

신산업 관련 건축 법제 개선방안: 데이터센터와 지식산업센터를 중심으로

Improvement of Building Laws Related to New Industries:
Focusing on Data Centers and Knowledge Industry Centers

이주경 Lee, Jookyung

유제연 Ryu, Jeyeon

김준래 Kim, Junlae

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SUMMARY

Lee, Jookyung

Ryu, Jeyeon

Kim, Junlae

Due to the relaxation of location requirements and changes in industrial characteristics, the number of new industry-related facilities in cities has increased in recent years. Well-known examples of these facilities include data centers and knowledge industry centers. Particularly, they are constructed as large-scale buildings that have a significant impact on our lives, such as the urban environment, and it is anticipated that the number of facilities will increase continuously with the growth of related industries. On the other hand, relevant building standards are absent or insufficient, causing administrative and public inconvenience.

In this study, among the new industry-related facilities in the city, the aforementioned data centers and knowledge industry centers were examined in order to examine the current issues of the building law system and to propose a plan for improving the building law system in accordance with the direction of new industries.

In the review of the current building legislation, issues were identified by analyzing the pertinent legislation for each construction phase of each facility. As a result of the

review, both the knowledge industry center and the data center had insufficient standards for the use of buildings at the stage of determining the location and size, as well as restrictions such as a lack of perimeter security.

During the architectural design phase, there was an issue with building-related standards that failed to account for the usage patterns and functional characteristics of each facility. In detail, the standards for landscaping, structure, facilities, evacuation, fire prevention, parking lot, and energy of data centers and knowledge industry centers were insufficient, and it was considered that problems such as the absence of operation and management measures after the sale occurred.

To address this issue, the following four system improvement alternatives for the use, classification, and construction standards of buildings were developed.

First, it is essential to strengthen systemic coherence with pertinent laws by stipulating the use of all buildings in the Building Act. Particularly in the case of a knowledge industry center with no building use, it is necessary to urgently prepare a management plan by establishing facilities under the detailed use of "factory" in the short term.

Second, in order to account for the characteristics of new industrial buildings that will be constructed in the future, the classification of building uses must be reorganized from a long-term perspective. In addition to data centers, the number of occupants such as smart logistics centers and smart factories is small, but due to high energy consumption, the number of facilities requiring separate evacuation/fire standards is expected to increase; therefore, it is essential to prepare a classification system for use in light of these modifications.

Long-term reclassification of the use of knowledge industry centers, such as subdividing the use according to the proportion of each use within the center, is required. In addition, it is necessary to include the definition of "composite building" in the Building Act in order to prepare for the emergence of buildings with diverse forms, such as knowledge industry centers.

Thirdly, building standards must be established for each building use. In the case of data centers, it is necessary to implement building standards that can accommodate natural disasters such as earthquakes and fires, and to increase the effectiveness of knowledge

industry centers as convergence/complex facilities for revitalizing new industries, it is necessary to present the use and building standards of occupiable facilities under the currently ambiguous Industrial Cluster Development and Factory Establishment Act.

Fourth, it is necessary to establish a forum for government and private sector review and discussion of new buildings, as well as a management system for "building use," in order to respond quickly to market changes and demands.

The building law system is limited in that it is difficult to regulate facilities prior to their physical construction. Therefore, continuous inspection and maintenance of new structures are required. It is necessary to create a system in which the use of buildings can be managed proactively with a focus on the Building Act, as well as rapidly prepare the classification of the use of facilities and related standards prescribed by individual laws for each purpose. Long-term, it is essential to establish a system that can connect the Building Act with other laws.

Due to the absence of case studies for each type of facility, it was not possible to analyze the structure and usage patterns of buildings in this study. It is hoped that the subsequent study will supplement this and suggest relevant building standards for each type of facility in new industries through case studies.

Keywords :

New Industry, Building Legislation, Data Center, Knowledge Industry Center, Use of Buildings

