



Keeping up with the time: Belarusian scientists working on environmentally-friendly battery recycling

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Belarus' Red Book new edition being prepared for publication — to be released in 2025

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BMZ rope winding machine operator Pavel Boldyrevko

They make it hot

In order to maintain a strong position in the market, the management and employees of the Belarusian Steel Works (BMZ trademark) needed to show an iron character. Due to sanctions, including personal ones, BMZ – the Management Company of the BMC Holding, is prohibited not only from exporting steel products to the EU, but also from using the transit corridor through these countries. The plant accepted the challenge and began restructuring business processes, searching for new clients, changing supply routes... → 4



There is plenty of room for co-operation

A new level of bilateral relations, specific agreements on joint projects, an extensive economic agenda — here come the main results following the official visit of the President of Belarus to Uzbekistan

The Head of the Belarusian State was awaited and greeted in Tashkent as the dearest guest. Aleksandr Lukashenko was warmly welcomed at the airport, with a guard of honour that also included female members. The solemn reception was accompanied by the flags of two countries and welcome billboards on city streets. There were a lot of friendly comments and good wishes of Internet users on local information resources: ‘Welcome, Batya!’, ‘May Lukashenko’s visit benefit both countries’, ‘May the negotiations be fruitful’.

A solid motorcade of executive cars for the Belarusian delegation, accompanied by motorcyclists, rushing through the streets of evening Tashkent, looked especially impressive. All the attributes of the official visit testified to the fact that Belarus and its leader are known, respected and appreciated in Uzbekistan.

The first meeting of the heads of states was informal — Aleksandr Lukashenko and Shavkat Mirziyoyev greeted each other at the Humo Arena Ice Palace. The heads of states attended the match of the Kazakhstan Open Ice Hockey Championship between Humo Tashkent and Nomad Astana.

On the first day of the Belarusian Head of State’s visit to Uzbekistan, it became known that Ilham Aliyev had won a convincing victory in the presidential elections in Azerbaijan. Aleksandr Lukashenko and Shavkat Mirziyoyev called their Azerbaijani counterpart together to congratulate him.

When addressing his Azerbaijani counterpart, the Belarusian leader stressed, “Belarus is your reliable friend that shares your approaches to building fair and equitable interstate relations, strengthening security, dialogue and trust.”

The second day of the Belarusian President’s official visit to Uzbekistan began with the wreath-laying ceremony at the Independence Monument in Tashkent. The central event was the talks between Aleksandr Lukashenko and Shavkat Mirziyoyev at the state residence of the Uzbek President — the Kuksaroy Presidential Palace. The Belarusian Head of State cordially thanked his counterpart for the traditionally warm welcome and attentive attitude towards the Belarusian delegation in the hospitable Uzbek land.

During the negotiations that first took place in a narrow and then in a wide format, the parties discussed a wide range of questions. Aleksandr Lukashenko immediately emphasised the fundamental point underlying the co-operation between the countries and determining its prospects,

Despite the difficult situation, Belarus has ensured macro-economic stability, curbing of inflation and consistent growth in household income. In recent years, we have managed, through joint efforts, to drastically change the nature and content of Belarus-Uzbekistan relations, bringing them to a qualitatively new level.

“In the next year and a half, we need to reach one billion and look ahead. As long as there is agreement between the governments and heads of states, a lot has to be done. We need to ‘tie’ our relationship. Young people will come to power tomorrow — they are different. They do not have this experience.

where we need to learn from you. We are ready to transfer to Uzbekistan those technologies that we received from the Soviet Union, as well as those developed by our country.”

Pharmaceuticals, maternity and child welfare

The Belarusian Head of State cited the pharmaceutical industry as a vivid example. Uzbekistan is interested in the supply of medicines. In this regard, Aleksandr Lukashenko considers the creation of joint ventures to be a promising direction. Belarus is ready to lend its shoulder to Uzbekistan in healthcare, particularly in the field of maternity and child welfare.

Belarus and Uzbekistan have outlined a lot of areas for co-operation in healthcare. These include child health protection, cardiology, oncology, hematology and more.

Speaking about collaboration between the two countries in general, Aleksandr Lukashenko added that some areas are not developing as fast as they would like, “This means that it is members of the government, ministers who have fallen short. So let us do it. Once we have agreed — we must achieve our goals.”

The Head of State said that 2024 had been declared the Year of Quality in Belarus, “This is for a long time, not just for one year. We will improve the quality. Therefore, take into consideration that our equipment will be even better.”

Along with that, Belarus is ready not only to supply equipment, but also to create on-site service centres for its maintenance. We accumulated such experience long ago.

The President of Uzbekistan underlined that high-quality Belarusian products are well known in Uzbekistan. In turn, Uzbekistan also has a lot to offer to its partners in Belarus, Shavkat Mirziyoyev was convinced.

Import substitution and technological sovereignty

Following the negotiations, Aleksandr Lukashenko told reporters that the deepening of industrial co-operation, the creation of joint ventures, and the provision of favourable conditions for the exchange of goods and services were discussed as priority issues. “At the same time, when setting up joint ventures, we are focused on long-term co-operation and their sys-



“We are watching with great interest the transformations that are taking place in Uzbekistan. The only thing you need is time. A lot was missed back in the day. You were right saying that now you have to catch up, and it is never easy. But the most important thing is that you know where to move. You are developing at an amazing pace. We are interested in the development of Uzbekistan, because we consider your country as a gateway in Central Asia.”

Historic visit

Shavkat Mirziyoyev, in turn, pointed out,

“In Uzbekistan, we feel great affection for Belarus and its people, and we sincerely rejoice at the achievements in the socio-economic development of your country.

The history of our relations has never witnessed such a high level of mutual understanding and real results. I really want this visit to become historic and the results tangible.”

The successful development of bilateral co-operation is largely facilitated by the relations between the leaders of two countries. Aleksandr Lukashenko said the following, “We have absolutely trust-based, friendly relations with you. Probably, there could not be more trust. The Uzbek and Belarusian nations are very similar people, hardworking and tolerant, real workaholics. This is the basis of our relationship.”

The President of Belarus emphasised that the current almost \$600m in trade turnover, despite being a record figure, does not correspond to the existing potential between the countries,

They did not go through the path that we went through. We have everything in our memory. Therefore, we must not waste this time.”

Among the reserves for increasing mutual trade, Aleksandr Lukashenko named the creation of new and the expansion of existing partnerships at the regional level of two countries.

The President stated that Belarus is ready to contribute to the modernisation of Uzbekistan, “We have the technologies that you need today and even tomorrow. There is no need to beg for them anywhere in the world. We offer them to you with an open heart, without demanding anything in return. We are equal-sized countries, we are the same. So what will we demand from each other? We can only co-operate with you in good faith, same as you with us. There are quite a few areas

Following the talks between Aleksandr Lukashenko and Shavkat Mirziyoyev in Tashkent, a package of bilateral documents on the development of co-operation in various spheres was signed.

The leaders of two countries adopted a **joint statement** in which they stressed that the priority direction of Belarus-Uzbekistan relations is further expansion of mutually beneficial trade and economic collaboration. The parties agreed on the importance of increasing the volume of mutual trade and expanding its range by involving high-value-added products in trade, creating favourable conditions for the transit of foreign trade goods, developing co-operation between business entities, the private sector and regions of two countries. The heads of states also reaffirmed their commitment to further strengthen bilateral ties in culture, education, science, art, cinematography, tourism, youth policy and sports. In 2024-2025, the parties intend to arrange Days of Culture of Belarus in Uzbekistan and Days of Culture of Uzbekistan in Belarus.

