Developing Standards for the Global Smart City & IoT Infrastructure Industry & Advancements in BICSI Training Programs for Aspiring ICT ACE & PMs

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Vice President Global Development and Support
Agenda

• BICSI Overview

• Developing Standards

• Advancements in BICSI Training
What is BICSI?


BICSI is a non-profit association serving professionals in the Information & Communications Technology (ICT) community

Core Purpose: Advancing the ICT Community

BICSI’s Vision: BICSI will be the preeminent global resource for developing standards, providing credentials, accreditation and knowledge transfer for the ICT community
BICSI Provides the ICT Community with . . .

**Technical Knowledge**
- Internationally Adopted Industry Standards
- Technical Publications & Periodicals

**Professional Development**
- Globally Recognized Credentials
- Training in ICT Design, Installation and Project Management

**Access to Local & Global ICT Communities**
- Educational Conferences & Exhibitions
- Professional Networking
In the Following ICT Community Segments

- Commercial & Residential Infrastructure
- Datacenters
  - Design
  - Operations
- Outside Plant Cabling Distribution
- Electronic Safety & Security
- Building Automation
- Wireless Systems
- Network Infrastructure
- Telecommunications Project Management
- Installation & Verification of Technology Systems
BICSI Serves more than 23,000 ICT community professionals in 100 countries around the world
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Developing Standards for the Global ICT/IOT/Smart City Infrastructure Industry
What are Standards?

A standard is a document that provides rules or guidelines to achieve order in a given context

Source: http://www.etsi.org/standards/what-are-standards
Why Use Standards?

• They address especially the needs for interconnection and interoperability.
  This is particularly important for open markets, where users, who are increasingly mobile, can ‘mix and match’ equipment and services, and where suppliers can benefit from economies of scale

• Standards are equally important for ensuring safety, reliability and environmental care.
  They are also frequently referenced by regulators and legislators for protecting user and business interests, and in support of government policies

Source: http://www.etsi.org/standards/what-are-standards
ICT Standards and BICSI

**IEEE**
Defines the message and transmission characteristics

**ISO/IEC & TIA**
Defines the transmission media and system specifications

**BICSI**
Defines design solutions using transmission media and systems
BICSI International Standards Program

• Focus:
  – Develop standards within all facets of Information & Communications Technology (ICT) infrastructure design and installation

• Details:
  – Over 500 members worldwide
  – Accredited by ANSI
  – Develops international standards and best practices

www.bicsi.org/standards
Information on ANSI

• Promotes the use of standards in the US
• Accreditation body for:
  – Standards Development
  – Credentials (ISO 17024)
  – Testing Labs (ISO 17025)
• Ensures open and impartial processes
• Doesn’t develop standards!
Individual Participation

• An individual who joins the BICSI Standards Program as a member can:
  – Propose new projects for standardization
  – Participate in development of draft standards
  – Comment on work-in-progress in the subcommittee(s)
  – Critique existing BICSI standards
• Travel is not a requirement to participate
• No charge for membership in BICSI Standards
Standards Development Cycle

Industry Needs
Technology Trends
Designers
Suppliers
Clients

Use

Idea to Consensus Body

Draft

Consensus Ballot

Review of Results
BICSI Published Standards

• Building/Facilities
  – Best Practices for Educational Institutions and Facilities (001)
  – Data Centers (002)*
  – Healthcare Facilities (004)
  – Intelligent Buildings and Premises (007)

• Systems
  – ESS (005)
  – DAS (006)*

• Installation
  – Cable Installation (NECA/BICSI 568)
  – ICT Bonding and Grounding (NECA/BICSI 607)*

• Other
  – BIM for ICT (003)

* Available in Spanish
BICSI Standards Update

• Newest Standards:
BICSI Standards Update

• BICSI Standards to be Released:
  – ANSI/BICSI G1-17, ICT Outside Plant Construction and Installation: General Practices
  – ANSI/BICSI N2-17, Practices For The Installation of Telecommunications and ICT Cabling Intended to Support Remote Power Applications
BICSI Standards Update

• BICSI Standards in development (2018 release)
  – D036, *Data Center Operations*
  – D042, Revision of BICSI 004, Healthcare
  – D043, Replacement of NECA/BICSI 568

*Note: D0## is the project number, official designation released close to publication*
BICSI Standards Update

• Outside Plant Construction and Installation in development:

  – D038 – Aerial Pathway: Poles, Holes, Guys
  – D039 – Aerial Pathway: Cabling Install and Lashing
  – Underground and Direct-Buried Pathways Outlined

Note: D0## is the project number, official designation released close to publication
BICSI Standards Update

