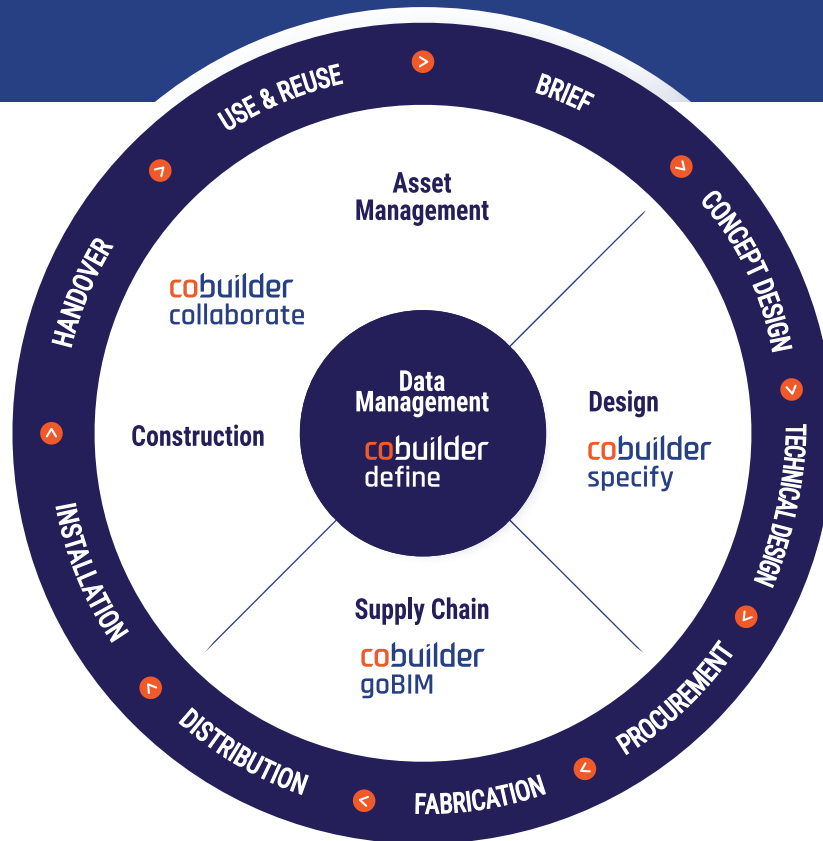


cobuilder

CONNECTING CONSTRUCTION TO
ITS DIGITAL TOMORROW

Cobuilder Platform Summary

Facilitating the seamless flow of standard-based information is the essential principle behind Cobuilder's integrated product portfolio. Cobuilder has evolved from marketing separate products to offering a single integrated platform which covers the information needs of all actors in the construction value chain. While each actor works in a tailor made solution that fits their particular needs, this happens in the context of the collaborative Cobuilder platform. The platform allows the benefits of structured, standard based data to automatically flow through all project phases.



Cobuilder Define

The center of our platform

Main features:

- An easy to navigate authoring process used to create a digital dictionary of data semantic concepts (template, property set, property) defining technical entities;
- GUIDs: each concept created in Cobuilder Define gets a global unique identifier assigned to it so that the data becomes fully machine-readable;
- A robust and secure cloud database to store the content defining your chosen technical entities. Ensures the smooth information exchange and sharing between partners in the value chain;
- Version history: Users are enabled to check all activity related to a created concept;

- **Translations:** An effortless way to attach translations to all concepts created within the system;
- **Classification mapping:** Users can map Data Templates to existing classifications used by the organization;
- **Automation:** All data that can be reused is easily copied and transferred between concepts;
- **Peer review:** All content created within the tool is subject to the approval of assigned users that are considered domain experts.