In addition, they signed:

- action plan for the development of co-operation

- between the countries for 2024-2025;
- roadmap for the development of co-operation in the field of agro-industrial complex for 2024-2026;
- agreement on scientific and industrial co-operation;
- intergovernmental agreement on the use of electronic systems for certification of origin of goods;
- agreement on co-operation in the field of competition development, consumer rights protection and advertising market regulation;
- protocol on co-operation in the field of intellectual property;
- plan of joint activities for the development of collaboration in the field of integration of plant quarantine information systems;
- co-operation programmes in the fields of culture and art, sports and tourism, education;
- agreement between Minsk and Tashkent on the establishment of fraternal relations and the development of multifaceted co-operation.

After the talks, Aleksandr Lukashenko and Shavkat Mirziyoyev visited one of the most technologically advanced production facilities in Central Asia — the Technopark production complex in Tashkent.

TECHNOPARK LLC was established in August 2019. It comprises a group of industries aimed at the production of import-substituting industrial and electrical products, household appliances, and building materials. In particular, they manufacture here refrigerators and washing machines, industrial air conditioners and cooling systems, lifts and escalators, water pumps and pumping stations, panel radiators, metal structures, industrial hot-water boilers, solar collectors and water heaters. The main partners of TECHNOPARK are Italian companies Pietro Fiorentini and Ferroli, and Samsung Electronics.

On the eve of the Belarusian President's visit, the 2nd Forum of Regions of Belarus and Uzbekistan was held in Tashkent. The parties signed over 20 contracts and agreements for a total amount of \$80m.

The Presidents also paid attention to the co-operation on international platforms. Shavkat Mirziyoyev confirmed, "We have agreed to continue to maintain active contacts. We will deepen the dialogue within the framework of regional and international organisations — the UN, the CIS, the SCO.

In this regard, Uzbekistan firmly supports the early accession of the Republic of Belarus to the Shanghai Co-operation Organisation as a full member."

The parties attach great importance to expanding co-operation in the cultural and humanitarian sphere. The countries are now actively collaborating in the field of science and education, implementing joint projects on experience exchange, training and internship of specialists. More than 5,000 Uzbek students are studying at Belarusian universities and under joint programmes. For comparison, a few years ago there were only a few dozen of them.

Aleksandr Lukashenko drew attention to the expansion of collaboration in the field of sports and tourism. The Belarusian side is ready to develop contacts between the youth of the two countries, to intensify joint events, especially since Tashkent has received the status of the Youth Capital of the CIS in 2024.

Aleksandr Lukashenko invited his Uzbek counterpart to pay an official visit to Belarus at any time convenient for him, and expressed hope for the continuation of a fruitful dialogue in Minsk,

"I think we will achieve significantly more in a year. Today, we have coordinated the direction in which we need to move and the timing for solving the questions. We will support the Uzbek people and Uzbekistan as much as we can so that you could achieve the goals that you have set for yourself. Now, Belarus has everything that Uzbekistan needs today and tomorrow in terms of technology."

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tematic localisation, which will ensure the creation of new jobs in Uzbekistan.

The major guidelines are import substitution and technological sovereignty. Taking into account the production and intellectual resources of our countries, we see huge potential in mechanical engineering, the agro-industrial complex, and light industry.

We separately discussed the subject of deepening co-operation in the field of pharmaceuticals," the Belarusian President specified.

The talks also discussed collaboration with third countries, in particular, with Afghanistan. Aleksandr Lukashenko pointed out in this regard, "Neighbouring countries, especially long-suffering Afghanistan need our help and support. This primarily includes medicines, food and clothes — indispensable items for every person. The two of us can do a lot in this direction and work with Afghanistan. All conditions for this have been created in Uzbekistan. This is a very interesting topic for us. We have agreed to build factories to produce chicken meat and eggs. The reason is not because Uzbekistan lacks these products, but because we, as the President suggested, can sell them to our neighbours, first of all, to the Afghans.

If we do not want Afghanistan to create problems for Uzbekistan, Tajikistan and others, we should approach it with good intentions. We need to help it feed its people so that they could live in peace. This is a usual down-to-earth approach, we adhere to it. And we are ready to work together.

That is, in the course of negotiations, we proceeded from topical issues and the needs of the Uzbek and Belarusian peoples, as well as of our neighbours. And as you know, neighbours are not to be chosen, they are given by God. I support the policy of the President of Uzbekistan, who is trying in good faith to build relations with his southern neighbour, Afghanistan."



How the businesslike character of Belarusian metallurgists is tempered



BMZ. Electric-furnace melting workshop

In order to maintain a strong position in the market, the management and employees of the Belarusian Steel Works [BMZ trademark] needed to show an iron character. Due to sanctions, including personal ones, BMZ — the Management Company of the BMC Holding, is prohibited not only from exporting steel products to the EU, but also from using the transit corridor through these countries. The plant accepted the challenge and began restructuring business processes, searching for new clients, changing supply routes... Our reporter visited the metallurgists in Zhlobin.

Marina Sever'yanova



Operator of the control post for the hot-rolled pipe mill Yegor Govor

They make it hot

By Marina Severyanova

Scale plus technology

Long before the end of the introductory tour of the BMZ, the application on my phone notified me that I had walked 10 thousand steps.

No surprise, the area of the enterprise is about 257 hectares. Factory workers compare its size with the territory of the Principality of Monaco. Approximately every seventh resident of the city works at the plant — the company's staff is more than 11 thousand people.

In one of the steelmaking shops we communicate with employees in the control room, the windows of which are barred for safety reasons — literally 30 metres away, about 70 tonnes of scrap metal are melting in a huge basket. The temperature of the electric arc in the furnace is 3,500 degrees! Operator Yegor Govor was placed to BMZ two years ago after graduating from metallurgical college; his father also works here. Yegor says, "I came here for the first time during an internship and I liked it. On the one hand, the scale is impressive, on the other — high technology and automation of all processes. I go to the shop a couple of times per shift, and spend the rest of the time at the computer. Sure, you need to be very careful, control a number of processes, but there is practically no physical labour. Now I'm getting a higher education, I understand that at such an enterprise there is always a prospect for career growth for specialists."

We go to the smelting site, where we are met by senior foreman Oleg Sazykin. He has worked at the plant for almost a quarter of a century. The specialist has everything clear: at the beginning of the shift, he determines the scope of work for the team, provides everyone with raw materials.

"There should be no interruptions, and we do not allow this. Our people are competent, hardworking, because we work for a common result," the master shares his opinion.

We complete the route in the laboratory. On a universal testing machine, both the thinnest wire with a diameter of 0.14 millimetres and metal cord are tested for strength.

Head of the physical and mechanical testing laboratory Svetlana Kartseva explains how important product quality is, "The plant began producing wire for cutting crystals with a diameter of 0.14 mm in 2022. It is used to cut silicon wafers, which are one of the main components for the production



Ivan Yarinovich



Supervisor at quality control department Marina Zhukova

of solar cells, integrated circuits, and silicon substrates for LED microchips."

Focus on innovation

I ask the Director General of the enterprise to summarise what I have seen. From 11 to 12 o'clock Dmitry Korchik has a direct line with the factory workers. We communicate in pauses between calls, "Did the plant manage to reach the level that was set at the beginning of 2023?"

"We have increased the volume of steel production — in 2023, the increase is more than 250 thousand tonnes compared to the previous year. The growth rate of industrial production volumes in comparable conditions is no less than 112 percent. This growth was achieved without an increase in warehouse stocks, which indicates an active sales and marketing policy and the demand for our products. The increase in revenue is about seven percent, export sales volumes will exceed one million 700 thousand tonnes of metal products, which is 15 percent higher than the 2022 level. The main indicator reflecting the efficiency of foreign economic activity, the foreign trade balance, is positive," the Director General shares the results of his work.

In 2023, BMZ's export geography included 16 countries, with the Russian

Federation becoming the key destination for product supplies.

