no. 1 | 2024

## European Funds 20years

in Mazovia



photo: Ministry of Funds and Regional Policy



photo: The Copernicus Science Centre

#### 20 years together

Poles are Euro-enthusiasts. Trust in the European community, despite slight declines over the last 20 years, is still high. As a society, we not only perceive positive economic effects, but also support common values: freedom, democracy and the rule of law. Compared to Europeans as a whole, Poles stand out because we have a positive view of the direction of the EU.

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#### From a science centre to a revolution in education

The Copernicus Science Centre in Warsaw is revolutionising teaching methods! The Copernican Revolution Lab (PPK) is its new initiative to change the way lessons are taught and introduce a modern education system. It is more than a project – it is the idea that the experiences and successes of the Copernicus Science Centre will enrich the daily lives of students and teachers in schools. PPK is the future of education, which has already begun!



photo: A. Krzysztofik/MJWPU

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#### **Helping nature**

Nature is screaming and crying out for help. On the one hand, some of our decisions are ruining it. On the other hand, we are making efforts to save it and protect the environment. In a project coordinated by the City of Warsaw, the emphasis is on the comprehensive preservation of biodiversity combined with environmental education. Birds, wild mammals, bog turtles and habitats in several reserves have benefited.

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The information magazine 'European Funds' is published by the Mazovian Unit for Implementation of EU Programmes in Warsaw (MJWPU) Inflancka 4, 00-189 Warsaw phone: 22 542 27 21, fax: 22 698 31 44, e-mail: magazynfem@mazowia.eu www.funduszeUEdlamazowsza.eu, www.mazowia.eu

ISSN 2391-4629, free copy

50 copies

The magazine is co-financed by the European Union

#### Editing MJWPU:

Beata Rzymowska, Paulina Gutowska-Jarosz, Agata Krzysztofik, Dariusz Panasiuk, Agnieszka Zalewska Implemented by: Smartlink sp. z o.o. Coordination and editing: Jerzy Gontarz, Agata Rokita Graphic design and typesetting: Maciej Pachowicz Translation: Andrzej Szoszkiewicz English proofreading: Colin Phillips Printing: Drukma Cover: Kamila Milewska/MJWPU



Magazine in the mobile version https://funduszenamazowszu.eu/





### Ladies and Gentlemen,

On 1 May 2004, Poland, along with nine other countries, joined the European Union, which made us stronger both politically and economically. This accession opened up entirely new opportunities for us. We gained the freedom to travel, study and work throughout the Union, and cooperation in combating cross-border crime became more effective. The countries which joined the Community together with Poland have experienced significant economic growth – Poland's economic output has more than doubled.

This is the biggest civilisational advance in the history of our country, which has accelerated investment, infrastructure development and social change. Poland has become part of the European community, sharing such values as dignity, freedom, democracy, equality, the rule of law and human rights. Being a member of the EU also means being able to fund many key development investments.

European funds have been changing all regions of Poland, including Mazovia, for the past 20 years. Each co-financed project brings real benefits to residents. Since 2004, more than 19 billion zlotys from European funds have made it possible to implement more than 14,000 projects in Mazovia. A further 9 billion zlotys have been earmarked for the current 2021-2027 perspective.

The effects of these measures can be seen by the inhabitants on a daily basis – they use modern roads, travel on new trains and, thanks to modern equipment, have access to specialist research. Many have benefited from training and support, to return to the labour market. For years, schools and kindergartens have been running individual programmes to develop pupils' skills, made possible with the support of EU funding.

For us, boards informing about EU funding have become an everyday reality. As many as 80 per cent of Mazowsze's inhabitants perceive projects supported by European funds, and 92 per cent believe that they contribute to Poland's development.

On the occasion of the 20th anniversary of Poland's presence in the European Union, I would like to invite you to read a special edition of the 'European Funds in Mazovia' magazine, in which we present key projects that have had a huge impact on the development of our region. We present prominent initiatives that are changing the lives of Mazovia's inhabitants and recall the successes that have been achieved thanks to EU support. This edition not only summarises the achievements to date, but also inspires further development and a look at the future opportunities that cooperation with the European Union will bring.

I warmly invite you to enjoy reading it!

*Ilona Soja-Kozłowska* Director of the Mazovian Unit for Implementation of EU Programmes



## years together



How Poland has developed in the 20 years of its membership of the European Union. What distinguishes Mazovia from other regions. What challenges await us in connection with assuming the Presidency of the Council of the European Union. Dr KONRAD WOJNAROWSKI, Deputy Minister for Funds and Regional Policy, explains all of this.



#### Over the past two decades, Poland has made a civilisational leap. To what extent do we owe this to the EU's cohesion policy?

Membership of the European Union has brought tangible benefits to our country. These include benefits resulting from the effective use of EU funds, increased confidence on the part of foreign investors, or access to the EU market for domestic enterprises.

Poland's accession to the EU was another step in the country's long-term economic restructuring process. Joining an economic system based on a single market, in which highly developed economies play a leading role, allowed Poland to narrow the gap with richer countries. One measure of the success Poland has achieved in the last 20 years is the GDP per capita indicator, which has almost tripled since 2004.

The support received in the form of European Funds has made it possible to implement many investment projects that have increased the competitiveness of the economy and improved the country's social and territorial cohesion. They have contributed to Poland's integration into the European transport network, the development of Internet access infrastructure, and an increase in energy security.

European funds support not only infrastructure, but also many activities in the field of education, professional development, or broadly defined entrepreneurship. A positive effect can be seen in the creation of new jobs, the improvement of employees' qualifications and their better adaptation to changing conditions on the labour market. There has been a significant drop in unemployment. The effect of cohesion policy has also been to improve the quality of life and conditions for doing business in our country.

#### We talk a lot about the material benefits of our membership. But the European Union is also a community of values.

Poles are Euro-enthusiasts. Trust in the European community, despite slight declines over the last 20 years, is still high. As a society, we not only perceive positive economic effects, but also support common values: freedom, democracy and the rule of law. Compared to Europeans as a whole, Poles stand out because we have a positive view of the direction of the EU.

91per cent of Poles believe that all members should respect the core values of the European Union, such as fundamental rights, the rule of law and democracy.

#### What does our country contribute to the community? What can we be proud of?

Poland's contribution to the EU community should be measured in economic and social terms. Poland is one of the larger EU member states and has a dynamically developing economy. On the one hand, integration into the Single European Market has been a huge opportunity for Polish companies and a strong modernisation impulse. On the other hand, the integration of such a large market into the community was also an impulse to make new investments and establish cooperation with foreign investors.

It should also not be forgotten that Poland is one of the largest food producers in the EU, which contributes to the region's food security.

In the social dimension, it is important that Poles are active participants in the labour market throughout Europe. Although at the beginning of the integration this mobility was connected to the high level of unemployment in Poland, today the participation of Poles in the European labour market is due to their high qualifications.

#### Mazovia has shown that it is an active region which takes quick action to mitigate the effects of crises

A whole generation of young people, who grew up during Poland's presence in the EU, is a conscious participant in European culture. They also share European values such as respect for minorities, equality and the rule of law.

#### Regions have gained greater autonomy and legitimacy through the EU. They negotiate their own regional programmes with the European Commission. What is the Mazovia phenomenon?

For the third time, the Board of the Mazowieckie Voivodeship is fully responsible for implementing the regional programme. This is a huge amount of money for development with a total of more than 6 billion euros in three successive programmes. It also means the full responsibility of the Mazovian authorities for every euro spent – from negotiating the scope of the programmes with the European Commission, through project selection and control of its accuracy, to programme completion and final settlements with the Commission.

Mazovia is a region that has seen tremendous development in the last 20 years. The voivodeship's GDP per capita in 2022 was. 157.6 per cent of the nationwide GDP per capita, placing Mazowieckie in first place among the provinces. According to the latest 9th Cohesion Report, both the capital region and the Mazowieckie region had a higher growth in GDP per capita between 2001 and 2021 than the EU average. The Mazowieckie Voivodeship alone accounted for more than 20 per cent of Poland's GDP in 2022.

#### However, the capital city with its adjoining counties has started to run away from the rest of the region.

Mazovia is the most diverse region in Poland. On the one hand, it is home to Warsaw, which attracts the largest investments and generates the greatest potential in terms of research and innovation. On the other hand, the level of development of self-governments outside the close vicinity of the capital, the so-called Warsaw ring, is similar to that of the poorest regions in the country.

> A whole generation of young people, who grew up during Poland's presence in the EU, is a conscious participant in European culture

Therefore, for the purpose of distributing funds from the 2021-2027 financial perspective, Mazovia was divided into two statistical regions in 2018: the Mazovian regional region, and the Warsaw capital region. The former was classified as a less developed region in the European Union (GDP per capita below 75 per cent of the EU average GDP) and the latter as a more developed region (GDP per capita exceeding 90 per cent of the EU average GDP). As a result, the level of investment support from EU funds in the two categories of regions is different: in the Mazovian regional area, it is 85 per cent, while in the Warsaw capital region it is 50 per cent.

1.6 billion euros was allocated to support investment in the Masovian regional region and more than three times less – 0.5 billion euros, in the more developed Warsaw capital region. Thanks to this unique solution, the poorer districts of Mazovia do not lose out on the 'statistical effect of rich Warsaw', and it is easier for the voivodeship authorities to pursue a regional policy tailored to the needs and challenges of both areas.

#### In recent years, Mazovia has reacted quickly to a series of crises, by exploiting EU funds skilfully.

Recent years have brought an unexpected series of crises that Europe has had to face. Firstly, the COVID-19 pandemic, and shortly afterwards Russia's aggression against Ukraine, posed a huge challenge to all regions, particularly those located close to the EU's eastern border. In these difficult circumstances, Mazovia has shown that it is a proactive region that takes swift action to mitigate the effects of these crises. The projects undertaken by the Mazowieckie Voivodeship could serve as an inspiration for other local authorities.

