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Research paper

CONTEMPORARY BULGARIAN DORMITORIES: A COMPREHENSIVE ANALYSIS OF KEY FEATURES AND TYPOLOGIES

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Abstract

The paper examines the main types of dormitories in Bulgaria: those for high-school students, university students and workers. The author's classification is based on the differences in resident characteristics including age, educational degree, financial resources, duration of residence and other relevant factors. Despite certain similarities in the spatial organisation of these types of residences, the specific characteristics and needs of their occupants necessitate distinct approaches in building planning and design. These differences are particularly apparent in aspects such as location within the urban structure, residential unit configuration and common space organisation. The paper is based on a comparative analysis of contemporary residences for high-school students, university students and workers within the Bulgarian context. It synthesises key characteristics and principles for designing the built environment of these different typologies, considering both urban planning and functional design perspectives. The study provides a basis for further research on the architecture of temporary accommodation for students and workers – an area that remains largely unexplored in Bulgaria and lacks a comprehensive contemporary database. Moreover, in recent years, this issue has gained relevance not only in this country, but also on a global scale.

Key words: *Dormitories, Student Residences, Worker Residences, Temporary Accommodation, Classification, Typologies*

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1. INTRODUCTION

Dormitories are residential structures that provide temporary long-term accommodation (typically ranging from several months to several years) for high school and university students as well as for workers. These buildings integrate various functions, including office, recreation and services, while emphasising residential use as their main function.

The topic of this research paper is both current and important due to the increased interest in comfortable and affordable temporary housing for students and workers worldwide [1]. Furthermore, a significant part of Bulgaria's existing building stock is in poor condition; ongoing interventions include only minor improvements, and there are no adequate modern design standards or building codes for this type of buildings.

The temporary accommodation of students and workers in dormitories has grown rapidly in recent years on a global scale *(Figure 1)*. This growth is a result of several factors, including: globalisation and international mobility and the increasing number of international students and workers in developed regions [1]; a rise of the number of students educated at the undergraduate, graduate and doctoral level [2]; the growth in some industries which require large numbers of temporary workers who need accommodation for a certain period of time; the varying needs and lifestyles of people nowadays who necessitate affordable, convenient and flexible accommodation options, etc.

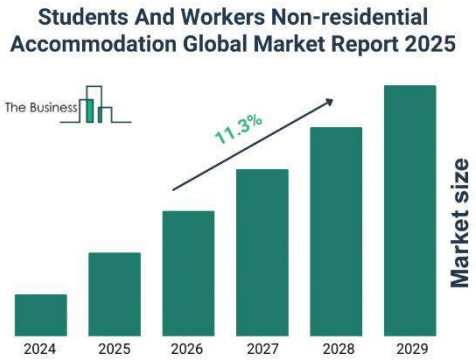

Figure 1. Non-residential accommodation for students and workers, *2025*
Source: https://www.thebusinessresearchcompany.com

Considering the importance of the topic, in the context of present-day Bulgarian case studies, the author systematises several principles and guidelines that are universal and applicable in both Bulgarian and international practice.

The main typologies of dormitories in the country are categorised on the basis of the type of residents:

- Dormitories for high-school students.
- Dormitories for university students.
- Dormitories for workers.

There are notable similarities in certain architectural aspects among these three typologies [3]; however, significant differences also exist due to the demographic and socioeconomic characteristics of residents, including age, educational degree, financial resources, duration of residence, and other relevant factors.

2. METHODOLOGY

The methodology of the study is based on the following components:

- Identifying the key characteristics of the residents in the three basic typologies of Bulgarian dormitories;
- Determining the main requirements for the built environment for high school students, university students and workers, based on the key characteristics of the residents;
- Analysis of typical case studies from contemporary Bulgarian practice;
- Summarising fundamental guidelines for the development of the built environment of Bulgarian dormitories for high-school students, university students and workers – applicable both nationally and internationally.

