DCE 9000 Data Center Quality Working Group Frequently Asked Questions (FAQs)

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Introduction

This document addresses common questions about the Data Center Quality initiative launched by the Telecommunications Industry Association (TIA) in partnership with Google. The goals of this initiative are to establish a unified, certifiable quality management system standard for data center physical infrastructure and equipment.

These FAQs are organized into the following sections, accessible through these links:

Overview of the Data Center Quality Initiative
Scope and Applicability
Relationship to Existing Standards
Certification, Auditing, and Accreditation
Benefits and Business Value
Participation and Industry Engagement
Governance and Standard Development Process
AI and Future Readiness

Overview of the Data Center Quality Initiative

Q1: What is the Data Center Quality Initiative?

The Data Center Quality Initiative is an industry-led standards development effort administered by TIA, with support from Google and other participants across the data center ecosystem. It will deliver a quality management framework for modern data center physical infrastructure that establishes a shared foundation for how critical infrastructure suppliers are evaluated, managed, and improved across the industry.

Through defined requirements, common measurements, and a certifiable approach to supplier quality, the initiative is designed to improve consistency, predictability, and continual improvement in products and services used to build data centers. The result will be stronger supply chain resilience, fewer quality-related disruptions, improved customer confidence and satisfaction, and lower total cost through reduced rework, delays, failures, and audit duplication.

Q2: Why is this initiative important now?

Global demand for data centers is expected to triple by 2030, requiring over $6.7 Trillion[1] in capital investment. The surge in AI, cloud, and digital services is creating unprecedented growth and stressing the supply chain. Without standardizing the expectations of data center operators, the industry is subject to risks, inefficiencies, fragmentation, capacity constraints, vulnerabilities and higher supply chain costs. This initiative will deliver a new Quality Management System Standard (QMS), DCE 9000, as a trusted, unified framework to address these challenges.

Q3: What is the DCE 9000 QMS standard?

DCE 9000 is an ISO style management system standard; purpose built for the needs of modern data centers. It builds on the framework and core management principles of ISO 9001:2026 while adding industry-specific requirements, controls, and measurements tailored to the performance, reliability, and supply chain demands of today's data center environment.

A defining feature of DCE 9000 is its emphasis on prevention and "left-shift" thinking—addressing risks earlier in design, planning, qualification, and process development rather than reacting after failures occur. To support this approach, the standard is expected to promote the use of proven quality methods such as Advanced Product Quality Planning (APQP), Failure Mode and Effects Analysis (FMEA), Statistical Process Control (SPC) and related tools to reduce failure costs, improve execution, and strengthen continual improvement.

[1] Data Center Dynamics report citing McKinsey: AI could drive $6.7 trillion investment in data centers

Q4: What is the focus of the standard?

The initial focus of DCE 9000 is on suppliers of the critical physical infrastructure used to build and enable modern data centers. While the final scope will be defined by the working group, the standard is currently centered on key electrical, mechanical, power, and cooling systems where quality, reliability, and supply continuity have the greatest impact on project success and operational resilience.

Representative examples include power generation systems, cooling systems, switchgear and electrical distribution, UPS systems, batteries and energy storage, rack liquid cooling infrastructure, racks and containment, monitoring and control systems, and physical security systems. Future versions may also address selected services that directly influence infrastructure quality, such as design, construction, project management, implementation, and related lifecycle support activities.

Q5: When will the standard be available?

The standard is under development now for its first release with goals of being available for review in Q4, 2026 and scheduled for release in Q1, 2027.

Q6: Is the DCE 9000 standard for the USA only?

No. DCE 9000 is a global standard that can be adopted and used by organizations regardless of their physical location(s) or where they are headquartered.

Q7: Is DCE 9000 intended only for infrastructure suppliers to hyperscale data centers?

No. While hyperscalers are leading the current AI data center investment cycle, there are many different types of data centers which share a common set of physical infrastructure suppliers.