In response to the effects of the COVID-19 pandemic, the provincial government implemented a project entitled 'Purchase of the necessary equipment and adaptation of premises in connection with the emergence of the SARS-CoV-2 coronavirus in the province'. This is the largest project funded by the 2014-2020 regional programme of the voivodeship, with a value of approximately 578 million Polish zlotys, including EU funding of 493.4 million. As a result, healthcare facilities across the region were provided with medical equipment and personal protective equipment. Patients were able to receive the highest level of medical care during those difficult months of the coronavirus pandemic.

Following the start of Russia's aggression against Ukraine in 2022, the number of refugees arriving in the Mazovian Voivodeship was estimated at more than half a million people. Approximately 330,000 people arrived in Warsaw alone. In response to this crisis and the significant influx of refugees from Ukraine, the Mazovian authorities have taken determined action to aid them with support. They launched a comprehensive 'Mazovia for Ukraine' project worth more than 10.5 million zlotys (EU co-financing: 8.4 million), which provided psychological and therapeutic support for Ukrainian citizens, including children. In addition, it supported them in finding places to stay and financed activities related to professional stimulation, Polish language courses and finding work.

In addition to programmes from the 2021-2027 financial perspective, Poland is implementing its National Recovery and Resilience Plan. Now, following the changes, its implementation has been accelerated.

Poland will receive almost 60 billion euros (over 257 billion zlotys), including 25.27 billion euros (over 108 billion zlotys) in grants and 34.54 billion euros (about 148 billion zlotys) in the form of preferential loans. The funds will be invested, among others, in the development of the economy, innovation, the environment, digitalisation, education and health. In line with EU targets, we will allocate a significant part of the budget to climate objectives (44.96 per cent) and digital transformation (21.28 per cent).

Compared to Europeans in general, Poles are distinguished by the fact that we have a positive view of the directions of the European Union's development

The money from the RRP will help us reach our goals faster. Thanks to it, we will make new investments, accelerate economic growth and increase employment. Beneficiaries of the RRP can be entrepreneurs, public institutions, local governments and local communities.



We have revised the RRP. We needed to make the changes as quickly as possible, so that in September we could send two more payment claims for over 40 billion zlotys

After taking over the government, we revised the RRP. We had to make the changes as soon as possible, so that in September we could send two more payment applications for over 40 billion zlotys. We want this money to be received by the end of this year. As of 31 August, this year, calls for applications have been launched in 45 investments for 62.9 per cent of the RRP allocation, including 34 investments for 81.7 per cent in the grant part and 11 investments for 49.1 per cent in the loan part.

#### EU membership is not only about benefits, but also about challenges. What lies ahead in the coming years?

With the ongoing war in Ukraine, strengthening European security and defence has become a major challenge for the European Union. An important task in this area is to develop cooperation with partners in the Union. This is also one of the priorities of the Polish presidency of the EU, which will begin on 1 January 2025.

Other important challenges are related to climate issues and energy transition. The European Commission has set a goal of achieving climate neutrality in 2050. It will therefore be important to continue work on a European Green Deal. Achieving these goals should be linked to appropriate support for investments that improve energy efficiency and the implementation of technologies that reduce  $CO_2$  emissions and promote renewable energy sources.

Poland, as the country holding the presidency of the EU Council in the next six months, is faced with tasks resulting from cooperation in these key areas. An important aspect of building good conditions for cooperation will be investing in cross-border projects, which can benefit both Poland and other countries in the region.

Interview conducted by Jerzy Gontarz



## How European Funds

Support the Development of Mazovia



The last two decades have been a time of great transformation for Poland. We owe this to our membership in the European Union. We have strengthened democracy, and adapted our laws and standards to those of the EU. Lastly, we have made many investments that have resulted in infrastructural and social changes. And Mazovia has become one of the most developed regions in Europe.

Most often, we talk about the huge amount of money we have received from the European Union. After accession in 2004, Poland became one of the main beneficiaries of EU funds. Indeed, according to the data of the Ministry of Finance, over a 20-year period our contributions to the common coffers reached almost EUR 86 billion, while receipts in the form of European Funds amounted to almost EUR 261 billion. On a regional scale, we owe a debt of thanks to the EU for thousands of investments, which would have been difficult to finance from the funds of the voivodeship or the private sector. Their implementation has improved the quality of life, social services, the innovativeness of companies and has transformed the public space. We benefit from safer roads and a more modern railway. Public transport is more comfortable and less harmful to the environment. Public space has become more functional and aesthetic. Schools, hospitals and cultural institutions have gained many new facilities, modernised themselves and purchased new equipment.

#### The single market and values

We tend to pay little attention to the advantages that come from our very participation in the European single market. And yet our participation is what has guaranteed our high economic growth to the greatest extent. Poland's GDP per capita rose from 51 per cent in 2004 to 80 per cent of the EU average in 2023. European Funds have also contributed to this rapid development. Mazovia accounts for approximately 23 per cent of our country's GDP (in 2022, out of Poland's GDP of USD 688,301 million, USD 158,309 million came from Mazovia). In a short time we have become such a strong economy that we were the only EU country to avoid recession after the 2008 financial crisis.

Other advantages of being part of the EU cannot be overlooked either. 'In the twenty years of membership, our country has undergone significant economic, social and infrastructural transformations. The opening of borders has enabled Poles to have free access to education and the labour market throughout Europe, as well as attracting foreign investment, which has fuelled economic development,' noted Deputy Marshal Wiesław Raboszuk. He added that EU membership has also strengthened Poland's position in the international arena and allowed it to influence the shape of European policies. As members of the European community, we share values such as human dignity, freedom and democracy. Equality, the rule of law and human rights are equally as important to us. We have also gained greater safety, as demonstrated by our joint response to the COV-ID-19 pandemic crisis. We have also stood in solidarity with Ukraine since Russia's full-scale aggression against it in February 2022.

#### Warsaw in the vanguard and diversification of the region

Mazovia is the largest region with a capital city occupying a central location that attracts investors and concentrates scientific and research potential. All this has resulted in very rapid economic growth. However, Warsaw and its adjacent counties have developed much faster in recent years than the rest of the voivodeship. In terms of GDP per capita, the Polish capital was already ahead of Berlin, Vienna or Rome in 2021 (Eurostat data).

When creating the Development Strategy for the Mazowieckie Voivodeship 2030+, the region's authorities responded to the needs of the other sub-regional centres that were lagging behind Warsaw. 'One of our successes is that we have achieved a statistical division of the voivodeship. This has given us access to more EU funds,' emphasises Marshal Adam Struzik. After the division, the EU considers Mazovia as two regions: the better developed capital Warsaw and the less developed regional Mazovia. As a result, a larger stream of funds could be directed to the latter part of the voivodeship. This will mean that the gap between the capital city and the rest of the region will begin to narrow.

The European Funds for Mazovia 2021-2027 programme amounts to more than 2 billion EUR. Of this amount, 1.6 billion is earmarked for investment in the Mazovian regional region. In addition, it has gained access to the European Funds for Eastern Poland 2021-2027 programme, while the Warsaw Capital Region has 501 million euros available from the programme.

#### As members of the European community, we share values such as dignity, freedom and democracy

#### Thousands of projects

Over the course of 20 years, successive regional programmes in Mazovia have made it possible to finance more than 14 thousand projects. The voivodeship has allocated around PLN 19 billion from the European Funds for their implementation. When assistance from national programmes is added, this results in approximately 37 thousand projects and over PLN 112 billion of support from the European Union. EU funds are willingly and effectively used by beneficiaries from the entire voivodeship – incorporating entrepreneurs, scientific and research centres and local governments. The dynamic development of the region in recent years is largely due to them.

But the success would not have been possible without the work of those responsible for the use of EU money. The Marshal's Office of the Mazowieckie Voivodeship plays an important role as regional policy maker. It negotiates regional programmes for successive EU perspectives with the European Commission, and then accounts for expenditure and reports on the effects of using EU funds. In turn, the Mazovian Unit for Implementation of EU Programmes has an executive function in this system. It plans and announces competitions, and then accepts applications for funding and audits, and settles projects. Therefore, we asked key representatives of these institutions to review the last 20 years.

#### Check the current calls for proposals:





photo: Warsaw Modlin Airport



#### **Some effects of 20 years of development**



more than **1.4 thousand** km of cycle routes

at the

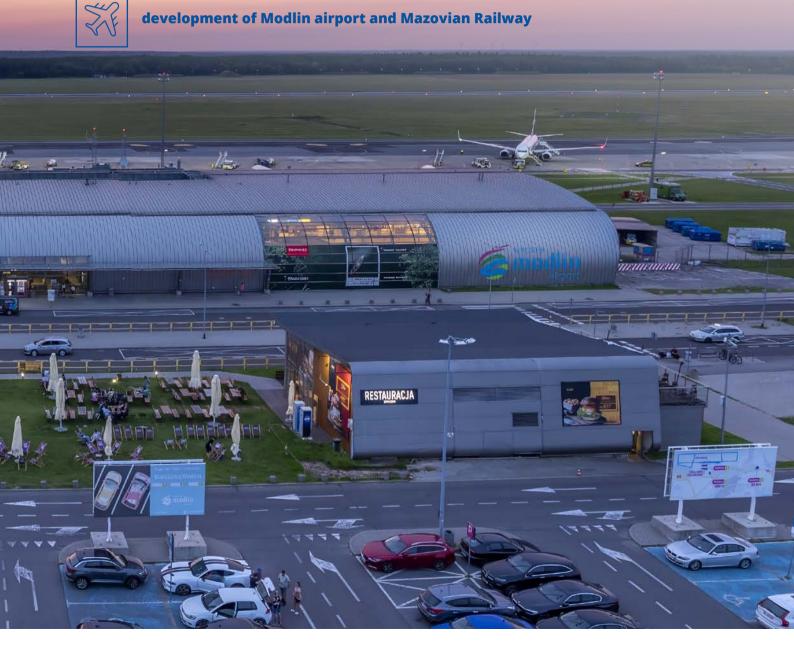
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C.

more than **700** thermo-modernisations of public buildings

more than **270** railway vehicles purchased or modernised

development of Modlin airport and Mazovian Railway



#### **Adam Struzik** Marshal of the Mazowieckie Voivodeship



Enormous progress in civilisation, dynamic social, cultural and economic development – this is how Poland's presence in the European Union can be summarised in a few words. Thanks to EU funds, today's Mazovia is a completely different region than it was 20 years ago.