2.1. Demographic and socioeconomic characteristics of dormitory residents

In order to define the specifics of the types of student and worker residences in Bulgaria, as well as to outline the similarities and differences in their structure, it is important to look at the main characteristics of their residents.

A shared feature of the three groups of occupants is the need for affordable temporary accommodation for a relatively long period of time - usually between several months for workers to several years for pupils and university students. All three social groups need comfortable living conditions, combined with provision of a set of services.

The focus of the present study are the differences rather than the similarities between the three groups of occupants as they provide the basis on which the built environment is shaped to meet their needs *(Table 1)*.

In the first group, high-school students, who are still minors, do not have personal income and are to a significant extent dependent on adults, i.e. their parents or guardians. Pupils need a sense of security and safety. The environment they live in needs to be controlled. Communication with peers and the creation of close friendships is essential and has a positive impact on the psychological and social adaptation of adolescents [4]. During this period, school children are also oriented towards specialised training related to their future career.

In the second group, university students, who are adults in a period of transition from adolescence to adulthood, are mainly independent individuals. A fully controlled environment is not necessary, but some control is advisable. A significant proportion of students are partly financially independent, having personal financial resources in addition to support from their parents (scholarships, work parallel to education). Most university students tend to be single. They create new connections, often based on professional interests, as communication, socialisation and a sense of community are important for their future development. Their world (emotional and material) changes significantly as they structure and integrate their personal and professional identity [4].

In the third group, workers, typically adults over 25 - 30 years old, are completely independent individuals, relying solely on personal income. They do not need a controlled environment. Some are already married, and their social environment depends on their career. It is important to note that the personal contacts of the social segment that has to use temporary accommodation related to work are quite dynamic due to the frequent change of

their living environment. Creating a sense of belonging and stability as well as the possibility of nurturing communities is also essential for this group of occupants. Their age is characterised by the so-called "phase of stability" [4], in which the lifestyle, professional orientation and personality of the individual are relatively constant.

Table 1. Characteristics of dormitory occupants

	Age	Educational degree	Family status	Financial resource	Need of control	Priorities
High-school students	14 - 19	Basic education	single	Financially dependent	Yes	Family School Friends
University students	20 - 26	Upper education	Mostly single	Partially financially dependent	Partially	University Friends Family
Workers	18+	Basic, Secondary, High	Single, married	Financially independent	No	Family Work Friends

2.2. Basic requirements for dormitories for high school students, university students and workers, based on the key characteristics of the occupants

Based on the key characteristics of the occupants summarised above, the following conclusions can be made on the impact these characteristics have on the built environment for temporary living.

The built environment in dormitories designed for high-school students should have a high level of control and constant adult supervision should be provided. The residential units should be planned for at least two students. The common space facilities should provide opportunities for learning, interest-based activities, dining, sports, recreation, socialisation within the building, enabling students to remain on the dormitory premises at all times.

The built environment in dormitories designed for university students should be subject to partial control, therefore the presence of a concierge or security guard at the entrance of the building is typically sufficient. The residential zone should offer varying levels of privacy, “as a balanced sense of privacy is essential for individuals well-being” [5]. Residential units may be designed as single or double rooms (or family apartments that are a rare choice). Dining options could be made available both within and outside the dormitory premises. An important part of the living environment are workspaces (individual and group areas), common areas that encourage social interaction among students, create a sense of community, and offer opportunities for sports and recreation.

The built environment in dormitories for workers does not require a high level of control. Similarly, to the typologies described above, in the residential zone of this type of dormitories, levels of privacy should be provided. Residential units could be planned as single and double rooms and family apartments. Providing cooking facilities for residents is essential. While workspaces are not necessary, areas that encourage social activities and foster a sense of community are required [3].

2.3. Method of financing - public or private - as a factor influencing the built environment

An essential factor that determines some differences in the buildings for temporary accommodation of students and workers is the method of financing. The construction of student dormitories is mostly a social activity [3], financed and implemented in Bulgaria by means of funds from the state budget, municipal budgets, as well as from various European funds and programs. State initiatives nowadays are mostly focused on the renovation of existing buildings rather than on the construction of new facilities.

