



# bSDD – using data dictionaries in practice

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buildingSMART International

\* ABC.pdf: „Each wall in the model needs an XYZ code and environmental impact information.” \*

\* Puts data in custom properties \*



No problem, I've got a script for that...

\* Building gets completed \*

Designers prevented thousands of potential clashes

We got some data

# 30 YEARS LATER

AI: From the file I can only read that the slab has a „CO2e” property with value 42.0, which might mean 42kg of carbon dioxide emissions. The data doesn't say if that includes logistics and assembly or only manufacturing. The data trustworthiness is low.



What is that...

Can you tell me its global warming potential?

This data is crap, I can't trust it.

LET'S START  
OVER AGAIN

\* Receives a machine-interpretable specification \*

\* Easily loads the codes and properties into BIM software \*

\* Prepares the data according to requirements \*

\* Automatically gets feedback if data is wrong \*



Additionally, each property has a unique identifier in the form of an interactive link allowing to read the definition, understand meaning, find underlying standards, mapping to other ones, as well as translation, and much more...

\* Building gets completed \*

We got the data we wanted. How we wanted.

The as-built model was automatically integrated with AM platform

# 30 YEARS LATER

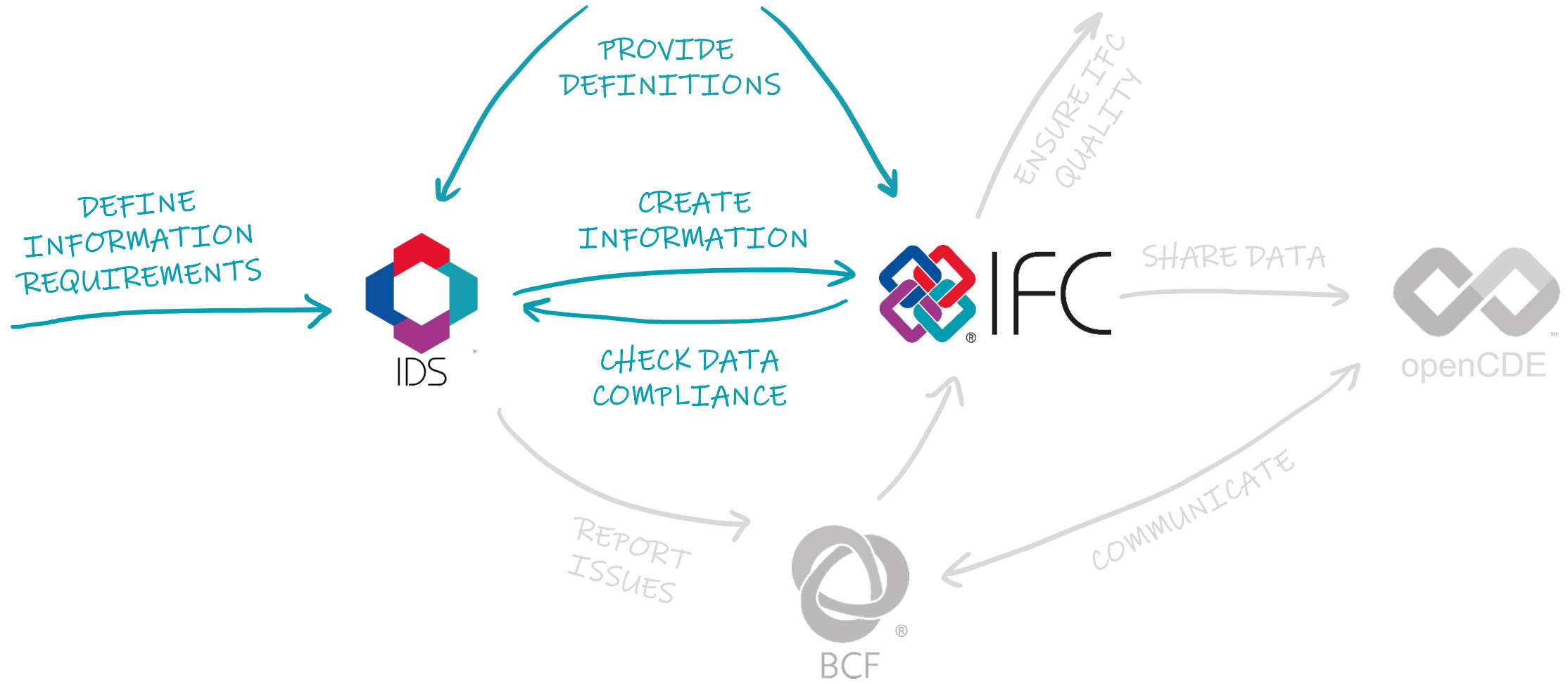
\* Loading the IFC content over API \*



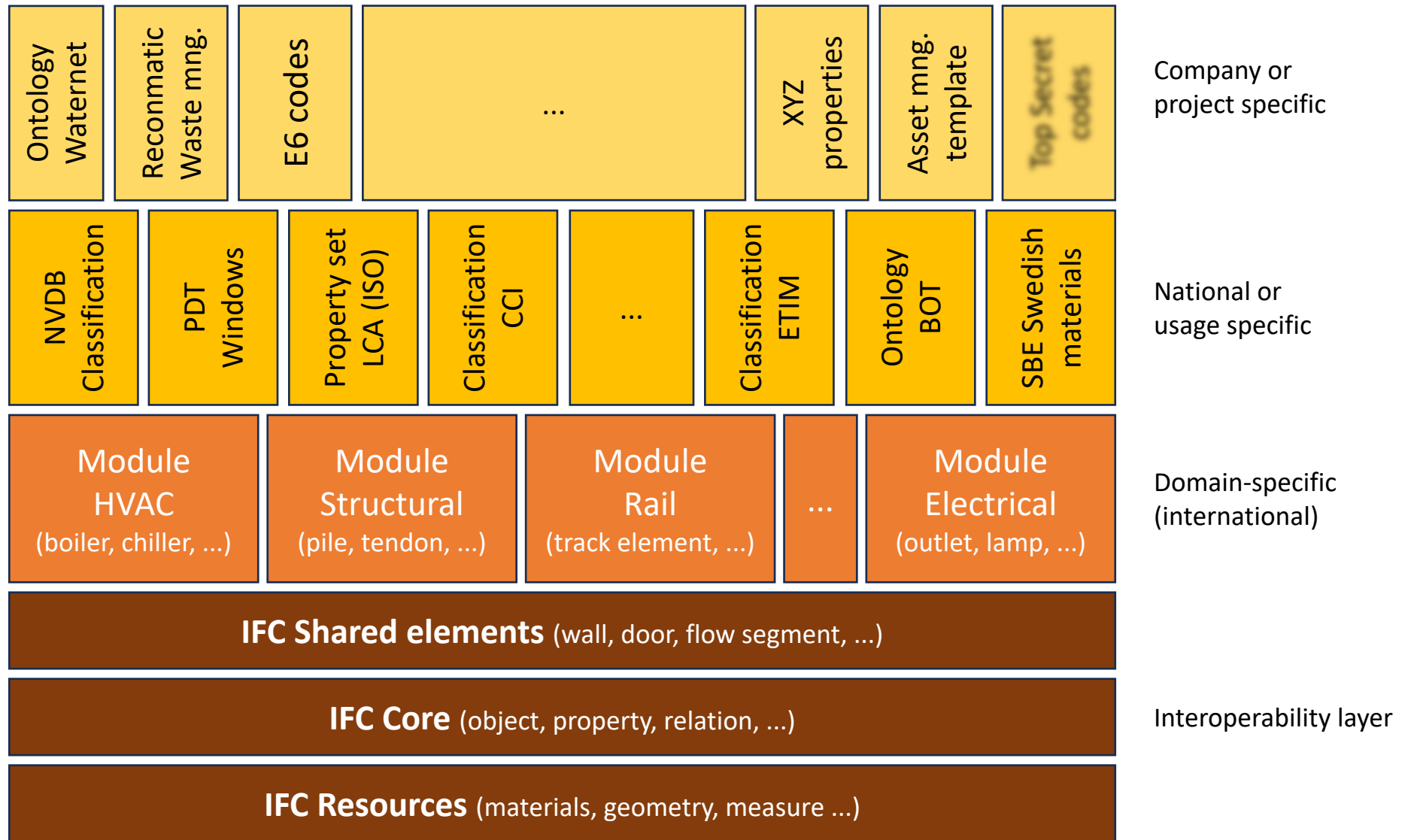
As expected. I have the data I  
Can you tell me its global warming potential?  
But I don't have to, because I know it's the same as in other models.

