

# PRINCIPLES FOR USE OF THE BIM

*Structured, usable and  
ethical data retrieval*

# CONTEXT

The project owner is the first producer of data via the establishment of the programme for its operation. Alongside the building owner, the project owner is also the last party to retrieve data upon acceptance of the operation, the starting point of the maintenance phase.

Accordingly, the project owner must control the organisation of the graphical information and data produced in order to preserve unified, structured, upgradable and usable data throughout the duration of the project, while avoiding siloed operation at each phase (programming, design, execution and operation). This structured base serving as the focal point for the stakeholders, is the “static” digital model of the business, a prerequisite of the “dynamic” BIM during the creation and operation phase.

*Therefore, the BIM Commission of the SBA is proposing the following principles:*

## 1

### DATA BELONGING TO THE PROJECT OWNER

The digital models and all related data produced during the project are deliverables belonging to the project owner. As a result, the project owner is entitled to use these elements on digital media without a third party being able to claim any right thereon, during the life of the structure, and without prejudice to the rights that the law or regulations would grant to a third party acting in good faith.

The data pertaining to the building user (inter alia in the case of changes to the building made at its initiative) may be incorporated into the digital models of the project and shall by right of accession become the property of the project owner. In this case, the owner of the building and the user shall determine together the rules of ownership and use of said data.

## 2

### CONTRACTUAL DIGITAL MODELS

The 2D deliverables and other graphical extractions and data created during the project are consistent with the corresponding native and IFC digital models. As a matter of

fact, they make up the contractual deliverables which are a prerequisite to enabling their use and their current and future valuation by the project owner.

## 3

### THE CREATION OF A UNIFIED DIGITAL MODEL

A digital model is needed to unify the graphical information and data of the entire project, in order to, at the very least, avoid duplicates of the sector-based graphical digital models and data from the various deliverables

and descriptions with which it interfaces. It has many uses (quantitative, descriptive, building economy, life cycle analysis) during the design, execution and operations phases.

## 4

### A LINK WITH CONTRACTUAL REQUIREMENTS

The various deliverables and the functional, performance-based, technical and economic properties of the project which are required by the project owner are structurally

determined. They are linked with the unified model to enable tracking and checking by the project owner throughout the duration of the project.

## 5 ADHERENCE TO THE COMMISSIONING AND INTEROPERABILITY RULES

The digital model unifying the “static” and “dynamic” information serves as a basis for commissioning.

Commissioning involves ensuring that all systems and components of a building or an industrial facility are designed, installed, tested, operated and maintained in accordance with the operational requirements of the project owner, the prime contractor or the end customer. It extends over the entire lifetime of the project. Interoperability, an essential prerequisite to commissioning, is the ability for a product or a system to operate with other existing or future products or systems without restrictions of access or implementation and

with fully-known interfaces.

Interfacing is an essential concept when considering interoperability. Interoperability can only be achieved when the interfaces are fully determined, known and freely usable. In order to be used, interfaces must be simple and stable over long periods of time as they are independent from the changes to the systems. These interfaces must be technically, legally and economically stable. The BIM approach shall comply with the unified and two-directional commissioning and interoperability rules (import and export for the static data / reading and writing for the dynamic data).

## 6 UPSTREAM DATA ORGANISATION

Specifications outlining the project owner’s graphical and data requirements compiled during the programming phase serve to structure the unified digital model. This programme lays down the base list to be followed by all parties involved in the project. The place, the hierarchy of the zones and objects making up the

functional blocks are the basic elements of the unified digital model in which they are structurally classified.

Their various representations (graphical images and data) by the players involved in the project at each of its phase are linked with this unified model in which the industrial components all have a unique ID.

## 7 LINK BETWEEN “STATIC” AND “DYNAMIC” DATA

The graphical information and intrinsic data of the “physical” building make up the “static” data of the building and are contained in the unified digital model.

The data from the sensors, actuators and sector-based tools implemented inter alia during

operation (CAMM, management tools, etc.) make up the dynamic data of the building.

These two types of data communicate via secure API (Application Programmable Interface) according to the principles of the R2S reference framework.

## 8 SECURE DATA GOVERNED BY EUROPEAN LEGISLATION

Throughout the duration of the project the digital models and all the related information are stored on servers that must comply with European legislation (GDPR) and which must be located in Europe. This is also the case for the prior processing of the digital models and associated

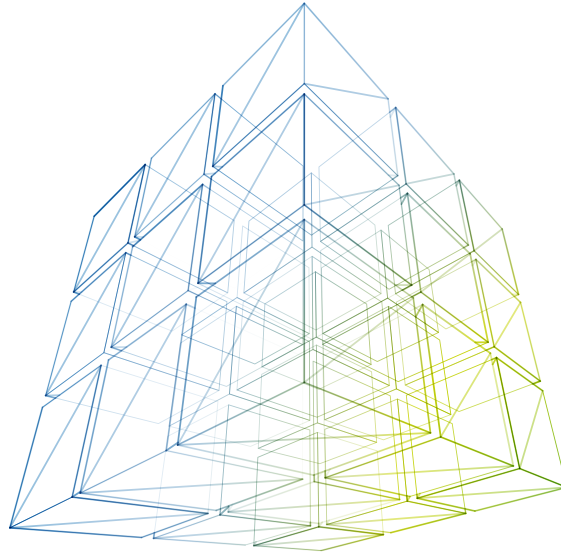
information, even on an occasional basis.

If the data is not subject to European legislation, the project owner shall have specific information concerning the processing and location of its data, as well as the extent of the assignment of the rights and of the applicable local regulations.

## *Thank you to the members of the BIM Commission who made a major contribution to producing this charter:*

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The SBA (Smart Buildings Alliance) was established in 2012 and spearheads smart building in France. The primary aim of this association is to provide support to all players of the building industry and regional players regarding digital technology. Leveraging on a highly cross-functional approach, it organises the conversion of the various trades in the sector: local authorities, planners, real-estate firms, landlords, promoters, builders, architects, engineering firms, consultant firms, equipment manufacturers, installers, telecom operators, industrial players in the computer and network sectors, publishers of software solutions, energy operators, operators and service companies.

The SBA created the Ready2Services reference framework and has more than 230 members.

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