In recent years, private-financed initiatives for the building of student dormitories have also emerged in the country. These are typically hybrid structures *(Figure 4)* that combine temporary accommodation for students with hotels, restaurants, co-working centres and other functions. Alternatively, some investors build apartment buildings that lack common spaces and include residential units for both rent and sale.

The construction of dormitories for workers is primarily within the realm of private initiatives by entrepreneurs or large industrial companies [3], whose priority is to maximise the density of residential units at the expense of service facilities.

2.4. Typical dormitories from contemporary Bulgarian practice

This paper presents and analyses several case studies featuring dormitories for high school students, university students and workers from contemporary Bulgarian practice, implemented over the last ten years. This analysis aims to clarify the diverse characteristics and requirements for planning the built environment associated with these types of buildings.

2.4.1. High-school student dormitory, Stara Zagora

The building is designed as a semi-detached structure adjacent to the High School for Computer Science and Mathematical Analysis in Stara Zagora. The underground level includes service rooms - such as a kitchen, laundry, storage areas, technical rooms and facilities for the staff. The ground floor comprises a communal zone for all residents, featuring a reception foyer with a security guard, a dining hall and a multifunctional hall. The residential area is designed on the next three floors and contains residential units for three students, each approximately 22 square meters in size, with en-siute bathrooms. The residential levels also incorporate common spaces designed for the group of residents occupying each floor, which consist of a spacious living room, a study area, and a dedicated room for a tutor.

a. b. c.

Figure 2. High-School Dormitory, Stara Zagora, 2020
Author: SIDEA Architectural Design, arch. Siyana Yancheva
Source: Arch. Yancheva's Personal Archive; https://www.buildingoftheyear.bg,
Photographer: Tsvetelina Belutova: https://www.capital.bg/
a. ground floor plan, b. typical floor plan, c. students room, d. underground,
e. section, f. view, g. students room view

2.4.2. Dormitory for university students, Plovdiv

The building represents the first of four prototype dormitories within a student complex (campus) developed around an attractive landscaped park environment situated in close proximity to the Plovdiv University Paisii Hilendarski.

A communal zone accessible to all residents is provided on the ground floor, while common areas on the upper levels are designated for smaller groups of students (usually those living on that storey). Although the communal facilities have been minimized, there is a notable emphasis on the integrated use of services from adjacent facilities, such as a multifunctional sports hall, retail stores and cafes. The residential units consist of double rooms, with an area of 18 square meters each, equipped with en-suite bathrooms. Notably, access to these units is unconventional for Bulgarian residential buildings, featuring a wide, open gallery that also serves as a terrace for residents during the warmer seasons.