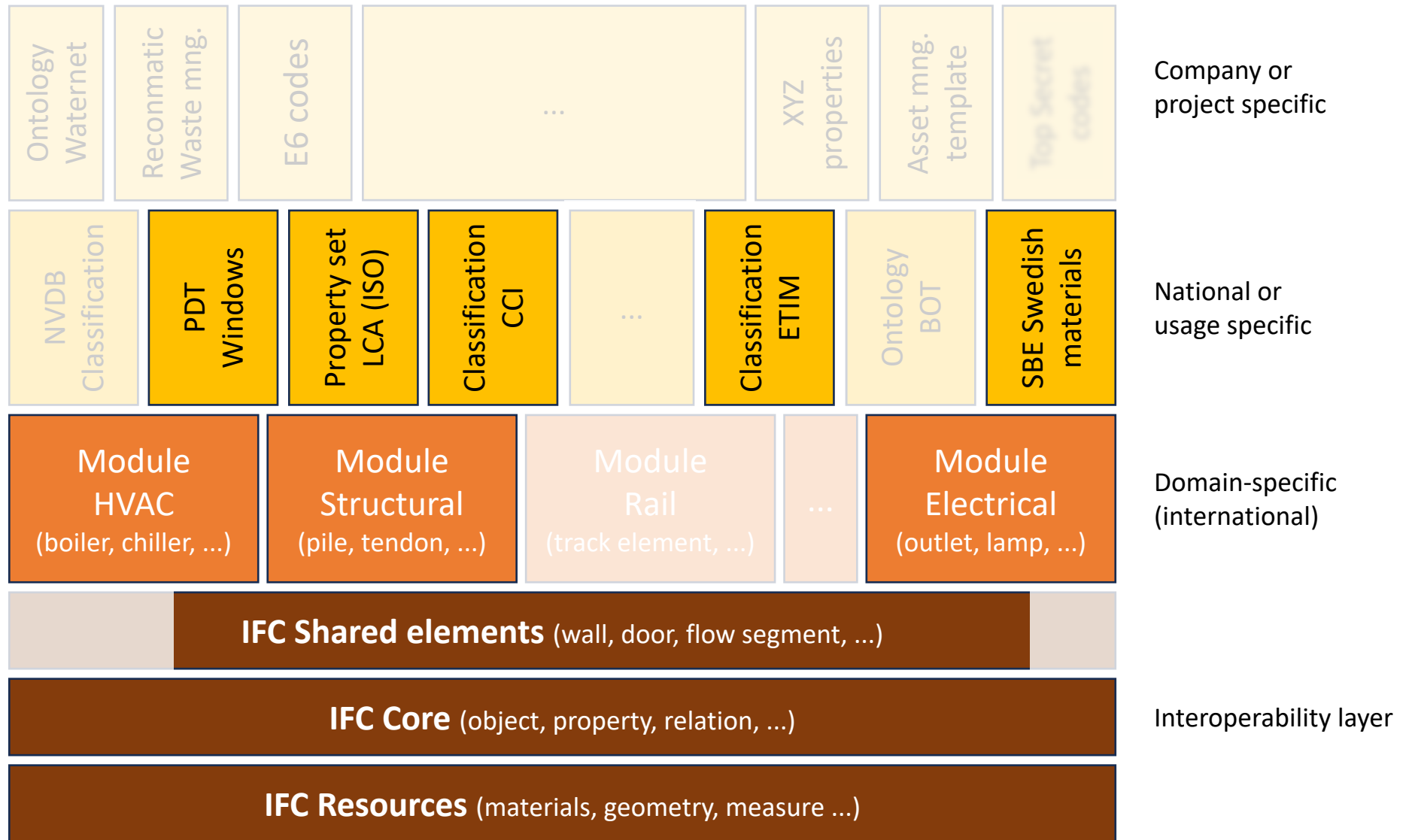
AI: Of course! The GWP of that object is equivalent to 42.0 kilograms of CO2, as defined in the „LCA indicators“ data dictionary after EN 15804:2012. The value corresponds to manufacturing modules A1-A3. Find out more at <https://...>

IT'S ALREADY POSSIBLE  
WITH OPENBIM











## Service

for distribution/publication of data dictionaries



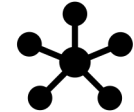
## Reference library

for enriching data with standard terms (extend IFC and IDS)



## Contains

Classifications, definitions and attributes to describe the built environment.



## Interconnected

Mapping between classification systems. Linked data.



## Based on standards

ISO1 2006-3 (IFD), ISO23386 (DD), ISO23387 (PDT), Linked Data



## Interoperable

Easy software integration through API (REST JSON, RDF, GraphQL)