All will benefit from DCE 9000 adoption by their suppliers. Examples include:

- Hyperscale
- DC Operators such as Colocation, Enterprise and Edge
- EPCs - Engineering, Procurement, and Construction organizations including General Contractors (GCs)
- AI-specific facilities
- Government facilities

Q8: How will this QMS prepare the industry for the future?

AI, edge computing, 6G, autonomous systems, and national digital infrastructure programs are accelerating the physical demands placed on data centers.

DCE 9000 is intended to help the industry prepare for that future by creating a common, certifiable quality framework that drives prevention, consistency, supplier maturity, and resilience across the infrastructure lifecycle. In practical terms, it helps ensure that the critical systems underpinning next-generation digital infrastructure are designed, built, qualified,

delivered, commissioned and placed into production with greater predictability, reliability, and confidence.

Q9: What document structure will be used?

DCE 9000 will conform to the ISO Harmonized Structure (HS), formerly widely known as "Annex SL". The HS is the standardized framework used by ISO for the development of modern management system standards. It establishes a common architecture, core text, terminology, and clause sequence that is shared across many standards.

HS was originally introduced as part of the ISO/IEC Directives to resolve inconsistencies by mandating a unified "high-level structure" for all new and revised management system standards. The framework standardized core clauses such as organizational context, leadership, planning, support, operation, performance evaluation, and continual improvement, while also introducing common concepts such as risk-based thinking, interested parties, documented information, and process-oriented management.

Some of the world's most globally deployed standards have adopted the HS. New standards are also being developed in accordance with the HS, such as ISO 42001 for artificial intelligence management systems.

The purpose of the HS is to ensure that management system standards are developed using a consistent structure and common management principles, thereby simplifying implementation, integration, auditing, and certification for organizations that operate multiple management systems simultaneously.

Scope and Applicability

Q1: What products and services are expected to be covered by DCE 9000?

DCE 9000 is being developed to assess suppliers of critical physical infrastructure. Major examples include:

- Power generation systems
- Cooling systems
- Switchgear and electrical distribution
- UPS systems
- Batteries and energy storage
- Rack liquid cooling infrastructure
- Racks and containment
- Monitoring and control systems
- Physical security systems

Q2: What organizations can become certified?

Suppliers of critical infrastructure and associated services are the intended audience for adoption and certification.

Examples include:

- Equipment manufacturers
- Key suppliers to equipment manufacturers
- System integrators
- Installers

Q3: Will DC Operators certify to the standard?

No. Data Center operations are sufficiently addressed through existing standards. DCE 9000 targets critical infrastructure suppliers of equipment used to build data centers of all types.

Q4: What is not included in the initial scope?

The DCE 9000 standard does not cover suppliers of devices typically installed in the server hall such as storage systems, network switches / routers, and servers, as examples. Other standards, such as the TL 9000 QMS, were designed for such applications.

Q5: Does the scope of this standard extend to decommissioning and end-of-life processes for datacenter assets?

The standard is expected to include requirements for end-of-life product planning including the processes, activities, and tasks involved in the concept, definition, development, introduction, production, operation, maintenance, and disposal of products or cessation of services.

Relationship to Existing Standards

Q1: Doesn't TIA already have a quality management system standard?

Yes, TIA QuEST Forum developed the TL 9000 Quality Management System which has experienced broad adoption in the telecommunications vertical. DCE 900 will be purpose-built for the unique needs of modern data centers but pull from the extensive experiences TIA has gained from the TL 9000 standard.

Q2: How does DCE 9000 differ from TL 9000?

TL 9000 is a mature, proven quality management system for the communications industry. It is built on ISO 9001 and includes two defining elements: a Requirements Handbook and a Measurements Handbook. It was designed for communications products and services and for the supply chains that support those offerings.

DCE 9000 addresses a different problem. It is a global quality management system framework for data center infrastructure. It is built on the latest release of ISO 9001 and adopts the ISO Annex SL document structure. It has been influenced by mature sector models including TL 9000, AS 9100, and IATF 16949. The initial scope focuses on mechanical, power, and cooling infrastructure systems and that lifecycle quality requirements will span design, manufacturing, installation, testing, commissioning, and supply chain management.