TEMPLATE

Furthermore, Cobuilder provides content creation of Data Templates based on a general industry consensus, which provides a level of information that is based on properties that are sourced from the following credible sources:

- Harmonised EU standards under the CPR
- IFC properties
- Facility Management Documentation
- Environmental documentation

COBUILDER Window Template

CLASSIFICATION:

COBUILDER - Window
Uniclass 2015 - Ss_25_30_95

Property set 1

- Assessment date
- Assessment condition
- Article number

Property set 2

- Type designator
- Special instructions
- Construction method
- Lifting strength
- Point of contact

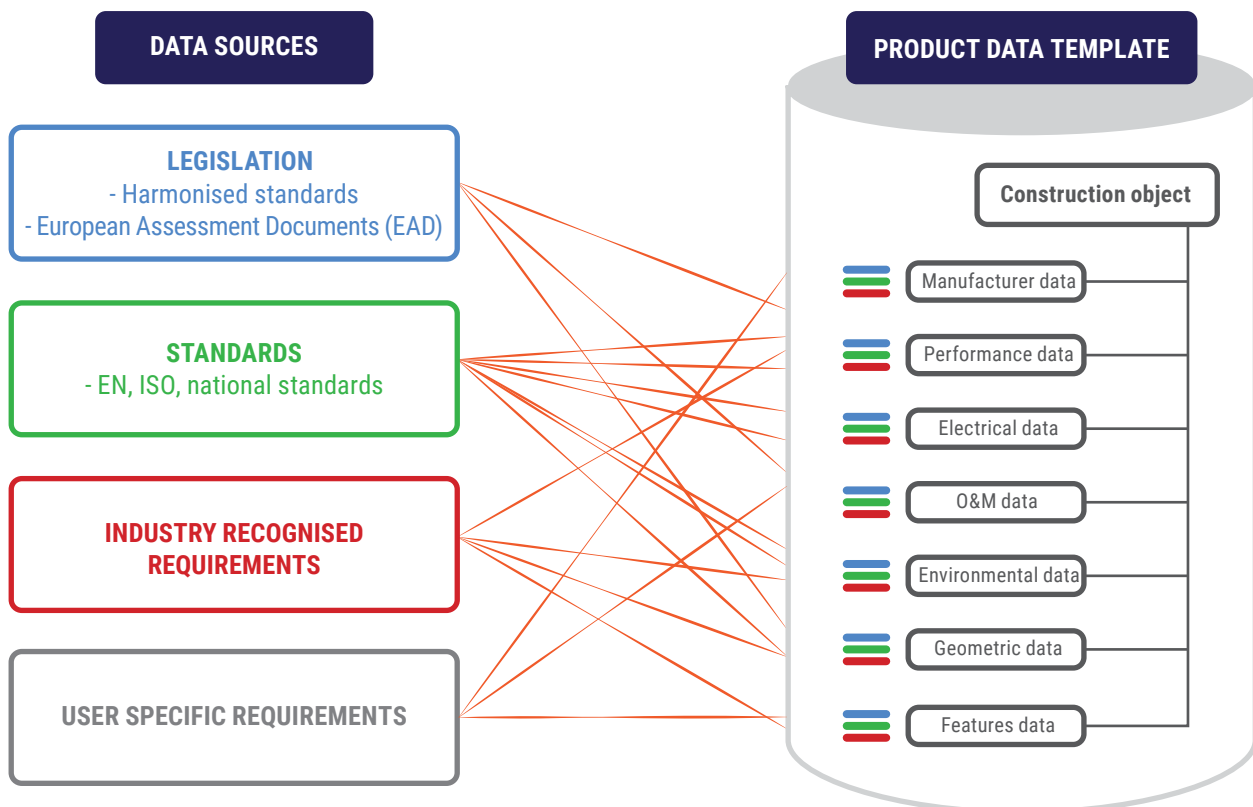
Property set 3

- Environmental impact indicators

Manage users

Registered users: they can request the creation of properties, property sets and optionally attach them to a product template. When a request is created, it can be saved for later review or sent to experts in the domain relevant to the property.

Experts: the experts have their specific domains of competence. They are the only users allowed to validate a property or a property set.