## Reusable

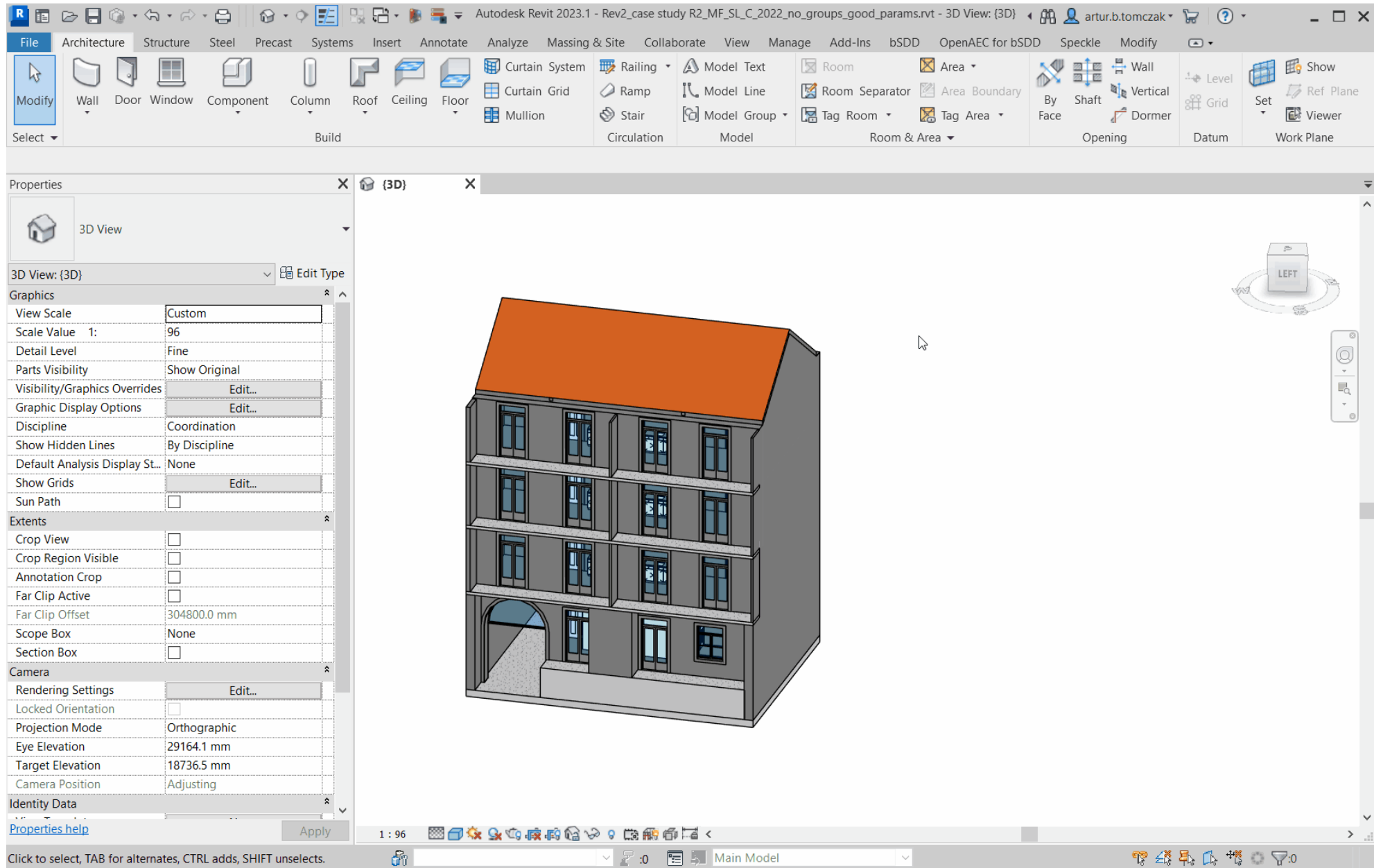
Extend and reuse content, avoid reinventing terms.