• Starting Soon
  – Revision to BICSI 002, Data Center Design
  – Revision to BICSI 003, BIM

• Planned Project for 2018
  – Replacement of NECA/BICSI 607: Bonding Installation Practices
Interoperability

BICSI Standards, Design Manuals and Best Practices

- Government Regulations
- Electrical Code
- Building Codes
- Fire Code
- Electrical Standards
- Cabling Standards
- Cabling Pathways and Spaces
- Environmental Conditions
- Building Standards
- Security Standards
Reach of BICSI Standards
BICSI Training & Certification PROGRAMS
2.2 CLASSIFIED INFRASTRUCTURE

Classified infrastructure is any infrastructure that is used to transmit unencrypted classified National Security Information (NSI). Examples would be the infrastructure to support classified networks such as the Defense Internet Protocol Router Network (DIPRNet) and Joint Worldwide Interoperability for Command and Control (JWIC). Coordinate the design of classified telecommunications infrastructure with the Telecommunications Manager and the Certified Technical Authority (CTA) responsible for that area. The following documents may be applicable:

- CAUSAM TEMPEST/1-13 (FOUO) defines the RED/BLACK installation guidance to consider during design and installation, and provides potential solutions (v1)
- OJCS/0035 (v1), provides guidance on Protected Distribution Systems (v1)

2.3 SYSTEM OVERVIEW

Provide a complete, standards based, flexible telecommunications design including telecommunications spaces, pathways, outlets, connections, cabling, grounding, bonding, and static protection in accordance with the following paragraphs.
Telecommunications Designer Program

Manual

Courses

DD101 (online)
Foundations of Telcom Distribution Design

DD102 (classroom)
Designing Telcom Distribution Systems

RCDD Test Prep (online)

Exam
Data Center Design Program

Courses

DC101 (online)  Intro to DC Design

DC102 (classroom)  Applied DC Design

DCDC Test Prep (online)

Exam

Standard

Exam Application and Information Handbook
Outside Plant Design Program

Courses

OSP110 (classroom)
Cable Plant Design

OSP (classroom)
Design Review course

Updated Program Coming May 2018
NEW! Project Management Program

Courses

PM101 (online)  
Intro to Project Mgmt.

PM102 (classroom)  
Applied ICT Project Mgmt.

PM103 (online)  
Advanced PM Tools

Launched July 2017
NEW! Installation Program

V7.0 Launched March 2017

Courses

Installer 1

Installer 2, Copper

Installer 2, Optical Fiber

Technician
VIRTUAL INSTRUCTOR-LED

coming January 2018
Product Placement

- Traditional Instructor-Led Training
- Virtual Instructor-Led Training
- Webinars
- Pre-Conference
- BICSI Connect

BICSI
CONNECT
VIRTUAL
INSTRUCTOR-LED TRAINING
“Technology has not decreased the demand for instructor-led training, but gives instructors new tools to reach learners.”

CITRIX 2016 Benchmark Report: The State of Online Training
Virtual Instructor-Led Training (vILT)

- Live online workshops
- Engaging and interactive sessions
  - Instructor-to-student
  - Student-to-student
- Collaborative and application based
- Focused on relevant trends and industry concerns
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<td>Emerging Topics</td>
<td>• Power over Ethernet (POE)</td>
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<td>• Intelligent Buildings (IB)</td>
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<td>• Distributed Antenna Systems (DAS)</td>
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<tr>
<td>Single Domain of a Job Task Analysis (JTA)</td>
<td>• Data center operations and maintenance assessment</td>
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<tr>
<td>Core Topics</td>
<td>• OSP Installation</td>
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<td>• Network Design</td>
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<td>• Project Management and Cost Estimation</td>
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Schedule & Topics (Example)

- **January**
  - Intelligent Building Design

- **February**
  - Earned Value Management (EVM)

- **March**
  - Network Design

- **April**
  - Power over Ethernet (PoE)

- **May**
  - OSP Installation

- **June**
  - Distributed Antenna Systems
BICSI MEA Conference 2018

A Connected World:
Smart Cities, Smart Building, Smart Infrastructure, and More!
Ritz-Carlton DIFC, Dubai, UAE

• Dates (17th – 19th April 2018)
  – 17th April: Pre Conference Workshops
  – 18th & 19th April: Conference
    • Dubai World Trade Centre (Al Multaqua Ballroom)

For information please contact: bicsimea@bicsi.org
Key Takeaways

- BICSI is an ANSI Accredited SDO

- BICSI Offers Comprehensive ICT Professional Development & Training

- Improve Quality of ICT Systems Deployed Worldwide via, Education, Credentialing & Standards Development

- World Renowned Global Association
Thank You!

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