Money from the EU has found its way practically everywhere. The result is thousands of investments, which we are implementing very consciously, in line with our intra-regional cohesion policy. We can develop the idea of sustainable development thanks to the statistical division of the voivodeship. We know that the capital city, the rest of the Voivodeship, and the surrounding counties need different support. This is how we plan investments.

EU support in Mazovia means better roads, development of the Modlin airport, modern rolling stock of the Mazovian Railways, ecological public transport, modernisation of hospitals, and smaller but equally important investments in each locality. We are not forgetting about security. This year, huge EU funds helped to retrofit OSP units. This means as many as 189 fire engines at a cost of 252 million zlotys.

The EU is not only about money. I am also thinking of participation in the common market, free travel, educational programmes, and solid values. I am thinking of the development of the competences of local people, entrepreneurs or the area of research and development, in which we are leaders.

I also think of EU assistance in moments of crisis. We are running Europe's largest Covid project for almost 580 million zlotys. Mazovian medical facilities received everything they needed at that time – ambulances, specialised medical equipment, as well as personal safeguarding measures.

Wiesław Raboszuk Deputy Marshal of the Mazowieckie Voivodeship



As a former director of the Mazovian Unit for Implementation of EU Programmes and currently Deputy Marshal of the Voivodeship, I have a broad perspective on the development and evolution of the regional programme management over the past 20 years. I remember how difficult the beginnings were, when Poland was just learning how to use EU funds effectively. The first years of the Unit were a time of intensive learning, building structures and procedures, and establishing relationships with beneficiaries.

Today, after two decades of Poland's presence in the European Union, the standards of managing regional programmes are at a completely different level. The processes are now more transparent and automated. The quality of cooperation with beneficiaries has improved significantly, who, thanks to numerous training courses and information campaigns, are increasingly better prepared to apply for EU funds effectively. The effectiveness of the use of these funds has also increased, which can be seen in the number of projects implemented and their impact on the development of the region.

EU policies, like the needs of our region, are constantly evolving. I notice that beneficiaries are adapting better and better to these changes, which testifies to the growing knowledge and experience of both institutions and the programme participants themselves. I increasingly come across projects that are not only innovative, but also long-term and sustainable.

One such project that is particularly memorable for me is the revitalisation of post-industrial areas in the Mazovia region. Thanks to EU support, it was possible to transform abandoned spaces into modern cultural and business centres. This project perfectly demonstrates how care for historical heritage can be combined with the modern needs of the region. It is an inspiring example for others to follow, showing how a complex project can be successfully realised that benefits both the local community and the region as a whole.

I am convinced that with the experience and knowledge we have gained, both we and our beneficiaries will be able to even more effectively implement projects that will contribute to the further development of Mazovia.



#### **Angela Martinez Sarasola**

Head of the Polish Division of the European Commission's Directorate--General for Regional and Urban Policy (DG REGIO)



Over the last two decades, Poland has become one of the most dynamic economies in the European Union and has made a significant contribution to the development of the whole community since its accession in 2004. Above all, Poland's role in strengthening the EU's economic growth should be highlighted, especially in the context of the 2008 financial crisis, when Poland was the only country in the EU to avoid recession. Your country's commitment to European values has contributed to strengthening regional cooperation and integration, especially in Central and Eastern Europe.

In addition, Poland's active involvement in EU cohesion policy has been instrumental in reducing regional disparities, accelerating socio-economic development and promoting convergence with more developed EU regions. Poland's contribution to EU security through its involvement in the Eastern Partnership and support for EU defence initiatives was also significant, confirming its position as a key player in the European community.

Poland has implemented several significant projects with the support of EU cohesion policy funds, setting exemplary standards for other EU countries. The construction of the LNG Terminal in Świnoujście is an outstanding project that has increased energy security not only for Poland, but also for the eastern region of the EU. It has made it possible to diversify gas supplies and reduce dependence on single suppliers. This strategic investment serves as a model for the integration of energy infrastructure in the EU. In turn, the extension of the Warsaw Metro has significantly improved public transport, raising both the quality of life of the inhabitants and the economic potential of the city. These projects are inspiring models for other Member States seeking to maximise the impact of EU funds.

**Ilona Soja-Kozłowska** Director of the Mazovian Unit for Implementation of EU Programmes



Mazovia has made very good use of the opportunity provided by its membership of the European Union. Over the last 20 years, its inhabitants have experienced many changes and benefits. It can be said that everything has changed – infrastructure, quality of life, medical care, education, accessibility, and support for the elderly, the dependent and those with disabilities. There have also been changes in such important areas as safeguarding the environment and energy security. The cultural and tourist offer has changed; in addition, the preservation of the national heritage has become part of the Mazovian identity and care for local homelands. We also cannot overlook the key area of entrepreneurship and innovation. European funds have had a gigantic impact on the development of this sector. Mazovian companies have spread their wings, and become modern and competitive on the international market.

If we were not in the European Union, would we have such developed e-services, and access to the internet from anywhere? Would we be able to buy a ticket while sitting on a Mazovian Railway train or cancel an appointment online at a clinic in the Warsaw district of Białołęka? There is only one answer: no. We also owe the development of digitisation to the European Union.

Today, it is hard to imagine where we would be without the 165 billion euros that we, as a country, have received to date from the European Union.

In the course of 20 years, successive regional programmes in Mazovia have made it possible to finance more than 14,000 projects

#### **Monika Tchórznicka** Deputy Director of the Mazovian Unit for Implementation of EU Programmes



The Mazovian balance sheet of the 20th anniversary of Poland's membership in the European Union is impressive. Thanks to EU funds, we have managed to reduce development differences between richer and poorer regions. We have invested in sustainable development, and today, Mazovia can boast 14 thousand completed projects. The effects of EU support have simply become an integral part of our everyday life.

Today, it would be difficult to drive through the voivodeship without using the co-financed roads – for example the Rotmistrz Pilecki route in Siedlce or the ring roads of Radom, Płońsk and Wyszków. The newly built airport in Modlin makes travelling easier for residents, as does the railway route from Warsaw to Zegrze Południowe, which has been reopened after many years. We can also see positive changes in the area of culture, for example in the Fryderyk Chopin Palace and Park Complex in Sanniki or the renovated spaces of Szydłowiec.

Over the years, the beneficiaries have gained experience in applying for European funds and are implementing beautiful and necessary investments. I want to emphasise that the quality of submitted projects is at a high level. Beneficiaries are open for cooperation and apply for every available euro. The biggest and most expensive investments of the last few decades could only be realised thanks to European funds, and we must remember that.

Poland's gross domestic product per capita has risen from 51 per cent in 2004 to 80 per cent of the EU average in 2023, thanks to, among other things, European Funds

**Elżbieta Szymanik** Deputy Director of the Mazovian Unit for Implementation of EU Programmes



Every anniversary is a time for summaries and reflection. The 20th anniversary of Poland's membership in the European Union is a time of opportunities taken. Our country has changed, we have increased our resources and, importantly, our mentality has changed. The European Funds are undoubtedly creating our reality. For 20 years we have learnt the hard way how to obtain EU funds. We have passed this test and today we derive great satisfaction from the changes.

Our voivodeship has become more beautiful thanks to thousands of investments. The development of the economy, technological progress, investment in scientific research or, lastly, the introduction of innovative technologies in businesses, is happening here – in Mazovia. Today, our region accounts for almost 25 per cent of Poland's GDP. The European Funds have also played a key role in nurturing human capital through, inter alia, training and educational programmes for pupils, the professional activation of the unemployed, and care support for people at risk of social exclusion, including those with disabilities. The projects implemented provided an opportunity to improve the professional qualifications of adults, as well as enabling access to crèches and kindergartens.

It is also worth emphasising that European funds support the activities of nongovernmental organisations and many social initiatives, and this results in the greater social activity and integration of residents. Today we are equal citizens of the European Union. European funds unite and integrate, help and develop, teach and entertain.



#### **Mariusz Frankowski** Governor of the Mazowieckie Voivodeship



Membership of the European Union has been an important development impulse for Mazovia and the whole country. Today, it is difficult to imagine where we would be if it were not for the multi--billion investment funding, the results of which have benefited the region's residents. Moreover, it is difficult to imagine what geopolitical situation Poland would be in were it not for its membership of an international community based on respect for human rights and dignity, freedom, equality, democracy and the rule of law.

One of the greatest achievements of the last 20 years was certainly the establishment of an airport in Modlin. Its operations have opened a number of international opportunities and contributed to the economic development of this part of the region. A particular achievement, because it goes beyond specific investments, is, in my view, the wider use of a strategic approach to development planning, design thinking and collaboration to increase the impact of initiatives. Paradoxically, therefore, the guidelines and requirements applied to EU projects have meant that local authorities, universities, entrepreneurs or community organisations have gained competences that increase their development potential. And, despite the difficult beginnings, today even in small municipalities, experience in managing large projects, involving external partners and external funding, is not uncommon. And this is the great value of our membership of the European Union.



## From a science centre to a revolution in education



photo: The Copernicus Science Centre (×4)

The Copernicus Science Centre in Warsaw is revolutionising teaching methods! The Copernican Revolution Lab (PPK) is its new initiative to change the way lessons are taught and introduce a modern education system. It is more than a project - it is the idea that the experiences and successes of the Copernicus Science

Centre will enrich the daily lives of students and teachers in schools. PPK is the future of education, which has already begun!