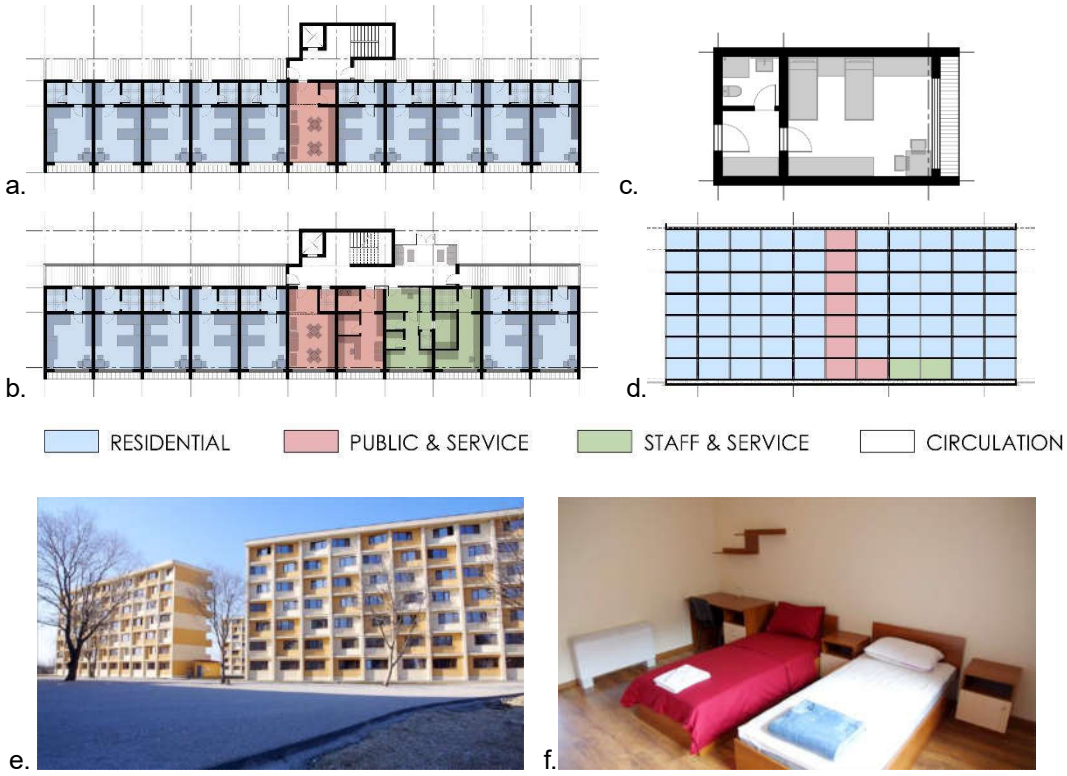

Figure 3. Student dormitory, Plovdiv, 2015
Author: arch. Antoaneta Topalova, arch. Nikolay Andreev
Source: Arch. Topalova's Personal Archive, https://uni-plovdiv.bg/pages/index/1611/
a. ground floor plan, b. typical floor plan, c. students' room, d. section,
e. view, f. students room interior view

2.4.3. Student Dormitory and Hotel Campus 90, Varna

Campus 90 is a "hybrid type of urban formation" which appeared in the context of higher requirements of people to the quality of the living environment and to the diversity of housing types [6]. It is located in Varna within a walking distance of two major state universities. It effectively combines student housing, hotel accommodation, and a conference centre within a single building „through vertical mixing of functions" [7].

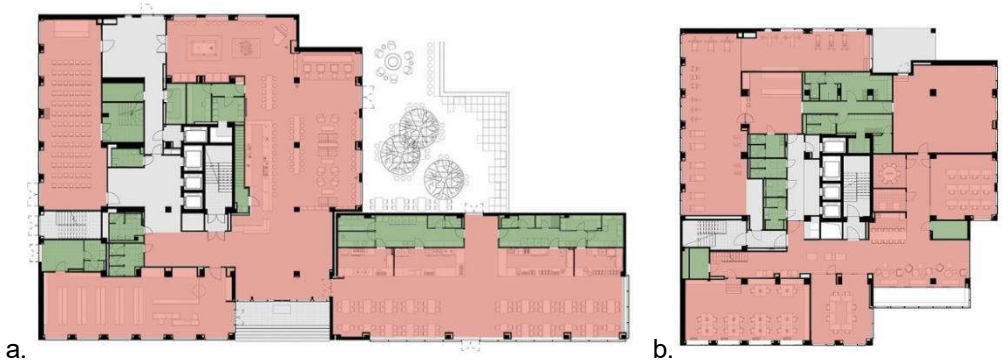

Figure 4. Academic Hub „Campus 90“, Varna, 2022
Author: E-ARCH STUDIO, Galina Baleva, Ina Dineva, Martin Hristov
Source: Author's Personal Archive: https://e-arch.bg, https://www.buildingoftheyear.bg; https://miesarch.com//5164
a. ground floor plan, b. first floor plan, c. typical floor plan, d. section, e. students' room, f. view, g. students room interior design

