated circuits are the foundation of modern electronics, and expertise in this area is highly valued.

The Digital Evaluation Board (DEB) from OZG Systems is a STEM digital logic learning device created by OZG founder Oren Gall. It features a 9-volt power source, onboard inputs, outputs, switches, and associated LEDs, an IC chip package, solid-core wiring kit, and a mounted breadboard to facilitate circuit tinkering.

Students as young as 7th grade can begin their STEM training using the DEB and an available Student Project Guide. More advanced learners can take advantage of the college-level textbook, *Hands-On Digital Logic Design: Learning Through Experimentation*, available from Kendall Hunt Publishing.

Many semiconductor industry jobs focus on different aspects of integrated circuit (IC) development. Roles in digital design or IC design specifically require a strong understanding of digital logic and its implementation using Hardware Description Languages (HDLs) such as Verilog or VHDL.

Entry-level positions may involve assisting with fabrication and testing, monitoring equipment, or documenting processes, which may not always require deep digital logic expertise initially. However, strong analytical and problem-solving skills, which are enhanced by an understanding of digital logic, are crucial for thriving in these roles and advancing within the field. According to Indeed.com, the average salary for a semiconductor engineer is \$98,882 per year in the United States.

The global semiconductor industry continues to experience double-digit growth in 2025, with most projections indicating a 11-15% increase in sales. The industry is projected to experience robust growth in the coming years, driven by increasing demand for semiconductors across various applications, particularly AI, cloud computing, and automotive. Adding momentum to this

rapid expansion in the United States is the availability of public funding supporting domestic semiconductor production, as provided for in the 2022 CHIPS and Science Act.

These dynamics have led to a significant short- and long-term demand for qualified engineers. The demand for professionals skilled in digital logic design is projected to continue rising given the strategic importance of the semiconductor industry.

The Digital Evaluation Board is providing a STEM training solution for a market-driven employment challenge by providing a focused STEM experience in digital logic learning.

Key Semiconductor Industry Growth Projections from Deloitte:

- **2025:** The World Semiconductor Trade Statistics (WSTS) projects an 8.5% increase in global market size, reaching \$760.7 billion.
- **2026:** Gartner forecasts a further increase to \$733 billion, with a long-term outlook reaching \$924 billion by 2029, representing a compound annual growth rate (CAGR) of 7.1%.
- **Longer Term:** The industry is anticipated to reach \$1 trillion by the end of the decade, fueled by demand for AI, electric vehicles, and high-performance computing.

More information about the Digital Evaluation Board is available on the product website: https://digitalevaluationboard.com

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Primary sources for this article include:

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Digital Evaluation Board product photography available by request.

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