

<http://dx.doi.org/10.16926/sit.2021.04.28>

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## Swimming pool at the Palace of Culture and Science in Warsaw: history and present use for sport trainings

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**Jak cytować [how to cite]:** Krynicki B., Pawlikowska-Piechotka A. (2021): *Swimming pool at the Palace of Culture and Science in Warsaw: history and present use for sport trainings*. Sport i Turystyka. Środkowoeuropejskie Czasopismo Naukowe, vol. 4, no. 4, pp. 99–116.

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### Pływalnia w Pałacu Kultury i Nauki w Warszawie: historia i obecne przygotowanie do zajęć sportowych

#### Streszczenie

Pływalnia w Pałacu Młodzieży w Warszawie została oddana do użytku w kwietniu roku 1955, jako część gmachu Pałacu Kultury i Nauki, wzniesionego w stylu socrealizmu. Była wówczas (i jest nadal) jedyną pływalnią krytą w województwie mazowieckim, na której jest możliwe uprawianie skoków do wody. Jest to jednocześnie jedna z kilku pływalni w Polsce, na której można uprawiać tę dyscyplinę w pełnym zakresie konkurencji przez cały rok. Brak odpowiednich obiektów dla uprawiania skoków do wody jest wypadkową wielu przyczyn: z jednej strony braku środków na inwestycje sportowe, wysokich kosztów realizacji i utrzymania, a z drugiej wielu, bardzo precyzyjnych wymagań Międzynarodowego Związku Pływackiego (FINA) dla uprawiania tej dyscypliny, które taka pływalnia musi spełniać.

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Pałac Kultury i Nauki wraz z otoczeniem (Plac Defilad) wpisano do rejestru zabytków. Prace modernizacyjne, które miały miejsce na pływalni musiały uwzględnić bardzo restrykcyjne i szczegółowe rekomendacje programu konserwatorskiego, narzucającego zachowanie historycznych walorów stylu architektonicznego pływalni.

Artykuł ma charakter przeglądowy, jego celem jest odpowiedź, na podstawie wniosków z krytycznej analizy literatury i dostępnych dokumentów, na pytanie czy zabytkowa pływalnia może spełniać wymagania treningu i zawodów – regulaminu FINA.

**Słowa kluczowe:** historia sportu, pływalnia, skoki do wody.

## Abstract

The swimming pool in the Palace of Youth in Warsaw was officially opened in April 1955, as a part of the Palace of Culture and Science erected in the style of socialist realism. At that time, it was (and still is) the only indoor swimming pool in the Mazovian Region, where diving is possible. It is also one of very few swimming pools in Poland where this sport discipline can be practised in the full range of competitions throughout the whole year. The lack of suitable facilities for diving is the result of many reasons: lack of funds for sports investments, high costs of implementation and maintenance, numerous very detailed safety requirements of the International Swimming Federation (FINA) for this discipline, which a swimming pool must meet.

The Palace of Culture and Science in Warsaw and its surroundings (the Parade Square) was enlisted in the register of historic architectural monuments and all modernization works had to take into account the very restrictive and detailed recommendations of the conservation programme that imposed keeping historical qualities of the pool's architectural style.

The aim of the article is to explore and present the relationships between history, tradition and modern requirements for swimming pools, and to answer the question if this object can meet the requirements of the FINA for training and sports events organisation.

**Keywords:** history of sport, indoor swimming pool, diving.

## Introduction

The indoor swimming pool at the Palace of Culture and Science in Warsaw (in Polish – Pałac Kultury i Nauki, abbreviated as ‘PKIN’) is located in the northern wing of the edifice, in the separate institution – the Palace of Youth. The swimming pool is a part of its functional segment: ‘Physical Education and Sport’.

The construction of the Palace of Culture and Science in Warsaw began a few years after the end of World War II, and the huge, pinnacle structure was completed in 1955. The construction of the building was officially called in the communist propaganda ‘a gift of the Soviet people to the Polish nation’. In fact, both Russians and Poles were involved in the construction, and also other costs of this investment were covered by the Polish side. Until the year 1956 (the beginning of the political changes following Stalin's death), the official name of this opulent edifice was: Joseph Stalin's Palace of Culture and Science. This high-rise build-

ing was located in the very centre of Warsaw at the Parade Square (Plac Defilad).<sup>1</sup> The Parade Square, as its name suggests, was intended for ceremonial marches and parades on the occasion of national holidays and other festivals, in particular on the 1<sup>st</sup> of May and the 22<sup>nd</sup> of July. A granite stand (tribune), decorated with the national symbol, the silhouette of an eagle, preserved to our days, is a testimony to those propaganda events.

