

Article

A Special Type of Multifunctional Stadiums: Great Forest Stadium in Debrecen (Hungary)

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Abstract: As a result of the stadium construction wave recently observed in North America and Europe, the question of the cost-effective operation of these facilities entered the foreground. Formerly, researchers advocated that these sports facilities had no significant positive economic impact, and no considerable increasing effect can be observed in terms of workplaces, personal incomes, or local tax revenues. In recent years, however, many researchers attribute a serious economic impact to particular facilities, including the so-called multifunctional stadiums, which are used for purposes other than one particular sports activity. The aim of our study, after summarising the factors leading to the establishment of multifunctional stadiums and the most important characteristics of the completed facilities, is to demonstrate the various utilization possibilities through the case study of the Great Forest Stadium in Debrecen. As an outcome of the research, it may be concluded that the facility has all features (conference room, catering unit, own shop, etc.) that are typical for medium-sized stadiums. Besides, the services related to health sciences constitute unique elements that can be explained by the activities of the higher education institution of the city, the University of Debrecen, which considers the Third Mission activities as particularly important.

Keywords: multifunctional modern stadiums; diversity of utilization of sports facilities; medium-sized stadiums; University of Debrecen



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1. Introduction

Research conducted in the field of sports geography has been playing an increasingly important role for the past decade covering an extremely wide range of areas. At the same time, the analysis of the different types of facilities that constitute the infrastructural background of sports and their characteristics is also an important element.

Research focusing on the development of football stadiums [1–3] distinguished 4–5 periods from the beginning of the twentieth century based on aspects related to architecture and audience. Besides, they also called attention to the fact that from the early 1990s more and more attention was paid to multifunctionality when constructing or reconstructing these facilities. Multifunctional stadiums may be regarded as facilities that, in addition to their original use focusing on one particular sport, pay great attention to other primarily recreational opportunities [4]. There are several factors explaining the spread of such stadiums.

First of all, recreational opportunities became more diversified resulting from the increasing significance of cultural economy (the appearance of theme parks, shopping malls with entertainment facilities, and interactive museums), and that meant an especially great threat for the facilities which for a long time offered only one way for recreation [5–7]. Secondly, it may be also regarded as a very important factor that—particularly in the case of the privately owned facilities—cost-effective operation played a vital role and having 20–25 match days per year made it less and less possible [8–12].

Thirdly, mostly in the United States of America, some of the new facilities were constructed in the city centre, thus constituting an integral part of their renewal [13]. However, this task could be performed with 100% efficiency only if it offered other recreational opportunities besides sports activities [14]. Fourthly, there is an increasing demand for stadiums with an attractive design, also as an important means of selling cities [15–21]; that, however, had two conditions. The citizens also had to accept them, which seemed possible only if the stadium offered recreational opportunities for them as well. Besides, it also arose as a considerable factor that external visitors (i.e., those who do not visit the facility on match days) should not receive the impression of a dead facility [22].

In stadiums, multifunctionality is essentially present in two forms. On the one hand, there is an opportunity to use the place for activities related to sports other than football (e.g., athletics [23], American football [24]), but it can be completely different and even substantially cultural in nature (concerts, festivals [25]). As a result, however, the lawn of the facilities is exposed to a considerable load, which is mitigated by various methods. These include covering the grass for the duration of the event (such as concerts) (which raises the question about the length of the biological period after which the playing ground can be used again for sports), or the use of artificial turf in countries where the climate conditions would otherwise not require that (such as France, The Netherlands) [26].

The other possibility is the utilization of the stadium building for various purposes (e.g., cultural, commercial activities). In parallel with this, more and more authors, especially in the United Kingdom, call such facilities “Community Stadiums” e.g., [27,28]—which allows the facility to be open for visitors 365 days a year. Ensuring multifunctionality and thus creating a real Community Stadium is particularly important for facilities which are located in residential neighborhoods. In the case of these, it is advisable to provide services that can be used by the local inhabitants (e.g., catering units, shopping centres), thus improving its economical operation. Besides, it should also be ensured that units which significantly disturb the lives of the local inhabitants (e.g., night clubs) are included only to a limited extent. At the same time, when developing the services, it is a very important aspect that they should be accessible from the outside, and thus can be used on days other than match days. The activities concerned can be related to sports in three different ways:

- close relationship: The given service is directly related to sports (a gift shop selling souvenirs of the association or a museum displaying its history).
- occasional relationship: The given service is sports-related but it can also be used independently (hotel–accommodation for teams coming to away matches; conference room–holding sports-related meetings; skybox—in addition to watching the match it can also serve as a venue for business meetings; offices–accommodating employees managing the affairs of the association; catering unit—the most important consumer market is the fans attending the matches).
- random relationship: In most cases, using the given service is independent from the original function of the stadium (shopping centre, leisure facility, cinema), but at the same time it also enables organising family programmes (part of the family watching the match, while the other part uses other services).

The nature/strength of the multifunctionality of stadiums depends on several factors [29]. In the case of multifunctionality related to the playing field, national traditions can be mentioned as an important factor: In Great Britain, for instance, due to the pride of the fans, it was impossible to realise that the distance between the spectator area and the

playing field exceeds 10–12 m, and that fact made the establishment of an athletic field impossible which otherwise could have been the most obvious example for the multipurpose utilisation (however, omitting the athletic field has become a general trend in recent years). The second important factor is the different needs of the sports that could be potentially included: The requirements concerning the playing fields for the two most popular outdoor sports in the United States of America, baseball and American football, differ to such a great extent that they could be met only through serious investments (e.g., mobile stands). Thirdly, the technical equipment of the facility also has a very important role: Stadiums with a retractable roof (e.g., Veltins-Arena–Gelsenkirchen, Millennium Stadion–Cardiff, Amsterdam Arena) can offer much more opportunities for the potential users [30]; nevertheless, the maintenance of the more modern technology means higher costs.

In the case of multifunctionality related to the building, the size of the given building has a considerable influence (Table 1): In stadiums with a larger capacity usually more services are offered for the potential users [31,32]. Besides, the location of the stadium within the settlement must be also highlighted: In the case of facilities located on the edge of the built-up areas, which are mostly accessible only by car, the construction of a shopping centre or office building could be a reasonable and viable solution. In contrast, the facilities that are already located in a recreational environment, it would be advisable to supplement them with services in the fields of leisure and recreation, catering, or perhaps hotel services, but with an emphasis on the preliminary examination of the expected potential utilisation.

Table 1. Multifunctionality related to buildings in the modern stadiums depending on capacity.

Function	Mega Stadiums	Large Stadiums	Medium Stadiums
All-seater	***	***	***
75% covered seats	***	***	***
In-house restaurants, bars	***	***	***
Conference facilities	***	***	***
Corporate boxes	***	***	***
High-end catering	***	***	**
Merchandising outlet	***	***	**
10% premium seat ratio	***	**	**
Retail and leisure facilities	***	**	**
Museum	***	*	*
VIP underground parking	**	**	*
Hotel	**	**	*
Loge boxes	**	**	*
Music arena	**	*	*
Exclusive corporate tier	**	*	*
Retractable roof	*	*	*
Night clubs	*	*	*
Offices	*	*	*

Mega stadiums: 60,000–80,000 seats; Large stadiums: 40,000–60,000 seats; Medium stadiums: 20,000–40,000 seats. ***—found at almost every modern stadium; **—found in many cases; *—occasionally found in modern stadiums. Source: [33] (p. 18).

In the spirit of the above, the aim of the paper is to examine the multifunctional nature of the Great Forest Stadium built in the first half of the 2010s in Debrecen, the second largest city of Hungary (Figure 1), to determine the features that fit international trends and those that differ from them, and in the case of the latter to reveal the causes in the background.



Figure 1. The location of Debrecen. Source: own design.