The concept of the “academic hub” is to provide not only excellent living conditions but also to facilitate interaction, communication and teamwork among students. The two underground levels accommodate parking spaces, service areas, storage, and technical facilities. The communal area, which comprises an extensive lounge, six multifunctional halls of varying sizes, a restaurant, and a fitness centre, is designated for the first two above-ground levels and is accessible to both inhabitants and visitors. Part of this public area includes wide terraces – “in-between spaces” [8] between the interior and the exterior environment that enable various activities in close contact with nature. The residential zone is designed as a highly compact structure, comprising single and double residential units equipped with kitchenettes and en-suite bathrooms, providing a high level of living comfort. Each floor also includes a small lounge for a group of residents.

2.4.4. Worker dormitory, Sofia City

The building is located in an easily accessible area of Sofia, with numerous transportation options, ensuring a convenient commute to and from the workplace. The underground level accommodates the necessary number of parking spaces, as well as service rooms, storage, and technical rooms. This level also includes a residential group in an area that allows for

natural light. The ground floor features a foyer, a communal lounge for all occupants, and residential units. The residential zone is developed vertically and consists of compact apartments designed for two occupants or a family.

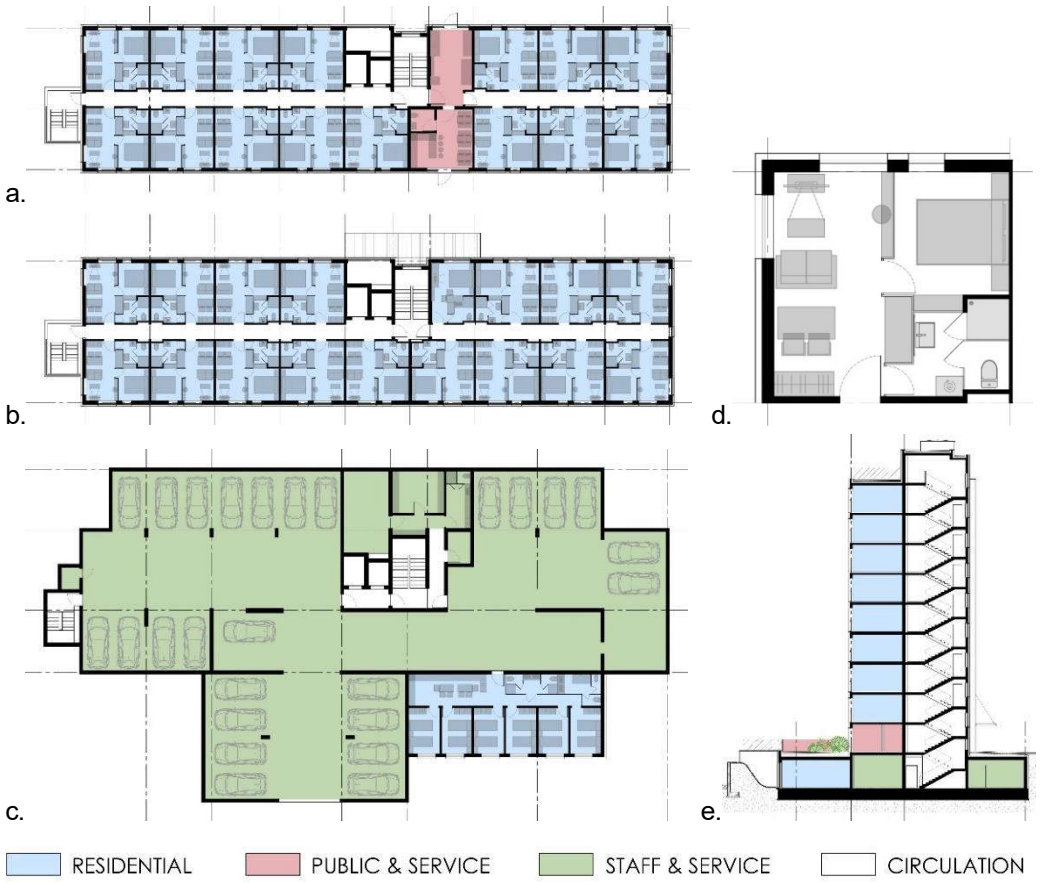

Figure 3. Worker Dormitory „Tarsis Residence“, Sofia, 2021
Author: arch. Rumen Aleksandrov
Source: Arch. Aleksandrov's Personal Archive
a. ground floor, b. typical floor plan, c. underground, d. typical apartment, e. section, f. view, g. apartment interior design

The project serves as a notable example of the application of “small residential forms”, where the reduction of living space does not compromise the functionality of the units or diminish the quality of living comfort [9]. The designed roof-top terraces could be an attractive part of the communal area as in-between spaces, offering opportunity for social interaction and recreation.

3. RESULTS AND DISCUSSION

This comprehensive analysis of dormitories for high school students, university students, and workers within contemporary Bulgarian practice indicates some similarities in certain aspects, while significant differences are evident in others.

3.1. Common characteristics

Dormitories for high-school students, university students and workers are developments that embody the characteristics of shared living, integrating both individual and collective lifestyles [10]. Desire to engage in or avoid social contact and interaction with others varies, so residents should be able to control levels of privacy in their living environment. Balanced privacy and social interaction are key elements for the well-being of people living in dorms [5]. Therefore, such buildings are designed to include diverse functional elements - both private and communal spaces that offer opportunities for different levels of privacy as well as socialisation, recreation and entertainment.