The Palace of Culture and Science in Warsaw was erected in the style of socialist realism, the officially sanctioned style of art, which dominated in Soviet Union from the early 1930s. In Poland and other Soviet satellite countries it was present from 1950s as a cultural system in literature, film, painting, sculpture and architecture, supporting the communist ideology and being used as a propaganda tool of the ruling party. The canons of socialist realism in architecture assumed the manifestation of the strength and power of the communist idea, which was achieved through monumentalism, rescaling, symmetry and abundant use of decorative elements: attics, colonnades, and pilasters.

In Poland, the style of socialist realism referred to historical compositions, mainly the Renaissance and Neo-Classical ones, was in force until the end of the Stalinism epoch, when it was rejected due to an excessive grand scale and uneconomical solutions [1], [7], [10].

The author of the PKIN project was a Soviet architect, Lev V. Rudnev, a leading exponent of socialist realism at that time. Lev V. Rudnev was inspired both by Stalinist monumentality and by American skyscrapers – he knew them from his study trips to New York. As a result, the architecture of the Palace of Culture and Science in Warsaw was a mixture of American Art Deco style of high-rise buildings, socialist realism of Soviet Union architecture (Moscow State University) and elements of Polish historical decorations (for example, attics inspired by the Polish Mannerism style), accordingly to the doctrine popular in 1950s: ‘socialist realism architecture should be socialist in content and national in form’. Lev Rudnev, who searched for inspiration during his travels around Poland, designed many of the facade details of PKIN (masonry decorations) under the influence of the Renaissance and Mannerist town halls in Zamość and Chełmno, and notably the Polish parapets surmounting the walls, a feature he borrowed from the Cloth Hall in Kraków.

It should be emphasized that in the interiors of the PKIN display many works executed by famous Polish artists: sculptures, wall paintings, furniture, ceramic and glass chandeliers from the Polish steelworks. The main entrance to the PKIN is decorated with two sculptures: one representing Adam Mickiewicz (author: Stanisław Horno-Popławski) and another one of Nicolaus Copernicus (author: Ludwika Nitschowa). The characteristic, bright façade of PKIN is the result of

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<sup>1</sup> It involved clearing the site and the demolishing several apartment blocks which had survived the Second World War (urban structure of historic Warsaw’s streets: Sliśka, Zielna and Chmielna).

covering its walls with sandstone-imitating cladding, which in fact was panels made of sintered ceramic [1], [10].

Today the Palace of Culture and Science in Warsaw is a monumental, high-rise building, and despite the surroundings of few skyscrapers erected in the 21<sup>st</sup> century, it still dominates spatially in the city centre [2], [4]. It is the second tallest building in Poland, with a total height of 237 metres (the highest will be the Varso Tower in Warsaw, currently being erected, with a total height of 310 metres). The total cubic capacity of the building is 815,000 m<sup>3</sup>, the usable area of the entire building equals 110,000 m<sup>2</sup>; there are nearly 3,286 rooms [7], [10], [16].

Such a large space allows the facility to accommodate multiple cultural and scientific functions, to shelter various administrative institutions and enterprises, including theatres and cinemas, museums, universities, the Polish Academy of Sciences, sports clubs, libraries, the Congress Hall (closed since 2014), exhibition and fair halls, restaurants and office premises (including the Council of the Capital City of Warsaw). There is a public viewing terrace on the thirtieth floor, which gives a panoramic view over the whole city [10].

Currently, the Palace of Culture and Science is owned by the capital city of Warsaw, and is managed by the Management of the Palace of Culture and Science Ltd (Zarząd Pałacu Kultury i Nauki Sp. z o. o) [13].

The Palace of Culture and Science was enlisted in the Polish Register of Historic Monuments on the 2<sup>nd</sup> of February 2007. It was assumed that this edifice was a document of the historic epoch, a well-preserved testimony of the Socialist Realist style (both the façade and the interior). However, the recognition of the PKIN as a cherished historic building was highly controversial and not accepted by many Poles. Representatives of politicians, journalists, architects and art historians argued that the building was a symbol of the Soviet presence in Poland, the dark era of Stalinism and unwelcome gift from the Soviet Union, which had dominated modern Warsaw for decades.

On the other hand, the defenders of the PKIN's value (professors Marek Budzyński, Irena Huml, Stefan Kuryłowicz, Andrzej Tomaszewski, Jarosław Zieliński) pointed out that the building had unique style features, a grand scale, and wonderful interior details – hosting the works of outstanding Polish artists, including Jan Bogusławski and Alina Szapocznikowa, and as such should be protected against demolishing. They argued that as a symbolic building of Warsaw and one of the best examples of architecture of the 1950s, this landmark had to be enlisted in the Registry of Objects of Cultural Heritage [5].

