

# The buildingSMART Virtual Summit 2020

37 Webinars  
8 Rooms  
Over 56 hours of  
presentations

The virtual summit is open to  
anyone.

One global network.

Join in today.



# Connecting Stakeholders to Value

Virtual Summit CEO Keynote  
building**SMART** International  
May 2020

# buildingSMART

## Mission



**Enable full benefits  
from  
digital ways of working  
in the  
built asset industry**

# buildingSMART

## Values



**Open**

**Neutral**

**Non-Profit**

**International**

# buildingSMART International



Leadership from 2014

Parent body for Chapters

Professional Management Team

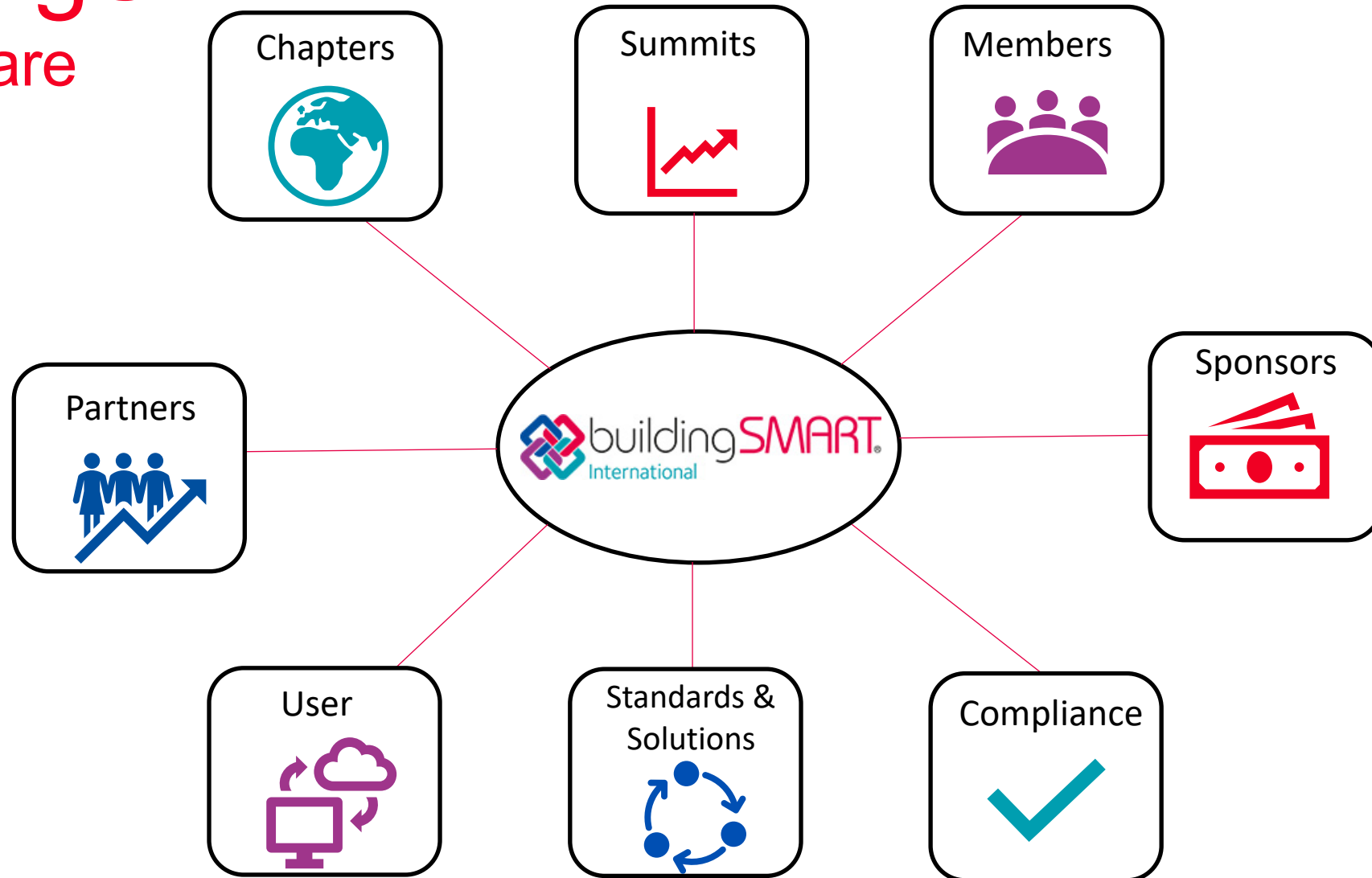
Responsible for three programs

Develops open neutral standards

Delivers open digital solutions

# buildingSMART

Who we are



# SUSTAINABLE DEVELOPMENT GOALS



# State of the Industry

Where we are today

**Fragmented Industry**



**Better Collaboration**

**Disconnected Workflows**



**Digital Adoption**

**Undefined Processes**



**Open Standards**

# Agenda

- **The value of open data standards**
- Delivering value at scale – the journey ahead
- Progress Highlights
- Community

# Open & Neutral Data Exchanges

Open digital ways of working deliver:

- **Flexibility** of choice of technology creates more value to all stakeholders
- **Sustainability** helps future proof your business and control your digital destiny
- **Efficiency** is realized by enabling a digitalization in your organization
- **Access** to new and international suppliers and markets
- **Opportunity** for financial performance improvement delivering short and long-term benefits



# Who benefits from open standards?

## Stakeholder Requirements:

- Independent **control** of your asset and portfolio **data**, strategic data **flexibility**
- Better whole-life **decisions**
- Basis for your **Digital Twin**
- **Transparency** of key indicators
- Improved **quality and cost control**
- **Save money**
- **Non-proprietary data**



# 2019 buildingSMART Award Winner for Design

DBM Vircon (formerly PDC Engineering)