"This year we are not slowing down, from the very first days of January we continue to work actively. We are already secured with orders for the first half of the year — contracts have been concluded for the supply of steel cord and bead bronze wire to third countries. The objectives are as follows: to maximise the volume of supplies in the domestic and foreign markets, to meet the needs of domestic enterprises as part of the implementation of the import substitution programme, and also to significantly increase external shipments of metallurgical products. The focus is on the sale of high-margin hardware products with a high degree of processing. Logistics problems are also being solved," the manager says.

"We are developing new routes to minimise transportation costs. In 2023, products were shipped for the first time through the port of Taganrog, and they also began to use the ports of St. Petersburg, Novorossiysk and Rostov-on-Don. The Russian Federation is our main ally and closest partner, with whom we always find a common language and promptly resolve emerging issues," Dmitry Korchik emphasised.

BMZ is not only strengthening its position in the sale of its main range of products

— specialists continue to actively develop new types of products. For example, the technology for the production of continuously cast billets (bars) from rail grades of steel has been introduced, and the production of high-tech steel wire for cutting mono- and polycrystals of silicon has been mastered. By the way, the Zhlobin enterprise is the only manufacturer of this type of wire in the CIS countries.

"At the end of 2023, the share of innovative products in the total volume of shipments amounted to 41 percent, with a target of at least 26 percent. In total, last year we mastered 128 types of new innovative products. In total, we shipped 190 types of such products — almost a million tonnes," noted the Director General of the enterprise.

Judging by the businesslike mood and work rhythm on the factory floors, Zhlobin metallurgists are also optimistic about the economic prospects for 2024.



Laboratory assistant for physical and mechanical tests Valeriya Zhukova

A battery of necessary ideas

Keeping up with the time: Belarusian scientists are already working on the environmental component of battery recycling

Many Belarusians have already appreciated the comfort and environmental friendliness of electric vehicles, thousands of which run around the country's roads. Moreover, the President has set the task to launch mass production of our own electric vehicles by January 1st, 2025. Along with that, if we look into tomorrow, it becomes obvious that in the next five years, the necessity to recycle the main e-vehicle component, an electric accumulator or battery, becomes imminent. Therefore, they are already working on that at the Physical Technical Institute of the National Academy of Sciences of Belarus.

By Vera Arteaga

With micrometre precision

The laboratory section at the Laboratory of Plasma Physics on the research and development of technologies for processing lithium-ion cells of the Belarus NAS PhTI has been officially opened just recently. It can be stated, though, that work in this direction has been underway for a year already. It is during this time that scientists have been creating the section, thinking about the technology, and have been engaged in the selection and purchase of necessary equipment.

"Today, the facility is equipped with almost everything required," says Igor Smyaglikov, Deputy Director for Scientific Work at the Physical Technical Institute of the National Academy of Sciences of Belarus.

"We work according to the State Programme 'High-End Technologies' for 2021–2025, the sub-programme 'Development of Electric Transport'. We have a task to develop a basic technology for processing lithium-ion cells using hydrometallurgy methods.

After the preparatory work, a section for the research and development of processing technologies has been opened this year. We work closely with JSC BelVTI, which collects waste from electronic equipment, including electric vehicle batteries, but does not have technologies for their disposal. The point is not just in neutralisation, but also in obtaining useful secondary material resources."

Igor Smyaglikov demonstrates a number of batteries that are recycled at the site — 18650 lithium-ion cells and automotive ones. He explains that the recycling process is complex and multifaceted.

"First, batteries are sorted out, disassembled into cells. Each of them is checked for residual charge. If the charging capacity is high, such a cell can later be used for other purposes — for example, as part of stationary storage devices," he clarifies. "Those batteries that contain a small amount of charge must be discharged. There are many ways to do this. We mainly use such techniques as soaking in electrolyte, and short-circuiting through a resistance unit."

According to Igor Smyaglikov, after that the cell is carefully opened, since the process is rather dangerous.

"In particular, the Institute has created a unique stand for automatic opening of 18650 cells. Subsequently, the system can be scaled up for industrial applications," noted Andrey Drobov, Research fellow at the PhTI Laboratory of Plasma Physics and the developer of this device.

Before our eyes, he puts an 18650 cell into the device and starts the stand. We can observe how the mechanism cuts the cell with micron precision and separates electrode components from the housing without damaging them. All this procedure takes up to one minute.

Process fine-tuning

Yet, the recycling process does not end there. The battery is further disassembled into its components — the cathode and the anode in the form of electrode substances applied on aluminum and copper foil, a separator. Then,

after special heat treatment, these materials are removed from the foil. According to the same principle, cells from electric vehicles are opened and separated, as Igor Smyaglikov shows.

"For the industrial implementation of the technology, it is definitely easier to take battery parts and grind them into powder, which is then divided into metals and electrode material by gas-dynamic and magnetic separation methods," our interlocutor specifies. "After that, metals can be handed over to JSC Belvtorchermet. We, in turn, work with an electrode substance which contains the most valuable elements of batteries."

After heat treatment in special furnaces, depending on the type of batteries, specialists get several types of solutions, which are then analysed and transferred to the dry phase. Thus, lithium, cobalt, nickel and manganese are obtained — metals of value from the point of view of secondary resources.

"Lithium carbonate, which is obtained as a result of multiphase processing, is a ready-made commercial product. It can be used in the future," emphasises Igor Smyaglikov.

Nevertheless, it is still hard to envisage whether the technology will be profitable from an economic point of

view, according to him. It is necessary to take into account not only the cost of processing, but also the costs of logistics, organisation of production, and capacity of the future processing enterprise.

The economic effect will also depend on the type of lithium-ion batteries to be recycled. And there are a lot of them — manganese, cobalt-nickel, lithium-iron-phosphate. It turns out that the higher the cobalt content is, the more efficient the processing will be.

By the way, scientists can determine the product value at different stages of processing already now by controlling the composition with the help of the analytical equipment available at the site. In the near future, a plasma spectrophotometer will appear here, which will allow determining lithium concentration in solutions.

A unique technique

Six people will work at this section, as Alexander Parshuto, Head of Laboratory of Plasma Physics, informed. According to him, each stage needs its own specialist.

In general, the technology of battery recycling is already clear, just some nuances should be refined, in the opinion of Sergey Bagayev, Senior researcher at the laboratory, "The basic technology will be available before the end of the year. It is necessary to understand that we are not talking about industrial scale yet. It will take us two to three years to reach the industrial technology. Our work has already attracted the interest of the National Academy of Sciences, JSC BelVTI, ecologists, the Ministry of Natural Resources and Environmental Protection."

As the Deputy Director for Scientific Work of the PhTI underlines, "There are still a number of issues that need to be finalised, including legal issues."

Thus, it is required to improve the legislation regarding the collection, transportation and storage of spent lithium-ion batteries.

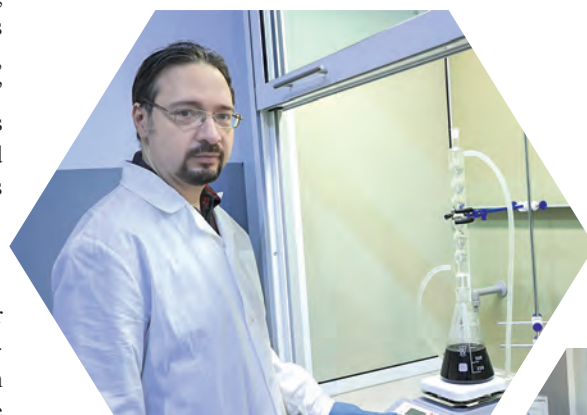
"So far, we have not dealt with the processing of this type of waste in the country," he explains. "We comply with GOST and San-PiN standards, which are used for alkaline batteries and other types of waste. Still, these are substances of a different type. We are working in this direction, too."

"There are undoubtedly similar recycling technologies in the world. Yet, each state tries to come up with a solution focused on its product and its consumer. And the Belarusian technology is its own, unique," emphasises Alexander Parshuto.