## **Research Aim and Methods**

The aim of the article is to present selected synthetic outcomes of the historical and documentary research. It was undertaken to explore the relationships between history, tradition and modern requirements of swimming pools, meeting

the requirements and rules of the FINA, in respect of sports events organisation and training. It involves the identification of the study area, and to fulfil this need the following hypothesis was formulated: 'Well-managed sports architecture could incorporate both tradition and new perspectives'.

To verify this assumption, the historical and documentary research was undertaken on the example of the swimming pool in the Youth Palace in Warsaw (edifice designed in the socialist realism style, enlisted as the monument of Polish history and tradition).<sup>2</sup>

The research incorporated systematic, critical and objective studies of secondary sources: literature review (in respect of the history of the building and the modernisation works in the historic swimming pool) and the review of documents available in the archives of the Palace of Youth in Warsaw. These documents, providing a longitudinal picture of how the Palace has evolved over time (1955–2021), included formal records of management meetings (minutes of meetings), rules, timetables of activities, technical documents, reports and statistics, annals and chronicles, photographs and artefacts (sports trophies).

Documentary research was supplemented with primary sources, although to a limited extent, in the form of the authors' personal experience, as one was a national diving team coach and contemporary President of the Palace of Youth in Warsaw and the other was a former Palace sports club member. However, the meaning of the personal experience was strictly limited, assuming it might be unintentionally subjective: uncritical, too emotional, too excessively admiring the past and lacking reflexivity.

We tried to obtain sufficient data (quantitative and qualitative, primary and secondary) to answer the research question (hypothesis), in the broad view of the context, which implied a holistic historic perspective (social, economic and cultural approach). The collected data were critically selected, classified, ordered, validated, analysed, interpreted, evaluated and synthesised (generalised within acceptable limits of the collected data). Although objective judgment lay at the basis of all these acts, there is always a danger of subjective oversimplification and overgeneralization of the facts. In consequence, it might lead to false reasoning. That is why, despite the efforts to be objective and not to formulate the findings on the base of insufficient evidence, some outcomes of the inquiry may be still considered as controversial. For example, some of the formulated conclusions may not be applicable to all historic sports buildings. The individual character of architecture might always be an important factor, strongly influencing its

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<sup>2</sup> The Palace of Culture and Science, as a whole edifice, was enlisted in the Polish Register of Historic Monuments on the 2<sup>nd</sup> of February 2007.

function, programme and limiting technical possibilities of modernisation perspectives.

Nevertheless, we believe that the research outcomes and final conclusions could lead to a new understanding of historic sports buildings and show their relevance to the present and future use.

## **The Palace of Youth in Warsaw**

The Palace of Youth (in Polish: Pałac Młodzieży, abbreviated to ‘PM-PKIN’) in Warsaw is an integral part of the Palace of Culture and Science. It occupies the northern part of the PKIN edifice. The Palace of Youth in Warsaw was built as part of the PKIN, with a view of the principal function as after-school (out-of-school) education, cultural and sports facilities. This multifunctional cultural, educational and sports centre, dedicated exclusively to school children, was officially opened in April 1955. It was supposed to be a model institution, a role model for others, functionally similar, but smaller in scale, cultural and sports centres, planned to be built in the other Warsaw districts and other cities of Poland.

In order to implement the ambitious and exemplary assumptions of the Palace of Youth, it was necessary to select children for classes very carefully. One of the basic criteria was academic performance and exemplary behaviour (including the so-called ‘degree of socialization’, measured by voluntary tasks undertaken for school and community). For several decades, due to the extremely attractive sections (photography and filming, model making, swimming, diving, music, dancing, theatre, arts) and the number of applicants, often many times exceeding the number of offered places in a given class, recruitment to those sections was associated with compulsory exams.

In the past 65 years, there was never an insufficient number of school children interested in the sport and cultural activities offered there. Due to the severe limitations of after school activities in the post-war years, being a member of the Palace of Youth classes was a privilege and a dream. This elite distinction helped children to develop passions that could not otherwise be realized. For example, it allowed access to the water sports section, granting a possibility of swimming, synchronic swimming or diving in luxurious conditions. This time in Warsaw there were only few swimming pools and almost two million inhabitants. The monthly fees for membership were only symbolic and certainly did not cover the real costs of participating in the classes. Moreover, it was also possible to apply for a total or partial reduction on the ground of one’s family low income.

Today young members attending various activities in the Palace of Youth in Warsaw constitute a group of 4000 school-age children and adolescents. In consequence, it is estimated that in the years 1955–2020, nearly 350,000 pupils and

students participated in different activities organized at the Palace of Youth in Warsaw.