Cobuilder Define API

The API will provide access to the data structure already defined in Cobuilder Define. It will provide access to the content such as names & definitions (available in all translated languages), relations, statuses for all of the properties, groups of properties, templates, etc. It will allow management of the access for all internal systems and external software.

The API integration provides following capabilities*:

- Access Data templates – query all of the relevant information for the templates created in Cobuilder Define;
- Access Properties – query all of the relevant properties for the templates created in Cobuilder Define;
- Access Group of Properties – query all relevant groups of properties created in Cobuilder Define;

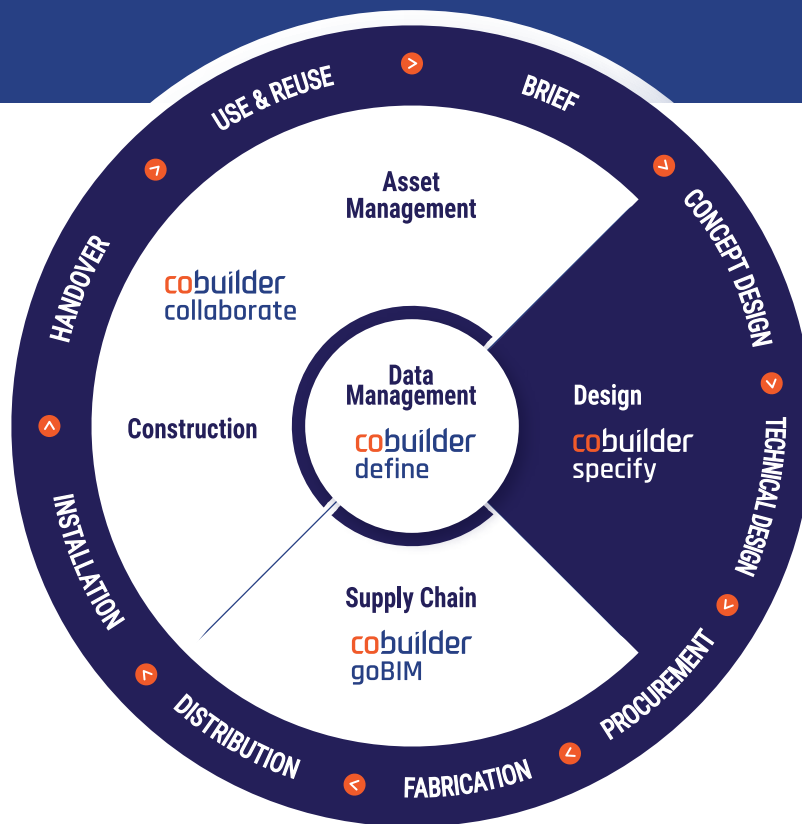
**Note: Define API only has read functionalities.*

Access to own context in Cobuilder Define

As part of the adoption of Data Standardisation, Cobuilder could create your own context within Cobuilder Define. The Data Templates created by Cobuilder experts will be available within this context. In addition to that, your own domain experts can review and approve the content at all time following a standardised process that ensures the quality and legitimacy of the content.

While Data Templates consist of all the relevant product characteristics (properties) collected in groups (groups of properties) about a specific construction object. The Data Templates that Cobuilder provide are based on the most recent and ongoing standardization work and ensure an agreed and trusted approach to collecting structured data. Different actors on the project need to provide different data, at different project stages and at different levels of information (LOIs).