"We were tasked with finding the most optimal solution for Belarus. While some countries are focused on producing hydroxides and various salts, we are more interested in obtaining metals," he comments. "This is a finished product that can subsequently be used as a catalyst, additives in alloys, for powder metallurgy, as well as for the production of paints, composites, glasses, even food additives. This is relevant for Belarus."



Igor Smyaglikov



The basic battery recycling technology to be available by year end



Traditions of glory, honour and valour

How the Polotsk Cadet School, winner of the Spiritual Revival Award, lives

...Military bearing, precise step, beautiful posture — many new recruits would envy. Despite the snowfall and frost, teenagers in cadet uniforms are marching vigorously on the parade ground of the Polotsk Cadet School. “Right shoulder forward!” the head of military-patriotic education, Lieutenant Colonel Robert Ismailov commands. Oh, how beautifully and harmoniously the boys and girls, for whom cadetship has become the meaning of life, manage to do that! They marched in a goose-step style, and upon returning from the drill, proudly showed their main award — the laureate diploma of the Spiritual Revival Award of the President of the Republic of Belarus.



Stanislav Krasovsky

‘I am the heir to the idea’

“Together with the director of the school, Colonel Stanislav Krasovsky, I received the award from the hands of the Head of State,” Arseniy Supranovich, a tenth-grader, does not hide his excitement. “This is a great honour. I will remember it for the rest of my life. And the main thing is that Aleksandr Lukashenko shook my hand! I will definitely tell my children about it in the future, and hopefully my grandchildren, too. As proof, there is a photo from the ceremony. You know, it became a great incentive... Now I just have no right not to use my full potential for the benefit of my native country. And they help to hone it here, at the cadet school.”

What stuck in Arseniy’s memory most of all about the ceremony? He is not even hesitating to answer — of course, the President’s words that peace is the most important value for any nation.

“Aleksandr Lukashenko stressed that Belarusians know this better than anyone else. And our memory is a guarantee of peace in the future. Should we forget the road to the temples and monuments of the heroes — a new war will be inevitable. These words seem to be so common, yet in fact they are very thought-provoking. By the way, we are also told about this by the clergy of the diocese who often conduct classes at the school...”

You would agree that this opinion is not of a teenager but of a man. Why was it specifically Arseniy who came on stage? As the guy explains, he is the heir to a big idea. It turns out that Arseniy’s father, an aviation engineer, together with the current director of the Polotsk Cadet School, stood at the origins of the revival of the legendary educational institution



Anton Stepanishchev

whose history dates back to 1835. Stanislav Krasovsky joins in the conversation.

“We had been working towards this for 17 years. The reward was high, and so was the responsibility. All the tasks that we had set for ourselves since the beginning of work on the revival of the cadet corps were completed. There were three of them — to open the school, to return the flag, and to create a museum. In 2006, the first cadet class appeared in Polotsk Secondary School No. 4, and now we have more than 270 students. Next year, thanks to the recent commissioning of a new cadet campus, we will increase the number and will become the largest cadet institution in the country. As for the flag of the Polotsk Cadet Corps of 1844, it was taken out of the country over 100 years ago. Since 1957, it had been kept in the Synodal Cathedral in New York. It took us two years to negotiate the return of the relic. After that, a solemn transfer ceremony took place in the Serbian city of Bela Crkva. Now the flag is in our museum.”

Stanislav Krasovsky was a career military man in the past. He is a graduate of the Anti-Aircraft Missile Engineering School and the Military Academy. During the Soviet times, he served

in Kiev, the Baltic States, the Far East and the Urals. He left military service in Polotsk from the position of commander of the anti-aircraft missile regiment, which he had commanded for 13 years. He managed to unite activists, and together they set about creating a modern Polotsk Cadet School. The government supported the idea and helped. Today, children and grandchildren of many of Krasovsky’s teammates are studying here. Those guys who, like Arseniy Supranovich, followed in the footsteps of their fathers and grandfathers, became heirs to the historically important and valuable idea of reviving cadetism in the ancient Polotsk land.

Heroes studied here

The director explains the popularity of a new museum of the Polotsk Cadet School by the interest of Belarusian and foreign guests to the history of cadetship and modern conditions of its development. Particularly now, as the school has returned to its historical place — to the territory of the Upper Castle, under the holy patronage of St. Sophia Cathedral.

The tour is conducted by the cadets.

“Look, the museum occupies an entire floor of an ancient build-



In the museum of the Polotsk Cadet School

ing erected in the early twentieth century for the needs of the cadet corps. It is true that a large-scale reconstruction took place here, but the spirit of those times has been preserved. Archways... High ceilings... Do you see the walls with traces of wartime fighting? They were intentionally left as a reminder relic...”

The gallery corridor is decorated with portraits of famous graduates. Note the number: during its existence, about four thousand people have been educated in the Polotsk Cadet Corps! Among them are outstanding military leaders, three defence ministers, eight four-star generals and other prominent historical figures. For example, the author of Port Arthur novel, writer Aleksandr Stepanov, inventor of the three-line rifle Sergey Mosin and even Oleg Romanov, the great Russian prince and the cavalier of St. George’s Cross...

The museum includes five halls with unique expositions. It features the gallery of graduates, the history of the cadet movement in Belarus and Russia, the history of the Polotsk Cadet Corps and materials narrating about the main stages of its revival... The place of honour is reserved for our contemporary, Hero of Belarus Nikita Kukuonko. It is in this corner of the museum that schoolchildren who dream of a military career stay the longest. They admire the courage of their fellow countryman — the pilot who died as part of the crew of a Yak-130 combat aircraft while trying to take a falling plane away from a populated area.

Just four words as an epilogue to the exposition. Four words. And this is the whole life... ‘Cadet. Trainee. Officer. Hero.’ Quick, bright, but, alas, tragic...

There is also a sparkling gold commemorative monograph here signed by the President. Aleksandr Lukashenko granted it to the pilot’s mother together with the Hero of Belarus medal.

Next to it is a composition of steel. The contrails left by an airplane soaring into the sky — this idea became the basis when developing a large commemorative granite stele that is about to decorate the main entrance to the territory of the cadet campus.

The portrait of smiling Nikita in a flight uniform seems to counsel the current cadets at parting — be honest to yourself and your country. Patriotism is here — in you, in me, in everyday life, where there is also a place for heroism. It does not matter whether it is big or small...

To educate worthy people

Colonel Stanislav Krasovsky shows around the campus — a comfortable dormitory, cosy classrooms, well-equipped gyms, a multifunctional shooting range. The director notes,

“We do not necessarily try to make each of our students a future hero. It is unreal. And fortunately, there will not be enough high-profile heroic deeds for everyone in our peaceful Belarus. The main goal is to give children all the opportunities to grow up smart, well-mannered and worthy citizens of their country, develop talents and abilities, teach them to appreciate and cherish the freedom and independence of the Motherland.

And if necessary — professionally rise to its defence without the slightest hesitation.”



Anton Stepanishchev

AWARD

Humanity is threatened by pandemics again. These days, the so-called Disease X is all over the news. So far, it is a hypothetical disease that is 20 times more dangerous than the coronavirus and can appear at any moment. The prospects for the emergence of a new infection were discussed by participants of the World Economic Forum in Davos in January. However, there are plenty of other problems in the world — well-known infections are overpowering.



The President of Belarus, Aleksandr Lukashenko,

"We will never agree to destroy free healthcare. We will improve and develop it, instead. At the same time, every person must take care of their health. If they fail to do so, we will never get rid of COVID."

From the State of the Nation Address to the Belarusian people and the National Assembly, on January 28th, 2022

The emergence of Disease X and new viruses — intimidation of the population or underestimation of vaccination effectiveness?