As one of the most popular attractions in Warsaw, the Copernicus Science Centre (CNK) attracts more than one million visitors a year to see, experience and explore the fascinating mysteries of the world of science. This success became the motivation to expand CNK's activities by creating the Copernican Revolution Lab (PPK or Pracownia). This is a place where research is conducted and projects and events are carried out to develop new forms of teaching and science communication. The activities of the PPK include creating exhibits, educational aids, developing lesson plans and exploring the usability of finished products. In addition, the Laboratory improves ways of science communication and methods of designing educational solutions with the participation of future users – teachers and students. The construction of the PPK was supported by European funding.

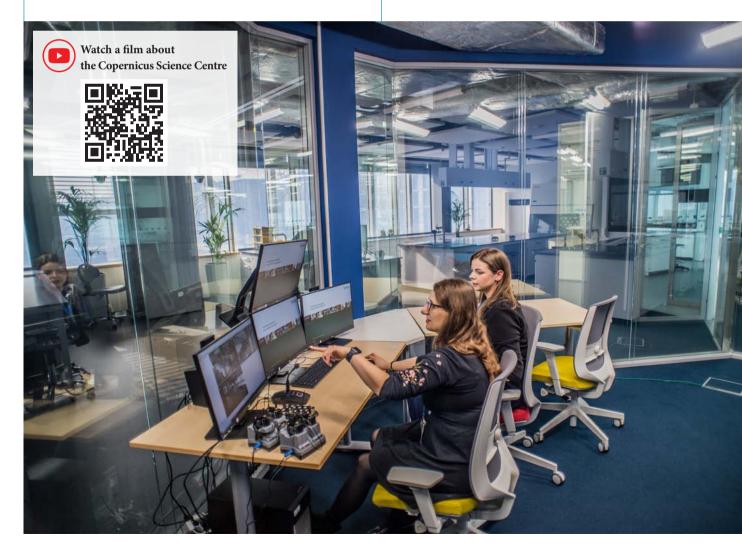
Project: Creation of the Copernican Revolution Laboratory within the Copernicus Science Centre
Value of the project: approx. 75 million PLN
EU co-financing: approx. 16.7 million PLN

How to transfer what is successful at the Copernicus Science Centre to schools and make it an everyday experience for students and teachers? The decision to create a new part of the Centre – the Copernican Revolution Lab – stemmed from the need to shape a modern education system.

## Curiosity is the first step to competence

The development of a new area of activity is perfectly in line with the mission of the CNK, which was created with children and young people in mind, in order to arouse their curiosity about science and develop the competences they need in their adult lives.

'We build our work on the experience of "Copernicus", says Dr Ilona Iłowiecka-Tańska, director of the CNK. She adds: 'Firstly, we are concerned with a living laboratory for the daily observation of visitors who want to experiment of their own free will, and learn about scientific fields they associate with effort and difficulty of understanding rather



The Copernican Revolution Laboratory is engaged in the research and development of educational solutions to help others learn and teach

than with the joy of discovery. Secondly, we aim to develop solutions that inspire such activity. "Copernicus" was creating exhibits and educational aids several years before the Studio opened. The third element is partnerships that allow us to scale solutions and reach out to schools and places beyond our Centre'.

#### Learning is sometimes difficult, but never boring

The new 'Copernicus' department is engaged in the research and development of educational solutions to help people learn and teach others. As the director of the PPK argues, there is a great need in Poland for a place that simultaneously conducts research and development and is able to cooperate with other educational institutions.

'How to use one's natural curiosity and desire to follow what fascinates or intrigues someone in educational solutions for use in a school or kindergarten? How to design the classroom space to encourage experimentation? How do we collaborate with teachers and educators to create modern education together? – these questions posed by Dr Ilona Iłowiecka-Tańska summarise the aims of the creation of the PPK. 'Our dream is to create solutions in the



photo: Agata Krzysztofik/MJWPU

Copernican Revolution Lab that will provide pupils with favourable conditions for developing their competences', emphasises the head of the centre.

#### Head and heart

A new building, the headquarters of the Laboratory, has been constructed next to the Copernicus Science Centre. It has three above-ground floors and one underground floor, with a total area of approximately  $6,000 \text{ m}^2$ . It can accommodate 600 people at a time. The top level houses offices and meeting spaces where ideas are born and crystallise. On the lower floor, they are tested to see if they can be realised. In the well-equipped laboratories and



The leading idea of the Laboratory is the development of competences. For us, the European Year of Skills goes on all the time. In line with our mission, we inspire people to experience, understand the world and act responsibly. This is why we want to support the development of competences of critical thinking, learning, cooperation, and communication in the context of natural sciences. With them, people will be able to shape a world that is friendly to themselves and nature by developing and applying science.

Dr Ilona Tańska, Director of the Copernican Revolution Laboratory





photo: Agata Krzysztofik/MJWPU

The Copernican Revolution Laboratory uses innovative and environmentally friendly concepts right from the planning and construction phase

workshops, work is in full swing. They include a carpentry shop, CNC (computer numerical control), a 3D printer, dozens of microscopes, robots and dozens of other tools. This is the real heart of the Studio, where ideas take physical shape.

The arena of the final research stage is located on the ground floor. 'We have located meeting rooms and studios here. This is the place for focus research. Here we can show the effects of our work, test it, and also talk about what others think of our solutions', says Ilona Iłowiecka-Tańska. After passing through the final stage, the embodied ideas can now leave the Laboratory and go out into the world.

This space is not only for professionals from the 'Copernicus', but also for interested institutions and companies, such as scientists and teachers from Mazovia and all over Poland. 'If someone has an idea, they will find the infrastructure here to help them develop it', encourages Ilona Iłowiecka-Tańska.

#### Innovation factory

At the Copernican Revolution Lab, innovative and environmentally-friendly concepts were applied right from the planning and construction phase. The building plans were made using 3D technology. The entire building is wrapped in transparent ETFE membrane cushions – this innovative material perfectly imitates glass and provides excellent thermal insulation. It makes the building lighter, better lit, quieter, and, above all, energy efficient. Depending on needs, its façade can either heat or cool the rooms, which contributes to savings. Other environmentally friendly solutions have also been used, such as a closed rainwater management system and a photovoltaic farm on the roof.

#### Forge of the future

Among other things, the first studies are already being carried out at the PPK on the optimal arrangement of classroom space. These focus, for example, on how to position furniture and how to use technological innovations in the classroom to create the best conditions for communication and interaction between students and teacher. 'We are looking for the optimal solution to be applied to the school as we know it, with its need for discipline and control, but also freedom, creativity and the aspirations we have for the development of pupils' competences', says Ilona Howiecka-Tańska.

Will the Copernican Revolution Lab bring about a revolution in the school's approach to the student? Now there are certainly the conditions and the means to do so. The road to the competences of the future has been opened.

## GET AHEAD OF CANCER

We live in a world where the increase in cancer cases unfortunately surprises no one anymore. And probably most of us know that the timing of the diagnosis of the disease is important for the effectiveness of the treatment undertaken. Doctors and patients alike are waiting for new methods to help nip this civilizational disease in the bud. One such method has been developed by the Warsaw-based company Genomed.

Scientists have been searching for years for solutions that would detect cancer at a very early stage, when the chances of success-fully eradicating it are greater than when the diagnosis shows an advanced stage of the disease. Genomed, a company with significant achievements in the field of genomics, which deals, among other things, with molecular diagnostics based on DNA sequencing and the introduction of solutions on this basis to Polish and foreign markets, has also been involved in such a search. 'Our activities run in two directions – we deal with the diagnosis of genetic diseases,

and we are the largest DNA sequencing center in Poland, says Dr hab Anna Boguszewska-Chachulska, CEO of Genomed SA.

Welcome to NextSea

The company currently provides its services to almost a thousand institutional customers, including research centres, biotechnology companies and medical institutions in Poland and abroad. Between 2010 and 2012, it performed DNA sequencing and diagnostic analysis of a gene whose mutations are responsible for the occurrence of cystic fibrosis, ordered by the Institute of Mother

DO.

European Funds in Mazovia

and Child as part of a nationwide newborn screening programme. The company can also boast the implementation of many other projects, including those co-financed by the National Centre for Research and Development, such as the 'Polish reference genome for genomic diagnostics and personalised medicine' (under the INNOTECH programme) or the 'Innovative strategy for diagnosis, prevention and adjuvant therapy of selected neurodegenerative diseases in the population' (under the 'Prevention and treatment of civilisation diseases – STRATEGMED' programme).

#### Liquid biopsy

In Poland, the presence of a tumour in a patient's body is usually established on the basis of imaging techniques (e.g. X-rays, CT scans) when the disease is already very advanced and takes the form of tumours. At the same time, this means a poorer prognosis for recovery. Meanwhile, cancer processes take place much earlier in the body. At the initial stage of the disease, so-called circulating tumour DNA (ctDNA – circulating tumour DNA) is released into the bloodstream of the person in whom the cancer is developing.

And it is this that is sought in the so-called liquid biopsy, through which an early diagnosis of the cancer is made. Developing this method was at the heart of the project carried out by the Genomed team. 'The topic of liquid biopsy has appeared in the specialist literature for about ten years. My thinking on its application to oncol-

ogy diagnostics offered by Genomed is slightly shorter. We have been working on the isolation of free-circulating DNA since 2015, even before the current project, which has helped us to focus and deepen our research work. It was possible to carry out this task thanks to the work of the multidisciplinary team I led, consisting of diagnosticians, including Dr Monika Jurkowska, head of the Genomed SA genetic diagnostics laboratory, and Dr Artur Kowalik from the Świętokrzyskie Oncology Centre (ŚCO), molecular biologists and bioinformaticians, and a clinical geneticisť, says Anna Boguszewska-Chachulska. The methodology used in liquid biopsy is based on the latest development in molecular biology - so-called Next-Generation Sequencing (NGS), which is used both to detect mutations in selected genes or restricted regions of genes, and to analyse the patient's entire genome. The liquid biopsy makes it possible - firstly - to detect cancer early and identify mutations, which allows targeted and personalised therapy to be selected - the best in a given case. Secondly, with its help, it will be possible to monitor the effectiveness of the therapy used, detect relapses and follow the evolution of the tumour genome during treatment. Another advantage of this diagnostic method is that it is non-invasive - for the test to detect free-circulating tumour DNA, simply a sample of venous blood is taken, as in a standard biochemical blood test. This is much easier and less stressful for patients than a traditional biopsy, which involves the surgical removal of tissue.