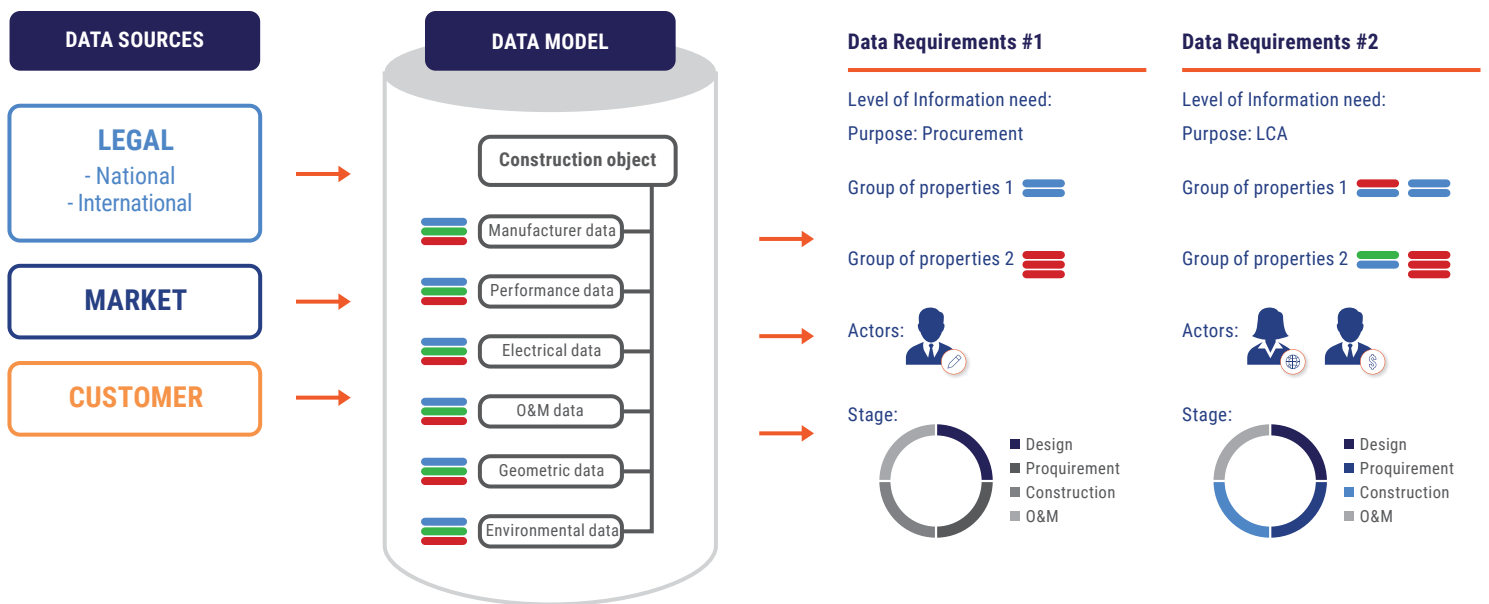
That is why, Cobuilder Specify is developed to allow project managers to customise data templates according to the needed data deliveries per role, stage and LOI and create standardised 'questions' that are there to be answered collaboratively throughout the stages of the specification process.



Specify performance data for roles, stages, LOIs

Digitalization of specifications for complex (system) building elements can mitigate most of the risks associated with working with various formats, classifications and standards while performing different tasks at different stages of the construction project. With the help of data templates for the design stage, actors can:

- Create specifications that correspond to project requirements and needs at different points in time
- Create specifications that are referenced correctly and comply with industry standards and design codes
- Distribute my specifications regardless of platform, into a machine-readable format, and reduce the time to process important information
- Store specifications for generic 'construction elements' in a digital repository and reuse them



Specification template management

Cobuilder Specify can be used to set specifications/requirements on the basis of custom Data Templates (DTs) unique to the user's specific context. Within Specify Enterprise you can take advantage of the methodology to describe, author and maintain properties in interconnected dictionaries according to prEN ISO 23386. Structure them in data templates according to prEN ISO 23387.