2. Materials and Methods

When preparing our paper, we relied on a variety of information sources and applied different methods. On the one hand, we reviewed academic works on the history of this part of the city and the Great Forest Stadium, and we studied the development plans prepared by the municipality concerning the future of the sports facility and the district. These information sources were especially important because they shed light on the ideas drafted by the city management in the past decades about the role the Great Forest Stadium could play in the life of the city district of the stadium. On the other hand, during 2020 and 2021 we conducted interviews with actors (e.g., manager and architect of the stadium, chancellor of the University of Debrecen) who have played an important role in the development of the stadium. In the interviews, we primarily focused on exploring the ideas regarding the formation of the architectural image of the facility, the opportunities arising in the context of the pursuit of multifunctionality, and the factors behind the decision made between them paying special attention to the role of the University of Debrecen.

The information from the abovementioned two sources were compared with the conclusions drawn from the international literature, and we tried to determine those characteristics of the Great Forest Stadium which were similar to or different from the international standards. These two sources were very important because they provided us with information on the factors behind the decisions taken. Thirdly, we studied the development plans for this part of the city and the Great Forest Stadium.

3. Results—The Case Study of the Great Forest Stadium

The Great Forest Stadium of Debrecen, as the first real sports facility of the city, was originally built in the 1930s, and formed an integral part of the educational and recreational complex developed in the northern part of the settlement between the two world wars [34–36]. However, as a consequence of the lack of necessary developments, the quality of the building became more and more deteriorated in the 1970s and 1980s [37], and could barely meet the rising quality requirements. Mostly this fact, as well as the considerable distance between the playing field and the bleachers, explain that its utilisation decreased to a minimum after the change of regime: There were hardly any football matches,

and the other forms of use were represented by a few cultural events (such as the Debrecen Flower Carnival) (Figure 2).



Figure 2. Flower Carnival in the Great Forest Stadium in the 1990s. Source: https://hu.m.wikipedia.org/wiki/F%C3%A1jl:Debreceni_vir%C3%A1gkarnev%C3%A1l.jpg (accessed on 16 September 2022).

In the early 2000s, the necessity of the renovation of the stadium arose for several reasons. On the one hand, the quality of the Great Forest Park with its important role in the tourism and cultural life of Debrecen, which forms the wider environment of the facility, was getting more and more below the expectations of the inhabitants and the tourists visiting the city (the development ideas for the area were summarised in the plan drawn up in the mid-1990s). At the same time, it was obvious for the city management that the renovation of the city district could not be implemented without resolving the situation of the stadium. On the other hand, Debrecen did not have a stadium that met the UEFA's increasingly strict regulations. After the turn of the millennium Hungary submitted its application for the right to host the European Football Championship several times, and the construction of a new stadium in Debrecen formed an integral part of these candidacies, but the rejections did not make the investment possible. The problem has become especially urgent from the first half of the first decade of 2000, when the team of the city qualified for the European Cups several times (once for the Champions League and once for the Europa League) but was required to play its matches in Budapest.

The new government that came to power in May 2010 brought a decision on financing the stadium investment already in September, and this fact gave new impetus to the development. When selecting the site, several options located in the outskirts were also considered, but the leaders of city finally decided in favour of the reconstruction of the Great Forest Stadium, thinking that the renovated facility would be the flagship project of the renewal of the entire city district [38].

At the same time, several factors had to be taken into consideration during the planning phase. The district is considered a NATURA 2000 area, and this limited the possibilities in several aspects (e.g., building height, volume of car traffic). Furthermore, it soon became obvious to the leaders of the city that in order to ensure a cost-effective operation, it is not enough to use it only for sports purposes; it was also necessary to build a multifunctional facility. When defining the range of services, the park character of the Great Forest emerged as a serious influencing element from two points of view of selecting services that complement the traditional forms of utilization (e.g., museum, shop selling club relics).

First, it became obvious that neither a shopping centre nor an office building could be established in this environment, as these objects generate a significant amount of passenger car traffic which could not be managed in an environmentally friendly manner. Secondly, in the 1970s and 1980s, a recreation and entertainment complex developed in the district (including a zoo, amusement park, beach spa, thermal spa, restaurants, and hotels), the further development of which and the addition of new service elements could represent a serious competitive advantage for Debrecen.

