

SUPPLY CHAIN

MARKET CONDITIONS

Q2 2025



SourceBlue

CONTENTS

Q2 MESSAGE

» A MESSAGE FROM FRANK YOZZO

NATIONAL / Q2 2025

» MEP COST INDEX

» SUPPLY CHAIN INSIGHTS

Welcome to SourceBlue's

Q2 2025 Supply Chain Market Conditions Report

A Message from SourceBlue Leadership

As we move into Q3 2025, the global supply chain continues to face a mix of persistent challenges and emerging opportunities. Escalating tariffs on key materials, geopolitical uncertainty, and lingering inflationary pressures are shaping how projects are planned and executed. In response, SourceBlue is doubling down on our strengths: market intelligence, diversified sourcing, and deep supplier relationships to deliver stability and value for our partners.

We're integrating AI-driven forecasting, real-time data analysis, and scenario modeling into our sourcing strategies, enabling us to anticipate disruptions before they impact schedules or budgets. These tools, combined with our regional expertise, are helping us navigate shifting trade dynamics, evolving shipping routes, and fluctuating demand patterns.

At the same time, our teams are working closely with suppliers to secure competitive pricing and reliable timelines, even in high-volatility categories. By maintaining flexibility in procurement channels and exploring new sourcing regions, we're positioning our clients for success in a rapidly changing market.

Looking ahead, we remain committed to simplifying complexity, enhancing transparency, and driving innovation across every stage of the supply chain. Thank you for your trust and collaboration as we continue to adapt, deliver, and build stronger pathways for the future.



FRANK YOZZO
VICE PRESIDENT, GENERAL MANAGER
SOURCEBLUE





MEP EQUIPMENT COST INDEX

THE MEP COST INDEX IS HOLDING AT 227 FOR Q2 2025

Price trends are holding steady: the Producer Price Index (PPI) shows a 2.55% increase for electrical equipment manufacturing and a 1.71% rise for HVAC and commercial refrigeration systems. On the demand side, electrical equipment orders are up 2.2% with a 1.0% increase in shipments, pointing to stable project flow. The mechanical side continues to outperform, with orders jumping 19.6% and shipments up 22.5%, driven by high project volume and continued procurement strength.

NEW TECHNOLOGIES: COOLING TECH & AI DEMANDS

The data center market continues to ramp up with demand, and Cooling Distribution Units (CDUs) are the new way to cool high density, heat intensive AI applications. Many vendors not typically in the space have started offering a version of these units. Lead times will increase significantly in the next couple of quarters. Most of the major players are sitting around 25 weeks currently.

ESTIMATED EQUIPMENT LEAD TIMES

Equipment	Previous	Current	↗ ↘ ↔
Cooling Towers	14 - 30 wks	12 - 25 wks	↘
Chillers	20 - 85 wks	12 - 75 wks	↘
AHU	16 - 50 wks	12 - 60 wks	↗
Generators	40 - 130 wks	40 - 130 wks	↔
Switchgear	45 - 90 wks	45 - 70 wks	↘
UPS	30 - 42 wks	30 - 42 wks	↔
Lighting Fixtures	10 - 16 wks	10 - 16 wks	↔
Lighting Controls	12 - 26 wks	12 - 26 wks	↔

YEAR	AVG. INDEX	% INCREASE
2025	227	8.6%
2024	209	2.4%
2023	204	10.4%
2022	185	15.1%
2021	161	10.3%
2020	145	2.8%
2019	142	3.0%
2018	138	3.8%
2017	133	3.0%
2016	129	1.5%
2015	127	1.0%
2014	126	2.0%
2013	124	2.5%
2012	121	3.5%
2011	117	2.5%
2010	114	-4.5%
2004	100	Base Year

This index is created using the average content of mechanical and electrical equipment on a new construction project. Historic records and interpretations of the national index for local market conditions may be obtained by contacting: Purvesh Shah, VP of Global Sourcing, pshah@sourceblue.com

TARIFF IMPACTS

Tariffs and trade policy continue to create significant challenges across the supply chain. Recent U.S. actions, including the introduction or expansion of tariffs on key components from China, have ongoing pressure on trade relationships with the EU and other global partners. In response, manufacturers are adapting by shifting sourcing strategies, relocating some assembly operations to the U.S., or, in some cases, absorbing increased shipping and logistics costs. These adjustments are contributing to greater price volatility, extended lead times, and added uncertainty around product availability. We anticipate limited clarity until late 2025 at the earliest, with HVAC and electrical packages currently experiencing the most significant impact.

POWERING PROJECTS WITH INTELLIGENCE & FLEXIBILITY

SMARTER, DECENTRALIZED POWER IS HERE

To protect orders, bids, and project timelines, many teams are leaning more heavily on firm pricing contracts, tighter contract management, and proactive risk planning. Amid increasing grid pressure, ESG mandates, and rising peak loads, more projects are incorporating on-site generation or battery storage into their designs. That's shifting demand toward smart switchgear and power controls equipment that doesn't just sit there, but adjusts in real time, manages loads, and provides better system visibility.

In parallel, legacy manufacturers are working to modernize, but demand for IoT and hybrid-ready gear is contributing to longer lead times and added sourcing challenges.