- Identify the system & product or construction object data needed in all phases of the information value chain
- Identify data components and the relationships between them (property, attribute, data set, template)
- Define them in a data dictionary structure
- Create a common context throughout the specification process
- Use and distribute agreed Data Templates

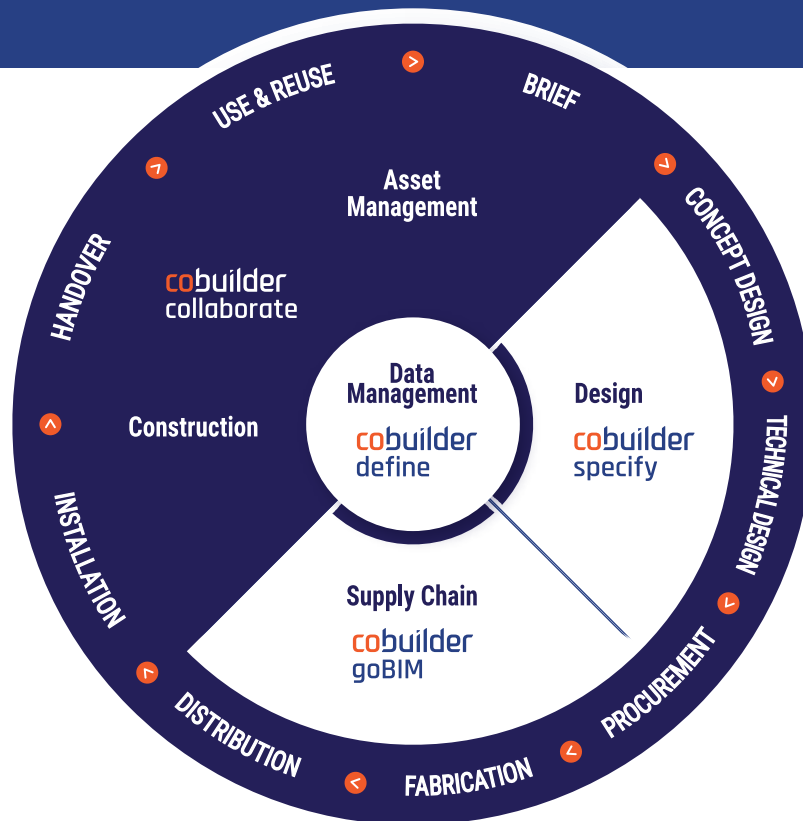
System-agnostic outputs

Due to the interoperability of the data template mechanism the specifications/requirements that are set in Specify can be used in any other software through an API. Cobuilder is currently developing plugins that will make the required properties available for Specifiers according to their LOI needs in proprietary BIM-authoring solution.

- Use API services to allow external stakeholders to pull your agreed data structures
- Ensure fit-for-purpose data is used with all stakeholders in a construction project
- Avoid data replication between different local data providers
- Add specification values to agreed specification structures

**Note: The Cobuilder Specify API is still under development.*

Cobuilder's Project Data Management Solution 'Collaborate' helps developers' and construction teams to set their data requirements, collect data directly from the supply chain, automatically check it against the set requirements and deliver checked Asset Information Models.



Populate the Asset Information Model and Digital Operation and Maintenance Manual (O&M) with ease.

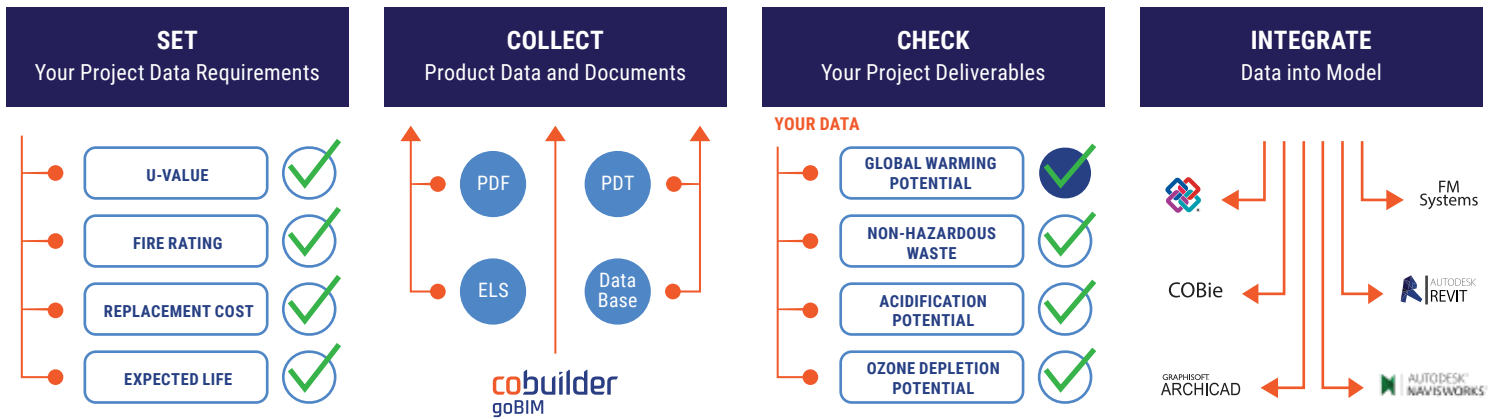
With Cobuilder Collaborate you can set your project data requirements according to your projects' Asset Information Requirements and Employers Information Requirements.