When determining the nature of multifunctionality, the second significant factor was the proximity of the University of Debrecen, which is one of the largest higher education institutions in rural Hungary. The Great Forest Stadium is located at a more or less equal distance from the larger units of the University, so the needs of the nearly 40,000 students and university teachers were also taken into account when determining the various possibilities of utilization. Besides, one of the most important strategic goals of the institution is the development of healthcare industry, of which sports sciences and the closely related medical sciences form an integral part. The importance of these two sectors should be highlighted because, relying on them, during the planning of the functions of the facility the idea evidently emerged that the activities related to a healthy lifestyle, which has gained a more and more important role nowadays (including diagnostics, prevention, rehabilitation services, medical check-ups) should also have a place in the building.

The third significant factor is the population of the city itself. According to the investigations, in the case of a settlement with barely more than 200,000 inhabitants, it did not seem profitable to build a facility capable of accommodating more than 20–25,000 spectators, and this fact to a certain extent limited the range of services.

The fourth important factor is constituted by previous experiences: In the old Great Forest Stadium there was a considerable space between the bleachers and the playing field, which made it very difficult for the fans to create a special atmosphere. As a consequence of this, when planning the new stadium, the construction of a running track, which could also enable the organization of athletic events, was almost never considered.

As a result of the investment started in the beginning of 2013, the renovated Great Forest Stadium, with bleachers providing seats for 20,340 fans, was inaugurated in the spring of 2014, which can be considered unique among the Hungarian developments with many of its architectural elements (Figure 3). First of all, the facility fits its surroundings, barely extending beyond the crowns of trees (perhaps this explains why UEFA officials are currently calling it the Robin Hood Stadium), and recalling the memory of the old Great Forest Stadium as a piece of the forest can be seen from any seats of the bleachers [39]. Besides, as the facility does not expand over the boundaries of the former stadium built in the 1930s, therefore it was not necessary to take over new areas from the surrounding forests, which was a particularly important aspect in view of the NATURA 2000 classification of the district (when the former stadium was built, environmental protection aspects were not yet regarded as limiting factors). The present consideration of environmental aspects is also shown by the fact that the tram line that passes nearby the stadium and connects the Great Forest with the city centre has been renovated recently, and the facility can be approached via modern footpaths from the tram stops.

