# TECHbrief

## 007: NEW BICSI INTELLIGENT BUILDING DESIGN STANDARD

The smart building is no longer a vision of the future; it's here and it's in high demand. The surge in smart buildings, also referred to as connected or intelligent buildings, has been driven by the desire for safer, more efficient environments that allow the people within to be as productive as possible.

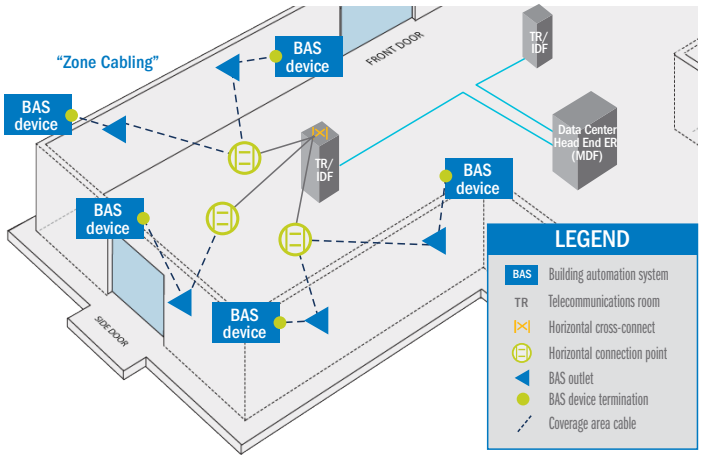
Smart buildings are made possible by the structured cabling which provides the foundation for the communication of information across a wide range of network-enabled devices. The implementation of these devices—as well as their future growth—relies on a flexible high-performance structured cabling system. BICSI recently released ANSI/BICSI 007, a new standard that provides requirements and recommendations for the design and implementation of structured cabling systems within intelligent buildings. Additionally, the standard provides guidance for building automation systems, low-voltage lighting, combined data and power transmission—such as Power-Over-Ethernet (PoE)—and the various other systems that make up an intelligent building.

Key takeaways from ANSI/BICSI 007, which we've summarized below, include how to meet communications infrastructure demands, ensure flexibility for growth and changes in technology, and integrate emerging applications such as network-based lighting controls into the intelligent building.

### Communications Infrastructure Demands for Intelligent Buildings

Data communications in local area networking applications has witnessed an unprecedented evolution over the last 30 years. Gone are the days of multiple disparate communications protocols that often required a variety of different cabling systems to function properly. The Ethernet protocol that was developed and pioneered by Robert Metcalfe in the 1970s would eventually usher in a new age in computing, where device communication could be achieved via a single protocol environment operating over a standardized cabling infrastructure. This structured cabling provides the foundation for the delivery of information across a wide range of network-enabled devices.

By leveraging the requirements that can be found in existing industry standards, such as the ANSI/TIA-862-B and the ISO/IEC 11801-6, the BICSI 007 standard outlines best practices for planning technology spaces, pathways, topology and media selection associated with the structured cabling system. However, BICSI notes that while the standard may be used as a reference to determine design requirements, it is not intended to serve as a step-by-step design guide.




### Ensuring Flexibility

The standard also includes specific design recommendations for the building power distribution, building management system and converged network applications that ensure the building is flexible enough to accommodate changes in technology and the needs of its occupants. For example, the concept of zone cabling is addressed. Zone cabling utilizes a horizontal connection point or HCP between the telecommunication room and the service outlet. This cabling design facilitate moves, adds, and changes of IP-enabled device sensors, control panels, intelligent lighting, surveillance cameras and wireless access points.

### Emerging Lighting Applications


One emerging application of note that is addressed in the BICSI 007 standard is lighting controls. Various lighting topologies are identified within the standard, which include dimming racks, modular lighting control modules, hardwired digital addressable lighting interface or DALI controls, and extra low-voltage lighting control utilizing low-watt remote powering schemes such as PoE.

**Click here** to learn more about the ANSI-approved BICSI 007 standard for intelligent building design.

Learn more about smart building infrastructure design by requesting a free copy of our best practices report at anixter.com/sbguide.