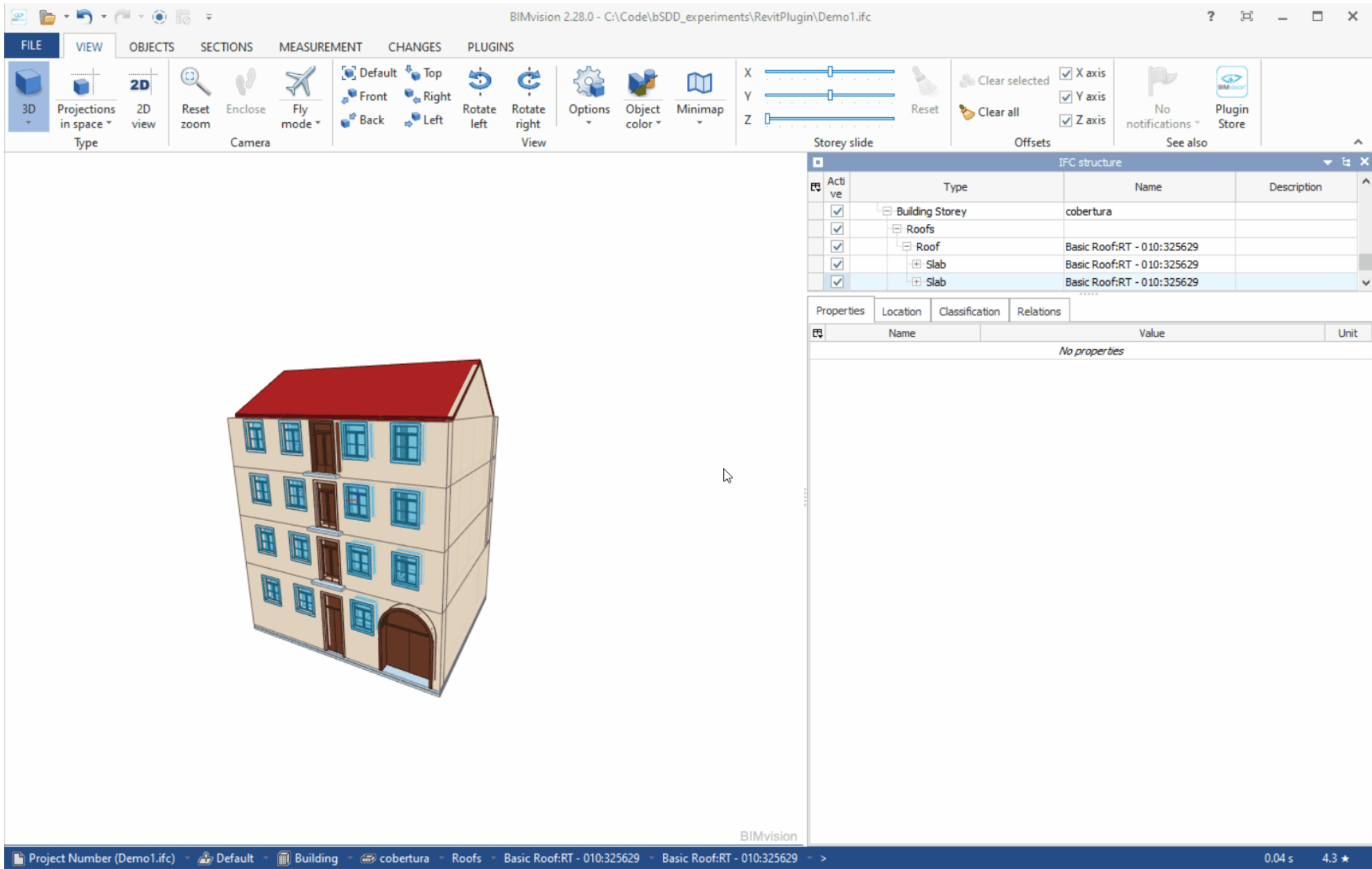


## Free

Free to access, use and publish content. Additional paid features. Terms of Service apply.

DEMO





usBIM.IDSeditor - Work - Microsoft Edge  
https://ids-editor.usbim.com/doc/d1057b85422246cd8193d1ee6fcd42e4/specification/0/info

usBIM.IDSeditor | test test.ids | Draft Last save at 11:31:46 | AT

⚠ Not valid document ↻

General data  
Specifications  
1. ⚠  
Report  
XML  
Audit

### Required field

⚠ General Filters Requirements

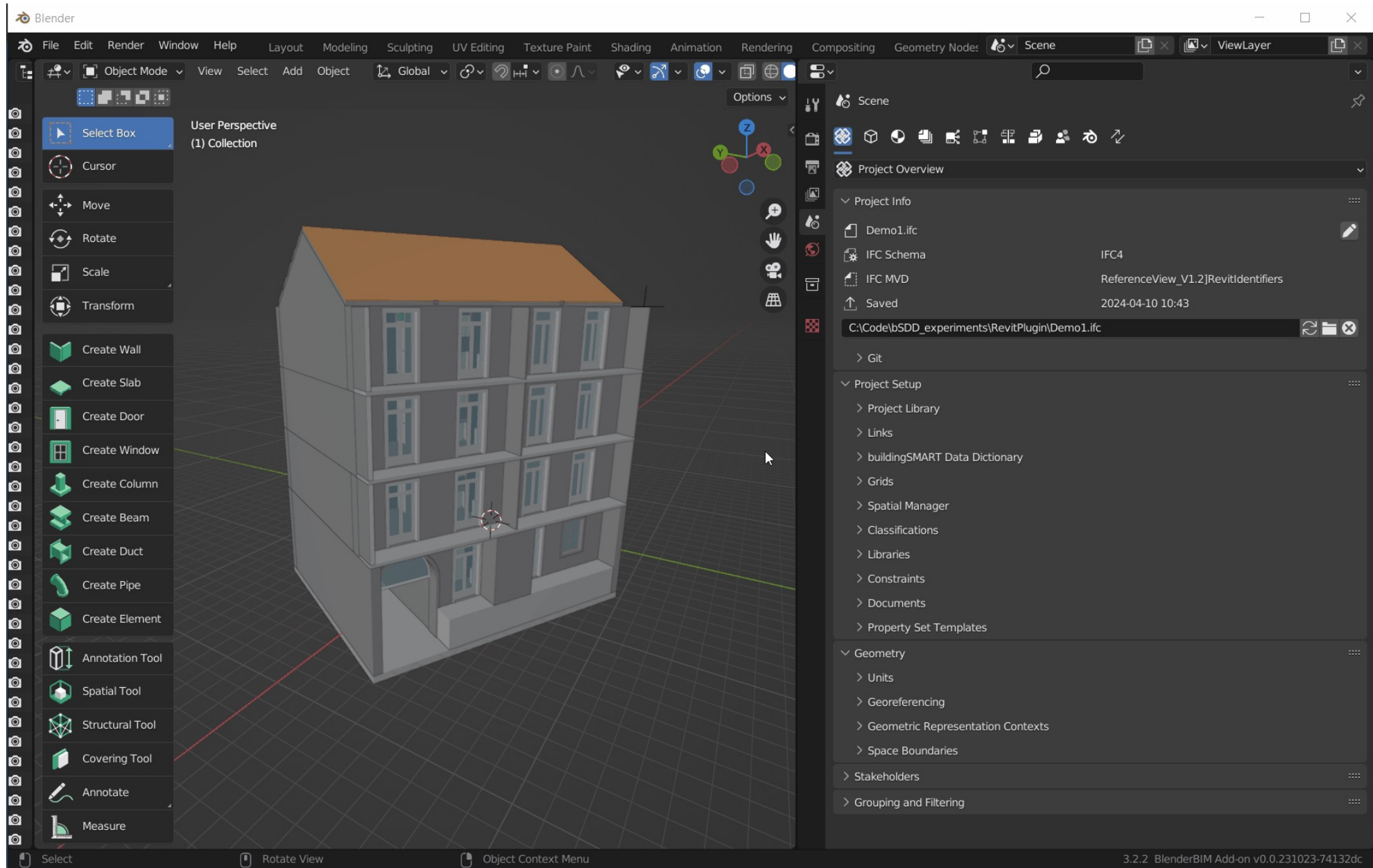
Name	<input type="text" value="Required field"/> <small>Mandatory</small>	Identifier	<input type="text"/>
IFC versions	<input type="text" value="IFC4"/>		
Description	<input type="text"/>	Instructions	<input type="text"/>