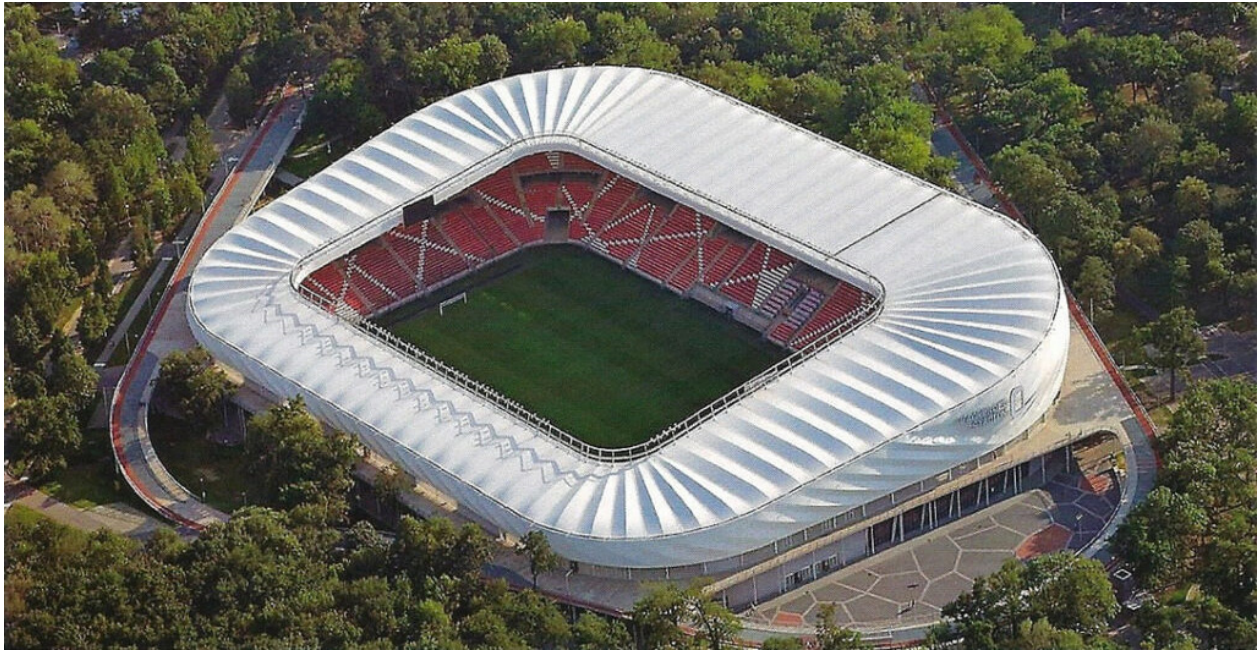


Figure 3. Great Forest Stadium, Debrecen. Source: www.dvsc.hu (accessed on 18 September 2022).

Secondly, one of the special elements of the facility is the 1.1 km-long floating sidewalk that surrounds it at the tree canopy level (Figure 4), which is a designated and controlled path for the fans and visitors arriving at the stadium for football matches or other programs while also protects the environment. Furthermore, when there is no program in the stadium, it operates as a running track, and as a result it quickly became popular among the residents of Debrecen.



Figure 4. The floating sidewalk built around the stadium. Source: own picture taken on 5 May 2018.

During the construction works, basically the most modern building materials and technologies were used. The reinforced concrete supporting, bridging, and connecting structural elements (more than 4000 pieces) manufactured in Hungary were connected like LEGO pieces forming the frame of the facility. The steel roof structure, which is unique in Hungary and also attracts international attention in professional circles, fulfils several functions. Its primary task is, of course, to protect the bleachers from rain (and

for this purpose a special Teflon-coated glass fabric material was used for the first time in Hungary on such a large surface), the design of which enables the collection of falling precipitation. Besides, the scoreboard LED walls, the lights of the stadium lighting, the operator walkways, the technical building systems, electrical wires, and telecommunication lines are fixed on the steel structure. As a result of the proper mass formation of the roof, the bleachers are ventilated naturally, and thus the expensive and complicated artificial ventilation could be avoided. During the construction of the playing field such slope conditions and network of drainage pipes were created which allow for the quick drainage of—even a higher amount of—precipitation. The water is collected in cisterns and then it can be reused for sprinkling the playing field.

The facility has been gradually progressing on its way to realise 100% multifunctionality since its inauguration. With regard to the multifunctionality associated with the playing field, due to the extremely high investment costs and the lack of adequate demand, infrastructural elements, such as a retractable roof or retractable seating which would have made the stadium usable for other sports as well, were not installed. Without these, maximum American football can be considered, but there was no interest from the representatives. The playing field can be made suitable for holding cultural programs by means of a special plastic cover, among which the programs of the Flower Carnival (such as the parade of flower carts) organised on the most important national holidays of Hungary, on 20 August, and the yoUDay (semester opening stadium show Figure 5), which was organised by the University of Debrecen for the sixth time in 2022, are the most prominent cultural events.



Figure 5. yoUDay in 2022. Source: hajdupress.hu (accessed on 20 September 2022).

As part of the multifunctionality related to the building, it may be considered that all three types of connection named in the literature (close connection, occasional connection, random connection) can be observed in the Great Forest Stadium. The office premises, which on the one hand are necessary for the operation, and on the other hand serve as the location for administrative units of the stadium's most important user, the DVSC football team, were already created in 2014. The setting up of 25 Corporate Boxes was also part of the inauguration which found its tenants quickly (Figure 6), as well as the conference room for 140 people which has hosted several conferences and scientific meetings recently.

