

# NIBS Advancing the Use of IM Standards in the US ISO19650, NBIMS



**Jay Kline | PE, LC, SA**  
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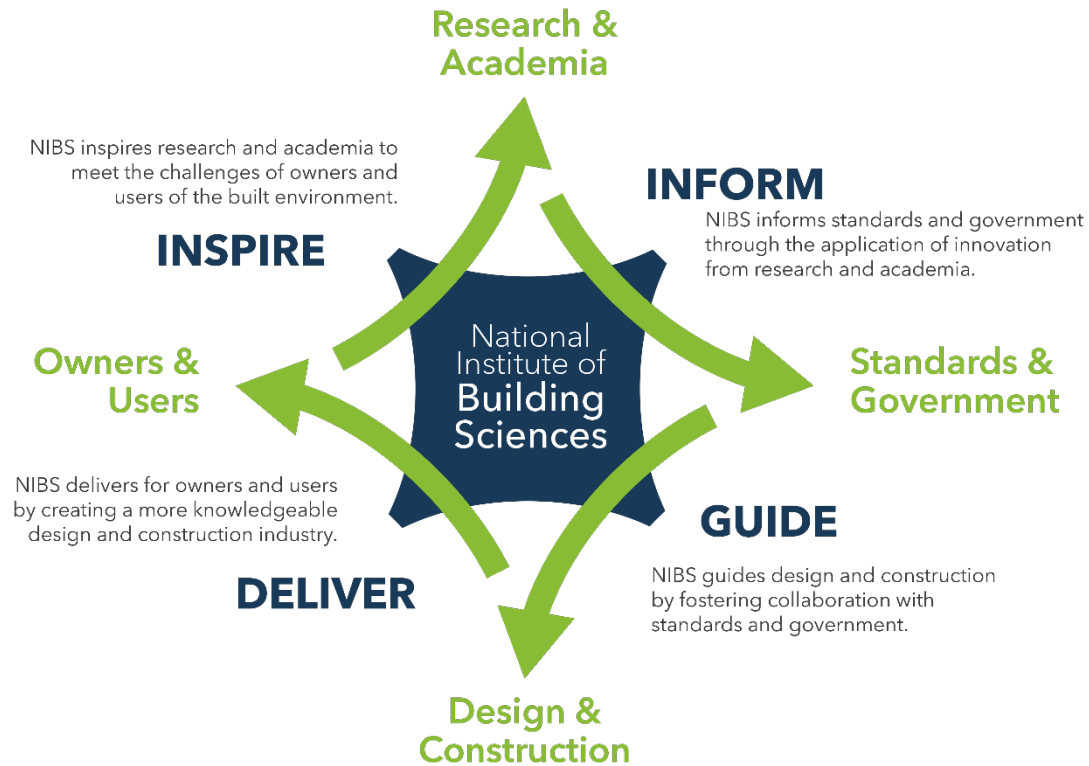


**Roger Grant | FbSI**  
Building Technology Consultant

# Who We Are: The National Institute of Building Sciences (NIBS)

Congress-Chartered, Nonprofit, Public-Private Collaborator for Accelerating Innovation

## NIBS Innovation Cycle



- Established by Congress in 1974 to bridge the gap between government and industry in **improving the built environment on behalf of the public.**
- National **convener and technical integrator** across planning, design, construction, and operations.
- Applies expertise in innovation planning, modeling, data integration, and systems thinking to **support intelligent delivery and management of assets:** facilities, transportation networks, utilities, digital assets, and institutional knowledge.
- Leads digital modernization initiatives such as:
  - **ISO/TC 59/SC 13 TAG Leadership**
  - **Digital Technology Council (DTI-C, NBIMS, NCS)**
  - **Data-Centric Owner Smart Market Report**
  - **FHWA Digital Delivery Stakeholder Group, Central BIM Transportation Library, BIM for Bridges EC**
  - **NAVFAC AI to Streamline Design and Construction**
  - **OBO Modernization Change Management Plan**
  - **OBO BIM & Digital Twin Program**
  - **VA SEPS to BIM Library**

# NIBS Digital Delivery Standards Program Goals

## Advance the use and support of relevant ISO Standards in the U.S.

1. Work with ASHRAE to rebuild and advance the ISO TC59/SC13 Technical Advisory Group (TAG) operations through assuming chair, expanding membership and participation in building and infrastructure domains
2. Publish a U.S. Forward and Annex for ISO 19650 and accompanying Use Guidelines and promote its adoption and use in U.S.