It is worth noting that a classic biopsy is ineffective in the case of multi-organ metastases – it is not possible to obtain complete information about the disease in this way. Meanwhile, the tumour data obtained by liquid biopsy provide a comprehensive picture of the progression of the process. In addition, the blood used for testing is a genetic material of good quality, suitable for the NGS method, in contrast to material from a traditional biopsy, which is often damaged by its fixation in formalin and preservation in paraffin.

Project: Development of methods for non-invasive genetic diagnosis and cancer prevention – liquid biopsy
Value of the project: approx. 3.2 million PLN
EU co-financing: approx. 2 million PLN



DNA isolation machine



Next generation sequencing laboratory

The advantage of liquid biopsy is that it is non--invasive – venous blood is taken for the test to detect the free-circulating tumour bed

#### Enemy on target

As part of the project, genetic diagnostic specialists have designed a so-called diagnostic panel. This is a type of broad test to cover all genes or gene sequence variants relevant to a disease.

'Thanks to developments in sequencing technology, we can already include dozens of genes whose mutations have been detected in cancer and have been described in scientific publications. We were looking for a solution to cover the widest possible



Preparing for DNA isolation from blood

range of genes whose alterations may affect the development of cancer. We planned to cover breast, colorectal and melanoma cancers. However, most of the samples we collected for the study thanks to cooperation with Dr Artur Kowalik from the ŚCO came from patients with breast cancer – and consequently, we decided to focus on this disease. In the case of breast cancer, the diagnostic panel includes 93 genes of varying relevance to the course and treatment of the disease', explains Anna **Boguszew**ska-Chachulska.

Although the project 'Development of methods for non-invasive genetic diagnosis and cancer prevention – liquid biopsy', co--funded by the Regional Operational Programme of the Mazovian Voivodeship, has already been completed, the method is still being refined. The Genomed team wants to further analyse the collected data, summarise the research and publish the results in the literature.

'We are already in discussions with medical centres about what we could offer cancer patients. At the same time, we have a need for final validation on a larger number of samples. The biggest issue we are still working on is the so-called sensitivity of the method. If the amount of tumour DNA circulating in the blood is very small, it can be difficult or impossible to detect pathogenic variants. We want to change this, to improve detection, declares Anna **Bogu**-szewska-Chachulska.

Thanks to the project's funding, the Genomed laboratory has acquired a DNA isolation machine and a server whose memory makes it possible to calculate and store the huge amounts of data obtained during the sequencing of cancer genomes.

A platform has also been set up at http://plynnabiopsja.eu to enable remote contact between expert, doctor and patient. Later in 2019. Genomed would like to offer, on a pilot basis, the first patients a preventive check of structural changes in the genome using liquid biopsy.



Genomed Team

"The geneticist and diagnostic oncologist involved in the projectare enthusiastic about this method. Being able to see structural changes early is truly a milestone in oncology. The liquid biopsy developed by our team can be combined with other diagnosticmethods to obtain the most comprehensive information about the progression of the cancer', says Anna Boguszewska-Chachulska. 'Ifwe are approached by patients who, after consultation with their doctor, decide that this is the best solution for them, we are able to perform such an examination within a month.'

Let's get down to work!



TATEV/DU/ULUITE

## VIRTUAL TECHNOLOGY – real and effective rehabilitation

Children's neurological rehabilitation has transcended the dimensions of reality thanks to European funding. Literally. Thanks to technologically advanced solutions such as Lokomats, and in particular Poland's only GRAIL system, patients at the Mazovian Neuropsychiatry Centre in Zagórze have the chance to improve their fitness and, consequently, their quality of life. GOOD PRACTICE: INNOVATION

The Mazovian Neuropsychiatry Centre (MCN) is one of the leaders in paediatric neurological rehabilitation in Europe. Its patients benefit, among other things, from modern tools for laboratory analysis of movement, robotic rehabilitation equipment, wellequipped exercise rooms, physical therapy rooms, a swimming pool and hydrotherapy equipment.

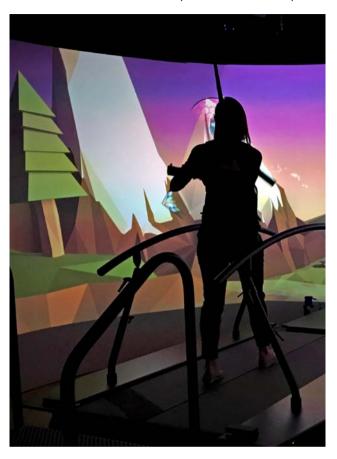
MCN's patients include children and adolescents with cerebral palsy (MPD), which is the most common cause of disability in this age group. The effects of this disease affect 2-3 people under the age of 18 in Poland (per 1,000 young inhabitants). 'Our patients have problems with basic activities: moving, eating, speaking, washing themselves, etc. Due to illness, accident, surgery and other reasons, they cannot function like their peers. We try using all proven methods to literally put children back on their feet and bring them back to social life', says Dr Marcin Bonikowski, who has been developing neurological rehabilitation in Zagórze for more than a dozen years.

Rehabilitation therapists are the link between patients and modern technology. On the one hand, they oversee the technical side of rehabilitation; but their most important task is to motivate young patients to overcome limitations resulting from their disability

#### GRAIL: crossing boundaries

From July 2020, thanks to the project 'The use of modern diagnostic technologies and robotic rehabilitation systems in the therapy of children with cerebral palsy', the rehabilitation of MCN patients has entered a higher level. The purchased GRAIL (Motek/ DIH) system is a technologically highly advanced solution used in the best rehabilitation centres in Western Europe and the United States. The Zagórze Centre is the first healthcare unit in Poland to use this form of rehabilitation.

At first glance, the rehabilitation room may be associated with a cinema studio. In the centre of the room is the most important piece of equipment for rehabilitation in the GRAIL system: an advanced two-lane treadmill with the ability to change the angle of inclination forwards and backwards, as well as lateral inclination. Connected to it are audiovisual, movement analysis and video camera systems.



In front of the patient is a screen several metres long in the shape of a semicircle. When an individual steps onto the treadmill, a game is launched in which that individual must face virtual challenges. GRAIL is a breakthrough in modern rehabilitation. The system for gait analysis and rehabilitation allows access to all gait parameters in real time. Abnormalities are recognised immediately and the disturbed parameters are corrected using software in the sphere of virtual reality. In this way, the child, by exercising, shapes his or her own body motor skills to be as close to normal as possible for his or her age group. Such therapy can have an impact on the remodelling of the cerebral cortex', says Dr Bonikowski.

Thanks to the fact that the e-world created by GRAIL is deceptively similar to reality (e.g. a forest, New York, but also a fairytale setting with giant teddy bears or flowers), after just a few moments the child is transported into it, forgetting that it is 'only' a modern rehabilitation exercise system. As a result, both the youngest patients and almost full-grown adults approach the training sessions with enthusiasm. 'This is undoubtedly due in large part to the device's software, which offers a wide range of activities to meet the various needs and expectations of patients. The therapeutic results achieved are certainly an incentive to continue working. Not without significance is also the commitment of therapists conducting



the training sessions, creating a unique atmosphere of a world of games and fun, and sometimes also of competition and overcoming of the patient's own limitations, which some patients need', emphasises Dr Bonikowski.

#### A path to greater independence

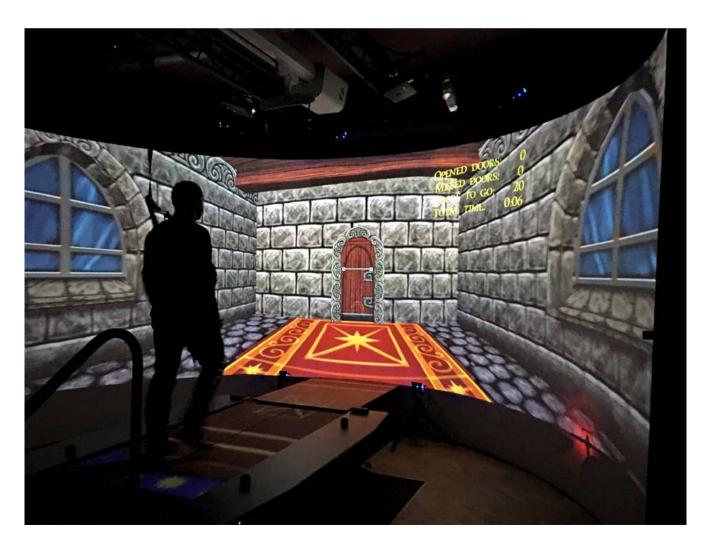
As part of the project, since 2018, the Mazovian Neuropsychiatry Centre in Zagórze has also been running neurological rehabilitation stays using Lokomats – robotic orthoses used for functional gait training. The Lokomat (Hocoma/DIH) consists of, among other things, an external lower limb propelling orthosis (DGO), a patient weight-bearing system (BWS) and a mobile treadmill. 'Each rehabilitation session follows a well-defined, repeatable pattern. It consists of: attaching the patient to the robotic orthosis, training in the DGO (approx. 45 minutes), unhooking the patient from the robot, training in pressure relief (if necessary) on the treadmill (approx. 3-7 minutes), unhooking the patient and ending the therapy session', explains Dr Bonikowski.

