

# THNQ Index 4Q24 Commentary

*As of December 31, 2024*

The ROBO Global THNQ Artificial Intelligence index concluded 2024 with a 5.75% return in Q4, outperforming the Vettafi Full World Index's -0.95% quarterly return. The index posted a 19.4% annual gain, though more modest compared to 2023's 57% surge.

AI's benefits are becoming increasingly tangible at both individual and societal levels, delivering enhanced value with reduced resources. Concerns about AI's energy consumption overlook both hardware advances and model efficiency improvements, as well as the substantial energy savings AI enables in sectors like residential power consumption and transportation. The horizon promises universally accessible AI assistants, precisely attuned to individual and organizational needs, goals, and constraints. Recent test results demonstrate AI's growing prowess in specialized fields like law and medicine, frequently surpassing human performance benchmarks. (source: <https://www.arxiv.org/pdf/2412.10849>)

Valuations saw only moderate increase in 2024, with the portfolio's weighted average forward EV/Sales rising from ~7.9X to 8.33x—notably below 2021's peak of 14x and current index leader NVIDIA's 25.8x.

Performance was primarily driven by improved guidance and earnings execution. Looking ahead to 2025, we expect NVIDIA's relative outperformance to moderate given elevated expectations, while other constituents have significant upside potential against more conservative valuations.

The metrics are compelling: 95% of constituents are profitable, with 85% reporting positive year-over-year Q3 2024 EPS growth of 28.9%, and 91% showing year-over-year Q3 2024 sales growth of 18.7% (Factset, Weighted Average).

Eight of ten subsectors delivered positive Q4 2024 performance, with healthcare and factory automation as the only laggards—though healthcare showed strong momentum in Q3. The **Network & Security** subsector, led by Snowflake (+44.8%), CrowdStrike (+22.0%), and Pure Storage (+22.3%), continues to strengthen as a crucial foundation for AI infrastructure. **Big Data & Analytics** saw strong performances from Datadog and Elastic, despite some weakness in MongoDB, positioning well for accelerated AI deployment in 2025.

Real-world implementations are accelerating, exemplified by **Alphabet's** Waymo division expanding autonomous vehicle operations to LA and Austin, with Miami and Japan on the horizon. Multi-modal AI has arrived, integrating text, vision, and audio processing with enhanced physical world understanding, which will push consumer-grade AI to become more mainstream, something we are anticipating from **META's** (innovations in augmented reality and human-computer interaction (e.g. wrist motor sensors).

In the **Semiconductor** sector, **Ambarella** led with a 29% stock gain, outpacing **NVIDIA's** 10.6%, highlighting the growing importance of edge computing and embodied AI for real-world

applications. Notable developments included AI chip announcements from **Amazon** (Trainium) and **Microsoft** (MAIA), plus **TSMC's** launch of advanced nodes at Arizona's Fab 21 plant and their progress on silicon photonics for networking, pointing to future energy and performance gains. Looking ahead, this expansion will drive demand for more scalable networks, enhanced cybersecurity, and edge solutions like recently added **Raspberry Pi**, while locally-running AI models on consumer hardware become mainstream.

Looking ahead, 2025 stands as a pivotal inflection point in technological advancement. While superhuman AI capabilities are already emerging in specific domains, they're rapidly being refined into practical, reliable tools and autonomous systems. With global connectivity reaching new heights and AI developing deep contextual understanding of human knowledge, we expect continued transformation across industries. Current valuations suggest significant upside potential as these technological advances translate into tangible business outcomes and societal benefits.

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