The functional configuration of the buildings delineates **two primary zones – a residential and a communal one** - interconnected by horizontal and vertical **circulations** [11]. Additionally, a **service zone** is planned, primarily implemented at the underground level (when such a level is designed).

- **Residential zone** generally consists of units designed for a small number of occupants (one to three) with en-suite bathrooms. These spaces offer a high level of privacy for occupants.
- **Communal zone** consists of multifunctional spaces utilised by all occupants or small groups of tenants. A characteristic feature, common to all three types of buildings, is the living room or lounge, which exhibits variations in both size and functionality across the different typologies.
- **Service zone** in all types of buildings includes storages, technical rooms, premises serving the staff, laundry and parking lot.

3.2. Differentiating characteristics

The differentiating characteristics of dormitories for students and workers can be systematised into several aspects as follows:

- **Location within the urban area**

Buildings for the temporary accommodation of high-school students are required to be located in close proximity to the schools they serve, ensuring the safety of pupils’ transportation. Proximity of location for university student and worker dormitories is also a priority; however, physical closeness is often not required, but rather direct and convenient access to transportation.

Table 2. Dormitory types specifics

	Location	Residential	Communal / service
High-school students	In direct contact with the school, usually in the school yard	- a 2-3 student room - a living room - a study room - a tutor room	- a concierge - a canteen - laundry facilities - a hall
University students	With convenient access to the university	- a single, double room - a family apartment - a living room with kitchenette - a working space	- a concierge - a café/canteen - laundry facilities - a hall
Workers	With convenient access to work	- a single, double room - a family apartment - a living room with kitchenette	- an automated access system - laundry facilities - a common living room

- **Safety and security of the environment**

In high-school student dormitories, a high level of security is maintained, with access control serving as a fundamental measure to ensure the safety of pupils. In student dormitories, the level of control is less stringent, whereas in dormitories for workers such oversight may be minimal or entirely absent. Worker dormitories normally feature an automated access control system that eliminates the need for a concierge or security guard, utilising card-based access for security.

- **Residential zone**

The number of occupants per residential unit in student dormitories ranges from two to three, whereas in the other two types, it ranges from one to two, with the addition of apartments designated for couples. Each floor in high-school student dormitories is designed to include a room for a dormitory supervisor. The lounge and study area are essential components of the floor plan. In university student dormitories, the residential area also includes lounges with kitchenettes and also workspaces for small groups of residents (typically those living on the same floor). In buildings for the temporary accommodation of workers in Bulgaria, common areas on each floor are often absent, or if included, their sizes are minimal.