**Specification in readable format**

**The model MUST contain entities that have**  
[Enter filters](#)

**that MEET the following requirements**  
[Enter requirements](#)






Version 2.0.6.2  
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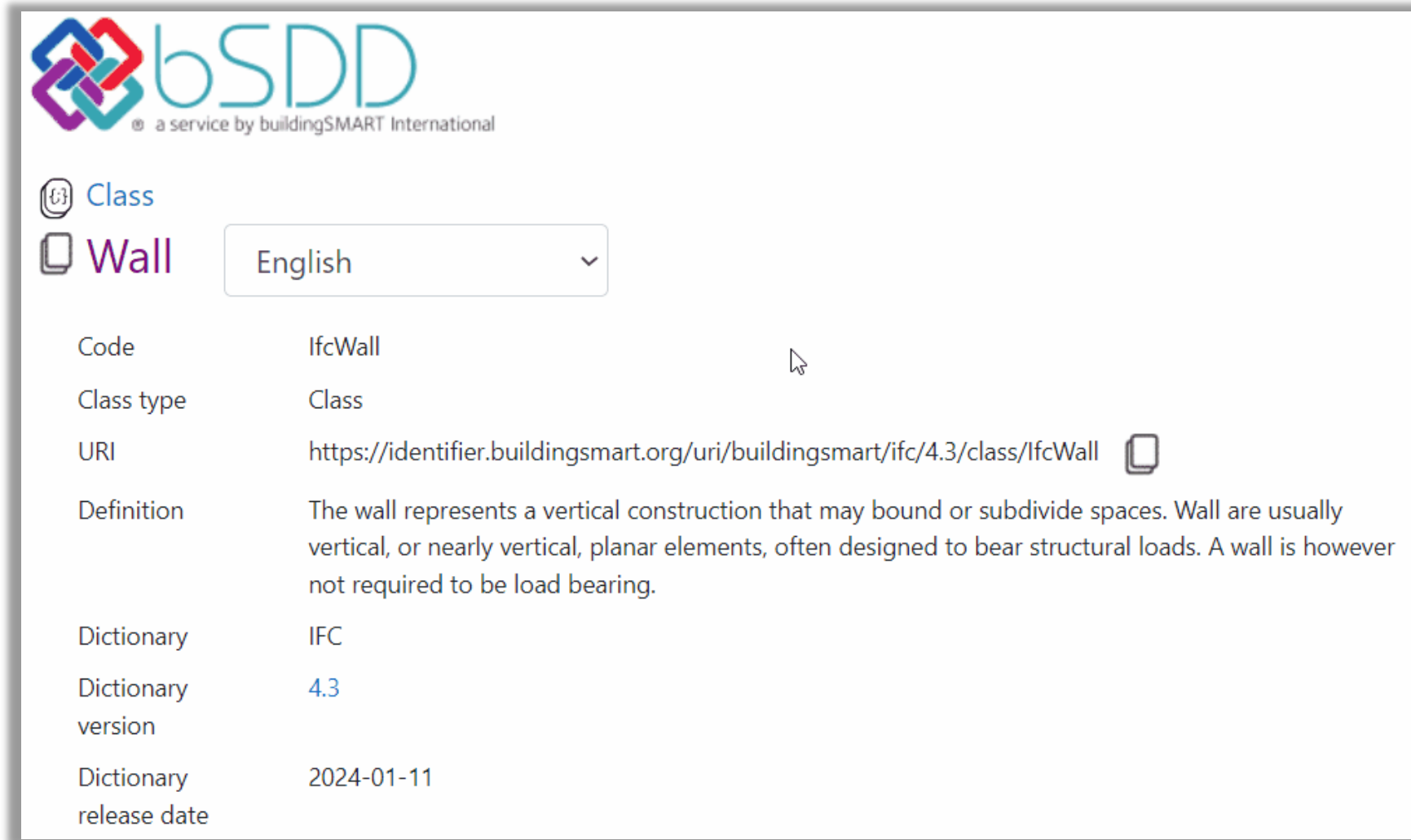