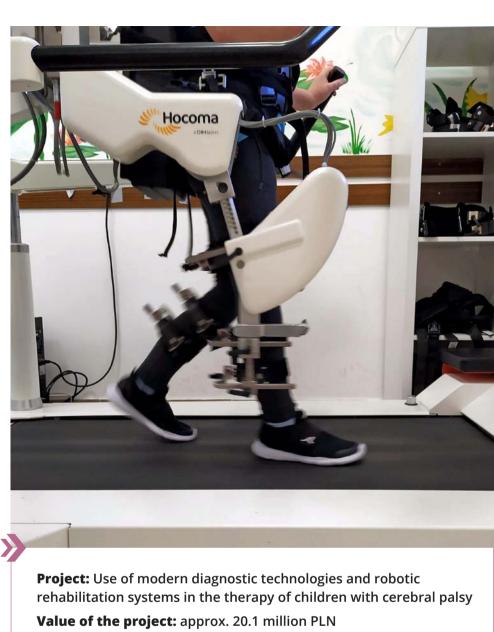
Training in the DGO is carried out using L-WALK biofeedback (line graphs showing activity in the patient's hip and knee joints),

During rehabilitation using robotic systems, the child forgets that it is 'only' a modern exercise system. As a result, he or she approaches training with enthusiasm

graphic biofeedback (image coupling with treadmill movement giving the sensation of walking in virtual space), virtual reality (VR) computer games, as well as additional equipment, including: Nordic walking sticks, a rubber ball, ringo, balloon, mirror.

An individual therapy plan is drawn up for each participant. This is developed prior to training on the basis of an initial examination. Each subsequent therapy cycle involves an evaluation of the





EU co-financing: approx. 16.1 million PLN

patient's progress and the creation of a new rehabilitation plan. 'In this way, we can be sure that the training sessions carried out within the framework of the project are safe for the patients, and at the same time bring maximum therapeutic effects', says Dr Bonikowski.

During a therapy session, the robot moves the patient's limbs according to a predetermined gait pattern. Prior to exercise, the therapist programmes the appropriate training, taking into account the patient's current capabilities, e.g. their step length, amount of guiding force (GF) or gait speed during therapy. Like the GRAIL system, Lokomat also uses the possibilities of virtual reality VR. And it transports the patient into another reality, in which he or she is a character with specific tasks to perform. VR increases the patient's engagement by providing feedback on the correctness of the motor task. The MCN in Zagórze has six of these robots at its disposal, allowing up to 60 patients to be treated per day. By the end of November 2020, 427 patients had participated in the training sessions. The target number is to be 672.

A patient qualified for the project can benefit from a maximum of six therapy cycles (consisting of 15 training sessions), with two in a calendar year. There is therefore a maximum of 90 training sessions per project participant.

The link between patients and state-of-the-art technology is provided by the MCN staff who assist during exercises. As well as overseeing the technical side of rehabilitation, their job is to motivate and encourage young patients to overcome the limitations of their disability. Ten physiotherapists are currently involved in providing therapy on the Lokomat and six assist with training on the GRAIL device. 'The team is a unique group of physiotherapists who have opened themselves up to a form of work that is new to the profession and which requires understanding, trust and the ability to take advantage of the opportunities offered by robotic therapy', Dr Bonikowski enthuses.

Patients of all ages approach the training sessions with enthusi-

asm. This is undoubtedly due in large part to the modern equipment, which helps improve the body more effectively than previous solutions and produces therapeutic effects that were previously unattainable. In doing so, they increase the motivation to overcome limitations resulting from the disease. And this is most important.

The development of medicine, including rehabilitation, has been hampered in Poland for years by a lack of adequate funds to allow, for example, the introduction of innovations that push the boundaries of therapeutic effectiveness. European funds are a lifeline. Thanks to them, both doctors and patients have the chance to benefit from methods which are revolutionary today but will soon be standard. Let us be in the vanguard!

photo: Baj Theatre (×7)

# Modernisation of the **Baj Theatre** in Warsaw

Warsaw's Baj theatre, Poland's oldest theatre for children, will celebrate its 100th anniversary in five years' time. The puppetry stage has been opening its doors in a historic building in the centre of the district of Praga for seven decades. And for the past three years, it has been expanding in its renovated and modernised premises. What will this new venue surprise audiences with? The project 'Improving access to cultural resources through the revitalisation and modernisation of the Baj Theatre in Warsaw' was supported by European funds. The money for the renovation came just in time. 'The building we were working in was in danger of collapsing. The roof was leaking, so much so that when it rained, water poured onto the stage. The façade was also falling apart. On one occasion a car parked outside the theatre was damaged. Fortunately, nobody was hurt', says Ewa Piotrowska, director of the Baj Theatre in Warsaw.

#### From a long journey

As the historic building, which is over a hundred years old, required a huge investment, the theatre staff had to move away for the duration of the renovation. 'For almost four years we were on the move', says Ewa Piotrowska. 'We rented premises for storage and administration. But it turned out that there were no theatrical stages on which we could play. So we had to use the stages of community centres and adapt to free time slots. One week we were playing in Wawer, the next in Praga, and another time in Białołęka. Operating in this way was costly and logistically difficult for both the ensemble and the audience, who had to keep track of where we were and what we were playing. Despite the difficulties, Baj did not suspend its activities; on the contrary, it kept working, including on premieres. And it waited for the project to be finalised.

At the end of 2020, the renovation was finished and the Theatre was able to return to its premises. 'And then came the pandemic. So we couldn't resume full steam immediately. We had to wait out the difficult period and start getting our audiences used to the fact that we were back on Jagiellońska. But now the attendance is really good and we are not complaining about the lack of viewers', says Ewa Piotrowska.

After the refurbishment, the theatre has much greater technical capabilities. The acoustics and lighting have improved, and the stage has been enriched with a trapdoor. Warsaw Baj can also boast modern stage projectors displaying high-definition images. 'We have new possibilities and can afford much more. The best proof is that we recently won the Grand Prix at the "Spotkania" festival in Toruń for the performance "The Girl with a Violin". But also an award for the projections, because their quality is really very good, and among puppet theatres I don't think there is another with such projection possibilities as we have, says Ewa Piotrowska.







There are 49 micro loudspeakers on the stage and auditorium of the Baj Theatre. This allows sound to travel throughout the auditorium. Audience members can hear the echo effect or the sound of footsteps behind them young viewers with special needs

Even more remarkable about the new stage space is the innovative sound system, thus far known from cinema halls, but used in a Polish theatre for the first time. There are 49 micro loudspeakers both on and off stage. 'This allows sound to travel



#### The original murals – the work of Dariusz Twardoch – create a magical, fairy-tale world that is very engaging for children

throughout the auditorium. For example, it is possible to create an echo effect or give the impression that a bee is flying over the auditorium or, if you are sitting in the last row, to hear footsteps behind you', explains the director of the Baj Theatre.

#### For all children

"This was a very comprehensive renovation. It consisted of modernisation on the outside, inside, as well as landscaping around the building. All installations were replaced; new ventilation, air conditioning and electricity were installed. And above all, we upgraded the main hall, which was adapted to the needs of people with disabilities, says Marlena Zawadka, project coordinator from the Warsaw City Hall. The changes resulted in winning the Accessibility Leader 2022 competition in the 'Historical Facility' category. Warsaw's Baj is the first theatre in Poland to be recognised in this way.

The improvements are not limited to the removal of architectural barriers and the installation of lifts, which were previously lacking in this five-storey building. 'This project was extensively consulted with users in terms of the needs of different audiences. What we find here is very thoughtful', explains Marlena Zawadka. Examples





Audiodescription is prepared for blind and partially sighted children at the Baj. A quiet room awaits young viewers with special needs

of solutions that make the theatre space user-friendly include the possibility of audiodescription for blind and partially sighted children, as well as separate seats in the auditorium for wheelchair users and a row for autistic children. 'Of course, it is not called that,

but when we get information that we have such a need, we seat children there so that they feel safe, so that it is not a random place, explains Ewa Piotrowska. Another interesting solution is a special room for children who experience strong emotions during the performance and need to calm down. In the room prepared for them, they can unwind, calm down, play and cuddle. 'For example, we have pressure bags and headphones there. The child can spend as much time as he or she needs in the tranquillity room. He or she can then decide whether to return to the auditorium or go home. The guardian has the chance to be with the child in a safe space and calm them down,' explains Ewa Piotrowska.

#### The House for the Little Ones

Today, the Baj Theatre has two stages – a larger one with 141 seats and an intimate one with 40 seats, intended mainly for perfor-



mances for the youngest audiences. The flats have disappeared from the building, so there is more space and it has been rearranged. A new highlight is the educational space on the first floor, where there is a theatre puppet gallery and an educational room.

The culmination of the refurbishment and modernisation of the theatre are the original murals adorning its interiors. 'We were able to persuade an exceptional artist, Dariusz Twardoch (1957-2021), to create them. His murals are strongly associated with the Baj Theatre. They create a magical, fairy-tale world which children find very engaging, says Ewa Piotrowska. The artist died shortly after finishing decorating the theatre. The murals, which are marionettes abandoned by the puppeteer, have accompanied the theatre institution for more than 30 years. The murals give the Baj Theatre its unique character.

Marek Rokita

Project: Improving access to cultural resources through the revitalisation and modernisation of the Baj Theatre in Warsaw
Value of the project: approx. 26.3 million PLN
EU co-financing: approx. 1 million PLN



## Helping matur

Nature is screaming and crying out for help. On the one hand, some of our decisions are ruining it. On the other hand, we are making efforts to save it and protect the environment. In a project coordinated by the City of Warsaw, the emphasis is on the comprehensive preservation of biodiversity combined with environmental education. Birds, wild mammals, bog turtles and habitats in several reserves have benefited.

#### Bird hospital

Plastic objects in their beaks, broken bones of their legs and wings – these are just a few of the thousands of cases dealt with by the staff of the Bird Asylum at Warsaw Zoo throughout the year. However, good intentions are not enough to help. What is needed is a professional veterinary base, which the Bird Asylum owes to support from European funds.