## Expand the capabilities and adoptability of existing U.S. National Standards for buildings and infrastructure

1. NCS V7, NBIMS V4 and ANSI/ASHRAE/NIBS Standard 224 in Infrastructure
2. Establish continuous improvement process for NBIMS through NIBS Digital Technology Council
3. Identify and help meet needs for standards for digital twins and AI
4. Integrate new developments on projects into national and international open standards

## Partner with more Owners on implementation support projects to adopt standard processes for digital delivery in the U.S.

1. Put standards into practice through guided policy, process, data management, change enablement reform
2. Guide implementation of use of open standards
  1. Foster use of ISO Building Information Management standards
  2. Foster use of US National Standards standards
  3. Foster use of bSI standards
  4. Foster development and use of agency-tailored standards to fill gaps



# ISO TAG TC59/SC13

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## Standards by ISO/TC 59/SC 13

### Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM)

Standard and/or project under the direct responsibility of ISO/TC 59/SC 13 Secretariat ↑	Stage	ICS
ISO 7817-1:2024 Building information modelling — Level of information need — Part 1: Concepts and principles	60.60	35.240.67 91.010.01
ISO 12006-2:2015 Building construction — Organization of information about construction works — Part 2: Framework for classification	90.92	91.010.01
ISO 12006-3:2022 Building construction — Organization of information about construction works — Part 3: Framework for object-oriented information	60.60	91.010.01
ISO 12911:2023 Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Framework for specification of BIM implementation	60.60	91.010.01
ISO/TR 16214:2025 Review of geospatial and building information modelling (BIM) terminological entries	60.60	01.040.35 01.040.91 35.240.67 35.240.70
ISO 16354:2013 Guidelines for knowledge libraries and object libraries	90.93	91.010.01
ISO 16739-1:2024 Industry Foundation Classes (IFC) for data sharing in the construction and facility management industries — Part 1: Data schema	60.60	25.040.40
ISO 16757-1:2015 Data structures for electronic product catalogues for building services — Part 1: Concepts, architecture and model	90.20	91.010.01
ISO 16757-2:2016 Data structures for electronic product catalogues for building services — Part 2: Geometry	90.93	91.010.01

ISO 19650-1:2018 Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 1: Concepts and principles	90.92	93.010 35.240.67 91.010.01
ISO 19650-2:2018 Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 2: Delivery phase of the assets	90.92	93.010 35.240.67 91.010.01
ISO 19650-3:2020 Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 3: Operational phase of the assets	90.92	93.010 35.240.67 91.010.01
ISO 19650-4:2022 Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 4: Information exchange	60.60	93.010 35.240.67 91.010.01
ISO 19650-5:2020 Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 5: Security-minded approach to information management	90.20	93.010 35.240.67 91.010.01
ISO 19650-6:2025 Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 6: Health and safety information	60.60	93.010 35.240.67 91.010.01
ISO 21597-1:2020 Information container for linked document delivery — Exchange specification — Part 1: Container	90.20	35.240.67 91.010.01
ISO 21597-2:2020 Information container for linked document delivery — Exchange specification — Part 2: Link types	60.60	35.240.67 91.010.01
ISO 22263:2008 Organization of information about construction works — Framework for management of project information	90.93	91.010.01
ISO/TR 23262:2021 GIS (geospatial) / BIM interoperability	60.60	35.240.67 35.240.70
ISO 23386:2020 Building information modelling and other digital processes used in construction — Methodology to describe, author and maintain properties in interconnected data dictionaries	90.60	35.240.67
ISO 23387:2020 Building information modelling (BIM) — Data templates for construction objects used in the life cycle of built assets — Concepts and principles	90.92	35.240.67 91.010.01
ISO 29481-1:2016 Building information models — Information delivery manual — Part 1: Methodology and format	90.92	35.240.67 91.010.01
ISO 29481-2:2012 Building information models — Information delivery manual — Part 2: Interaction framework	90.92	35.240.67 91.010.01
ISO 29481-3:2022 Building information models — Information delivery manual — Part 3: Data schema	60.60	35.240.67 91.010.01