Currently, the Palace of Youth in Warsaw is the largest educational centre in Poland. It has been operating for 65 years, invariably having the same task: awakening the passions, ambitions and dreams of children and young people, allowing them to develop their interests. Recruitment for classes is carried out in accordance with the rules specified for a given school year.

In 2020, as many as 4,000 girls and boys aged 6 to 19 were enrolled at the Palace of Youth in Warsaw, participating in the classes in several sections under the supervision of 89 educators, sports coaches and instructors [13], [14].

Classes are conducted in the following segments: reading education, computer science and new technologies, model making and foreign languages, artistic gymnastics and acrobatics, sports and recreation, fine arts and theatre, music and dance, swimming and diving, environmental activities.

In the past, the swimming section at the Palace of Youth in Warsaw had classes in the following sections: water jumping, synchronized swimming, swimming, water polo and aqua aerobics. Classes in these sections were divided into groups depending on the age and advancement level of participants.

Since 1955 till now, the classes have continuously taken place at the indoor swimming pool of the Palace of Youth in Warsaw, only with a break for major renovation works of the swimming pool, which took place in the years 2013–2016.

### **The indoor swimming pool: history and present use**

The indoor swimming pool in the Palace of Youth is located in the northern wing of the PKIN edifice. It is a section of the ‘Physical Education and Sport’ functional segment, intentionally distinguished as very important in the PKIN project. Apart from the indoor swimming pool, it included a gymnasium (dimensions: 35 metres × 25 metres, this sports hall originally had stands for 600 seats), rooms for dance classes (with large mirrors and exercise bars, and with beautiful oak parquet floor) – all these parts were equipped with spacious cloakrooms and had their own sanitary facilities.

The indoor swimming pool was built, like the whole building, in the Socialist Realist style, according to the design of the Russian architect Lev V. Rudnev. The indoor swimming pool measured 12.5 metres × 25 metres, and had three springboards and a jumping tower, with the platform levels of 9.7 metres, 7.5 metres, 5 metres and 3 metres above the water surface. Bright marble plates were used in the finishing of the swimming pool hall and the surrounding stands. The glassed ceiling over the swimming pool was intended to provide daylight through the ornamented stained glass plates [1], [7], [9], [10].

In the years 2013–2016, the swimming pool underwent renovation works, an ambitious modernization project, completed in 2016. The planned works had to be very carefully balanced, as a compromise between renovation and construction tasks and very strict recommendations of the Conservator of the Historic Monuments Office in Warsaw.

Since the Palace of Culture and Science was recognised as the national cultural heritage and enlisted in the Register of Historic Monuments in Poland, consequently the original interior of the swimming pool had to be protected. At the same time, some changes were necessary, such as modern and reliable water treatment facilities, ventilation and thermo-circulation system improvements. The renovation of the swimming pool was important due to the nearly 60 years of intensive and uninterrupted operation, poor technical state and changes in the building law regulations. The swimming pool technology was considered outdated and hardly meeting contemporary safety requirements of the Fédération Internationale de Natation (FINA) [6].

To answer the expectation of modern solutions, the system of side water overflow from the pool basin was changed to the Wiesbaden type overflow. It resulted in raising the water level in the swimming pool about 30 cm. In consequence, it was necessary to raise the springboards and the tower platforms to meet the FINA requirements. As it was not possible to raise the ceiling level in the swimming pool hall, and the FINA regulations determine the minimum distance between the highest platform level and the ceiling, the highest platform of the tower could not be raised. Finally the height of the platforms for jumping (measured from the water surface) was as follows: 9.7 metres, 7.5 metres, 5 metres and 3 metres.

Due to the very restrictive requirements of the conservation programme aiming at the protection of the historic style, the original colours of the ceramic tiles were consistent with the historical interior design. Following the original design in the cloakrooms and sanitary facilities, white and yellow colours were applied in the women's part and white and burgundy in the men's part. On the floors, elegant white-and-grey ceramic tiles were applied in the chessboard pattern. The original glazed ceiling over the swimming pool hall, executed in the style of socialist realism, with a touch of Art Deco details and decorative profiling accompanying them on the border and facets were also subject to conservation. Replicas of the original doors and windows were also implemented. As for the historical doors and window patterns, these old items in poor technical state were replaced with doors and window frames made of natural wood [1], [7], [9], [10].

In order to improve the lighting conditions and adapt them to the recommendations of the Fédération Internationale de Natation, new lighting systems were installed, including the headlights supported with diffusing panels for better illumination of the water surface. In the modernization project, new water filtration and ventilation systems were proposed, increasing the utility values and ensuring a higher sanitary standard.