Thanks to them, 11 rehabilitation aviaries of various sizes were built. Birds injured by collisions with buildings, cars, noise barriers, masts or electricity poles, for example, are housed there after receiving assistance. Birds that have been poisoned (e.g. with parts of lead fishing kits), with foreign bodies (swallowed fishing line or hooks), or attacked and injured by cats or birds of prey are also brought here.

'The project has not only improved rehabilitation conditions, but has also started a dynamic development of this area of nature safeguarding implemented by the Warsaw Zoo, creating new needs and ways of fulfilling them – such as the addition of more rehabilitation aviaries', says Dr Agnieszka Czujkowska, a veterinarian in charge of the Bird Asylum. 'In 2021, we helped 7,329 bird patients, including as many as 4,568 from May to August! This is an exceptional result not only in Poland, but also in Europe. As a result, we are planning further expansion of the centre. We help all domestic birds, including rare species such as the peregrine falcon, little bittern, snipe and little owl. We also run a white stork reintroduction programme based on individuals after rehabilitation – those that cannot return to the wild, but are sent to other countries, such as Scotland or Sweden, where they can breed', she adds.

The prognosis for recovery and the ability to return to the wild depends not only on the type and extent of the injury, but also on the species. More than half of the flying patients return to the wild.

In the activities of the Bird Asylum, not only the therapeutic aspect is important, but also the educational aspect c conducting dozens of radio and TV programmes per year and webinars. 'The scale of the Asylum's activities requires further expansion. This shows that the project, which was realised several years ago, is alive and constantly evolving. We are seeking further funding. We want to include volunteer options in our work and adapt another building for this', concludes Dr Agnieszka Czujkowska.

#### Forest emergency service

The Forest Animal Rehabilitation Centre on Korkowa Street on the eastern outskirts of Warsaw treats and cares for injured, sick and orphaned wild mammals. The aim of facilities of this type is to provide assistance, rehabilitation and, finally, to release the animals back into



In the Forest Animal Rehabilitation Centre in Warsaw, photo: Forest Animal Rehabilitation Centre in Warsaw

European Funds in Mazovia | no. 1 | 2024





In the Bird Asylum, photo: Agata Krzysztofik/MJWPU

the wild at full strength. Patients at the Forest Centre have various types of injuries, such as mechanical damage caused by vehicles or equipment – this applies, for example, to hedgehogs, which are, among other things, victims of spring work in gardens. More than 1,300 animals were supported here in 2021 and by June 2022 – 450. About half of the patients are being returned to the wild.

'Now is a hectic time. In addition to the animals actually in need of treatment, we are increasing our charges in spring mainly due to the delivery of animals unnecessarily taken from the wild. Unfortunately, the desire to help, combined with poor knowledge of animal biology, means that they are often taken from the wild. In turn, we, despite our best intentions and knowledge, are unable to replace their mother. Consequently, although we provide professional care, not all the animals that come to us survive. Most of our patients are squirrels, hedgehogs and bats. From spring to autumn we also have a lot of roe deer, foxes, martens, badgers, sometimes beavers', says Robert Strąk, head of the Forest Animal Rehabilitation Centre in Warsaw.

The support given to the facility went towards retrofitting. Cages for small mammals – including squirrels and hedgehogs – were purchased. The treatment room was enriched with germicidal lamps, useful for irradiation and minor procedures. Also helpIn 2021, 7,329 bird patients were helped at the Warsaw Bird Asylum, including as many as 4,568 from May to August! This is an exceptional result not only for Poland, but also for Europe

ful in the treatment and care of four-legged wild patients is new monitoring equipment. 'This allows us to keep an eye on what is happening in the aviaries at all times. So we can more easily spot what ails a particular animal. And sometimes it is the details that count', adds Robert Strąk. 'And when, thanks to the monitoring, we find out how a given animal leaves its enclosure, we modify the construction of the fence in order to prevent further escapes'.



Young pond turtle, photo: Paweł Czapczyk

#### For the pond turtles

Let us now return to the centre of the capital, to the zoo. However, let's move to another part of it - to the pond built for the pond turtles. This protected and highly endangered species is listed in the Polish Red Book of Animals. The key task for this part of the project was to populate two locations in the Mazovian Voivodeship that had been selected as being the best for this species for environmental reasons. 'We assumed that we would release 50 individuals at these two sites. In 2018, we populated one of the sites with 25 turtles, and in 2019 populated the other site with the remaining turtles. Since releasing the turtles into the wild, we have been monitoring both sites all the time. As a result, we know that more than half are alive in the environment. We have seen 16 in one of the sites and 18 in the other, which is an excellent result. After all, you have to take into account the impact of external factors, natural selection, and the risks that life in the wild brings. It looks like we chose good places for them, enthuses Adam Hryniewicz from the Warsaw Zoo, responsible for the part of the project dealing with pond turtles.

The individuals released into the wild had to be genetically compatible with the genetic line of turtles living in the Mazowieckie Voivodeship. 'Firstly, we wanted it to be a Polish line. And secondly, the correct one for the region, which is Ia. Our turtles in the zoo are genetically compatible. The cubs that were released into the wild are of the same line. And we stick to that all the time. We do not interfere in their lives. They have to make their own way in the environment. The ones that survive will be the strongest, the most adapted to the conditions. And they will form a good, strong population. If this does not happen, because the conditions are bad, a bad population will not form, whose unfavourable characteristics would go out into the world. What matters here is the good of the population, not the individual. That was the original premise. Our

At the Wildlife Rehabilitation Centre in Warsaw, in addition to mammals that actually need help, there are more wards in the spring mainly due to the delivery of animals unnecessarily taken from the wild



role now is monitoring', stresses Adam Hryniewicz. As the pond turtle reaches sexual maturity after 15-18 years, we will only know the effects of the measures taken in a dozen or so years. So we are keeping our fingers crossed!

#### Green and alien-species free

Natural habitats such as light oak in the Łosiowe Błota and Króla Jana III Sobieskiego nature reserves were also protected under the project. Work has been carried out there by mowing, de-bushing and removing alien invasive species. In the King Jan III Sobieski reserve we mowed the undergrowth, removing such invasive species disturbing the spatial structure of the habitat as American black cherry, ash-leaved maple and red oak. We continue these activities by mowing down the undesirable seedlings and undergrowth of alien species two to three times a year and manually removing another invasive plant, the small-flowered impatiens', says Karol Podgórski, Director of the City Forests – Warsaw. Activities to protect against the growth of species disrupting the habitat structure are – as required – still carried out.

When wandering in naturally attractive places, as laymen, we are often not aware of the potential that lies within them. This is why it is so important to put up information and education boards – this type of infrastructure has appeared in the Kalinowa Łąka, Łosiowe Błota and Stefan Starzyński's Las Kabacki nature reserves. A nearly 60-metre-long footbridge in the Łosiowe Błota nature reserve allows visitors to admire the wetland and the species that inhabit it.

Let us therefore enjoy the natural assets that Mazovian nature has to offer. Of course, following the principle: first, do no harm!

Agata Rokita



The reserve Łosiowe Błota, photo: City Forests – Warsaw

## E-support for senior citizens

A pilot project called 'T@ken care of...' has been underway for almost a year with a group of 50 elderly people in Warsaw. Participants have been given tablets and also wear armbands with a red SOS button, which they can press in life- or health--threatening situations.



Basia has already called for help several times via the armband, which she has worn on her wrist since December 2017. She often falls over and cannot get up. And because she lives alone, there is no one to help her. Thanks to the alarm in the wristband, the signal instantly reaches the telecare centre. The first time this happened, the telecare provider who received the signal immediately contacted her and determined her condition. He then called her son and asked him to go to his mum to help her get up. At the same time, however, the alarm on the control panel went off. This one was heard by Basia's neighbour, and she arrived with help even before her son arrived. 'I can't imagine life without the band-aid now. I ask myself what would happen if I didn't have it,' says Basia.

#### 50 t@ken care of

Basia is one of 50 participants in a project that provides Warsaw's senior citizens with comprehensive care using new technologies. The seniors receive not only electronic wristbands and tablets, but also constant assistance from professional carers and – if neces-

sary – also volunteers. The project has been running for more than a year; seniors received the devices six months ago and will be tested until mid-May 2019.

#### Electronic guards

Warsaw elderly are testing two different telecare kits. Those who do not leave home received a waterproof armband with an SOS button and a special telephone exchange that allows two-way communication with two telephone numbers selected by the senior (e.g. someone from the family or a carer), with the telecare centre and with the Municipal Contact Centre Warsaw 19115. It also has a function that reminds them to take their medication.

The second set was given to seniors who move around independently. It consists of a tablet and a wristband with an SOS button, GPS, a fall detector, a heart rate monitoring function and a medication reminder. The armband works in a similar way to a telephone – it allows contact with the telecare centre and allows calls to be an-



swered. Seniors also received tablets. 'These are devices with a reinforced casing, resistant to falling or dusting. They are equipped with an SOS button, but above all they are meant to activate seniors and have an integrating function, emphasises Małgorzata Nawrot, coordinator of the 'T@ken care of...' project. The tablets are connected to the Internet and have applications installed so that their users can exercise their memory, chat via Skype and develop their interests. 'One of the participants, a bird lover, for example, uses the Birds of the Vistula Warsaw app. She can listen to their singing this way,' says Małgorzata Nawrot.