List downloaded August 18, 2025

<https://www.iso.org/committee/49180/x/catalogue/p/1/u/0/w/0/d/0>

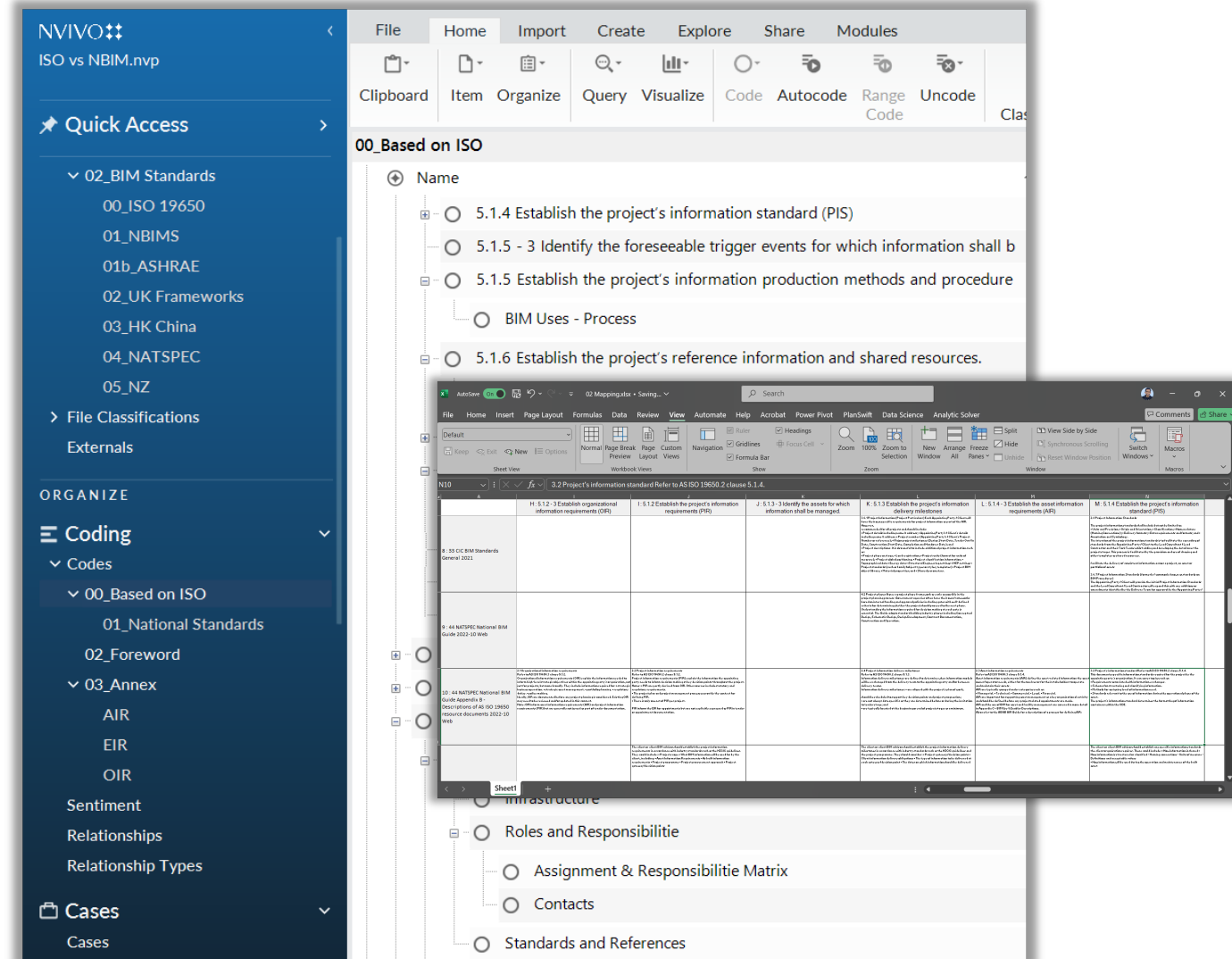
# Conducted Alignment Analysis Between the Standards