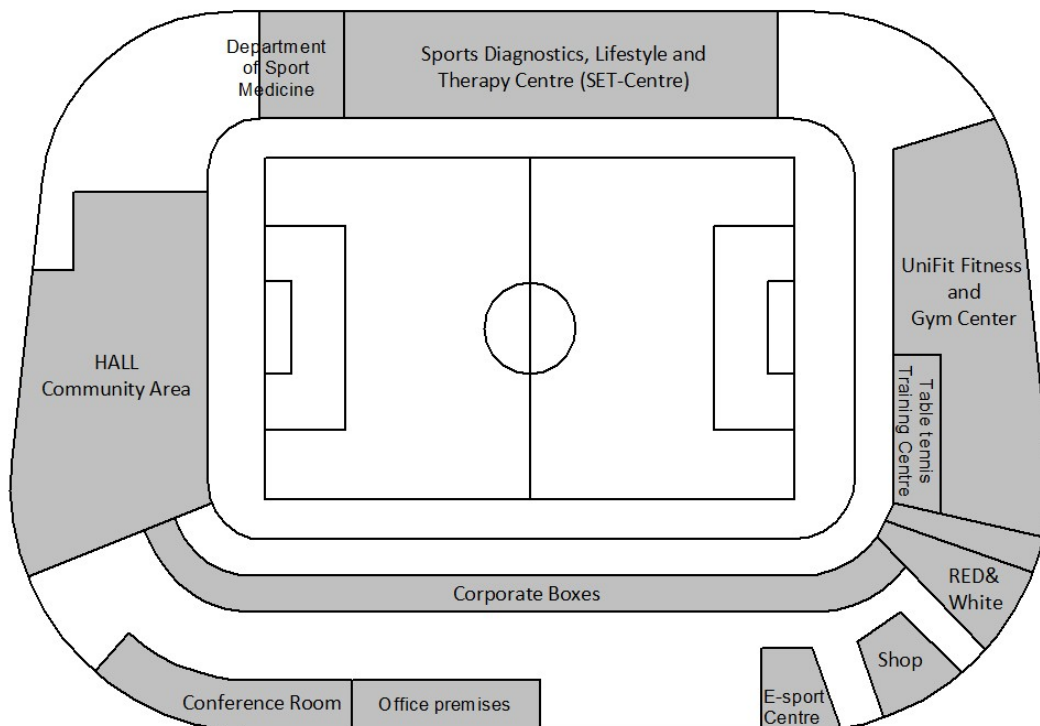


Figure 6. Location of the various services in the Great Forest Stadium. Source: own design.

The next stage in the development was commerce and recreation. As part of that, the DVSC Shop, selling souvenirs related to the club and also serving as the starting point for stadium tours, was opened in 2015 in the southern sector of the stadium, together with the Red & White Club welcoming fans in 2016. In terms of recreation, the Hall Community Area (the largest facility of this kind in Eastern Hungary), located in the northern sector of the facility opened in September 2015, plays a prominent role (Figure 7), which thanks to its modern interior and diverse forms is able to host a great variety of programs. Its utilization is to a large extent increased by the event space in front of it, which in winter serves as a location for a skating rink, and in summer provides a venue for festivals (e.g., Campus Festival, Debrecen Drive).



Figure 7. Coach training in Hall Community Area. Source: own collection taken on 15 April 2016.

The next element of the multifunctionality of the Great Forest Stadium is constituted by the health science-related activities of the University of Debrecen. The above-mentioned processes (increasing demand for healthy lifestyle) and the local conditions (accumulated knowledge at the University of Debrecen and the ambitions of the institution in this regard) played the most important role in its development. Based on these, the Sports Diagnostic, Lifestyle and Therapy Centre (SET-Centre) was established in 2016, offering sports medical examinations, exercise physiology measurements, three- and four-dimensional motion analysis, rehabilitation, and sports psychology assessments, as well as development trainings (the Department of Sports Medicine (established in 2018) of the University of Debrecen is connected to the Centre). The services are used not only by sports associations operating in Debrecen, but also in other cities of the country, and thus the Centre has a regional role. The UniFit Fitness and Gym Centre, opened in September 2017, is the other element of the complex where university students and employees, as well as the citizens of Debrecen can use spinning bikes, treadmills, various stretching and strengthening machines and a wide range of wellness services in the most modern 21st century circumstances (in order to assess the needs of the users—based on a Norwegian model [40]—questionnaire surveys have been already completed). The two units support each other's activities in two areas. For instance, relying on the tests carried out in the SET-Centre, advice is given on what type of wellness services should the visitors use, and after a certain time the efficiency of the work performed can be also checked at the same place.