Get vaccinated and stay healthy

By Aleksandr Nesterov

Stop the infection

Doctors annually set the task of vaccinating at least 40 percent of the population against the flu — this will make it possible to build collective immunity, and therefore prevent the spread of infection. The minimum plan is implemented. In case of COVID, the situation is slightly different. By mid-2021, more than a year after the outbreak of the pandemic, the preliminary overall level of collective immunity (total post-infectious and post-vaccination) of the surveyed population in Belarus amounted to 47.4 percent. This is not enough to curb the active circulation of the virus, the Ministry of Health stated.

What about other infections?

The list of deadly infections circulating on the planet includes plague, cholera, anthrax (Siberian plague)... Measles is also on this list, although many people thought it had been eliminated from Belarus long ago. Yet, by late January, a little over 200 cases of this disease were registered in the republic. For comparison: by mid-December, there were 160 confirmed cases since the beginning of 2023. The infection comes to our country from the outside and it spreads quickly. The other day, the Chief State Sanitary Doctor of Belarus, Aleksandr Tarasenko, provided a case from Lida: an infected person came to the district from a neighbouring region, talked with 15 people, and all of them were subsequently hospitalised in the infectious disease department of the district hospital. The doctors promptly began to clarify the immune status of the contacts in order to offer to be vaccinated, if necessary, and thereby to prevent the disease.

Distrustful people are on the losing side

According to Belstat, 2–3 percent of babies were not vaccinated at the end of last year. Thus, 98.3 percent of children were vaccinated against mumps and rubella, 97.6 percent — against tuberculosis, 97.9 percent — against whooping cough, diphtheria and tetanus. Meanwhile, the National Calendar of Preventive Vaccinations includes immunisation against over a dozen infections, while almost two dozen vaccinations are available for epidemic indications. Recently, vaccination against COVID-19 has been included in the calendar.

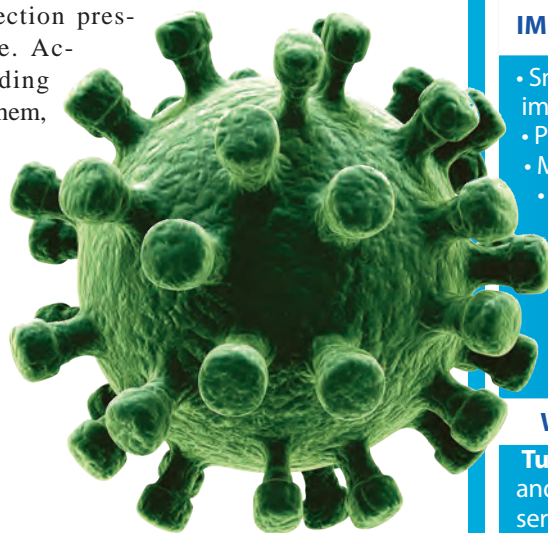
Residents of our country have the opportunity to do a good deed for themselves and their loved ones, even on the days of increased incidence of viral infections among the population. The flu vaccination campaign is ongoing. So far, non-influenza troops are at the forefront of the seasonal vi-

ral attack on Belarusians. They look like the head of a contagious clan, yet it is not the flu, doctors say. Specialists also identify adenoviruses, rhinoviruses and bocaviruses. However, the flu gets activated, too, mainly of type A. In this regard, it definitely won't hurt to get vaccinated.

Is Disease X a warning to humanity?

Back in 2018, the World Health Organisation (WHO) added Disease X to the list of priority diseases that require urgent research and development of drugs. Yet, no one knows so far what kind of infection it is. The designation is only a term that emphasises the importance of being ready for new challenges that can cause serious damage to the human population.

COVID-19 is called the first Disease X now. The WHO has pointed out that experts have been preparing for such outbreaks since 2018. However, judging by the first months of the pandemic, this did not reduce the confusion caused by the infection pressure. According to them,



the organisation has already started implementing measures to prepare for the outbreak of a hypothetical disease, which is expected to be much more dangerous than COVID.

The WHO has no doubt that trouble will come. "The question is not whether this will happen or not, but when it will happen," WHO Chief Tedros Adhanom Ghebreyesus stated at the January World Economic Forum in Davos.

Based on expert estimates, the virus that can cause the next pandemic is similar to the one that causes COVID-19. Such viruses can multiply in different animal species, from which a dangerous pathogen is likely to pass to humans. It is assumed that the outbreak of the epidemic may occur in regions with rich fauna and low access to qualified medical care.

PANDEMICS OF THE MODERN ERA

1918–1919 — Spanish flu. 20–40 percent of the world's population was affected. The estimated death toll amounted to 50–100 million people. The epidemic was caused by an H1N1 virus with genes of avian origin.

1957/1968 — Asian flu/Hong Kong flu. The number of victims exceeded 1.5 million people.

1981 — present — HIV/AIDS. It has taken the lives of over 35 million people worldwide. AIDS is the final stage of HIV infection.

2002–2003 — Atypical pneumonia. More than 8,400 SARS cases were reported in 30 countries. Over 770 people fell victims. The virus initially developed in bats, then spread to cats, and later became dangerous to humans. Effective quarantine measures helped localise it.

2009 — Swine flu. It is an animal-origin virus with a unique blend of genes from swine, avian and human influenza viruses. It killed 0.13–1.87 million people (according to various estimates).

2020 — present — COVID-19. The number of victims — about 7 million people (from the consequences and complications associated with the coronavirus).

IMMUNISATION SUCCESSFULLY DEFEATS THESE

- Smallpox (start of mass immunisation — 1798/1918)
- Polio (1959)
- Measles (1967)
- Diphtheria (1957)
- Tetanus (1957)
- Rubella (1967/1995)
- Tuberculosis (1963)
- Whooping cough (1957)
- Mumps (1963/1974)
- Viral hepatitis B, acute form (1996)



WHY VACCINATION IS NECESSARY

Tuberculosis — an infection that most often affects lungs, and in children — other organs, too. A severe case can lead to serious complications or death. This disease is difficult to treat.

Hepatitis B — a virus that can lead to cirrhosis and liver cancer.

Polio — results in persistent paralysis, atrophy of bones and muscles. Up to 10 percent of people with a paralytic form of the disease die from paralysis of the respiratory muscles.

Diphtheria — affects the throat and tonsils, making it difficult to breathe and swallow. In severe cases it can lead to damage to the heart, kidneys and nervous system.

Tetanus — causes very painful muscle contractions. Even with treatment, it is often fatal.

Whooping cough — prolonged coughing attacks in some cases can lead to breathing problems, pneumonia and death.

Measles — an extremely contagious disease, its serious cases can cause blindness, brain swelling, and death.

Rubella — this infection is usually mild in children and adults, but in pregnant women it can cause miscarriage, stillbirth, infant death or birth defects.

Human papillomavirus (HPV) — some strains can cause cervical cancer. HPV can also cause genital warts both in men and women, as well as cancers of other parts of the body.

Influenza — pneumonia is the most common consequence. Other complications include otitis, maxillar sinusitis, influenza encephalitis, myocarditis, exacerbation of chronic diseases of kidneys, pulmonary and cardiovascular systems.

PROSPECTS FOR THE FUTURE

- **PNEUMOCOCCUS.** The question of introducing pneumococcal vaccination into the National Vaccination Calendar is under discussion in Belarus.
- **ALCOHOLISM.** Belarus is testing a vaccine that creates a buffer to counteract the shock dose of alcohol.
- **COVID-19.** At the instruction of the President, our scientists have created a vaccine against coronavirus. It has passed all necessary clinical trials. It is planned to be used on the eve of the next epidemic season.
- **LUNG CANCER.** Our country, in liaison with foreign partners, is working on a lung cancer vaccine.



Carnival from the Middle Ages

Hundreds of thousands of visitors to the Venice Carnival were enjoying what could be the last year of free access for day-trippers to the historic lagoon city, before a much-debated fee comes into effect to try to curb numbers

This year's edition of the sensational Venice Carnival was a tribute to the great Venetian voyager Marco Polo. The 2024 event was titled *To the East, the Wondrous Voyage of Marco Polo*, in honour of the 700th anniversary of the explorer's death. The celebrations kicked off with the annual canal regatta of riotously colourful boats and floats.