## • Coded NBIMS & ISO 19650 Content:

- Imported both ISO 19650 and NBIMS-US into an NVivo database, along with related BIM documents.
- Developed thematic coding based on the clauses in ISO 19650 Part 1, 2, and 3.
- Mapped content from NBIMS-US by applying coding from corresponding clause(s) in ISO 19650 that share conceptual alignment.

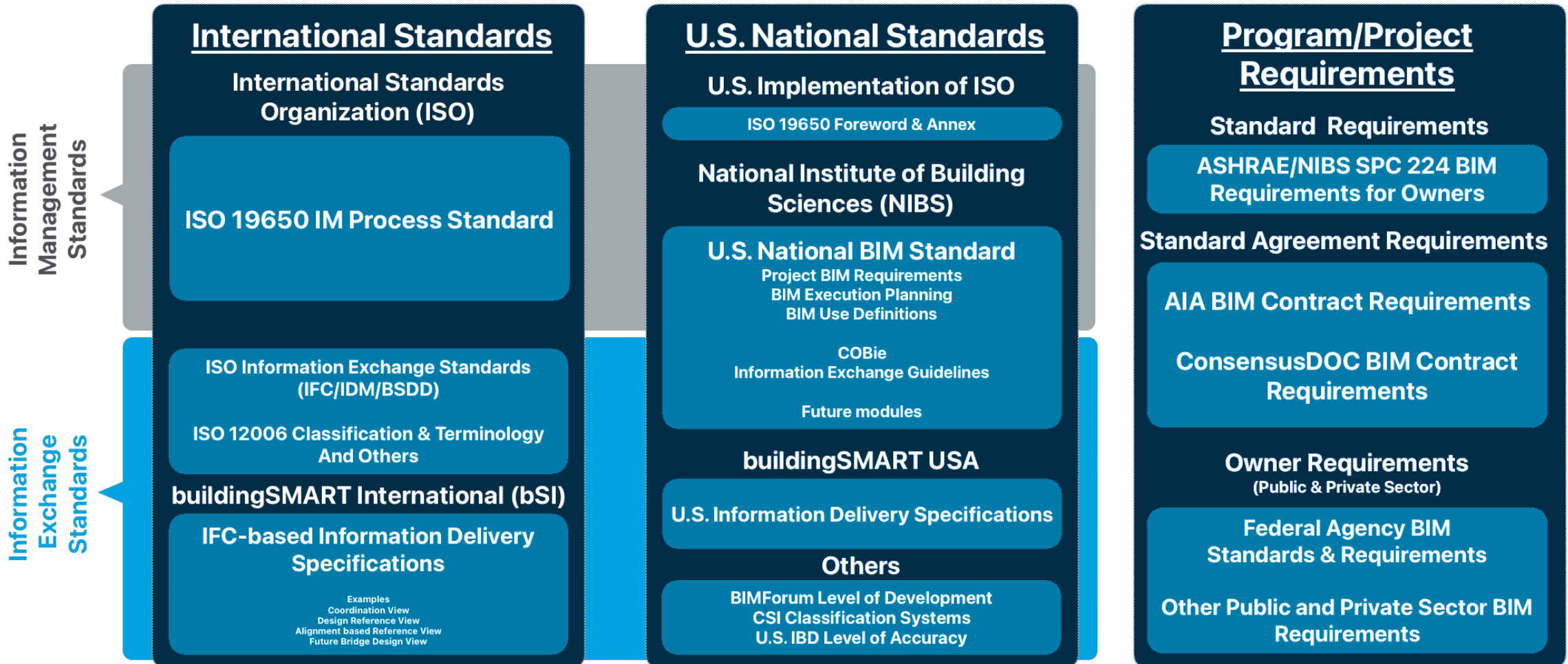
## • Develop Comparison Matrix:

- Created an Excel-based matrix that lists clauses from ISO 19650 in columns and rows containing the standards



