# The TIA Signal. Insights Shaping Digital Infrastructure


FEATURED RESOURCE

## ANSI/TIA-942 and DCE 9000:

Understanding the Benefits and Difference

Is your infrastructure limited by physical design or supplier performance? Discover how ANSI/TIA-942 and DCE 9000 work together to build resilient, high-performing data centers.

**ANSI/TIA-942 and DCE 9000**
*Understanding the Benefits and Difference*

Read the Blog

# Scaling Data Centers for AI – 2 Critical Standards

AI is driving unprecedented growth in data center capacity, network density, power consumption, and cooling requirements, creating new challenges for infrastructure design, deployment, and operations. To help the industry scale with confidence, TIA is advancing two standards initiatives focused on physical infrastructure performance and operational excellence. Below is the latest progress on TIA-942 Addendum 1 and DCE 9000, two efforts helping to shape the future of AI-ready data centers.

| | ANSI/TIA-942-C Addendum 1<br>Artificial Intelligence | DCE 9000<br>Data Center Excellence Quality Standard |
|---|---|---|
| **Formulating Committee** | TR-42.1 Premises Telecommunications Infrastructure Subcommittee | QuEST Forum Data Center Excellence Working Group |
| **The Challenge** | Update data center specifications to handle extreme thermal loads, specialized cabling topologies, and rapid horizontal scaling without creating network bottlenecks | Provide methods to verify operational reliability, rapid commissioning, and seamless supply chain performance across critical power, cooling, and mechanical systems |
| **The Initiative** | Update the ANSI/TIA-942 flagship data center infrastructure standard for AI workloads by enhancing high density connectivity requirements, adding advanced liquid cooling guidelines (Annex K), specifying structured fiber cabling considerations for AI scale-out networks (Annex L), and harmonizing with international standard ISO/IEC 11801-5. | Develop the industry's first certifiable Quality Management System (QMS) standard and measurement framework designed specifically for physical data center infrastructure supply chains. Built on the new ISO 9001:2026 baseline and crafted by hyperscalers, OEMs, contractors, and certification bodies. |
| **The Deliverables** | • Standardize liquid cooling and high-density MPO optical fiber configurations<br>• Establish clear definitions and distance constraints for direct-attach and structured cabling in scalable AI units<br>• Provide architects, engineers, and operators with a standardized blueprint to design, scale, manage, and maintain high-density facilities for next-generation AI deployments | • Replace fragmented, proprietary vendor checklists with one certifiable benchmark that aligns operators, suppliers, and general contractors<br>• Standardize metadata and L1–L5 commissioning workflows to catch defects early<br>• Compile supporting resources, including measurement guidelines, certification requirements, auditor competencies, and training programs |
| **Status** | Committee draft d0.1 is under development. The initial ANSI ballot is estimated to circulate in Q3 2027. | Draft standard circulating for Working Group review. Comments due Nov. 30, 2026. Target publication is Q1 2027. |

**Upcoming Meetings:** TR-42 (Jan 25–29), QuEST Forum (Jan 27–28), and TR-8 (Jan 27–28) to be co-located in Nashville, TN

**Data Center Excellence Summit**

Register