The waterborne parade saw some 600 rowers dressed in historic attire raising their oars in salute — a gesture traditionally used by Venice's regatta rowers

to show respect — and shouting 'We are all Marco Polo'. The lavishly decorated boats journeyed along the Grand Canal from St. Mark's Square to the Rialto Bridge.

As is traditional, the 'Pantegana' float in the shape of a rat featured in the spectacular parade. The creature is seven metres long and made from papier mache.

The carnival, which traces its origins back to the Middle Ages, is known for the distinctive traditional masks worn by participants and a host of cultural events

in one of Italy's most visited cities.

This year's edition features more than 50 shows. In 2023, the carnival brought in 2 million overnight stays and 3bn Euros (\$3.25bn) of turnover, according to data from Italian artisan association CNA.

Venice, with its picturesque canals and Renaissance sites, has struggled with the effects of mass tourism for years and has introduced a trial scheme that will take effect from April 25th to try to limit the growing number of day-trippers.

Riga to set up drunk tanks for minors

Due to the large number of Latvian teenagers addicted to alcohol and drugs, there are plans to set up sobering stations for minors — as reported by the official news portal of Latvian Radio and Television

Around 850 minors ended up under the influence of intoxicating substances at Children's Clinical University Hospital (BKUS) over the past three years, about 80 percent of whom had consumed alcohol. Of these, only a few percent have been hospitalised. The others slept it off in the hospital and went home.

The situation was called worrying by BKUS chief doctor Renate Snipe, who says the problem has been rampant since the pandemic.

"Unfortunately in part of the cases they [minors] are aggressive, behaving loudly. Here [at the children's hospital], however, there is an environment for sick children, their parents. Because of them [drunk minors], an emergency service call has been unduly used and it's possible that someone else who really needs it doesn't get help because of them. Then they come to us, take our staff time, energy and mental resources. As a result, they [doctors] may focus less on the sick, young children and their mothers," Snipe said.

Meanwhile, around 200 calls were received last year by medics about minors taking drugs according to the country's Health Ministry.

The concerned management of the Riga Children's and Young People's Centre, witnessing that minors are increasingly using addictive substances and becoming victims of overdose, even turned to the Ombudsman for help.



Belarusian health tourism becoming increasingly popular in the world

Centre promoting medical tourism and recuperation in Belarus has opened in the Maldives

Sanatoriums have become a brand of Belarus' tourism due to their quantity, number of rooms and the quality of services provided. According to Director of the National Tourism Agency Dmitry Morozov, the geography of tourists who come to our country for recuperation is expanding.

"Recently, we have been contacted by representatives of the Belarusian-Maldives Cultural Centre, suggesting to develop Maldivian-Belarusian medical and recuperation tour-

ism with a focus on medical tourism. We conducted a market research, sending the first 'test' tourists for health improvement to Belarus in order to see in practice what services are provided and of what quality. As a result, we came to the conclusion that Belarus offers a good product in terms of price-quality ratio," he said.

The co-operation agreement has already been signed, with a centre opened in the Maldives informing about health services provided in Belarus.

Napping polar bear image captures hearts

An image of a napping polar bear curled up on an iceberg captured the hearts of voters to win the People's Choice category in a wildlife photography competition run by the National History Museum in the UK

Called the *Wildlife Photographer of the Year*, the competition attracted more than 50,000 entries from around the world.

The photo, called *Ice Bed*, was captured by British amateur photographer Nima Sarikhani off Norway's Svalbard Archipelago.

While on an expedition vessel, Sarikhani saw the young male polar bear climb onto the small iceberg, and using his paws, carve out a bed for himself. He took a photo of the moment the bear drifted off to sleep, according to a press release.

The photographer said it was an honour to be named the public's favourite.

"I love that this image stirs so much emotion in people," Sarikhani said in a statement. "Some find it happy and peaceful, and some find it somehow melancholic or ominous. Whilst climate change is the biggest challenge we face, I hope that this photograph also inspires hope; there is still time to fix the mess we have caused."

Ice Bed was chosen as the competition winner from a shortlist of 25 images.

More than 75,000 people voted in the competition — a record number. While the polar bear image was the winner, four others were awarded highly commended prizes.



Materials prepared with aid of information agencies

Blackmail on the nuclear level

The President of Belarus, Aleksandr Lukashenko,

"We can talk for a long time about illegal unilateral coercive measures, military provocations at the border, information sabotage, millions of dollars thrown into the preparation for failed coups — not to mention an open demonstration of the readiness to involve NATO forces to achieve this goal. Why did B-52 strategic bombers circle near the Belarusian border in August 2020? Who did they send a signal to? Not only to Belarus. It is clear to whom... I will repeat for the hundredth time — we do not threaten anyone. We simply learn the so-called diplomatic etiquette from those who have made the language of force a global trend."

From the statement at the session of the CSTO Collective Security Council, on November 23rd, 2023

By Anton Popov

The Statue of Liberty's grin

The evidence that the Pentagon decided to turn the base, located 100 kilometres northeast of London, into another point of tension on the map of Europe is indirect. The published US Air Force budget for the current year notes that a 144-bed dormitory should be built at Lakenheath 'to house the increase in enlisted personnel as the result of the potential surety mission'. In official US military documents, the word 'surety' is known to often refer to the concept of handling nuclear weapons.

The wording of the documents is carefully chosen — the Pentagon does not intend to declare its intentions ahead of time. A Pentagon spokesperson commented on the message evasively, "It is US policy to neither confirm nor deny the presence or absence of nuclear weapons in any general or specific location."

The RAF base in Suffolk is a well-known facility to Americans in terms of stationing nuclear warheads. During the Cold War, they already deployed their atomic bombs there, and removed them only in 2008. However, 15 years have passed, and the mothballed storage vaults are likely to be filled with deadly metal again.

The expansion of the American presence in the Foggy Albion also has political implications. The presence of serious American contingents in the country always implies strong pressure on its leadership, especially in crisis situations.

The United States occupies countries by deploying military bases and nuclear warheads there

Recently, the reputable broadsheet newspaper *The Telegraph* has stated, with reference to the documents from the American military department, that the USA is going to station its nuclear bombs in yet another European country. The country in question is Great Britain, where preparations are in full swing at Royal Air Force (RAF) base in Lakenheath, Suffolk County to receive special munitions and maintenance personnel.

Let us consider the case of Germany, which is literally packed with US military personnel. The remnants of the political willpower of its leadership are completely paralysed. Despite the growing indignation of its citizens, Berlin continues to strictly march in lockstep with Washington's policy, even in such sensitive issues as the incident with the Russian Nord Stream pipeline network or assistance to Ukraine.

At present, 100–150 B61 aircraft bombs of various modifications are stored at six air bases in five countries. Among these countries are Belgium (Kleine Brogel), Germany (Büchel), the Netherlands (Volkel), Italy (Ghedi and Aviano), Türkiye (Incirlik). They participate in joint NATO nuclear sharing missions. In addition, NATO conducts *Steadfast Noon* drills every autumn.

The situation with the deployment of American military bases in Europe and around the world is generally paradoxical. Washington keeps pontificating on the threat to the United States posed by Russia and China, yet there is not a single base under the Russian tricolour or the Chinese red banner in Nicaragua, Cuba or Mexico. On the contrary, US military facilities are crawling closer towards the borders of the Russian Federation and China without stopping. The sheer fact that last December, the USA consistently signed a series of agreements with the states of Northern Europe, according to which the Pentagon gained immediate access to 36 bases in Sweden, Finland and Denmark, says a lot. These facilities include airfields, training grounds, and artillery supply depots. In fact, in less than a month, Americans got their hands on an extensive network of facilities ready to receive a large military group. For example,

the distance from the Finnish Rissala Karelia Air Command Air Base to the Russian border is only 137 kilometres.