While there are several similar or common requirements, DCE 9000 and TL 9000 are not redundant. They are designed to address different problems, different risk models, different supplier ecosystems, and different performance expectations.

A detailed comparison is beyond these FAQs, readers are encouraged to review the resources available on the DCE 9000 landing page.

Q3: How does the standard differ from ANSI/TIA-942?

The globally adopted ANSI/TIA-942 Telecommunications Infrastructure Standard for Data Centers is intended to provide requirements and guidelines for designing and installing a data center or computer room. The standard specifies the physical design of data centers for telecommunications infrastructure and computer rooms, including edge data centers, single-tenant enterprise data centers, and multi-tenant data centers.

DCE 9000 is designed to assess the performance of suppliers of the critical physical infrastructure used to develop modern data centers. The two standards are complementary.

A future technical paper will contrast the two standards. A blog on the topic is currently available at: ANSI/TIA-942 and DCE 9000: Understanding the Benefits and Difference.

Q4: How does DCE 9000 relate to ISO 9001?

ISO 9001 is the world's most widely adopted QMS standard with a purpose to help organizations consistently provide products and services that meet customer, regulatory, and statutory requirements while continually improving performance. While it can be used in most any application, it is too general to solve the unique problems of different industries.

Accordingly, many industries have built upon ISO 9001 for their specific needs, such as the ICT Industry's TIA TL 9000, Aerospace Industry's AS 9100 and Automotive Industry's IATF 16949.

DCE 9000 has adopted a similar approach, building upon ISO 9001:2026 while adding industry-specific requirements for modern AI-driven digital infrastructure.

Q5: Will DCE 9000 replace any existing standards?

No. DCE 9000 is being developed because there is no equivalent standard available. It will complement, not replace existing standards.

Q6: Does DCE 9000 certification require ISO 9001 Certification as a prerequisite?

Yes. DCE 9000 presumes and sets a prerequisite that certifying organizations already hold an ISO 9001:2026 certificate, OR conduct an integrated certification of both ISO 9001:2026 and DCE 9000.

Certification, Auditing, and Accreditation

Q1: Will the standard be certifiable?

Yes. While the standard can provide value across all conformity assessment approaches, it will be developed as a process-based, certifiable standard to promote independent assessment and certification.

Q2: What kind of training will be available to become an accredited CB? When will training be available?

Omnex will develop training for auditors who will assess organizations against a DCE 9000-based quality management system. This training is expected to be a prerequisite for third-party auditors and is also available to the certifying organization's internal auditors.

Additional courses, including Understanding DCE 9000 and DCE 9000 Implementation, are expected to be offered to support organizations preparing to adopt and implement the standard.

Course availability will be announced at a later date. For the latest information, contact Omnex or visit their website: https://www.omnex.com/.

Q3: How will the auditors of DCE 9000 be accredited?

The Code of Practice (CoP) or Scheme developed in support of DCE 9000 will detail the specific requirements of Accreditation Bodies, Certification Bodies and auditors approved to participate in the DCE 9000 certification program.

To clarify, the CoP describes what is required for Certification Bodies to be accredited. Auditors – themselves – are not accredited, but their roles and responsibilities in performing assessments are covered in the CoP including requisite professional backgrounds and competency requirements.

Q4: How will certification work?

Certification will be similar to other QMSs. Details are beyond the scope of these FAQs; the reader is referred to the following documents for more information:

- QF-050 DCE 9000 Code of Practice
- QF-051 DCE 9000 Certification Guidebook

These documents are expected to be available in Q4 2026.

Q5: What will appear on a DCE 9000 certificate?

Information provided on the actual DCE 9000 certificate will be described within the standard but will likely include:

- A unique identifier or tag for the certification
- The certification status
- Organization information
- Contacts for the certificate holder
- The Certification Body awarding the certificate
- The Accreditation Body that accredited the Certification Body
- The version of the standard used for the assessment
- Organization locations covered
- Any exemptions

The exact information will be provided in the standard. Refer to QF-050 and QF-051 when available for more information.