#### Smart seniors

Maria, who lives in Saska Kepa, would not have thought of using technological innovations a year ago. 'Until now I've only used my mobile phone to make calls, but thanks to this project I've gone from the 19th century straight into the 21st, she says. Maria is testing a second set - a wristband and a tablet. At the beginning she was very apprehensive and, as she admits, approached the computer like a dog to a hedgehog. However, after a few meetings with a volunteer who showed her how to use the device, the tablet is now her favourite thing at home. - I use it to watch films, read newspapers and, above all, listen to music. I am a fan of classical music and opera, and my limited pension does not allow me to go to the philharmonic. But I can listen to all I want on my tablet, enthuses Maria. Most of the participating seniors were apprehensive about using the devices. 'They are older people and often have a fear of new technologies, especially at the beginning. They are afraid that it is expensive and they will break something or that using them will be too complicated. They need to be persuaded and encouraged,' says Małgorzata Nawrot. The equipment is insured and other resistance is overcome by seniors under the friendly guidance of volunteers. Most of them come from another project, i.e. 'Login and Help - Warsaw for Seniors', and municipal projects on digital education of elderly people. They teach their charges how to use a tablet, show them how to use the Internet. And they are not always young people - some of them are also seniors. So they are the best proof that new technologies are not just reserved for the young.

#### Not just care

Participants in the project praise the wristbands, which make them feel safe, and the tablets, which allow them to spend time actively and pleasurably. However, it is the carers who receive the most compliments. The project provides seniors with professional care services. The carers come to their homes to help with daily activities: cleaning, shopping and meal preparation. 'Seniors are in very different situations – in life and in health. And they require different levels of care: some only need assistance, others require full care, including bathing or changing a nappy,' says Iwona Kossakowska of the Disabled for the Environment EKON Association, who supervises the work of the carers. The carers also go for walks with the charges, read to them, talk to them. And it is conversation that seniors are most thirsty for. 'Some of our charges are so-called fourth-floor slaves - people who live alone, often on high floors, in blocks of flats and tenement houses without lifts, cannot leave their homes on their own for health reasons, and are deprived of contact with people,' says Małgorzata Nawrot, project coordinator. 'They are often very lonely people, living alone. Neighbourhood ties are fading, there are young people around, busy with work and their own affairs. And, as one of the participants said, you can't talk to the TV. We have a senior citizen who is very fond of singing and together with her carer they sing,' adds Iwona Kossakowska. The several-hour meetings with their carers are very important to them. Not surprisingly, emotional bonds are formed between seniors and caregivers. It is not uncommon for real dramas to ensue when one carer has to be replaced by another for some reason. Carers can sometimes be as irreplaceable as electronic wristbands. They have already called for help on several occasions, e.g. for a pre-stroke condition, a suicide attempt or a diabetic senior who has taken a double dose of insulin.

> The seniors receive not only electronic wristbands and tablets, but also constant assistance from professional carers and – if necessary – also volunteers

#### A 'silver tsunami' is coming

One in four Warsaw residents is over 60 - a community of almost half a million people. And every year there will be more and more seniors – demographers even speak of a 'silver tsunami'. An ageing society is a great challenge. Everything must be done to ensure that older people can remain independent for as long as possible and that they can live actively and with dignity. This is why thoughtful and innovative measures are needed, such as the 'T@ken care of...' project.

The concept of improving the system of care services in Warsaw through the use of ICT tools, of which one of the components is the implementation of the 'T@ken care of...' project. was recognised in the Smart 50 Awards competition. The City of Warsaw was among the 50 finalists of the competition. The organiser, the American Smart Cities Connect Foundation, recognised comprehensive assistance to seniors using modern technology.



Although they have many years of work behind them, they still learn sensitivity, warmth, openness and empathy from their charges. A lot of people with different personalities and undiscovered talents come here. They open up, show their inner selves and grow.... This is what a weekday looks like with the activities organised by the Malwa Plus Association for People with Disabilities in Grodzisk Mazowiecki.



The association has had a long history, more than 20 years. And from the beginning it has carried out its activities on the premises of the Malwa Disabled Knitting Cooperative. 'Prior to the project, we had six rooms at our disposal, where we conducted activities as part of occupational therapy workshops: fine arts, computer, cooking, carpentry, ceramics and floristry, handicrafts and sewing; plus there is a rehabilitation room and a psychologist's room. We now have two additional rooms where we have set up new studios. The general development room is used for training in writing, reading and arithmetic. In the economics room, our charges learn economic skills for everyday life, such as shopping. In the rehabilitation room, thanks to the purchase of new equipment such as treadmills, interactive floors for autistics and fibre optics, among others, we use modern therapeutic methods. Our space has also been expanded by a room in which we have set up an integration common room. We are still waiting for the refurbishment and adaptation of another two large rooms, which will be part of this common room,' says Joanna Purtak, a therapist and project manager.

#### It's happening!

The Association's activities entered a higher level with the project 'Socio-professional activation of people with disabilities at the Malwa Plus Occupational Therapy Workshops and the integration day centre<sup>2</sup>, which was the brainchild of Iwona Mejsner, president of the Malwa Plus Association for People with Disabilities. Previously, 40 people (14 women and 26 men) had taken part in occupational therapy workshops (WTZ) and attended classes in floristics, felting, ceramics, candle-making, theatre and integration trips (i.e. outings to the theatre, museums, art galleries, trips to other towns, and an integration picnic with a display of works by disabled people). Thanks to the opportunities created by the project, 10 new people joined. A lot of therapy materials were bought for all of them, e.g.: puzzles, audiobooks, games, books.

> In addition to rehabilitation and therapeutic activities, the charges of Malwa Plus train in activities of daily living, e.g. preparing simple meals and learning to operate a dishwasher

When setting up the integration day care centre, it was planned that it would be used by 40 people who require active integration and rehabilitation, but who for formal reasons cannot be admitted to the HCT because they each do not have such an indication on their certificate. The day centre is open from 10 a.m. to 6 p.m. on weekdays. The facilities include a computer, ping-pong table, games, cushions, mattresses and a cocoon for autistic people. Malwa received some of the furniture for the day centre (e.g. tables) from a company that was liquidating its office. Activities organised here include: art therapy, therapy to improve psycho-physical activities in general, music therapy, bibliotherapy, sociotherapy, theatre, dance, motor and social rehabilitation, cultural studies and cooking. At the halfway point of the project, running from November 2017 to October 2019, 13 people were using the day centre. More are therefore being sought for whom it has been established.

A socio-vocational reintegration path is developed for all project participants (target group: 90: 36 women and 54 men) in order to restore or strengthen their social competences, independence and social activity. Their motivation to take up employment is also assessed.

Who benefits from the classes run at Malwa Plus? They are people with severe and moderate intellectual disabilities, in some cases also people with motor disabilities, hearing disabilities, schizophrenics, blind people, people with autism and those with cerebral palsy. The youngest participant in the occupational therapy work-



shop is 19 years old, the oldest is a 67-year-old lady after a stroke, once very active professionally, now retired, for whom her stay here is a form of rehabilitation. It is therefore a very diverse group in terms of its dysfunctions and age, which also translates into practising interpersonal relations among people with different experiences (also resulting from disabilities), predispositions, preferences and personality traits.

No less important is learning to be independent, mastering activities that a fully able-bodied person does not even think about because they are obvious. It turns out that this is not the case for everyone. 'In addition to rehabilitation and therapeutic activities, our charges train in activities of daily living. For example, in the sewing workshop they practice ironing, folding clothes; in the cooking workshop they prepare simple meals, learn how to use the dishwasher and other household appliances. It is important that no one replaces them and that they can perform these tasks on their own', emphasises Joanna Purtak.

#### Breaking down walls

The project has created the opportunity to make activities more attractive and to discover new abilities in the charges. This is made possible by materials purchased for therapy and individual studios, or rehabilitation equipment. Many activities take place outside the building: music and theatre workshops, trips, theatre and cinema excursions. This opening up to the outside has allowed us to get to know the participants, even those with a long history, from a different angle. 'We are rediscovering them. It has turned out that we have a lot of people with dancing and musical talents. And by going out more, they are more open, more at ease. They want more. For example, with their performance they want to perform in front of a wider audience. The preparation for the music and dance performance took several months. And it really was hard work. Re-



hearsals, in which they were very involved, took place every day. We had crises along the way too. The most important thing is that we picked ourselves up from them together', admits Joanna.

The culmination of months of hard work is, for example, participation in the District Review of Artistic Creativity of Persons with Disabilities 'Gardens of Integration', which involves all the local institutions connected with supporting people with disabilities, i.e. schools, including integration schools, social welfare homes, and occupational therapy workshops. 'It is a very healthy competition, mobilising, inspiring, and motivating for more activities. Our charges are excited to be seen on stage not only by their nearest and dearest, but also by the local authorities. We are a very open centre. Twice a year we organise big events on the occasion of Christmas and Easter, when we are visited by the parents of our charges, their families and other invited guests: authorities, institutions friendly to us, e.g. social care, the District Family Assistance Centre. Participants of our WTZ feel very comfortable on stage in front of 'their' audience. It is also important for us that artists from outside



come to these reviews. And our charges are proud that as artists they perform in front of artists', rejoices Joanna.

#### Crossing borders

Is it always so rosy? Definitely not. Sometimes there is a period of breakdown when the work carried out on something for a very long time results, for example, in just one day. On the other hand, those running the project are happy even with such short-term success. There are many more positive events. And they make up for failures.

The long-term effect of the project is also expected to be that several people will get jobs. So far, there have been two people on a one--month internship at the Grodzisk-based Malwa clothing coopera-



Thanks to the project, the participants of the occupational therapy workshop are discovering their artistic talents. And they go out with them

tive. 'They have been working in the position of a brakeman and a brakewoman. Their duties included sorting, stacking and packing clothes. They were very happy with their work and the opportunity to earn money. We will be referring more people to the Malwa cooperative for internships. And we will seek employment for our charges both in sheltered workshops and on the open market. It is not easy, but we have successes here as well – several people from the Cooperative have opened their own businesses (e.g. a tailor's shop) and several have taken up jobs in various companies', says Joanna.

November at the Association's art studio was marked by the preparation of over 1,000 Christmas cards. Each one is different, unique, original. A heart is put into each one. Importantly, they are ordered by the Grodzisk Mazowiecki Town Hall, which is one of the entities responsible for combating social exclusion and including, among others, the disabled in local social life. Such – apparently simple – ideas move mountains. Not in theory, but in practice.

Agata Rokita



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The magazine is co-financed by the European Union