In addition, the functional values of the swimming pool were also upgraded. For example, the hall and corridors were separated from the pool hall by glass partitions of full height of the room, made of tempered glass panels, enclosed in discreet aluminium frames.

It is worth noting that as a result of the modernization of the indoor swimming pool, an innovative passive technology was introduced. It consists in reusing (re-capturing) heat from the technological cycle and using it to heat water in the swimming pool. This pro-ecological solution will allow to save energy consumption from non-renewable sources [12].

Not only the swimming pool, but also the entire segment of 'Physical Education and Sport' was modernized. As a result of these works, the sports hall (gymnasium hall) has got new floor cover, ventilation, heating system, and lighting. It was originally surrounded on three sides by 600 wooden stands; currently it has an audience reduced to 300 seats due to safety regulations.

Most of the training of children and adolescents who attend classes at the swimming pool, is combined with gymnastic classes, physical exercises supplementing the main water sports training.

Currently, several hundred girls and boys aged 6–19 take part in the swimming activities in the Palace of Youth. There are four different sections (water polo, swimming, diving, aqua aerobics), and practice is organised in various age groups, under the guidance of instructors and coaches. The trainings are divided into four levels of difficulty: basic (beginners), intermediate, advanced and master groups [14].

Recruitment for the swimming pool classes is based on the criteria prepared every school year. These criteria are formed taking into account the specificity of the activities (including the safety of participants). As a result, there are very detailed conditions of enrolment for sports sections at the swimming pool. They are strictly obeyed, especially while recruiting to the diving section. That system is not only introduced for safety reasons. Very special predispositions are required from potential divers: from muscle strength to harmony of movements. Diving is considered to be one of the most difficult sports disciplines, being on the verge of acrobatics, sports gymnastics and swimming skills. Athletes must be courageous and have high physical fitness, show elegance and precision of movements and their evolution, diligence and high concentration ability [8].

Participants of the swimming pool activities organized at the Palace of Youth take part in water sports events and competitions, for example, the Palace of Youth Swimming League, Grand Prix in Swimming, water polo tournaments (Splash ball, Water Polo Olympics, Warsaw Youth Olympics, National Games) and many others.

The indoor swimming pool is also open for recreational purposes. It is possible to purchase an individual pass for swimming, entitling one to enter the swimming pool on certain days of the week and detailed hours. Not only individuals,

but also institutions that want to keep their employees fit could offer such passes as a bonus.

The price list for using the swimming pool and admission offer are flexible, ready to adapt to the expectations of the market customer. For example, schools and universities have an option of renting the swimming pool for swimming classes at a discount level, and non-educational institutions – at full price. Moreover, single swimming lanes can be rented, with a limit of people swimming in each of them [14]

## **History of the diving club in the Palace of Youth in Warsaw**

It is worth quoting the history of the diving section, as it is one of the first, oldest and one of the only few still active in Poland. It is due to the shortage of indoor swimming pools with a jumping tower in Poland. The diving club in the Palace of Youth has an exceptional training program and its sports achievements are significant. The tradition of practising diving in Poland has been limited to the last hundred years, having had its beginnings in the Second Republic of Poland (1918–1939). At that time diving sections were founded only in few towns, for example, in Katowice, Kraków, Warsaw and Poznań. In Poland before the outbreak of World War I, there were no such possibilities, due to the lack of appropriate swimming pools and jumping towers.

These diving traditions of the Second Republic of Poland, of the 1920s and 1930s, constituted the programme basis of the diving section rooted at the Palace of Youth in Warsaw. One of the founders of the diving section, the organizer and the author of the first training programmes, was a famous sportsman and coach, Aleksander Rękas, a trainee of the Polish distinguished coach, Dymitr Bogajewski. Dymitr Bogajewski was a founder and the first Head of the Swimming Department at the Joseph Pilsudski Academy of Physical Education in Warsaw. In the 1950s, Dymitr Bogajewski was a coach of the diving section at the Academy Sports Club (AZS-AWF) and a precursor of promoting this sports discipline in Poland.