Queen's Wharf Brisbane, Australia



## Open standards enabled:

- 3.6 AUD billion project
- openBIM at the core of the technology
- Over 340,000 square feet of built assets
- IFC file format used as data exchange methodology
- More than 250 design models shared per week
- Hundreds of project participants using a CDE

# 2019 buildingSMART Award Winner for Construction

ICOS Group, BYLOR Group and EDVANCE Group

Hinkley Point C EPR



BSI Awards 2019

## Hinkley Point C

- Construction Category -



Open standards enabled:

- Construction of two EPR plants producing 3.6 GW
- 2.5 million homes will get low carbon energy
- Reinforced fabrication delivered in IFC
- Automated model checks managed for validation and quality assurance
- BIM models delivered to work crews on mobile devices

# Agenda

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# Project Case Study

## IFC Road

**Mission:** Enable the exchange and open data access of geometry, terrain, products and semantic, information for roads. To enable harmonization of bSI roads information with OGC GML, build on international consensus for the proposed IFC schema extension and much more.

**Timeline:** May 2017 – April 2020.

**International collaboration:** 6 bSI Summits and 10 expert panel meetings for project participants

**Resources:**

- Project leaders and project team
- Expert panel
- Infra Room Administrator
- 12 team members (plus 20+ in-kind contributors)

**Funding raised:** €200,000k+

### Project Sponsors



# Project Case Study

## IFC Rail

**Mission:** To set global open and interoperable BIM standards for the rail industry by extending the IFC schema to create the “IFC Rail Candidate Standard”

**Timeline:** April 2018 – October 2019.

**International collaboration:** 4 bSI Summits and 8 expert panel meetings for project participants

**Resources:**

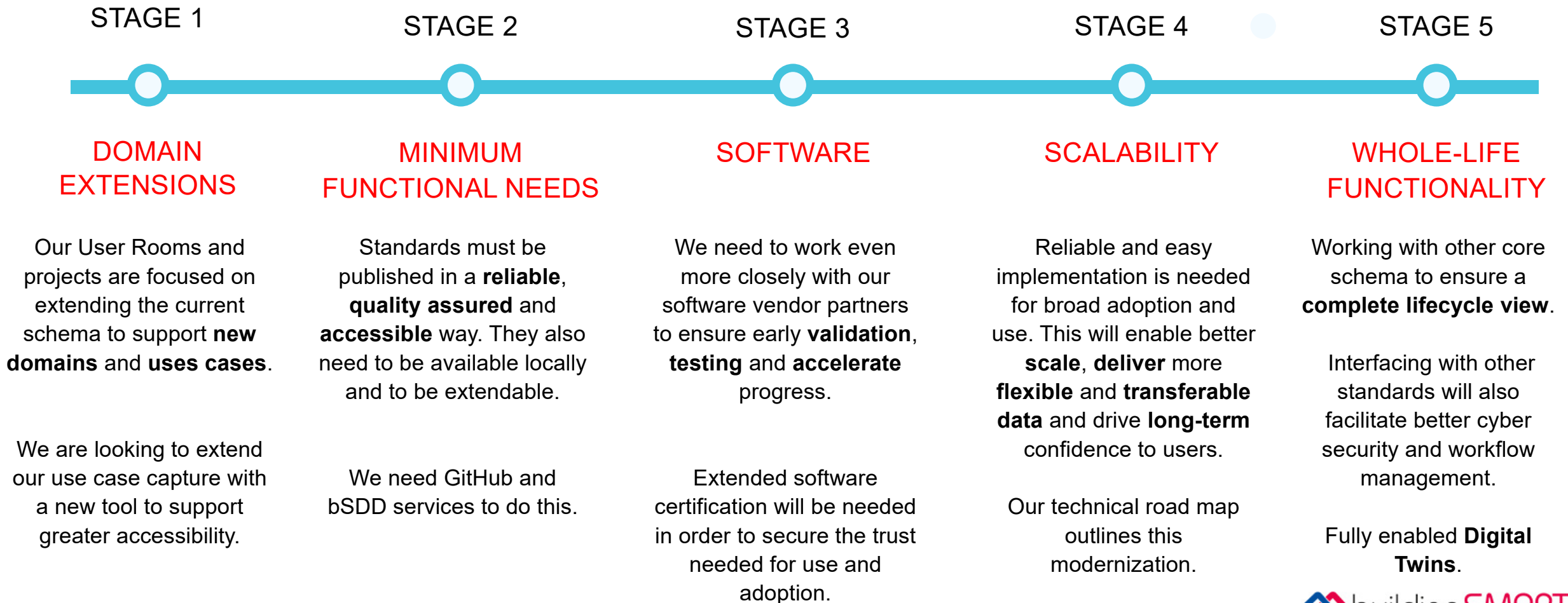
- Project leaders and project team
- Expert panel
- Infra Room Administrator
- 24 team members (plus 70+ in-kind contributors)