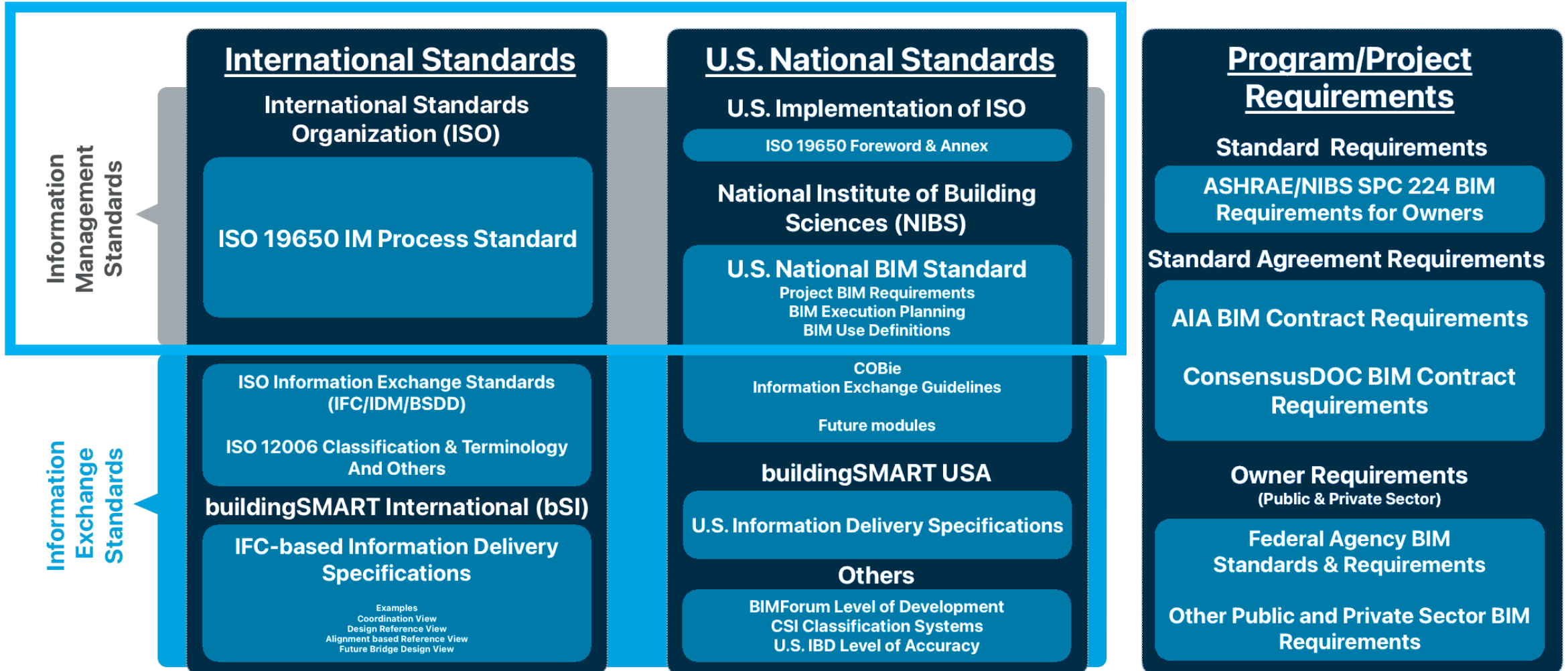
Screenshot from NVivo Software

# U.S. BIM Standards