Centralised Requirements Management.

Centralised Requirements Management. Assign specific product and data requirements, such as date of delivery and data about construction object (System, product, Kit,...) characteristics (u-value, solar factor etc.), to be delivered by individual suppliers.

Sustainable construction.

With Cobuilder Collaborate, you can also raise your projects' market value by adding environmental filtering, based on standards such as BREEAM or LEED.



Benefits

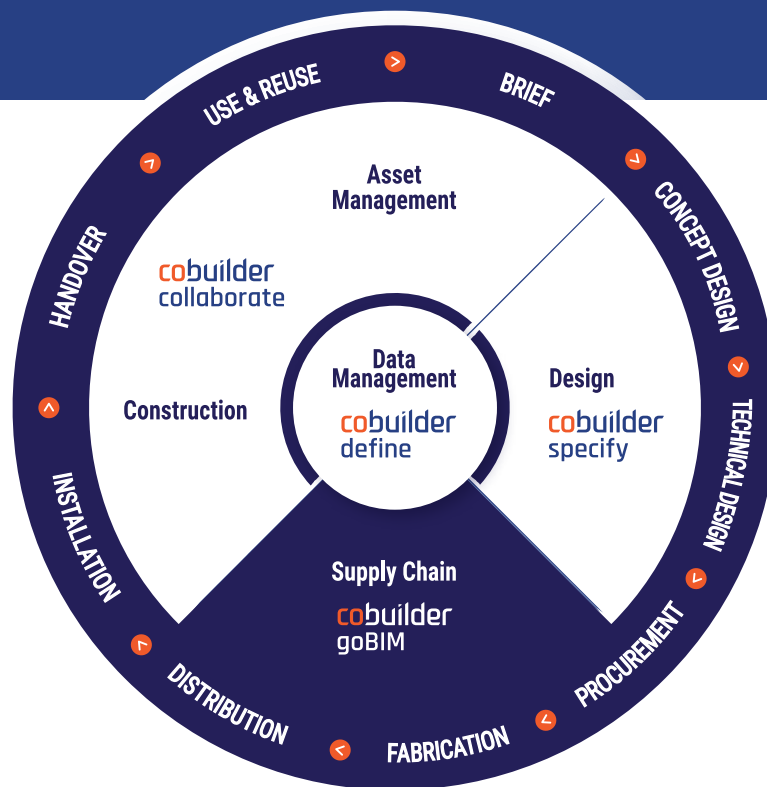
- Your supply chain collects and works only with product property sets relevant to your project’s national, legal and market requirements.
- Your supply chain collects and works only with product property sets relevant to the type of products they are installing or fabricating.
- Centralised Requirements Management. Communicate what is required to your supply chain. Nothing lost in translation.
- Save time and money through automatic data delivery based on the set requirements.
- Improved control over the suppliers’ work, including installed products and delivery dates.
- Sustainable construction. Added project value through comprehensive environmental filters.