SourceBlue's strong relationships provide us insight and market information to forecast equipment costs. The ability to accurately forecast cost increases and connect them with supply and demand from vendor market is how we mitigate supply chain challenges. This report outlines Y/Y costs changes as well as supply and demand data directly from our vendor partners.

DATA CENTER COOLING TRENDS

Over the last twenty years, data centers have evolved from low-density telecom hubs into the backbone of global digital infrastructure. At the center of this shift is rack density, the measure of how much compute power can be packed into a single rack. Early deployments in the 2000s averaged just 1–3 kW per rack, but the rise of virtualization, cloud computing, and high-performance workloads has steadily pushed that figure upward, reaching 30 kW or more in many facilities today. With AI and generative workloads accelerating demand, densities are now scaling beyond 40 kW per rack and setting the stage for designs capable of supporting 100 kW and beyond. This trajectory underscores not only the pace of technological change but also the critical need for advanced cooling and energy strategies to sustain the next era of growth.



As Global Strategic Sourcing Manager at SourceBlue, Andy leads the Mechanical Supply Chain and Demand Planning team. With 35+ years of industry experience, he supports project teams by overseeing the sourcing of key mechanical equipment, including chillers, air handling units, cooling towers, boilers, pumps, compressors, CRAC/ CRAH units, unitary systems, and VRF systems. As a subject matter expert, Andy provides technical guidance across the project lifecycle, leveraging his knowledge of applied systems, construction methods, and installation practices to evaluate design criteria and propose alternative solutions. His responsibilities also include developing equipment scopes and conducting demand planning, life cycle cost analysis (LCCA), LEED studies, decarbonization strategies, and constructability reviews.



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AUGUST 2025 SUPPLY CHAIN INSIGHTS

Rack density has become one of the clearest indicators of how rapidly data centers are evolving, rising from just a few kilowatts per rack in the early 2000s to extreme-density designs exceeding 100 kW today. This growth reflects not only the surge in AI and high-performance computing but also the industry's push for advanced cooling and energy efficiency to keep pace with unprecedented demand.



RACK DENSITY: PAST, PRESENT AND FUTURE

In the early 2000s, data centers began evolving from telecom-centric "carrier hotels" into more sophisticated IT infrastructure hubs. During this period, rack densities were modest, typically ranging from 1 to 3 kW per rack, as compute demands were relatively low and legacy hardware dominated the landscape. By the mid to late 2000s, the introduction of virtualization and blade servers marked a significant shift. These technologies began replacing traditional rack servers, leading to an increase in rack densities to around 5 to 10 kW per rack, particularly in Tier III and IV enterprise data centers. Between 2010 and 2015, the rise of cloud computing and modular data center designs further accelerated density growth. Cloud-native applications and containerized environments pushed rack densities up to 8 to 20 kW, reflecting the growing demand for scalable and efficient compute resources. From 2015 to 2020, hyperscale data centers emerged as dominant players, supporting massive, big data and AI workloads. This era saw densities reaching up to 30 kW per rack, especially in high-performance computing (HPC) environments where processing power was paramount. The period from 2020 to 2024 witnessed a dramatic surge in demand driven by AI and generative workloads. Average rack density doubled - from 6.1 kW in 2016 to 12 kW in 2024. Some facilities began supporting 20 to 40+ kW per rack, with liquid cooling technologies gaining traction to manage the thermal load. Looking ahead to 2025 and beyond, the landscape is poised for even

greater transformation. Cutting-edge AI infrastructure, such as NVIDIA's DGX H100 systems, demands 10 to 60+ kW per rack. High-density designs are now emerging to support 100+ kW per rack, particularly in hyperscale and colocation environments. In fact, extreme-density deployments exceeding 200 kW per rack are beginning to surface.

KEY DRIVERS OF RACK DENSITY GROWTH

The rapid increase in rack density within data centers is being fueled by several transformative forces. At the forefront are AI and high-performance computing (HPC) workloads, which demand massive computational power and drive the need for more concentrated infrastructure. Virtualization and cloud technologies have also played a pivotal role, enabling organizations to pack more compute capacity into smaller physical footprints, thereby maximizing space efficiency. In parallel, the push for energy efficiency has led to the consolidation of workloads into fewer, denser racks, reducing overall power consumption and operational costs.

ADVANCED COOLING TECHNOLOGIES

Supporting these advancements are innovations in cooling technologies, including liquid cooling, rear-door heat exchangers, and immersion cooling, which are essential for managing the thermal challenges of high-density environments. Traditional air-cooled servers are now reaching rack densities of 12.6 kW and beyond, a significant leap from the first 10 kW rack observed over a decade ago. However, as density increases, airflow becomes a limiting factor. Most engineers agree that once rack power exceeds 15 kW, traditional air-cooling struggles to provide sufficient airflow. This is because high-density racks generate substantial heat, and at a certain point, air-based cooling methods become inadequate. As a result, advanced liquid cooling solutions such as direct-to-chip cooling, rear-door heat exchangers, and immersion systems are becoming essential to maintain thermal efficiency and system reliability.



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