and Guidelines Framework



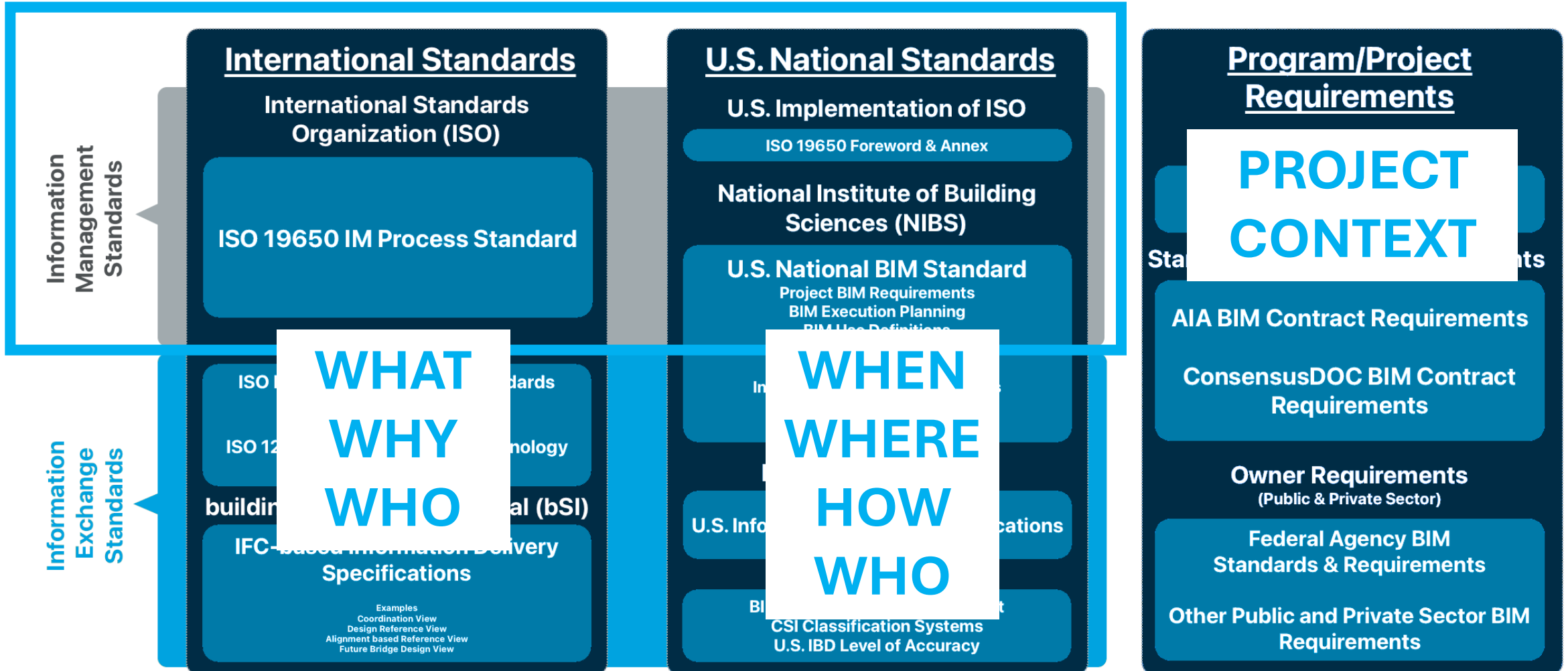
Source: US NBIMS V4 (2024)