TRANSLATION


# IFC translation

-  IfcAirToAirHeatRecovery\_TWINTOWERENTHALPYRECOVERYLOOPS
-  Air to Air Heat Recovery of type Twin Tower Enthalpy Recovery Loops
-  Odzysk ciepła powietrze-powietrze typu Pętla Odzyskiwania Entalpii w Wieżach Bliźniaczych
-  Recuperación de Calor Aire-Aire de tipo Torre Gemela Bucles de Recuperación Entálpica
-  ツインタワー型エンタルピー回収ループの空気から空気への熱回収

# IFC translation



The screenshot displays the bSDD (buildingSMART Dictionary) interface. At the top left is the bSDD logo, which consists of a colorful geometric pattern of interlocking shapes, followed by the text 'bSDD' and 'a service by buildingSMART International'. Below the logo, there are two tabs: 'Class' (selected) and 'Wall'. A dropdown menu is open, showing 'English'. The main content area displays the following information:

Code	IfcWall
Class type	Class
URI	<a href="https://identifier.buildingsmart.org/uri/buildingsmart/ifc/4.3/class/IfcWall">https://identifier.buildingsmart.org/uri/buildingsmart/ifc/4.3/class/IfcWall</a> 
Definition	The wall represents a vertical construction that may bound or subdivide spaces. Wall are usually vertical, or nearly vertical, planar elements, often designed to bear structural loads. A wall is however not required to be load bearing.
Dictionary	IFC
Dictionary version	4.3
Dictionary release date	2024-01-11

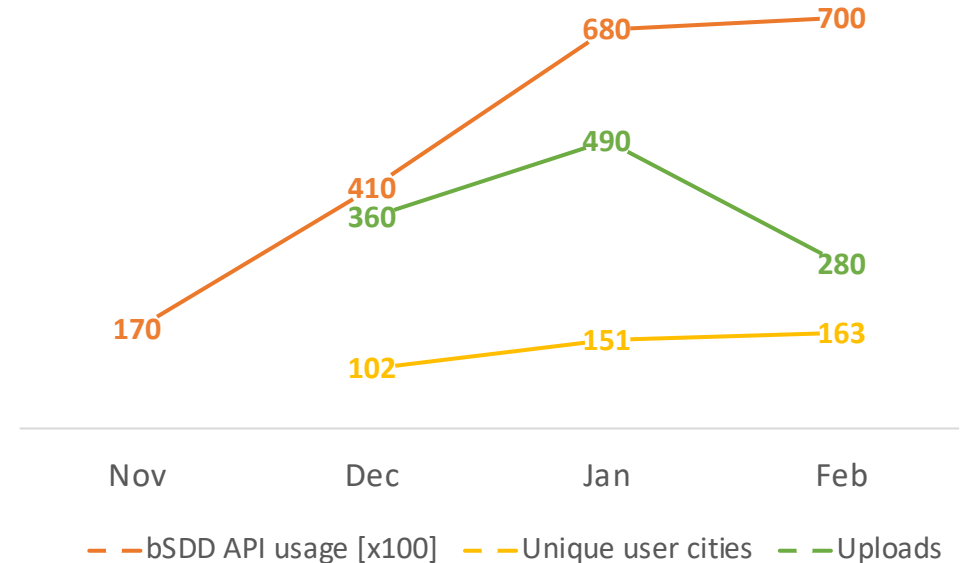
UPDATE

# bSDD update

As of today, **100+ organisations** registered in bSDD. There are **80 unique dictionaries**, altogether containing **60k classes** and **55k properties**!

There are **10 software solutions** already integrated with bSDD, and at least **5 more** are being developed!

Over last year we made many updates to improve the functionality of the bSDD, robustness, server performance, usability.



# New websites (coming soon)

**What is the bSDD?**

About Content Purpose

The bSDD serves as a library for referencing shared definitions in IDS specifications and IFC data. Thanks to the bSDD we can distribute standards, capture agreements, provide meaning and share understanding of the built environment data.

The bSDD's mission is to elevate BIM data quality and consistency, reduce misunderstandings, and enable more effective collaboration in the construction industry.

**Get familiar**

**Browse popular data dictionaries**

- IFC by buildingSMART International
- ETIM by ETIM International
- Uniclass by NBS
- CCI by Mollo
- 80+ more

or search the bSDD content

Type your query  **Search**

e.g. wall, or roof

**Software that integrates with bSDD**

- Revit plugin by VolkerWessels Heijmans
- BlenderBIM by IfcOpenShell Contributors
- usBIM.bSDD by ACCA Software
- Plannerly by Plannerly
- 10+ more

**bSDD** a service by buildingSMART International

What are you looking for?

Search also in descriptions

By default the search only looks at Name, Code and Synonyms

**Results for "wall" (632)**

Name	Code	Definition	Dictionary	Version /Status	URI
Hand Operated Actuator	Ifc_AkdJscs_sdcjso_dcljs_oicsjdo...	A device that manually actuates a control element.	Uniclass	Latest 4.5.8	ENG +2
Hand Operated Actuator	Ifc_AkdJscs_sdcjso_dcljs...	A device that manually act uates a control element. A device that	ETIM	2.0	ENG +2

**Heat pipe**

This name is only for...