In the Palace of Youth the first diving show was presented during the World Youth and Student Festival, to grace the opening ceremony of the Palace of Culture and Science on the 22<sup>nd</sup> of July 1955. This diving show hosted famous divers such as Joaquin Capilla from Mexico (Olympic champion from Melbourne in 1956), Roman Brenner from the USSR (champion of the European Championship in 1958) and Aleksander Rękas, Polish medallist in diving. The diving section at the Palace of Youth was officially founded in 1955. The announced recruitment to its diving group immediately attracted extraordinary attention. As many as 7,000 children applied for enrolment, of whom, after the first fitness tests, a group of 850 children was selected for further classes at the swimming pool. After one year of training, it turned out that the youngest children had made exceptional progress and were much more ahead of the older groups. This

prompted a necessity of reevaluating and redrafting the old and traditional diving training programmes. In the new, reformulated proposal, the emphasis was put on training 6–8 year-olds. In September 1956, work with an experimental group (6–8 year-old gifted school children) began. These classes of talented athletes had an extended and combined training program: gymnastics as well as diving to support children's general development. It was a right decision and the new training programmes resulted in spectacular sports achievements. In the Summer Olympics in Mexico (1968), three alumni of the diving section participated in the games: Elżbieta Wierniuk, Bogusława Marcinkowska and Jakub Puchow.

In 1969, the Olympic Diving Centre was established at the Palace of Youth in Warsaw. The first coaches, trainers and authors of the diving training program were: Aleksander Rękas, Halina Bartkowiak and Józef Włodarczyk. The establishment of the Olympic Diving Centre, an intensive programme of well-designed training courses, rendered desired results: in 1970 Jakub Puchow took the third place in tower jumping and Elżbieta Wierniuk took the third place in springboard jumping at the Universiade in Turin. Furthermore, the athletes of diving section (Elżbieta Wierniuk, Regina Krajnow-Synoradzka, Jakub Puchow) successfully participated in the Summer Olympics in Munich 1972. In 1973, at the Universiade in Moscow, two athletes of the diving section occupied the scored place in tower jumping (Małgorzata Godlewska and Jakub Puchanow).

In the years 1980–2000, the most successful divers of the diving section were Krzysztof Miller, the multiple Polish champion in jumping from the springboard and tower; Anna Urbańska-Wierniuk, the Polish champion in jumping from the springboard, and Agnieszka Jackowska, the multiple Polish champion in jumping from the springboard. In 1994, the famous jumping section, continuing the tradition of such a group founded in the 1960s, was reactivated. It took part in shows and events organized both at the Palace of Youth and by the Joseph Pilsudski Academy of Physical Education in Warsaw. The group included the following divers: Włodzimierz and Karol Tanajno, Grzegorz and Robert Krawiecki, Piotr Niemczyński, Bartłomiej Krynicki, Bogdan Krauss, Piotr Kaczmarek, and Robert Węglik.

In 2002, the UKS Syrena swimming club (replacing the MKS PM swimming club) was established at the Palace of Youth in Warsaw, working with a group of talented children in the master class diving section. The 21<sup>st</sup> century brought further success of the diving section: in the years 2003–2006 several achievements at the European Junior Championships and the European Senior Championships. For example, in 2008, Kamil Gackowski achieved scores at the European Senior Championships and the World Cup in tower jumping; in 2014, Aleksander Gniadek achieved good results at the European Junior Championships in Bergamo (the second place in tower jumping); in 2016, diving section athletes achieved scores at the European Games in Baku, at the European Championships in Rijeka and at the World Championships in Kazan; in 2017 points were scored at the

European Junior Championships in Bergen, in 2018 at the European Junior Championships in Helsinki, and in 2019 at the European Junior Championships in Kazan.

These achievements can be undoubtedly attributed to the young divers' passion, high motivation and appropriate training. It is hardly possible to overestimate constantly improved training programmes and high commitment of the coaches. In the years 1955–2020, they consequently worked with children, despite various organizational turbulences and swimming club conditions. The list of the coaches includes the following trainers (in the chronological order of their work in the diving section): Aleksander Rękas, Halina Bartkowiak, Józef Włodarczyk, Jerzy Niemiński, Wiktor Wierniuk, Jerzy Elsner, Andrzej Wierniuk, Jerzy Suchecki, Andrzej Nagiel, Jolanta Dębska, Regina Krajanow-Synoradzka, Elżbieta Sowińska, Elżbieta Wierniuk-Józwiak, Krzysztof Bojarski, Roman Godziński, Tadeusz Budek, Anna Wierniuk, Bartłomiej Krynicky and Velentin Suchanow [15].

## Conclusion and discussion

The aim of the article was to explore and present the relationships between history, tradition and modern requirements of swimming pools, meeting the requirements and rules of FINA sports events organisation and training [11]. The case study of the swimming pool in the Youth Palace in Warsaw proved that sports architecture could incorporate both tradition and new perspectives.