**Funding raised:** €2,500,000 +/-

### Project Sponsors

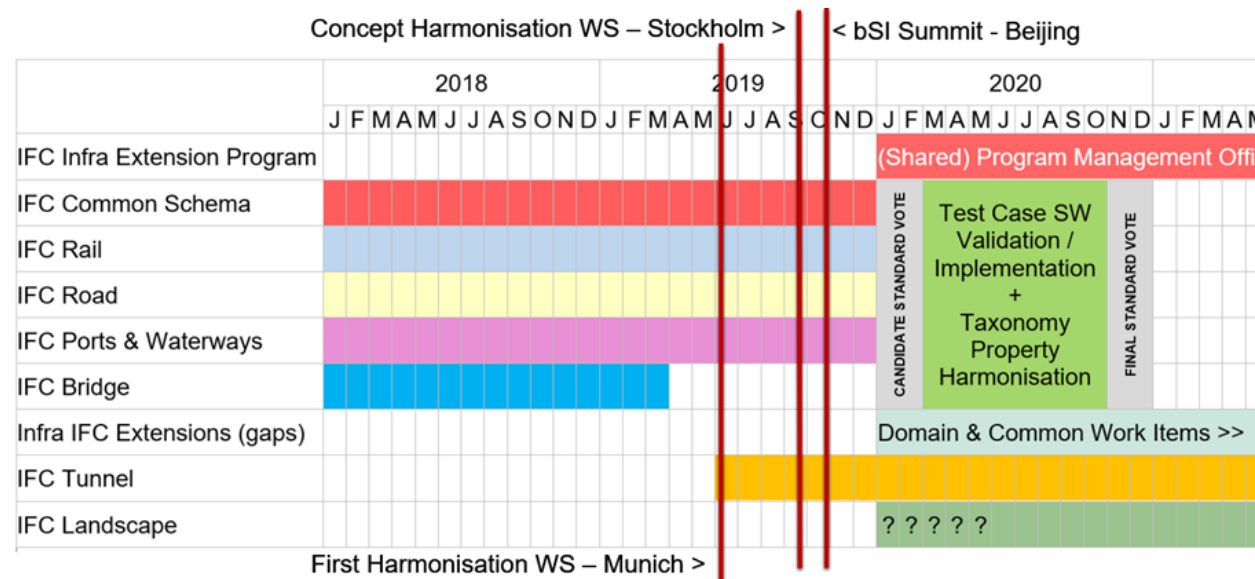


# High Level Roadmap



## STAGE 1:

Examples from the Infrastructure and Railway Room include IFC Rail, IFC Road and the Common Schema projects. As these move to the next phase work is still needed to maintain the work, including funding, calls for participation and collaborative meetings to meet the demands for consensus and liaisons through the bSI Process.



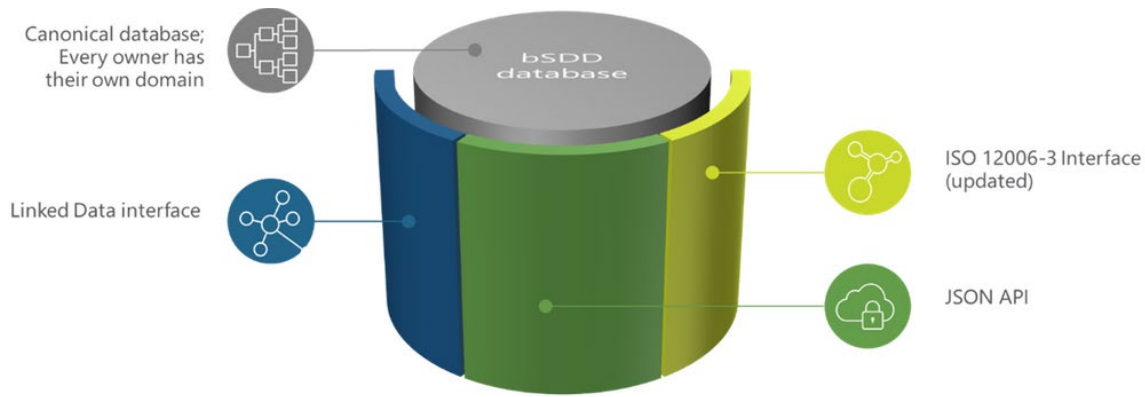
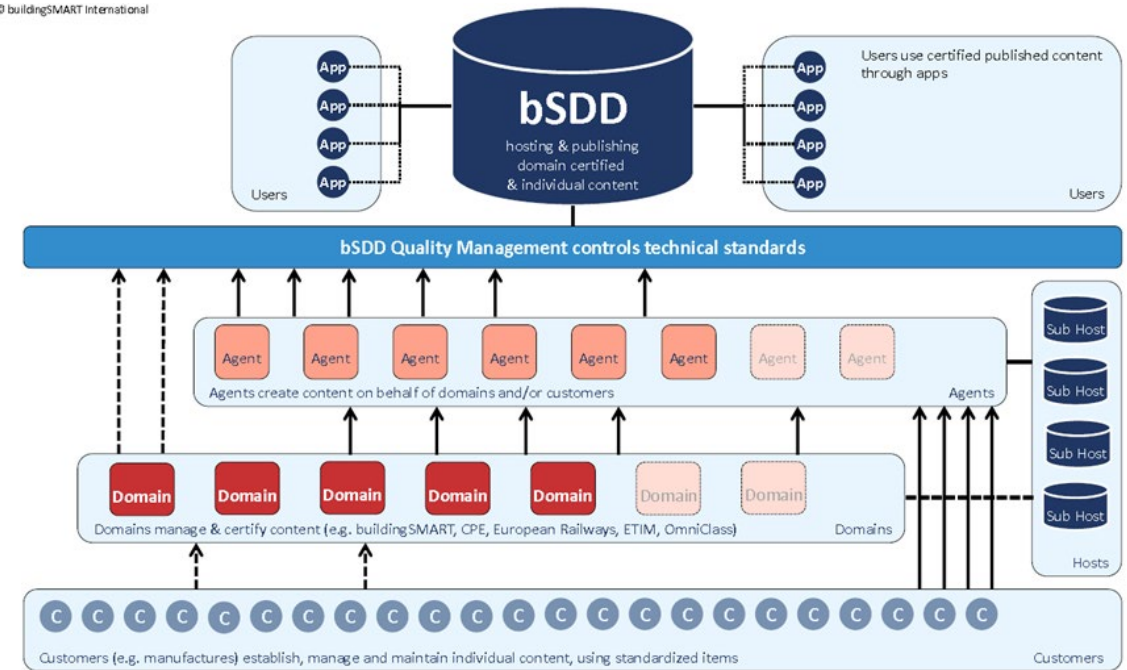
We will continue to expand our domain and regional coverage in response to user demands.

In the fragmented building sector and to take advantage of our extended worldwide network we are developing a broad-based used case management tool and building relationship with professional expert groups.