Bomb-astic danger

The Pentagon's plans to expand the area of deployment of its nuclear bombs inevitably return the discussion about the possibility of provocations from the West and the crisis of agreements on the non-proliferation of nuclear weapons. Great Britain is not the only country where WC3-type storage vaults remain and can be put in working order. Today, there are two more bases in Türkiye and Germany, as well as one base in Greece. So far, no plans have been announced as for their restoration, but given the international situation, they might well appear.

However, Polish activity on this track, especially in the public field, has decreased.

When the current Kiev regime falls apart, the title of Europe's main Russophobic nest will pass to Warsaw — for this, it is heavily pumped with weapons. Yet, Americans will not keep their nuclear weapons in a buffer state. Therefore, when US and NATO officials dismiss Polish demands, they are most likely not lying — they are not going to allow Warsaw to join joint nuclear sharing missions yet.

Some media outlets in the West are trying to artificially link the possible placement of nuclear bombs at the Lakenheath base with the return of tactical nuclear weapons [TNW] to Belarus. However, the situation in this case is the exact opposite.

The relocation of the Russian TNW to our republic became a natural response to the threat of war from NATO, as evidenced by the sanctions pressure, endless manoeuvres at our borders, and training of militants in neighbouring

countries for terrorist raids in our territory. And who threatens Britain that it needs American bombs in addition to its own 225 warheads?

Speaking of the British nuclear arsenal, it would not go amiss to mention that London is completely dependent on the United States for its filling. The fact is that after the end of the Cold War, the country refused to maintain a fleet of strategic bombers, and only left four Vanguard class submarines as nuclear weapons carriers equipped with Trident II missiles leased from Americans.

It is highly likely that Americans will deliver their upgraded B61-12 air-dropped gravity bombs to the already familiar base, as well as to other European facilities. The main B61 difference from previous modifications is that the bomb has become guided and gliding — the internal parachute has been replaced with an elongated tail kit with rudders to adjust the flight, and an inertial guidance system. This allows dropping ammunition from a great height and at a considerable distance from the target while significantly increasing its accuracy.

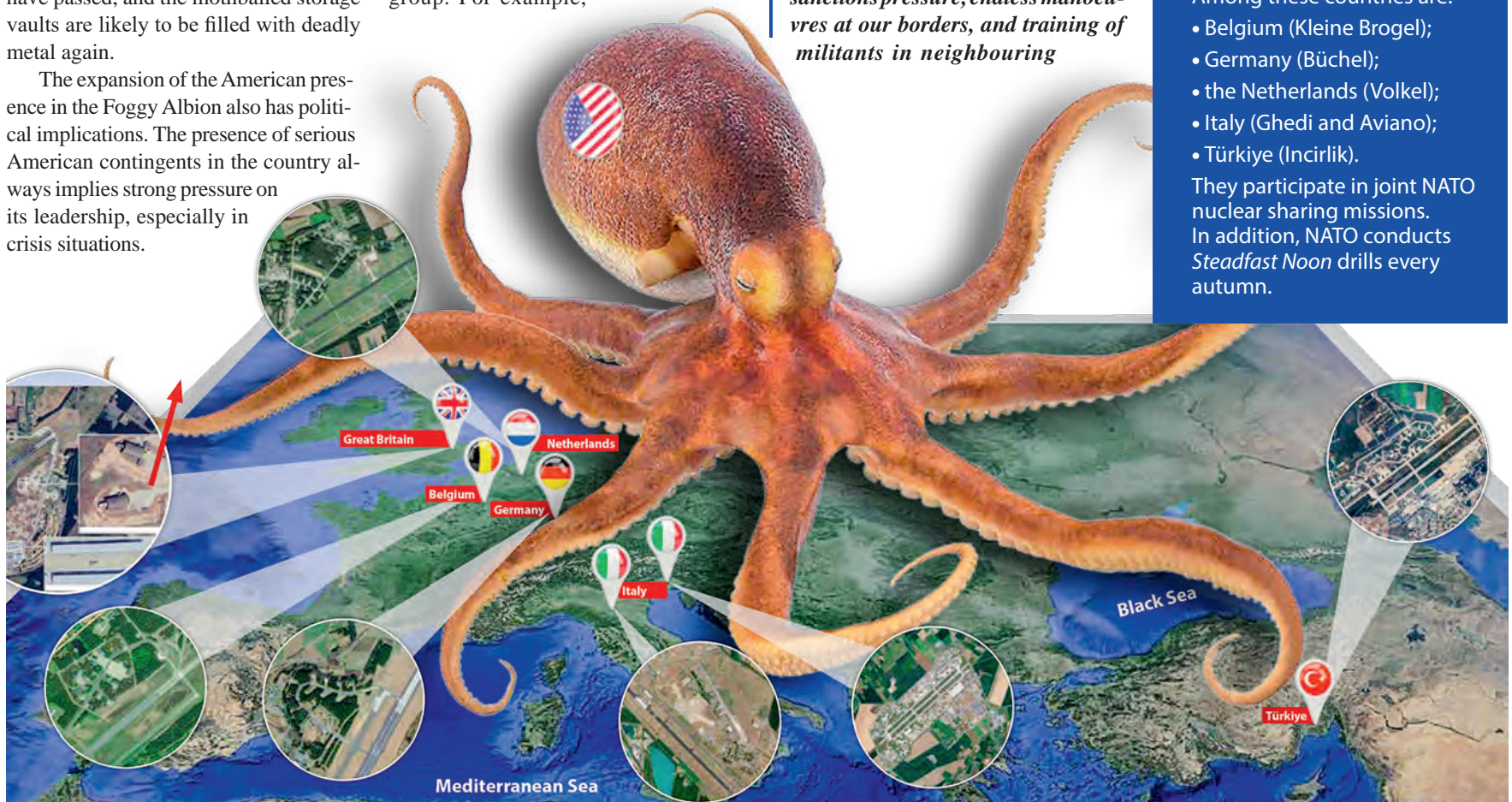
The deployment of American nukes in Britain is another step taken by the West towards military escalation in Europe. The step is unmotivated, and made for the purpose of obvious provocation. Looking at the fuss over nuclear weapons and the scale of the ongoing Steadfast Defender exercises, it has to be stated that NATO, alas, is not going to lower the degree of tension yet.

Today, 100–150 B61 aircraft bombs of various modifications are stored at six air bases in five countries.

Among these countries are:

- Belgium (Kleine Brogel);
- Germany (Büchel);
- the Netherlands (Volkel);
- Italy (Ghedi and Aviano);
- Türkiye (Incirlik).

They participate in joint NATO nuclear sharing missions. In addition, NATO conducts *Steadfast Noon* drills every autumn.





Lady's-slipper orchid



European bee-eater

Keeping in mind rare species

The current year will be decisive for shaping the direction in our country's nature protection, with a new edition of Belarus' Red Book — amended every ten years — currently under development and set to be released in 2025

A new edition of Belarus' Red Book is being prepared for publication

By Olga Prolyuk

One step away from disappearing

Preliminary lists of animals and plants in need of special protection as well as brief justifications for why they are given such a status are ready, the National Academy of Sciences stated. There are species that have long been registered in the Red Book as very rare and endangered, but new applicants for inclusion in it have appeared, too. Along with that, some species have been excluded, while a few have changed the conservation category. By the way, not only species that are no longer endangered are removed from the Red Book, but also those that have become completely extinct — the latter are included in the 'black list'. It is expected that over 180 species of plants and 210 species of animals will be included in its new edition.

