

Further Efficiency and Sophistication of Building Management Using BIM

Housing Research Department

We have participated in the "BIM Promotion Roundtable," which organizes the environment to use BIM comprehensively from the phase of building planning and design to the phase of maintenance management, to advance endeavors in cooperation of governmental bodies and private entities. In addition, we have been studying how to use BIM to make maintenance management of public rental houses more efficient.

Social Background and Problems

- The endeavors for so-called BIM have been spreading, where the building information covering the designing to the construction and maintenance management of buildings is integrated and visualized, and information is shared and used to make the business more efficient.
- Appropriate maintenance management and operation of a large amount of public rental house stock. Further streamlining and greater efficiency of business are wanted in response to the aging and the reduction of personnel with technical skills.

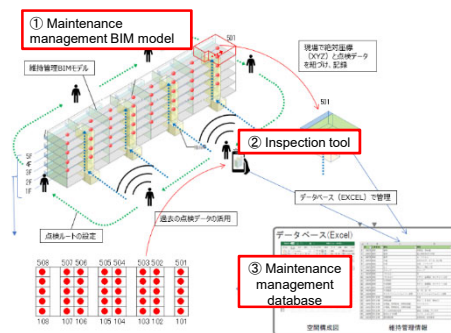
Description of the Research

Development of a model utilizing BIM for maintenance management of public rental houses

To create a (simple) BIM model for maintenance management on the basis of the actual situation of a business
Examining a method of using Excel as a database, linking the data with location information, and viewing and visualize these data in the BIM model (3D model).

An overview of "BIM model of maintenance management of public rental houses (draft)"

- In the maintenance management of the public rental houses, they are controlled basically in the unit of each house
- The box for collecting data with the maintenance management BIM model is the housing unit
Information is controlled with the absolute coordination in the space of housing unit
- The BIM model is used as a vessel for the confirmation of information, visualization of data, etc. without linking the photos or forming data directly with objects



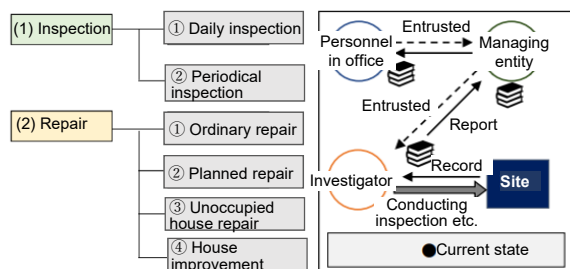
An image of using the maintenance management BIM model

Investigation of the current state of actual business in the maintenance management of public rental houses

The actual status of the inspection of rental houses (daily, periodic, legal), repairs (finance, planning, uninhabited on public houses), and so forth, the introduction of BIM and IoT technology, the records and usage of information, the investigation and analysis of the actual status of digitalization etc.

Investigating and analyzing the actual status of maintenance management

- Daily inspection etc. are performed using paper documents, with drawings etc. brought into the site.
- Inspection records and written reports are refined after the personnel return to the office.
- The report to the administrator etc. is made with paper documents, CD's, etc. (electronic files).
⇒ Redundant records and inputs. Risk of causing incorrect copying.



An example of the actual situation of the maintenance management of public rental houses

Creating a manual (guide) for introducing and using the maintenance management BIM model based on the actual situation of the business owner of a public rental house, in order to support the endeavors to making maintenance management more efficient

Click here for relevant articles

- The development of the BIM model assuming the use of public rental house stock (p. 149)