## STAGE 2: MINIMUM FUNCTIONAL NEEDS

As well as standards we must provide some core services in order to enable their use

Once enabled our standards will be able to support open Digital Twins



## CORE SERVICES

Ongoing development and publication needs to Quality Assured using GitHub to create trust

For use around the world and in other workflows our standards require local and extended semantics. This will be provided by bSDD

# STAGE 3: SOFTWARE

## VERIFICATION

Early and increased engagement with vendors is vital to support deployment testing and early use



## CERTIFICATION

We must continue to focus on the reliability of our standards and high-quality implementations will always be critical

As the scope and technologies change, we must continue to evolve our certification regime.

## STAGE 4: SCALABILITY

To drive wide scale implementation and adoption our standards must adapt to modern computing science techniques.

This is why our technical road map is so vital

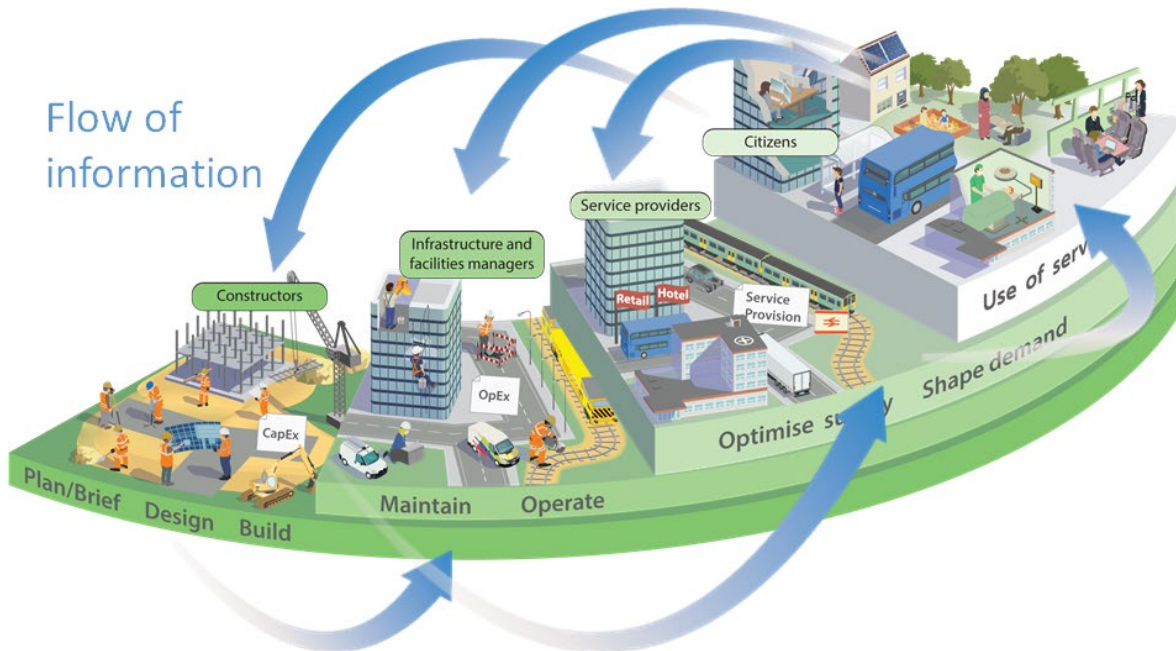


Flexibility transferable data  
Access cloud computing  
Simpler implementation  
Easy support for multiple domains  
Reliability

Long term data confidence for clients

## STAGE 5: WHOLE-LIFE FUNCTIONALITY

Working with other core schema to ensure a complete lifecycle view, enhance workflow capabilities and deliver broad open Digital Twin capabilities.



### Trusted and Reliable

Interfacing with other standards will also facilitate better the cyber security and workflows management needed for trusted and reliable open Digital Twins.

# Technical Roadmap buildingSMART

*Getting ready for the future*

## **Virtual Summit Presentation:**

12<sup>th</sup> May 2020, 08:00 a.m. – 10:00 a.m. (CEST)

12<sup>th</sup> May 2020, 17:00 p.m. – 19:00 p.m. (CEST)

Léon van Berlo, Technical Director

# Professional Certification Status

## 15 Chapters (21 countries) involved!

Germany operating since October 2018:

26 Training Providers

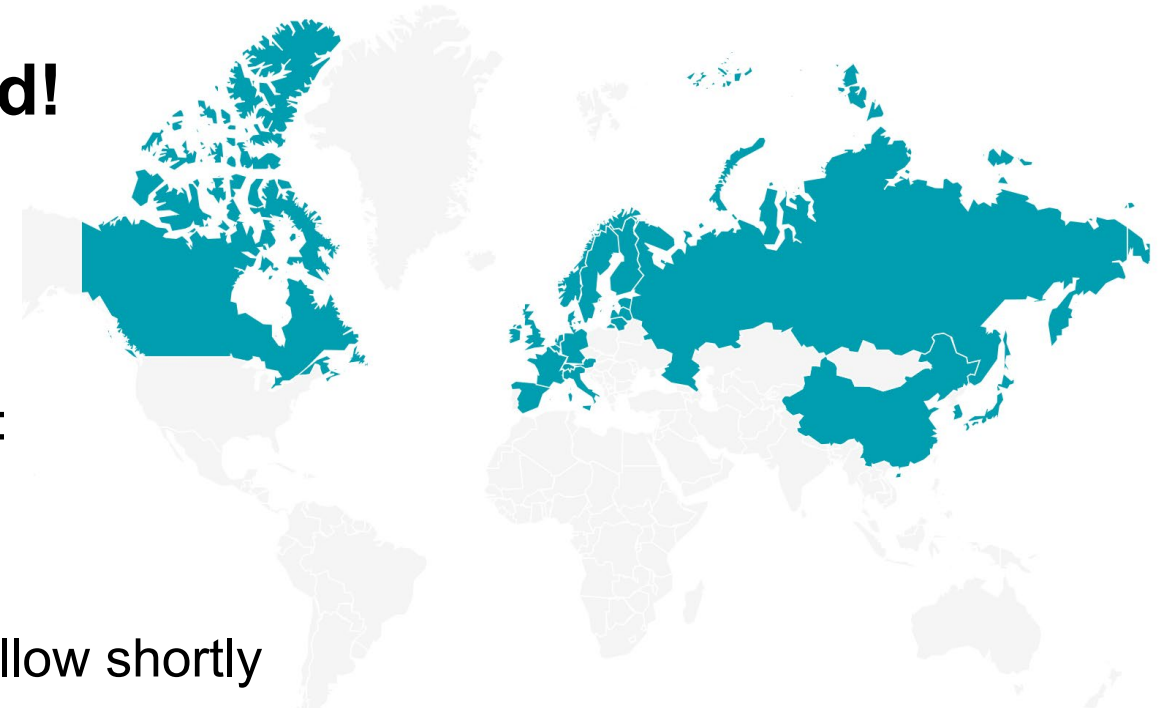
< 1,000 Qualified Individuals

Switzerland operating since September 2019:

9 Training Providers

Ca. 170 Qualified Individuals

Italy and Austria had first exams; Russia to follow shortly



# Professional Certification

## Levels and modules

### Professional Certification Practitioner

Applied learning / practical expertise

COBie  
Certified  
Professional

XXX

YYY

ZZZ

### Professional Certification Foundation

Knowledge-based learning

Energy  
Performance

Owner

Contractor

Designer

Facility  
Manager

Basic

# Agenda

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- **Progress Highlights**
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# In the News

## Standards Development

News!

In recent months, Rooms have delivered significant pieces of work including:

- **The bSI Process**
- **IFC Road, Bridge, Ports & Waterways Extensions**
- **IFC Rail Project Candidate Standard**
- **Rail Client Stakeholder Analysis**
- **IDBE Technical Report**
- **Geo-referencing Guide Technical Report**

Built environment data standards and their integration:  
an analysis of IFC, CityGML and LandInfra



Image credit: [@loregional](#)

Version 1.0 • 02 March 2020  
OGC Document 19-091r1  
bSI TR1012

OGC®  
Making location count.

buildingSMART®  
International

IDBE v1.0, March 2020

Open Geospatial Consortium & buildingSMART International

Page 1 of 16

Model Setup IDM - "How to Setup Geo-referencing in a  
Building or Linear Infrastructure Model"  
[Appendix B: Geo-referencing BIM](#)



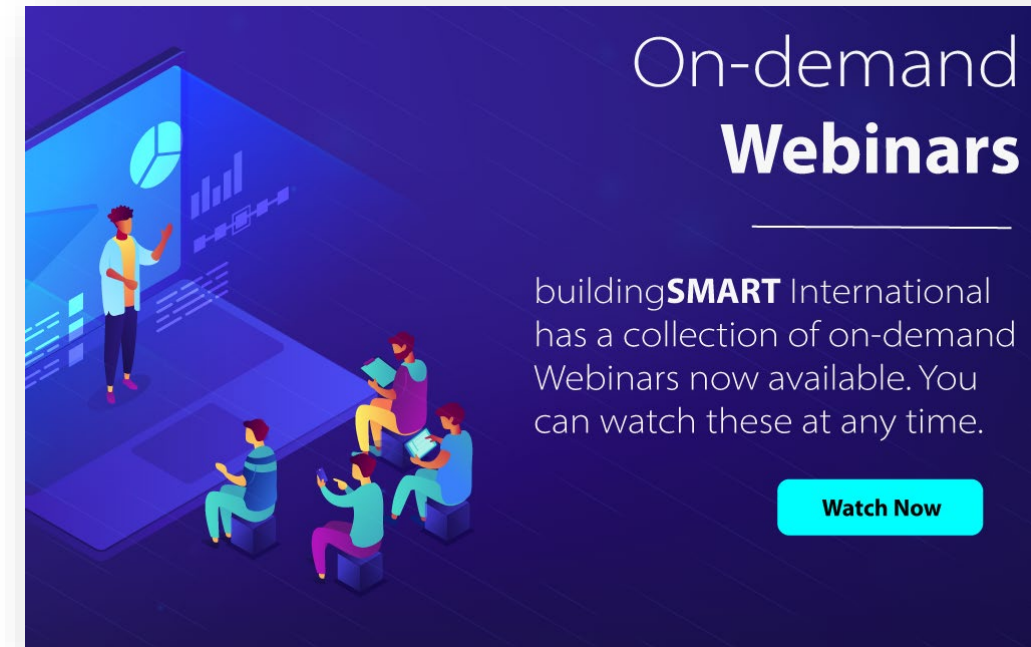
Melbourne, Australia. Source: Fender Katsalidis, Architects

# In the News

## Webinar Program

buildingSMART International has delivered many Webinars. Some highlights include:

- **Infra Room** Expert Panels
  - IFC Tunnel
  - IFC Road Project Conclusion
- **BIM and Geospatial**: Learning from Practitioners with OGC
- **Bexel** Multinational member webinar. **1,100 registered** and over **500** in attendance.
- **Benchmarking the Current Status for BIM in Europe**
- **The Value of the Digital Built Environment** with IBM, GS1 and Cobuilder



# In the News

## Digital Twins – Working Group



buildingSMART International is leading a Digital Twins Working Group comprising members and academia.

The aim is to:

- A clear definition of Digital Twins
- Deliver a Positioning Paper
- Create a Working Group for the community to participate in.



