Federal Ministry
for Digital
and Transport

Federal Trunk Roads BIM Masterplan

Supplement to the framework documents: List of standardized use case designations

List of standardized use case designations

Defining and establishing a shared understanding of BIM use cases lays the groundwork for the uniform rollout of BIM in Germany. To this end, the use case designations have been coordinated, harmonized and finally standardized with roads, waterways, railways and structural engineering as the infrastructure types. Table 1 shows an overview of these standardized designations.

Table 1: List of standardized use case designations

Use case (UC) no.	Designation of the use case	Description
000	General	Depending on the project developer, the 'General' use case can be used to map, in the structure, additional or superordinate use cases that lay the groundwork to apply the use cases for commissioning (e.g. EIR, BEP, relevant project meetings).
010	Existing conditions modelling	Documentation of the key aspects of the as-built structure with a suitable survey and incorporation in an as-built model.
020	Requirement planning	Creation of a generic requirement model/digitalized generation of a requirements plan in accordance with model 13 of the Federal Construction Guidelines (RBBau), e.g. a digital room book and digital implementation of assessment of the procurement options.
030	Planning variants and/or preparation of documents substantiating the budget*	Creation of planning options as a BIM model for simplifying analysis and evaluation of costs, deadlines, structural design or qualities. Use of the BIM method, for example when producing documentation for decision-making purposes in construction projects/design documentation for construction projects or the preliminary study and the design budget documentation. In this context, possibilities include, for example, model-based assessment of planning variants, simplified quantity take-off and costing, or initiation of a model-based award process (poss. with design competition). **
040	Visualization	Needs-based visualization using BIM models, supplemented with additional objects and information and/or presented graphically as a basis for project communication (e.g. visual presentation of components) or public relations (photorealistic illustrations, animations etc.)
050	Coordination of the professional trades	Regular merging of the specialist models in a coordination model with subsequent automated clash detection, systemic conflict resolution and assessment of further criteria.
060	Planning progress review and quality control	Using the model for planning progress review as a basis for controlling and quality assurance incl. acceptance of the service at the predefined milestones as well as planning release by the contracting entity.
070	Dimensioning and verification	Use of the model for dimensioning and verification, including any simulations like flooding, dispersal of noise and pollutants etc. The use case covers both arithmetic and organisational, schedule and safety-related aspects.
080	Derivation of planning documents	Deriving relevant parts of the design from the building information model and converting them to 2D plan formats. The scale, presentation and plan contents comply with the respective guidelines and regulations and/or project requirements.
090	Approval process	Conducting test runs for official/administrative release of planning, checking and approval based on BIM models and the additional required documents that are derived from this, taking regulatory requirements into consideration.
100	Quantity take-off and costing	Determining structured and component-specific quantities (volumes, surface areas, lengths, quantities) based on the model and creation of cost estimates and costings based on the usual cost breakdowns (AKVS, VV-WSV 2107, DIN 276-4 etc.)
110	Bill of quantities, tender, contract award	Model-backed generation of quantity-related items of the bill of quantities and model-based tendering, award and bid submission based on the existing planning.

Use case (UC) no.	Designation of the use case	Description
120	Execution scheduling	Use of a 4D model created by linking scheduling processes with the corresponding model elements to visualize and check the planned construction schedule.
130	Logistics planning	Support for planning and communication of logistics workflows (construction site preparation, construction site infrastructure, traffic phases, traffic routing) based on 4D models
140	Construction progress review	Using the model for reviewing construction progress compared with the schedule as a basis for project controlling.
150	Change and follow-up management	Using the model for documentation, tracking and release of planning changes during construction, and for incorporation of follow-ups.
160	Invoicing of construction services	Using the model for regular documentation and verification of construction services and interim invoices.
170	Acceptance and defect management	Using the model to locate and document construction defects and tracking for rectification, as well as any items to be clarified.
180	Commissioning management	Digital, model-based support for commissioning management tasks from the planning phase and construction, right up to handover for the intended use. Depending on the specific area, this focuses in particular on technical building equipment or control technology.
190	Project and structure documentation	Creation of an as-built model as a digital construction file with detailed information on the execution, e.g. materials and products used as well as references to test reports and other documents, if applicable. Integration of further information and documentation, e.g. commercial documentation.
200	Operational use and structural maintenance	Transferring data from the as-built model to corresponding maintenance management systems, visualization and poss. evaluation of the condition of the structure in the model and updating the model in the event of repair work.

* Depending on the specialist area, either 'Planning variants' or 'Preparation of documents substantiating the budget' can be selected.

** Depending on the specialist area and the use case designation selected, the first description applies for the 'Planning variants' and the second for the 'Preparation of documents substantiating the budget'.

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