The next larger unit of the Great Forest Stadium's facilities related to health sciences is the sports association of the University of Debrecen which is connected to the DEAC (Debrecen University Athletic Club) founded in 1919. The DEAC, which is considered as one of the largest sports associations in the country, has also embraced several sports that were either previously operating in poor conditions (e.g., table tennis) or were considered new (darts, e-sports). New departments were established within the framework of the co-operation which were placed in the Great Forest Stadium.

4. Discussion of Results

In the light of what was described above, the questions that arise are as follows: In which areas does the Great Forest Stadium meet the international trends, in which areas can we observe differences, and what can these be traced back to?

From an architectural point of view, two unique features should be highlighted, which are to a certain extent related to multifunctionality and even promote it. First, the "sloping" tribune of the stadium structure should be mentioned (Figure 3): The height of the western side is higher than that of the eastern side. The reason behind this is that the extension of the lower height characterizing the eastern side to the entire stadium would not have made it possible to host certain services and thus a higher level of multifunctionality—while the construction of the stadium with the height of its western side would have increased the capacity to almost 30,000 visitors, which would have meant utilization problems. Secondly, the floating sidewalk surrounding the stadium can be also considered unique in that it helps multifunctionality in two ways: its use as a running track provides opportunity for physical training, and thus for greater satisfaction with the stadium [41]. Besides, since spectators can enter the auditorium from the sidewalk, it was easier to create connected spaces accommodating a wide range of other functions on the ground floor of the stadium (there was no need to fraction the uniform surfaces with stairs).

Approaching the stadium from the point of view of multifunctionality, it may be considered that the playing field itself is basically used for the original function, that is for football matches. Other sports—chiefly for objective reasons—do not use it, and cultural utilization can be considered negligible. In terms of architectural multifunctionality, it can be concluded that as a result of the reconstruction of the Great Forest Stadium, a facility was created which essentially provides those services that are typical for a medium-sized stadium (Table 2). There are only seats in the stadium, which are 100% covered. In addition to that, there are conference rooms, an area for recreation (Hall Community Area), a catering

unit (Red & White Club), and a shop selling products related to the local sports associations (DVSC, DEAC). For those who require higher level service, several Corporate Boxes (Sky Boxes) were built, however, the more moderate economic power of the city (lower number of capital-intensive companies) in the early 2010s did not make it necessary/possible to provide luxury loge boxes, high-end catering, a significant proportion of “premium seats”, or the creation of an Exclusive corporate tier embracing the total bleacher area of the facility.

Table 2. Multifunctional services provided by the Great Forest Stadium.

Function	Large Stadiums	Medium Stadiums	Great Forest Stadium
All-seater	***	***	+
75% covered seats	***	***	+
In-house restaurants, bars	***	***	+
Conference facilities	***	***	+
Corporate boxes	***	***	+
High-end catering	***	**	-
Merchandising outlet	***	**	+
10% premium seat ratio	**	**	-
Retail and leisure facilities	**	**	+
Museum	*	*	-
VIP underground parking	**	*	-
Hotel	**	*	-
Loge boxes	**	*	-
Music arena	*	*	-
Exclusive corporate tier	*	*	-
Retractable roof	*	*	-
Night clubs	*	*	-
Offices	*	*	+

Mega stadiums: 60,000–80,000 seats; Large stadiums: 40,000–60,000 seats; Medium stadiums: 20,000–40,000 seats. ***—found at almost every modern stadium; **—found in many cases; *—occasionally found in modern stadiums. Source: [33] (p. 18) and own survey.

The services being occasionally typical of medium-sized stadiums are also mostly missing from the Great Forest Stadium (as it has been already discussed above—e.g., Loge boxes, Exclusive corporate tier). Although, in recent years, the installation of a museum presenting the history of the city’s sports life has been suggested several times, but it has never been realized. There are several hotels operating in the vicinity of the stadium, therefore, there was no need to provide this service within the facility, and the location of the stadium in a green area far from the city centre proved negative for the establishment of a night club. The only positive difference from medium-sized stadiums is found in the presence of offices (though, the KPMG study does not reveal the size of the offices they are considering). In general, it is natural that the stadium operating company has offices in the facility, and the most important user, the DVSC sports association, has also opened its office base here within the city.