*(from left to right - Mark Enzer, André Borrmann, Juergen Gerecke, Wolfgang Hass, Léon van Berlo, Natalie Weiss, Christian Frey, Ulrich Hartmann, Jakob Beetz, Frank Weiss, Aidan Mercer)*

# Summit Germany

**1356** for the entire week, including the German User day  
A new record of **745** attendees for the working week  
**486** for the opening plenary



# Summit China

## The International Standards Summit, Beijing

- Over 1500 attendees
- 40,000+ people watched online
- Oracle announced as a Strategic Member of bSI
- National news channels covering the event
- Proposal for a new Power Room
- IFC Rail Reached Candidate Standard
- Women in Leadership lunch
- 11 award winners





2020  
Awards  
Open

# The buildingSMART International Awards Program 2019

109 Project  
Submissions for 5  
categories

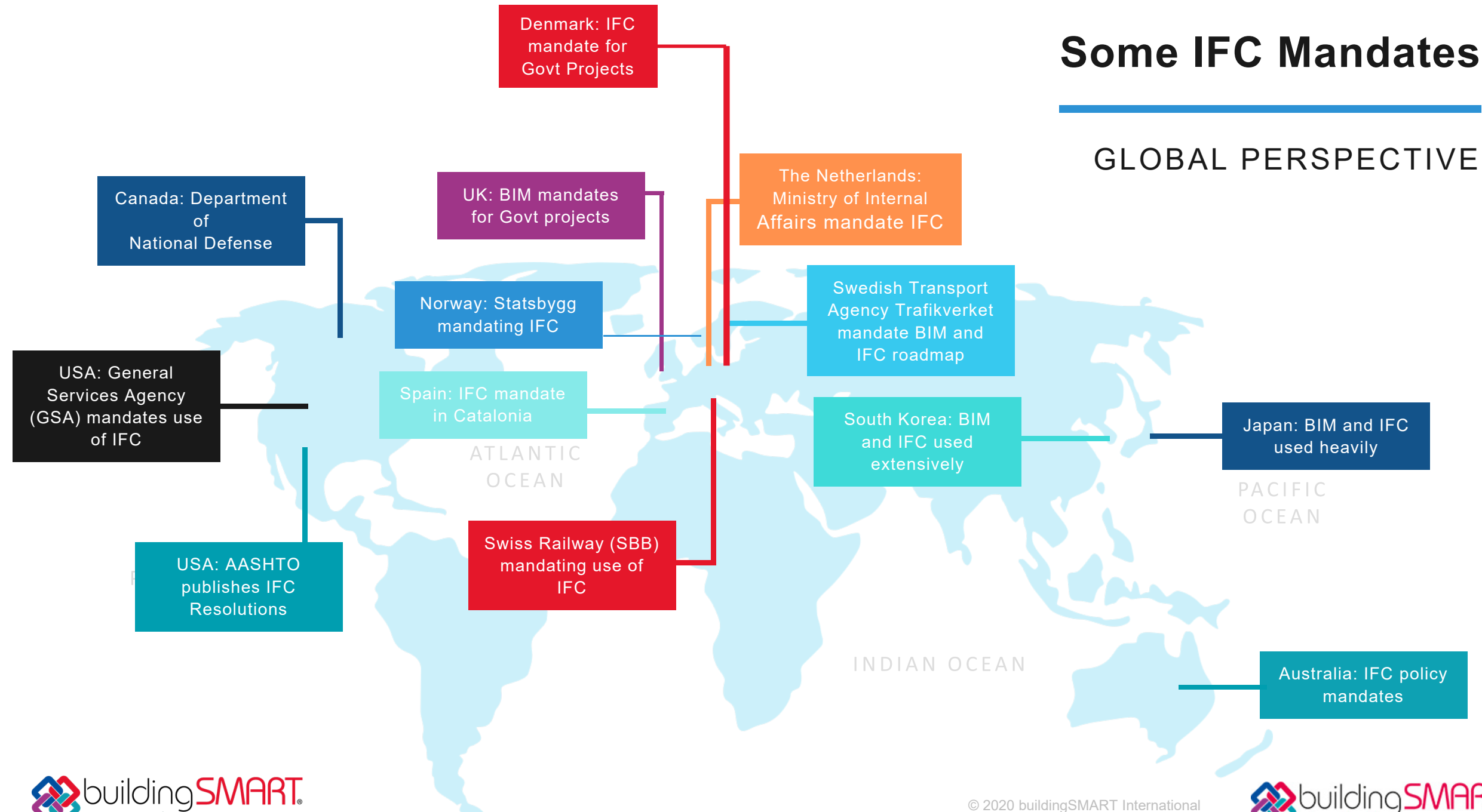
27 different  
countries with over  
50 use cases cited

67 jurors came  
from 19 different  
Chapters

5 category award  
winners and 6  
special awards

# Some IFC Mandates

## GLOBAL PERSPECTIVE



# AASHTO IFC Resolutions



American Association of State Highway  
and Transportation Officials  
Standards Setting Body



## **Proposed Administrative Resolution PAR-19AM-01**

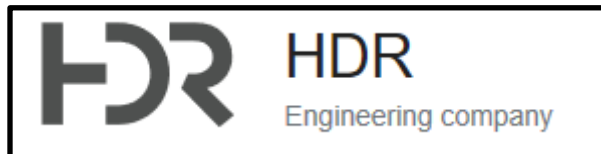
**Title: Adoption of Industry Foundation Classes (IFC) Schema as the Standard Data Schema for the Exchange of Electronic Engineering Data**

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*Resolved*, That the AASHTO Board of Directors recommends the adoption of IFC Schema as the national standard for AASHTO States;

*Resolved*, That an internal, cross-committee, multi-disciplined group within AASHTO should be formed to coordinate schema development, identify gaps, resolve any conflicts, and avoid duplication of efforts; and

*Resolved*, That possible AASHTO membership in buildingSMART International should be investigated to provide representation and participation for the state DOTs in schema development.



# UK BIM Interoperability Expert Group

## Primary recommendations:

- Classification Schema Alignment
- COBie – Practical Application and Development
- Education and Skills
- Industry Foundation Classes (IFC)
- Standards

## Secondary recommendations:

- Asset Information Model (AIM) Common Data Environment
- Standard Data Approach
- Procurement and Contracts.