Cobuilder goBIM For Manufacturers

Product Data Sheets

After creating the Data Templates, these need to be populated with the manufacturer’s data. Cobuilder provides services for filling in the templates with the actual systems & products’ attributes and their values. Once complete, this populated template is called a system or Product Data Sheet (PDS). This is done via Cobuilder goBIM – the construction industry platform with a user-friendly interface, where either the customer or Cobuilder’s data experts can populate the predefined Data Templates with their construction objects’ actual data on behalf of the manufacturer.

Once the DS’s have been completed, goBIM serves as a new BIM-ready system & product catalogue. Thanks to the DSs each of the manufacturer’s construction objects gets its own digital passport, structured in a standard way, ready to be used. Cobuilder will provide specific user login to goBIM and thus enable the organization to manage their construction objects throughout all phases of this project.



Market and Share via a Branded Catalogue

The ready catalogue available in goBIM could be set free from goBIM and rebranded according to the organisations' specific brand identity guidelines. Furthermore, the catalogue can be visualised on a separate webpage/portal and integrated in the organisation's website. Thus, the catalogue will be available on a separate URL as part of the organisation's web presence and reflecting its digital marketing strategy.

Your catalogue will be accessible and searchable online by all your clients/members.

Analytics and control

goBIM offers a full analytics module as part of the tool's functionality. The analytics allows the user to collect market intelligence about which of the organisation's construction objects are mostly viewed and downloaded from the catalogue. Such intelligence could be further used to make informed business decisions based on data and drive targeted marketing campaigns.

Integration with 3D object provider

Based on the solution developed by coBuilder in cooperation with 3D object provider, manufacturers get a catalogue with their digitised attribute data and enriched with their 3D/BIM/CAD data or vice versa. Architects and planners can request and access the data they need at any time via the portal BIMcatalogs.net or via goBIM. In the future of open data, more BIM software vendors will take the same cooperative approach where experts in complementary fields such as the BIMcatalogs.net portal and goBIM will be strongly networked in order to bring more value to their customers.

Terms and Definitions

Concept - a general term for any object created in Define that has a GUID, translations, goes through the approval process and can be related to other concepts.

Construction object - a concept that represents item or product that is used in the construction industry. Examples: "window", "paint", "concrete", "lamp", "wall", "heater" etc.

Template (Data Template) - a concept that provides characteristics of a construction object, that are relevant for a certain market or purpose. The template collects a number of Groups of properties and relates to Documents and Construction objects. Example: "European Data Template for window" which relates the construction object "window" with several groups of properties based on European standards.

Group of properties - a grouping of several generic properties and/or properties, that are used for the same purpose or come from one and the same source. Groups of properties have to be assigned to Templates to become useable outside Define. Examples: "EN 14351-1 properties", "COBie properties", "EPD properties".

Property - a concept that represents a construction object's characteristic.

Context - an independent Define repository intended to contain all the Concepts of a client/organization.

Sharing - a feature that lets Concepts be sharing between different Contexts.

Authority - a grouping of expert users, who have a common background in knowledge regarding their assigned Domain.

Domain - a domain is an attribute that indicates where new versions of concepts (both newly created and new editions of existing) have to be send for approval. Based on the selected domain an assigned Authority, which has expert knowledge about the domain, will review the new version.

Requirement - (Data Requirement) Data template properties required by a project owner/project management(contractor) from the manufacturer/supplier and/or delivery dates which a manufacturer/supplier will have to deliver.

Levels of Information - Data requirement filtering intended to be requested at different stages in the construction process.

Product Data Sheet - a template populated with manufacturer/supplier data.

About us

Cobuilder is an international IT company focused on the development of software solutions for the construction industry. Facilitating the seamless flow of standard based information is the essential principle behind Cobuilder's integrated product portfolio. While each actor works in a tailor made solution, that fits their particular needs, the Cobuilder platform allows the benefits of structured, interoperable data to flow through all project phases

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