The indoor swimming pool at the Palace of Youth in Warsaw was opened in 1955, as an integral part of the Palace of Culture and Science. Further on, the 'Physical Education and Sports' section was incorporated as an important functional segment of the Palace of Youth. At that time, it was (and still is) the only indoor swimming pool in the Mazovia Region, where one can practise diving in the full range of competitions of this discipline (from a 10-metre tower). It is also one of the few indoor swimming pools in Poland, where one can practise this discipline in the full range of competitions throughout the year (the others are for example Zatoka Sportu in Łódź, Termy Maltańskie in Poznań, OSIR Rzeszów). The remaining swimming pools have no 10-metre towers, and as a result one can practise diving, but not in the full range of competitions [11]

Insufficient diving facilities are the result of many reasons: on the one hand, inadequate funds aimed at sports investments, on the other hand, very high costs of indoor swimming pools investments [6], especially these with a full range of diving facilities. However, it is difficult to agree with another argument, often quoted (also in the official reports), that the limitation of funds for these investments is a consequence of lack of interest in diving. The annual great interest in enrolment for diving classes at the Palace of Youth in Warsaw, together with

significant sports achievements of the athletes clearly contradict this. The unique and spectacular character of this discipline is certainly an important magnet for school children. Fascination for diving, despite the exceptional requirements that are placed on future divers (such as diligence and consistency, courage and physical fitness, elegance and precision of movements) demonstrate clearly how much these investments are important and socially expected.

However, another argument referring to high costs of building and maintaining the facility is undoubtedly true. It is, beyond other reasons, a consequence of the precise federal requirements of the Fédération Internationale de Natation (FINA) for practising this discipline, which a given swimming pool and its facilities must obligatorily meet. These very precise FINA federation regulations, regarding facility requirements for diving training and diving competition organization, can be found in the FINA Rules and Regulation Handbook (Sections 5.1–5.3 ‘Diving Facilities’), published in 2017 [Table 1].

In accordance with the regulations contained therein, the area of the pool basin intended for diving activities (or the part of the pool intended for such activities) should be at least 18.29 metres long and 22.89 metres wide. The swimming pool should be equipped with two springboards at the height of 1.0 metre, two springboards at the height of 3.0 metres and a tower with jumping levels at 5 metres, 7.5 metres and 10 metres above the water surface level. The water temperature should be at least 26 degrees Celsius. Under the trampolines fixed at the height of 1.0 metre, the water depth should be at least 3.4 metres, under the trampolines at the height of 3.0 metres – 3.7 metres, under the tower at the height of 5.0 metres – 3.7 metres, under the tower at the height of 7.5 metres – 4.1 metres, under the tower at the height of 10 metres – 4.5 metres. In addition, the FINA requirements for diving training and competition at the indoor swimming pool include detailed regulations such as precise characteristics (material, construction) and dimensions of the springboard, jumping tower, location, distance to walls and ceiling, around the pool basin and devices located there [11].

In 2007, the Palace of Culture and Science and its surroundings (the Parade Square) were enlisted at the Register of Historic Monuments in Poland. As a result, the modernization works, necessary to enable the facility’s further operation, which took place at the swimming pool in 2013–2016, had to take into account very restrictive and detailed recommendations of the conservation programme, imposing the preservation of the historical values of the architectural style (socialist realism and Art Deco details) of the indoor swimming pool. The swimming pool was reopened in 2016, after renovation procedures and is now used by the water sports training sections (diving, water polo, swimming, aqua aerobic) and several recreational activities. The multi-functionality of the swimming pool and its various uses (sports training, recreational activities, competitions and shows) enable balancing the budget and proper maintenance of this expensive and demanding facility.

The indoor swimming pool at the Palace of Youth in Warsaw is an example of how it is important to cherish and preserve the sports training tradition and continuity of sports activities. It is also a perfect proof that a successful compromise is possible, that one can reach a satisfying consensus incorporating the necessary modernization of the historic sports building to meet the modern requirements, and the protection of its historical style and values – without any detriment of its function and utility values.

65-years of the history of the diving section at the Palace of Youth in Warsaw (which is one of the oldest operating and still active clubs in Poland) illustrates well how important the continuity of sports trainings is, despite changing external conditions, how much tradition could help to strengthen children's and coaches' motivation, how coaches' knowledge and experience help to shape suitable and effective training programmes, finally having strong impact on the athletes' significant sports achievements and success.

It should be emphasized that the topic discussed in this work has been recognized by the milieu of sports historians as important and has been elaborated by researchers in relation to other types of historic sports buildings. An example of this interest and approach might be a research study undertaken by professor Wojciech Cynarski from the Faculty of Physical Education University of Rzeszów. It was the research project focused on the traditional architecture of the Far East erected for sports purposes, and based on an example of martial arts historic facilities – dojo. The outcomes of this research were published in the paper “Architecture and anthropology of Far Eastern martial arts: dojo architecture - a sketch from the sociology of space,” published in 2005, in the scientific journal ‘Ido – Ruch dla Kultury / Movement for Culture’ [3].