- **Communal zone**

Analysing the dormitories built in Bulgaria over recent years, it is communal zone that exhibits the most significant differences among the various typologies. This zone includes a diversity of functions in buildings for students, whereas in those for workers, it is almost absent or has been reduced to a minimum.

A mandatory element of the communal zone in high-school student dormitories is a common dining room with a kitchen (the latter as a part of the service premises). This facility may be absent only if access to the school canteen is provided. In university student dormitories, a canteen may also be included, as well as a restaurant accessible to external visitors; however, this component is generally lacking in worker dormitories.

Other components of the communal zone are determined by the location of the buildings within the urban environment, the availability of nearby amenities, and the potential for the integrated use of functions. In the first typology, external access is distinctly separate.

- **Service zone**

The key elements that distinguish the service zone in the three types of dormitories are the kitchen and parking facilities. In high-school student dormitories, a kitchen is typically included in conjunction with the planned dining hall (unless, as mentioned above, integrated use of services with the school that the dormitory serves, is anticipated). A parking lot for residents is not required.

On the contrary, in the other two typologies, specialised kitchens are typically the exception. In university student dormitories kitchens are rarely designed and in worker residences these are absent. The provision of parking spaces for occupants is mandatory

3.3. Discussion

On the basis of the author's analysis and research interests concerning student dormitories, the following guidelines for the future development of these building typologies can be systematised:

Planning different types of temporary accommodation for different social groups as students and workers within the urban structures is vitally important, because when properly planned and integrated within a certain territory, those buildings could enhance neighbourhoods and boost the local economy [12].

Two primary functional zones are delineated – residential and communal one, interconnected by horizontal and vertical circulations.

The residential zone should provide the necessary levels of privacy for residents through optimally planned living units (rooms or apartments), packed with en-suite bathrooms and accommodating small number of tenants (one to three).

On each floor, in addition to this zone, it is essential to include diverse common spaces for small groups of occupants, because “sociologically best designs of dormitory space organization comprise existence of spaces for common facilities, intended for small groups” of residents [13] (usually living on that same floor). These premises could be defined as “semi-private”, hybrid zones between private and public, aimed at facilitating learning or work, communication, interest-based activities, and the creation of sustainable communities.

The quality of life in dormitories is influenced not only by private or semi-private spaces but also by the design of communal areas for all the residents. They should offer a comprehensive range of activities and services which usually depend on the location and the availability of nearby amenities. They have to comprise a variety of active and passive zones designed to facilitate social interactions, entertainment, work, sports and relaxation.

Common spaces could be situated on the ground floor, as well as on various floors within the building, or on the upper levels with differing level of accessibility [2]. The planning of common spaces on each floor offers the advantage of achieving an even distribution of residents throughout the building, rather than concentrating them to the lowest or highest storeys [14].

Flexibility and adaptability, alongside with green building practices, are essential features of the sustainability of the built environment in the dynamic, high-tech modern world. Buildings should be planned for the rapidly changing needs of population as well as for various economic and environmental conditions. They should address demographic, economic, technological and environmental requirements by utilising modular constructions, prefabricated options, environment-friendly materials etc. [12].

4. CONCLUSION

Combining a diversity of functions and activities, dormitories represent a “micro-living environment” [15] that reflects the specifics of the constantly changing modern world. The pathway to achieving quality and sustainability in dormitory architecture lies in creating flexible and adaptive to future functional changes designs that meet the increasing demands of modern residents regarding living standards and available services.

The systematisation of basic dormitory typologies, along with their similarities and differences, as well as the formulation of fundamental guidelines, provide a solid foundation for future in-depth scientific studies of each typology. This classification also serves as a prerequisite for enhancing the living environment as well as optimising the codes concerning the design of such buildings.

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