Q6: How will scope statements be defined?

Defining the Scope of the DCE 9000 QMS is one of the most important considerations in preparing for an assessment and Certification. The Scope defines exactly what organizational boundaries, services, processes, locations, products, and personnel are covered by the certification.

Refer to QF-050 and QF-051 for more information.

Q7: Will multi-site certifications be allowed?

Yes. The DCE 9000 certification program and Code of Practice will be based on widely used industry standards and publications including:

- ISO/IEC 17021-1 - the international standard used by certification bodies (CBs) when auditing and certifying management systems. It contains the foundational requirements for multi-site certification.
- IAF MD 1 – this document from the former IAF, now Global ACI, provides details for the definition of a multi-site organization, eligibility criteria, site sampling rules, amongst other requirements.

Refer to QF-050 and QF-051 for more information.

Q8: Can virtual or remote activities be audited?

Yes. Refer to QF-050 and QF-051 when available for more information. Virtual or remote activities will be influenced by the CB and also have underlying requirements set by industry standards covering auditing of management systems.

Q9: What auditor competencies will be required?

For a standard such as DCE 9000, auditor competency will exceed the traditional ISO 9001 auditor. Auditor competencies will be defined within the Code of Practice and are currently not finalized.

Defined competencies may include:

- QMS auditing concepts
- ISO 9001 experience
- Audit principles and techniques
- Process-based auditing
- Risk-based thinking
- Prevention tools such as APQP, FMEA, and SPC
- Evidence collection and evaluation
- Nonconformity writing
- Corrective action verification
- Root cause analysis
- Performance measurements

Q10: Will accreditation follow ISO/IEC 17021-1 principles?

Yes. The DCE 9000 Code of Practice, which defines the requirements for accreditation, is built up widely used certification standards. Two of the more important are:

- ISO/IEC 17011 – Conformity assessment — Requirements for accreditation bodies accrediting conformity
- ISO/IEC 17021-1 – Conformity assessment — Requirements for bodies providing audit and certification of management systems – Part 1 Requirements

Refer to QF-050 DCE 9000 Code of Practice for a complete list of standards upon which the Code of Practice is based.

Q11: Who are the approved Accreditation Bodies?

Approved Accreditation Bodies (ABs) will be announced at a later time. TIA QuEST Forum has had a long relationship with prominent global ABs approved for other standards.

Q12: Who are the accredited Certification Bodies?

Accredited Certification Bodies (CBs) will be announced at a later time. Numerous prominent global CBs are taking part in the DCE 9000 working group.

Benefits and Business Value

Q1: What benefits will participants gain?

Benefits provided to participants include:

- Reduction in Quality and Reliability issues
- Accelerating time to production
- Bottom-line project improvement
- The opportunity to influence the development of this important new global standard
- Extending and improving maturity of existing quality management systems
- Reduction of duplicative audits in order to streamline supplier qualification
- The ability to network and collaborate with leading industry players
- Gaining insights into the roadmap for organizational planning

Q2: What business problems does DCE 9000 solve?

DCE 9000 is intended to improve the performance of suppliers delivering critical data center infrastructure. It defines common requirements and measurements that customers can use to assess suppliers and drive a common understanding of goals.

Examples:

- Supplier inconsistency
- Rework
- Delays
- Commissioning failures
- System reliability and resiliency
- Quality variability
- Warranty issues
- Supply chain variability
- Commissioning failures
- Audit inefficiencies
- Need for a common industry framework

Q3: How can DCE 9000 reduce project risk?

DCE 9000 helps reduce project risk by addressing recurring supplier performance, quality, and delivery issues before they disrupt execution. Its requirements emphasize prevention and "left-shift" planning, encouraging risks to be identified and controlled earlier in design, qualification, planning, and process development rather than after problems occur in production, installation, or commissioning. This approach helps improve lead time, quality, predictability, and total project cost by reducing rework, delays, failures, and avoidable surprises—ultimately increasing the likelihood of getting it right the first time.