# U.S. BIM Standards and Guidelines Framework



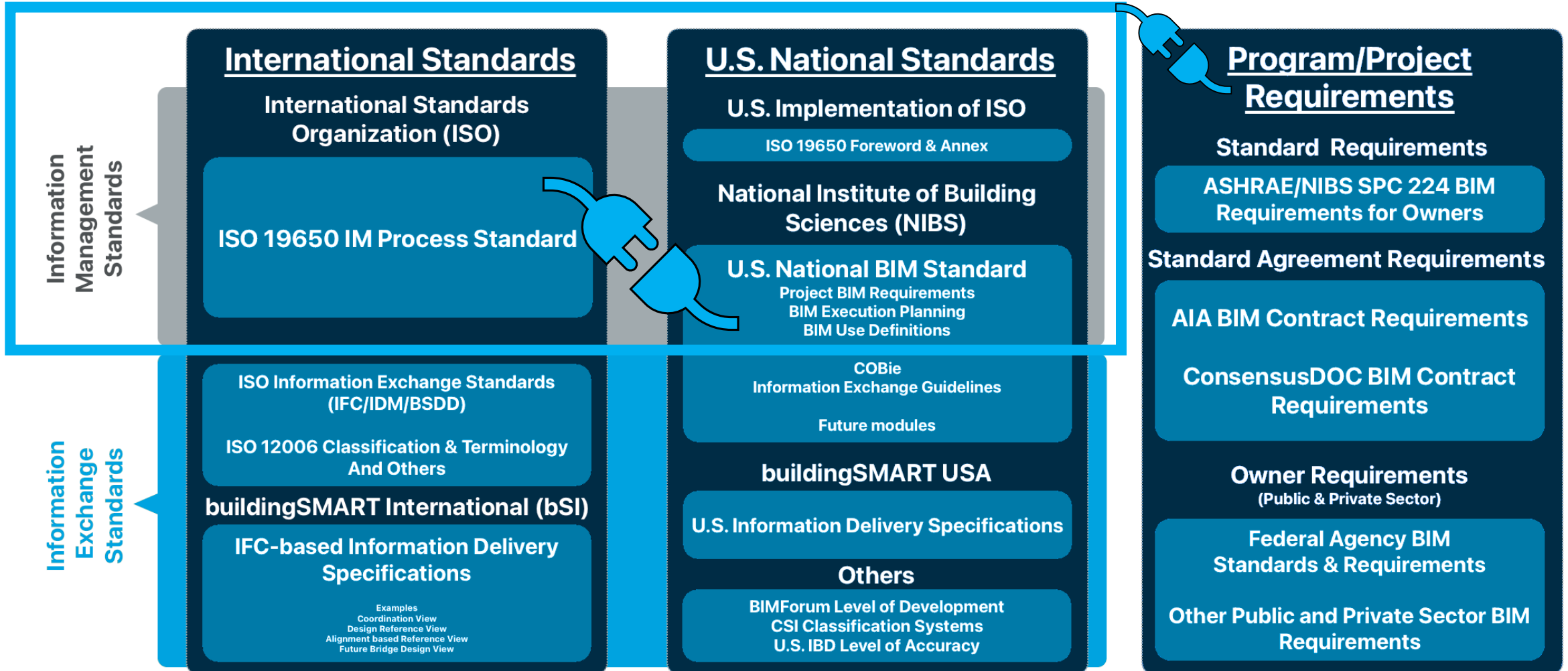
Source: US NBIMS V4 (2024)

# U.S. BIM Standards and Guidelines Framework



Source: US NBIMS V4 (2024)

# U.S. BIM Standards and Guidelines Framework



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# NIBS Digital Delivery Program Goals – Get Involved

## ISO TC59/SC13 Technical Advisory Group (TAG)



<https://forms.office.com/r/ckkgUT6gNP>

**TAG Chair Jay Kline – [jkline@nibs.org](mailto:jkline@nibs.org)**

**Your role - Committee membership and participation**

**Advance the use and support of relevant ISO Standards in the U.S.**

**Foster increased awareness and use of ISO Building Information Management standards**

## NIBS Digital Technology Council



<https://nibs.org/dtc/>

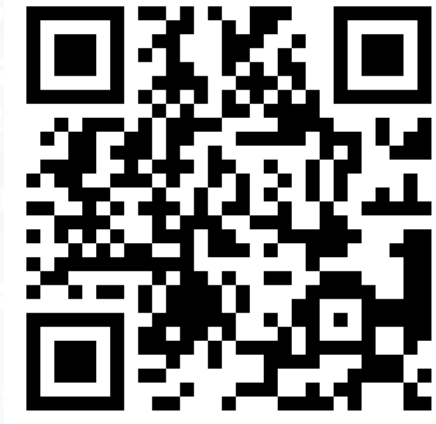
**Council Chair Alex Belkofer – [jkline@nibs.org](mailto:jkline@nibs.org)**

**Your role – Council membership and participation**

**NCS V7, NBIMS V4 and ANSI/ASHRAE/NIBS Standard 224 in Infrastructure**

**Identify and help meet needs for standards for digital twins and AI**

## NIBS Project & Program Support



[jkline@nibs.org](mailto:jkline@nibs.org)

**Your role – Champion change in your organization, Partner with NIBS**

**Sole Source Contracts**

**Pass Through Contracts**

**Grant Writing**

**Other Public and Private Sector BIM Requirements**