Undoubtedly, in the face of the strong need to care for sustainable development, reduction of the carbon footprint and pro-ecological behaviour, it is very important to search for the possibilities of using already existing facilities for the needs of sport. This will better help to save the environment, economize the investments and answer the need to promote and launch the idea of ‘sport for all’.

**Table 1.** Example of FINA precise regulations for diving facilities (2017–2021). The minimum dimensions of platforms shall be:

Platform*	Width	Length	Thickness
0.6 m to 1.0 m	1.00 m (2.90 m preferred)	5.00 m	0.2 m–0.3 m
2.6 m to 3.0 m	1.00 m (2.00 m preferred)	5.00 m	0.2 m–0.3 m
5.0 m	2.90 m	6.00 m	0.2 m–0.3 m
7.5 m	2.00 m	6.00 m	0.2 m–0.3 m
10.0 m	3.00 m	6.00 m	0.2 m–0.3 m

Source: FINA Regulations on diving facilities, 2017 [www.fina.org] \* Note: each platform should be rigid and horizontal (item 5.2.1), the platforms shall be covered by a slip resistant material (item. 5.2.5); each platform shall be accessible by suitable stairs (not ladders) as required by the safety and health standards and countries building regulations (item 5.2.9) [11].



**Fig. 1.** The Palace of Youth in Warsaw, (source: Adrian Grycuk, 2014, CCA-3.0)



**Fig. 2.** The Palace of Youth in Warsaw, the main entrance hall (source: Adrian Grycuk, 2016, CCA-SA 3.0)



**Fig. 3.** The Palace of Youth in Warsaw, the indoor swimming pool in 2014, under modernisation and renovation works (source: Bartłomiej Krynicki, 2014)



**Fig. 4.** The Palace of Youth in Warsaw, the indoor swimming pool after modernisation and renovation works in 2016 (source: Bartłomiej Krynicki, 2016)



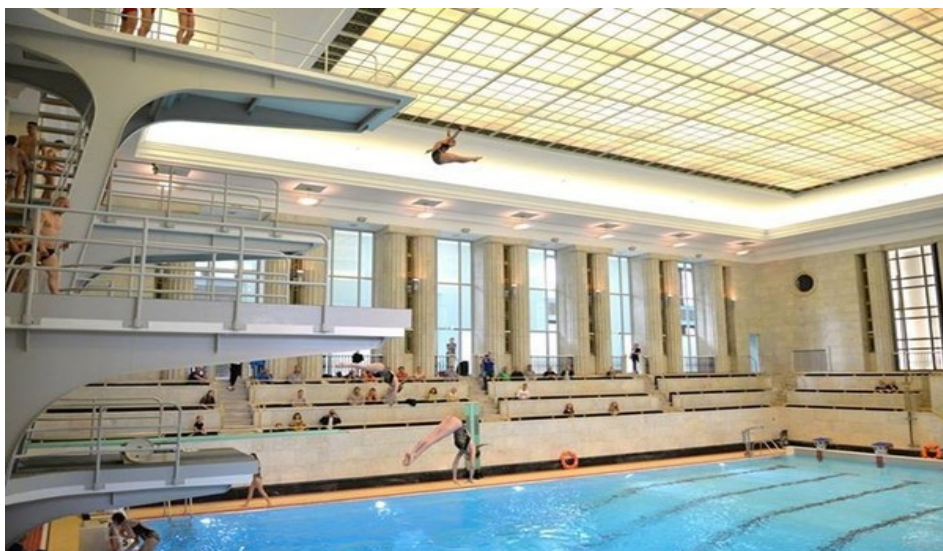


Fig. 5. The Palace of Youth in Warsaw, the indoor swimming pool after modernisation and renovation works in 2016 (source: fotopolska.eu)

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### Deklaracja braku konfliktu interesów

Autor deklaruje brak potencjalnych konfliktów interesów w odniesieniu do badań, autorstwa i/lub publikacji artykułu *Swimming pool at the Palace of Culture and Science in Warsaw: history and present use for sport trainings*.

### Finansowanie

Autor nie otrzymał żadnego wsparcia finansowego w zakresie badań, autorstwa i/lub publikacji artykułu *Swimming pool at the Palace of Culture and Science in Warsaw: history and present use for sport trainings*.

### Declaration of Conflicting Interests

The author declared no potential conflicts of interests with respect to the research, authorship, and/or publication of the article *Swimming pool at the Palace of Culture and Science in Warsaw: history and present use for sport trainings*.

### Funding

The author received no financial support for the research, authorship, and/or publication of the article *Swimming pool at the Palace of Culture and Science in Warsaw: history and present use for sport trainings*.

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