Q4: How can DCE 9000 reduce the need for customer audits?

This is a primary reason for the development of DCE 9000. It will define a common set of requirements, measurements, controls, terminology and vernacular that industry can adopt to avoid the need for individual customers defining proprietary requirements for suppliers. This will reduce the need for suppliers having to meet different requirements from different customers, leading to efficiencies.

The DCE 9000 Code of Practice will set the requirements for Certification Bodies to become accredited, and the competency requirements of their auditors. Having a trusted certification framework will remove the need for customers to perform proprietary audits of their suppliers for capabilities built within the standard.

Q5: What financial benefits can organizations expect?

DCE 9000 will drive improved customer satisfaction by:

- Reduced failures
- Improved uptime
- Reduced warranty costs
- Reduced audit burden
- Faster supplier qualification
- Faster commissioning

All things considered, DCE 9000 will support reduced project times and bring significant investments into production faster, so that operators can improve their ROI.

Q6: How can DCE 9000 help organizations become preferred suppliers?

TIA is not involved in specific business arrangements between suppliers and their customers. Some operators may set certification to DCE 9000 as a condition of doing business, including reference within contracts. Others may encourage suppliers to certify to achieve consideration for approved or preferred vendor lists.

Q7: Who will benefit from this new standard?

DCE 9000 is intended to benefit the entire data center value chain, including operators, EPCs, suppliers, and regulators.

- Operators: demonstrate a commitment to quality and reliability to customers and regulators, ease vendor qualification and improve customer satisfaction.
- EPCs: Improves consistency and reliability across complex builds while reducing rework, delays, and overall project costs.
- Suppliers: create differentiation by demonstrating a commitment to quality, becoming a preferred supplier and growing trusted partnerships. Benefits are to be had through the efficiencies of a single industry standard adopted by both operators and suppliers.
- Regulators: addressing concerns over the rapid building of new data centers, DCE 9000 will provide confidence in quality and resilience.

The standard is intended to build trust between suppliers and their customers, leading to stronger partnerships, greater efficiency, and lower cost across the value chain.

Participation and Industry Engagement

Q1: Who should get involved?

Organizations that will benefit by participating in this initiative include:

- Data center owners and operators
- Equipment manufacturers and suppliers
- Integrators
- Commissioning agents
- Consulting firms
- EPCs – Engineering, Procurement and Construction firms as well as General Contractors
- Accreditation and Certification Bodies
- Quality, compliance and auditing professionals

Q2: Is there a cost to join the effort?

Participation in this activity is limited to TIA QuEST Forum participants. An annual membership fee is assessed based on the size of the organization. Additional benefits are available including participation in other standards activities as well as discounts and preferred pricing.

Contact the TIA Membership Team at membership@tiaonline.org for more information.

Q3: How can I get involved?

TIA encourages broad industry participation. We can assist interested organizations in developing internal proposals and justification for joining the effort. Opportunities to shadow working group meetings are available to learn more.

Interested parties can join the working group by contacting TIA at membership@tiaonline.org.

Q4: Can non-members participate?

Contributing organizations are expected to formally join TIA QuEST Forum to participate in the DCE 9000 working group.

At the discretion of the working group chair and the QuEST Forum Executive Administrator, industry SMEs that are not official members may be invited to contribute to the standard including the review and comment cycle.

Q5: How can organizations influence future versions?

DCE 9000 is an evolving standard that will continue to be refined through future revisions to meet industry needs. Participation in the working group provides an opportunity to contribute input and help shape its ongoing development and adoption.

Q6: Will training materials be available?

Yes, absolutely, training materials are a critical delivery of the program. Omnex, a premier global provider of training and consultation services, will develop and offer professional training courses.

Training materials are especially important to help organizations understand and implement the new standard, but also for ensuring competency of auditors.