BIM Interoperability Expert Group  
(BIEG)

March 2020



# Agenda

- Value of open standards
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- Progress Highlights
- **Community**

# Partners



# Project Sponsors



aconex

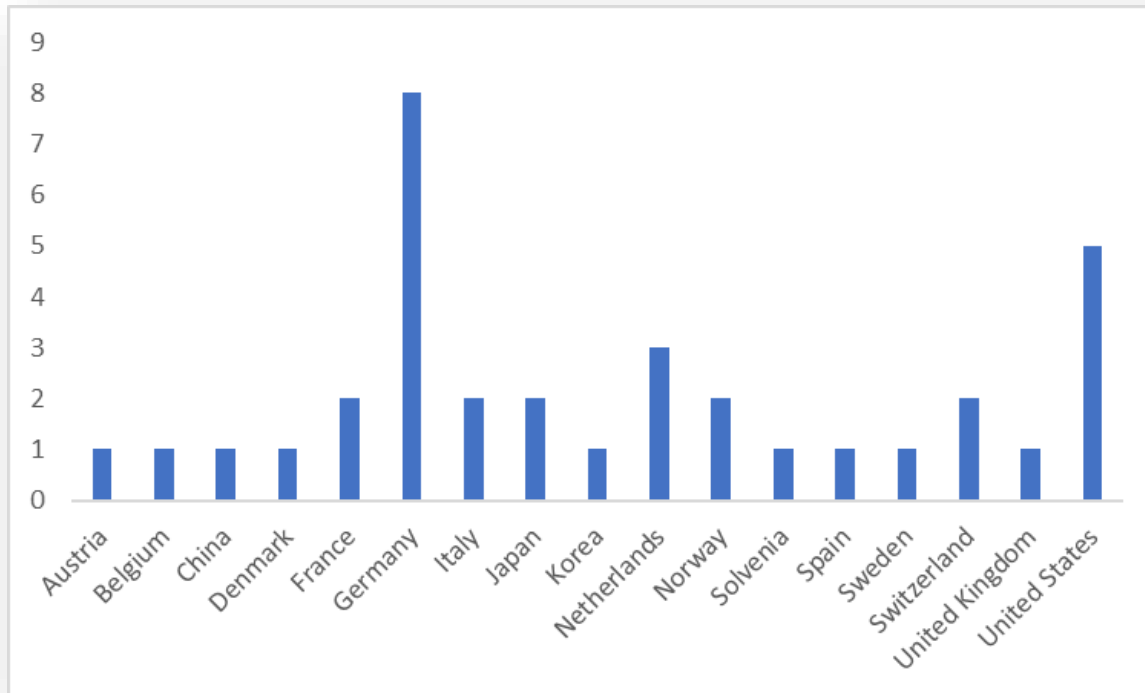
aplitop

APOGEA  
Virtual Building Solutions

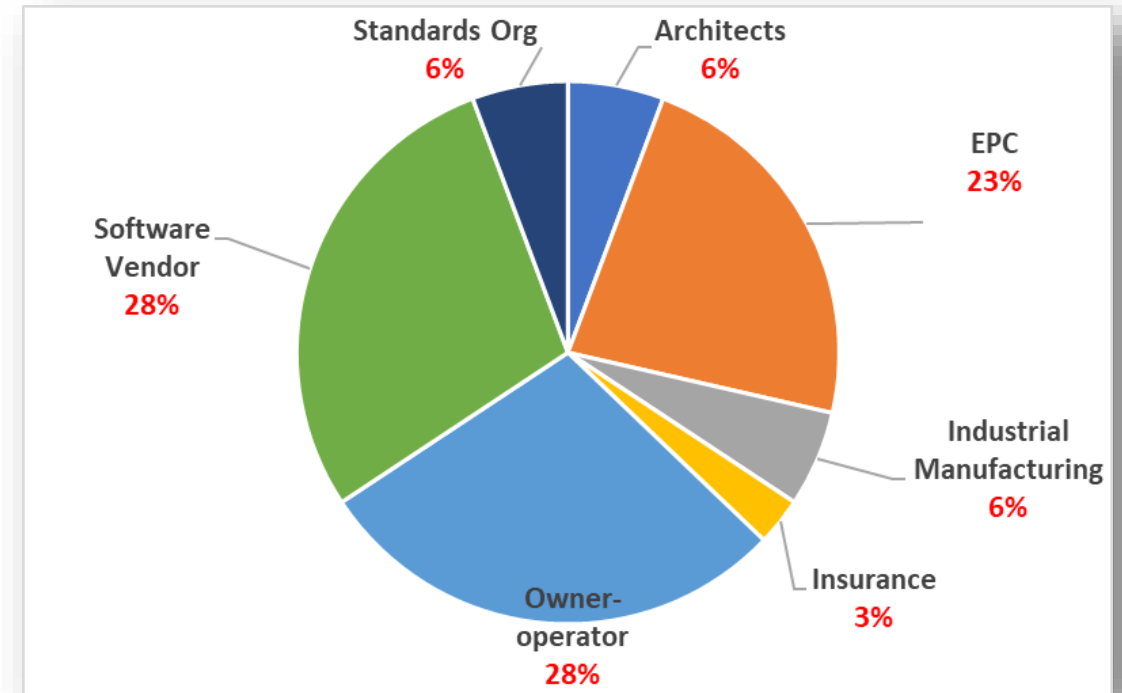


# Organizational Membership

Members by country



Members by type



# New Members

- Esri (Multinational)
- Shimizu Corporation (Multinational)
- Network Rail (Standard)
- Geodata (Standard)