At the same time, the considerable number of units related to healthcare sciences, which is in connection with the significant role undertaken by the University of Debrecen, may be regarded as a unique element in the multifunctionality of the stadium. This can be explained by the fact that the higher education institution has been paying more and more attention to the support of the so-called third mission which is nowadays gaining importance in addition to education and research since the early 2010s. By placing the SET-Center, the UniFit Fitness and Gym Center, and the various sports in the stadium,

such a complex sports and lifestyle service unit has been created that is equally suitable for serving university education (physical education, physiotherapist and rehabilitation specialists, specialized further trainings, etc.), to popularize and confirm the health effects of sports, to spread healthy lifestyle, and to influence and form the lifestyle of students and the local population.

5. Conclusions

The most important findings of the study can be summarized as it follows. The multifunctional sports facility that came into being in the new millennium as a result of the reconstruction of the Great Forest Stadium built in the early 1930s mostly serves only sports services in terms of its playing field, while in terms of its building it provides all services that the international literature describes as characteristics of medium-sized stadiums. Furthermore, due to its particularly important relationship with health sciences, it also offers services that make it unique among multifunctional facilities. This is explained by the role of the University of Debrecen which, relying on its outstanding educational and research activities in the field of medicine, strives to achieve excellent results in the field of the so-called Third Mission.

From an architectural point of view, in our opinion, the facility shows significant innovation in two areas. Firstly, the shape of the building should be mentioned, i.e., the fact that the east and west sides are not of the same height. This structure made it possible that the original optimal number of spectators could be ensured in a way that at the same time it could also provide considerable free space for various services. Secondly, the “floating” sidewalk surrounding the stadium can also be considered as unique, thanks to which, in addition to providing easy and comfortable access to the stadium, also makes it possible to connect spaces which is crucial for multifunctionality.

The viability of the stadium is also shown by the fact that the company operating the facility (Debreceni Nagyerdei Stadion-Uzemelteto Kft.) has been profitable in the past years, and both the profit before tax and the profit after tax have been increasing, as well as the other financial indicators have been improving and showing an increasing tendency (Table 3). The partly university-owned company has been continuously profitable since the installation of the facility, primarily as a consequence of the presented business model, even in the years of the COVID-19.

Table 3. Financial indicators of the Nagyerdei Stadion-Uzemelteto Kft. between 2018 and 2021 (reporting period: 1 January–31 December).

Reporting Period	Net Sales (Thousand HUF)	Profit before Tax (Thousand HUF)	Profit after Tax (Thousand HUF)	Return on Sales (%)
2018	282,535	12,797	10,205	3.61
2019	364,132	29,826	25,026	6.87
2020	337,368	33,652	28,835	8.55
2021	416,448	48,625	43,489	10.44

Source: [42].

At the same time, the authors cannot refrain from mentioning certain negative issues as well. First of all, although the stadium was inaugurated in May 2014, the majority of the units ensuring multifunctionality were completed only in the second half of the decade (original promises were that all units would be operational by the end of 2014). This delay and the low level of multifunctionality related to the playing field (for a long time the Flower Carnival on 20 August was the only cultural event held in the stadium) did not make it possible to exploit the enthusiasm after the opening to increase the awareness of the various services and also caused some resentment among the residents of the city.

Secondly, the attendance of the DVSC-TEVA football matches, the most important user of the stadium, has decreased significantly compared to the values experienced in the previous stadium (compared to 7500 spectators in the 2013/14 season, here it never

reached 4000), and this low level of utilization had a large impact on the perception of the entire stadium.

Thirdly, the fact that from an architectural point of view the stadium only partially meets the sustainability criteria can also be criticized. Basically, no equipment was installed to ensure the use of renewable energy sources (e.g., solar panels) which may be regarded as a disadvantage from the point of view of economical operation (the background of this is that during 2013–2014, this factor was not considered as significant). From this point of view, however, the possibility of reusing rainwater and the creation of conditions for natural ventilation of the bleachers should be mentioned as positives.

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