Governance and Standard Development Process

Q1: Why is TIA QuEST Forum the right SDO to oversee this effort?

TIA QuEST Forum is an industry association and standards development organization that has been operating for almost 100 years with experience in having developed hundreds of standards for the communications industry. TIA has a full and growing portfolio of standards that address data center design and implementation, as well as cyber and supply chain security.

With more than two decades of experience developing and maintaining the TL 9000 Quality Management System, TIA QuEST Forum is well positioned to lead and oversee this initiative.

Q2: If you are already ISO 9001 and TL 9000 certified, do you need to undergo another ISO 9001 and TL 9000 certification… or is there a process where you can get just add DCE 9000 into your current certification without an additional ISO 9001 audit?

ISO 9001, TL 9000, and DCE 9000 are separate certifications, but they may be audited in an integrated manner depending on the certification body and the organization's existing certifications. If an organization already holds ISO 9001 and/or TL 9000 certification, the initial DCE 9000 audit may require fewer audit days than a fully standalone audit. In many cases, it may be more efficient to assess the management system against the applicable standards during a single coordinated audit cycle. Where the same third-party registrar is authorized to assess both standards, it may also be possible to issue ISO 9001 and DCE 9000 certificates through one integrated audit process.

Q3: Who can participate in the comment cycle?

All organizations in good standing and their assigned volunteers will have the opportunity to participate in the comment cycle. Industry SMEs, peer standards organizations, and government regulators, as examples, may be included in the review and comment cycle.

Q4: How often will the standard be revised?

The standard will have an operating lifetime likely measured in decades. There is no set release schedule for future revisions, this will be a function of evolving industry needs.

Q5: Who controls the standard?

TIA QuEST Forum participating organizations control the standard. The standard is developed by industry volunteers and subject matter experts for the betterment of industry.

TIA QuEST Forum facilitates the development process in accordance with its established Standard Operating Procedures (SOPs), and retains copyright ownership of the standard.

Q6: How are decisions made within the working group?

The TIA QuEST Forum Standard Operating Procedures define how the working group operates, roles and responsibilities, and governs all aspects of standards development. All participating organizations have an equal voice in the development of the standard.

AI and Future Readiness

Q1: Why is AI creating new quality challenges?

The rate of investment and building of new data centers has created or exacerbated industry challenges. Due to the fundamental difference in AI data centers, new types of systems and challenges have emerged, including:

- Larger power systems
- Increased cooling demands
- Exotic liquid cooling techniques including direct to chip
- Heavier racks, which drives floor design
- Fiber-optic intra and internetwork connectivity
- Accelerated deployment schedules
- Supply chain constraints
- Increased reliability expectations

It is important to note that applications of the standard are not limited to AI data centers. By way of example, a power distribution system does not know what it is powering.

Q2: How does DCE 9000 support AI data center development?

DCE 9000 targets suppliers of key data center infrastructure. This infrastructure is independent of the type of data centers and workloads which run within each.

Q3: How does DCE 9000 address resilience and availability?

DCE 9000 drives improved transparency within the supply chain to ensure that critical infrastructure suppliers have implemented best practices and drive continuous improvement in their operations. The net result is more confidence in key critical infrastructure deliverables which are the foundation of a successful modern data center project.

Q4: Will DCE 9000 address lifecycle quality from design through operations?

Yes, with the caveat that DCE 9000 does not apply to data center administration or operations. It is being developed to improve the quality of data center critical infrastructure and the performance of suppliers of such equipment.

Q5: How does DCE 9000 support sustainability goals?

DCE 9000 is a QMS and does not directly focus on sustainability. As DCE 9000 sets a pre-requisite of a certifying organization already having been certified to ISO 9001:2026, a certification to DCE 9000 will inherit its (limited) sustainability requirements, which is expected to further integrate sustainability-related concepts into organizational context and risk considerations.

There are existing standards that focus on sustainability such as ISO 14001, ISO 5001, and ISO 46001 which cover environmental, energy management, and water efficiency requirements, respectively.

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