# Members - Strategic

ARUP



CCCC  
CHINA COMMUNICATIONS CONSTRUCTION COMPANY



NEMETSCHEK  
GROUP

ORACLE

SIEMENS  
*Ingenuity for life*

# Members - Multinational



# Members - Standard



**Basler & Hofmann**



**ferrovial**  
agroman



**Gräbert**  
The Trinity of CAD  
Desktop - Mobile - Cloud



**mensch**  **maschine**  
CAD as CAD can



**POLITECNICO**  
MILANO 1863



Rijkswaterstaat  
Ministry of Infrastructure and the  
Environment

**SAMOO C.M.**



**TNO** innovation  
for life



# Chapter Developments

## A growing network

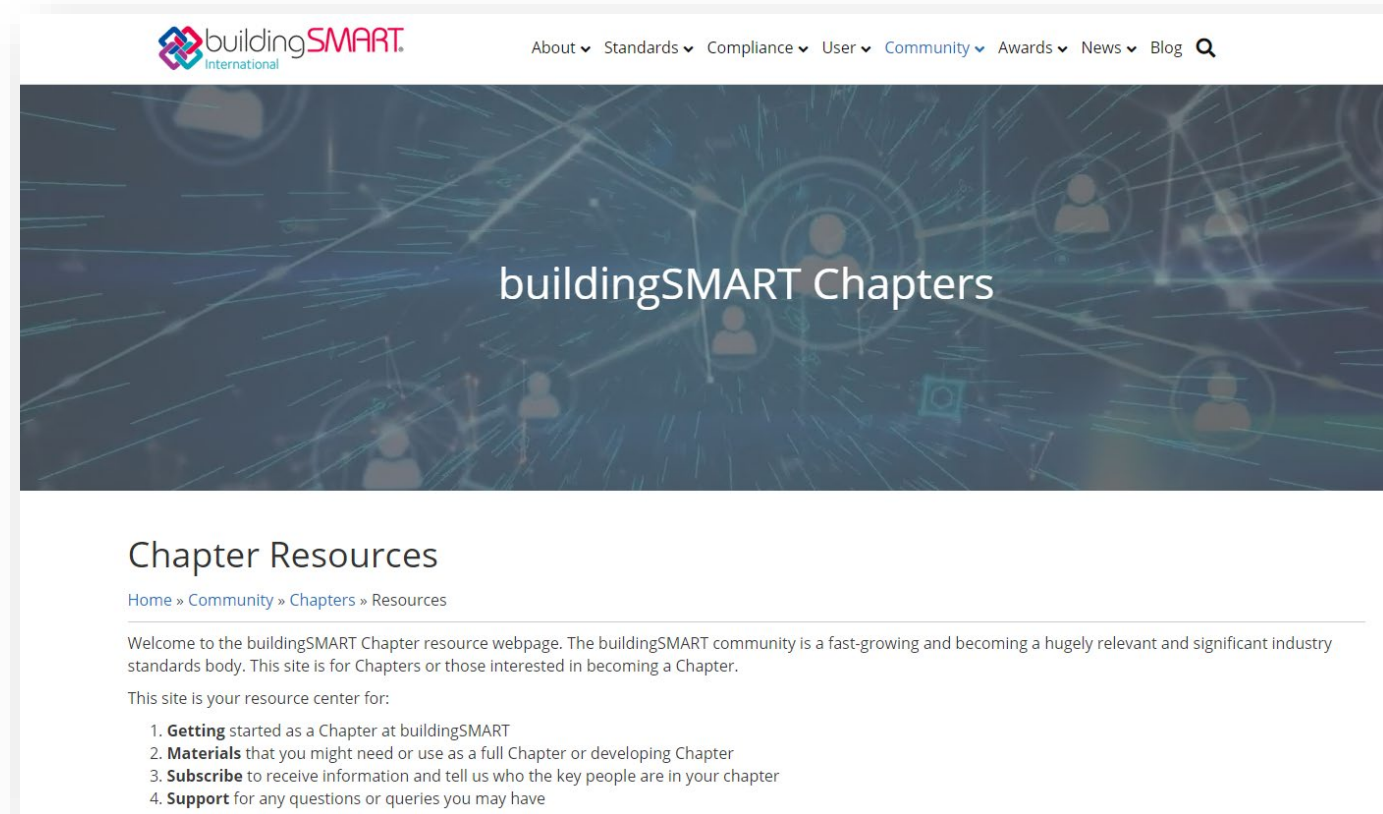
There have been some changes, new requests and Chapter developments in 2020.

### New Chapters

- Sweden
- Denmark
- Finland
- Turkey

### In Progress

- USA
- United Arabs Emirates
- Lithuania



# Chapter Community as of March 2020



Austria



Australasia



Benelux



China



Canada



Denmark



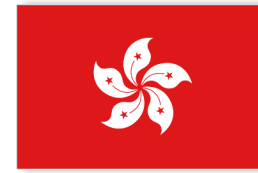
Finland



France



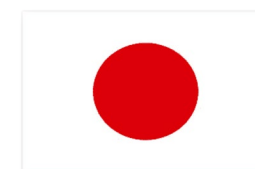
Germany



Hong Kong



Italy



Japan



Norway



Poland



Russia



Singapore



South Korea



Spain



Switzerland



Sweden



Turkey



USA



UK&Ireland

# Membership

## New category: Principal

A new membership category is now available. Principal membership who wish to target their engagement to support our technical developments.

Benefits include;

- A seat on the Standard Committee Technical Executive (SCTE)
- Voting right on the SCTE (1)
- Allocation of 50% of annual dues toward the Technical Roadmap
- And more!

Membership Benefits	Principal
Organization logo on the bSI website	✓
Organization description on bSI website	✓
Access to exclusive membership portal via ShareFile	✓
Link to your organization's website	✓
Exclusive use of bSI logo	✓
Promote your news through RSS feed	✓
Project participation	✓
Room steering committee access	✓
Standards Committee voting rights	✓
buildingSMART membership in one chapter	✓
One webinar per year on the bSI platform	✓
Provide blog content for the bSI website	✓
Use of bSI approved case studies	✓
Technical Roadmap funding	✓
Voting rights on the SCTE	✓

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<https://info.buildingsmart.org/virtual-webinars>



# Thank You

Richard Petrie, Chief Executive