English (US) + 2 more Download as Change request

The round fruit of a tree of the rose family, which typically has thin green or red skin and crisp flesh, The round fruit of a tree of the rose family, which typically has thin green or red skin and crisp flesh, The round fruit of a tree of the rose family, which typically has thin green or red skin and crisp flesh.

URI <https://identifier.buildingsmart.org/u...> Copy

Code [IfcAirToAirHeatRecoveryHEATPIPE](#) Copy

Description Technical note: Because this class is a 'Predefined Type' in IFC, meaning a specialisation of its parent class, in IFC it should be represented by the parent class.

Type Group of properties

Related IFC entity [IfcCommunicationAppliance](#), [IfcCommunicationAppliance](#), [IfcCommunicationAppliance](#)

Child classes name, name 2,

Parent class Air to Air Heat Recovery

Version 9.0 Active Latest 07.09.2029

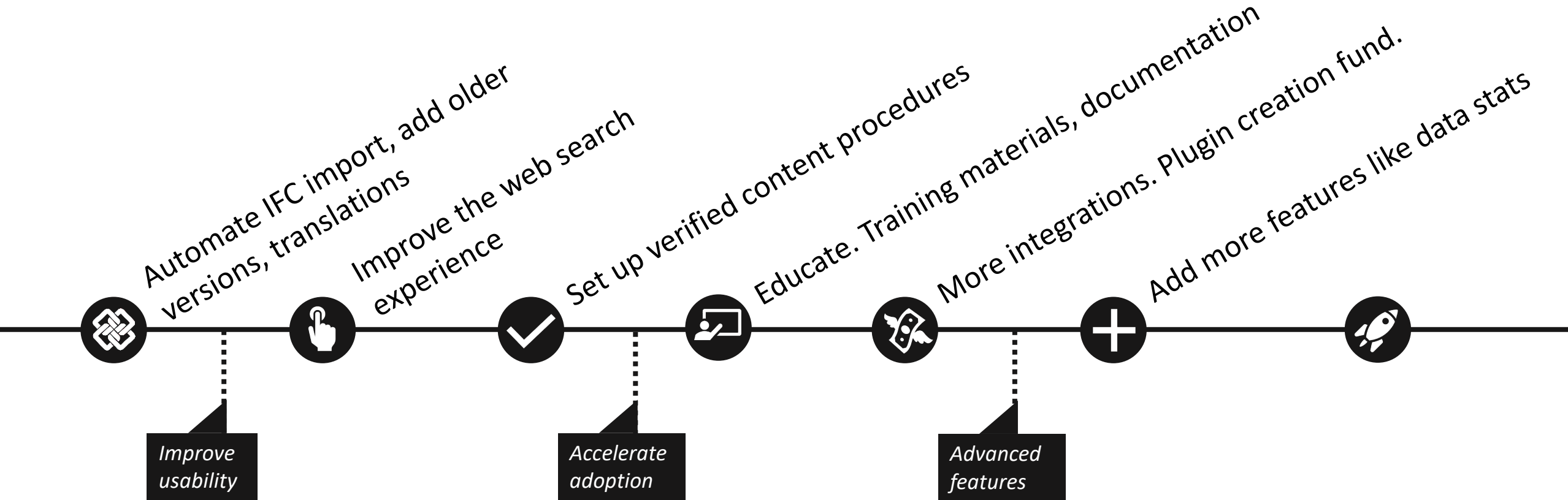
Version history:

- Version 9.0 Latest 09.09.2023 (edited) Active
- Version 8.0 23.04.2022 (edited) Active
- Version 7.0 31.05.2021 (edited) Preview
- Version 6.0 16.06.2021 (added) Inactive

Hide version history

Properties (15)

# Next steps



**bSDD is one of the Strategic Projects  
We seek industry sponsors to take it to the next level!**

# How to start with bSDD?

- Check if your software already integrates with bSDD

or

Browse the bSDD search page

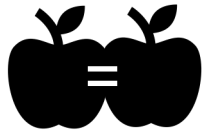
- Find the terms you need\*
- Specify them in IDS
- Apply them in IFC  
(class references and properties)

**\*Missing what you need?  
You can publish it in bSDD!**

- Register your organisation
- Prepare the data using 3rd party tools or bSDD JSON/Excel templates
- Upload using bSDD Manage
- Review the content (improve)
- Activate



# Why consistent data is so important?



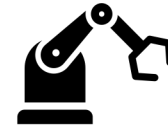
## Consistent interpretation

Is area including openings?  
It makes a difference  
when budgeting!



## Reliability

Quality and trust increase  
usability for decision-  
making, estimations,  
integrations, etc.



## Automatic processing

When data agreements are  
standardised, computers can  
automatically process them.



## Comparison and learning

Analyse, learn, discover  
patterns, and improve  
workflows across projects.

THANK YOU