The botanical picture

Arkady Skuratovich, Senior Researcher at the Laboratory of Flora and Plant Systematics at the V. F. Kuprevich Institute of Experimental Botany of the National Academy of Sciences, told us about 'plant' figures. "The main list of vascular plants proposed for protection, although increased by seven new species, in general has decreased by two taxa and will amount to 187 names instead of 189. The list of fungi previously included 34 species, but today we propose to withdraw nine species and replace them with seven species. On the whole, the list will decrease by two species and will amount to 32 taxa instead of 34. The lists of mosses and lichens will change insignificantly — the former will increase by one species (35 taxa instead of 34), the latter will increase by four species (29 taxa instead of 25). We also propose to add 22 species of algae to the new edition of the Red Book instead of 21 in the current one.

Another habitat

The innovations concern not only the Red Book list, but also, as already noted, changes in their conservation category. For example, the sand leek that is well known to Belarusian gardeners grows wild in our country on a

narrow sandy strip along the shores of the Western Dvina. As there are several hydroelectric power plants on this river, the water level has risen and the habitat of this plant has disappeared. The sand leek remained only in the very northeast, near the border with Russia. Therefore, it has been proposed to transfer its conservation status to category I.

The rationale for changing the conservation category is different for each species. For example, the lady's slipper orchid cannot grow in thick forests. Yet, modern forest planting technologies are focused on forcing treatment (competition makes trees grow faster), which makes a suitable habitat for this species disappear. In this regard, we want to transfer the lady's slipper orchid from category III to category II.

A preliminary list of vascular plants, mosses, algae, lichens and fungi, recommended for inclusion in the Red Book of Belarus, will be posted on the Internet for general information. Everyone will be able to make suggestions for its addition and modification, in which case a justification will be required.

Experts recommend adding the bog rush (*Juncus stygius* L.) to the Red Book — it was previously considered extinct, but was found in several places.

Butterflies were put at risk

As for animals, little change is expected in this regard. According to the new list, scientists recommend excluding 11 insect species while including 17, and changing the conservation status for 25 species. In addition, changing the conservation status of two species of fish, excluding one bird species while including three species, and changing the conservation status of five species is under consideration.

As for mammals, it is proposed to include one species and change the conservation status of seven.

"There were 203 species of animals in the Red Book. We propose to include 211 species in the next edition," said Maksim Koloskov, Researcher at the Scientific and Practical Centre for Biological Resources of the National Academy of Sciences of Belarus. "In particular, it is planned to exclude the stone curlew since this bird has not been registered in Belarus for a long time. Some populations, such as dragonflies and grasshoppers, will be excluded for the opposite reason — they are no longer threatened, their condition is stable, and their numbers are not falling.

As for inclusion on the Red Book list, butterflies have undergone the greatest changes here. It is planned to add 12 butterfly species to the new edition. This group is most at risk. Both in our country and in Europe, their habitats are shrinking — meadows, wetlands are overgrown, thus species are disappearing. The general problem of using pesticides has contributed to this situation. Previously, these butterflies were included on the lists of preventive protection, they were studied in detail, negative trends were discovered and today they have been included on the recommended list."

Outsiders displace

"It is proposed to increase the conservation status of a small fish, the lake minnow, from category III to category I. The species has almost disappeared in Europe,



Grey crane



Speckled ground squirrel



Bison

RED BOOK CONSERVATION CATEGORIES

- I** — the highest, taxa are endangered, there are very few of them left or their numbers are rapidly decreasing.
- II** — species have a tendency to decrease in population and/or habitat, as well as there is a forecast for deterioration in status or unfavourable international or European conservation status.
- III** — vulnerable, at risk of extinction.
- IV** — have an unfavourable tendency in the surrounding areas or depend on security measures.

including our country. It has no industrial significance due to its size and used to be quite widespread practically everywhere. The decline in numbers is easily explained — the imported invasive species of another fish, the Amur sleeper, has displaced our native one," the scientist noted.

It is planned to include the greater noctule bat in the Red Book. This species of bat was discovered about ten years ago, but it was poorly studied, and therefore it did not get into the previous edition. Today, there is enough data about it. However, the species is rare and is only encountered occasionally, mainly in large swamp forests.

Maksim Koloskov reported on the reduction of the conservation status from category III to category IV of the European bee-eater — one of the most brightly coloured birds in Europe. "In recent years, there has been an increase in its number, but it is not long-term, that is why it is too early to completely exclude this species from the Red Book of Belarus," he explained.

Bears and lynxes: Please do not disturb

Hunters will probably have to be upset — in the next decade, it will not be allowed to shoot either a brown bear or a lynx as these are not planned to be excluded from the list of Red Book animals. Nevertheless, scientists have noted the growth of their populations and changed the protection category — it will be lowered to IV, same as for the European badger. For comparison, the brown bear population was previously assigned category I. Yet, according to experts, this species is still vulnerable.

Scientists are planning to exclude 13 animal species from the Red Book, include 21 and change the conservation status of 33 species



Synchronised swimmer Vasilina Khandoshka clinched the Women Solo Free bronze at the 2024 World Aquatics Championships, held in Qatar

By Tatiana Litvinova

Among the 12 participants of the decisive stage, the Belarusian declared the most difficult programme and did not go wrong. Despite the fact that the judges gave Khandoshka low marks for artistry, the score for difficulty was the second among the finalists. Thus, Vasilina secured a bronze award by the total score. Jacqueline Simoneau from Canada became the world champion, Evangelia

Platanoti from Greece won silver. As Elena Voronova, a Russian consultant coach working with the Belarusian, told Match TV in an interview, the athlete's solo was changed just two days before the final, and what is interesting — in the remote mode, "It was sort of jest about the new system of rules and refereeing. We showed seven similar combinations, they were absolutely identical and only differed in toe bending in one direction or another. Why was it done this way?"

Vasilina Khandoshka won the first medal in the history of Belarusian synchronised swimming at the World Championships

Solo performance

The thing is that we had prepared a great solo programme, a very beautiful one, yet it was only the fifth in the preliminaries. 'Singing' legs, musicality, stunning hands... Unfortunately, no one is looking at all this now. They give points for complexity elements. So we decided, since no one needs our beautiful artistic solo, we will focus on just the technical part. Accordingly, here comes the result! Hopefully the story of this particular jest will make people reflect on the fact that a beautiful solo programme ranks fifth, whereas a purely technical programme ensures you are a medal winner. This is what synchronised swimming is heading towards now."

The award won at the World Championships in Qatar is not the first medal from the biggest starts for Vasilina. In 2021, she won bronze at the European Championships. Khandoshka also co-authored an-

other success of Belarusian synchronised swimmers. At the Olympic Games in Tokyo, performing in a duet with Daria Kulagina, they reached the final for the first time, where they took 11th place.

Now Vasilina Khandoshka is 22 years old. She has been in synchronised swimming since she was five. According to the Head coach of Belarusian National Synchronised Swimming team, Aliona Svetlichnaya, when Vasilina was a child, hardly anyone could say for sure that she would be successful in sports. Yet, due to the dedication of the athlete and serious contribution of her parents, who took their daughter to Moscow so that she could work with Russian specialists, Vasilina managed to reach the highest level. By the way, Vasilina's father proved himself in water sports in his time — he became the national champion in swimming more than once.

The coach that strikes

By Tatiana Pastushenko

A completely new tournament is about to start in Kazan — Games of the Future. Its format, phygital, is unusual. For example, in the Sports challenge (that's how the organisers call it), participants will first compete in computer games and then on real sports grounds. Four athletes will represent our country at the first Games. The guys from the Exponenta Team will play in the phygital basketball tournament, whereas Alexander Kovalev is getting ready to perform in the phygital martial arts competitions. We came over to see the fighter's training session and find out how he was getting up for the upcoming start.

Alexander Kovalev is an athlete with an interesting life story. The guy, who grew up in Mogilev, took up judo but also competed in sambo. Then, he switched to hand-to-hand combat, pankration and MMA. His work history includes a job as a physical education teacher at a village school, and his track record boasts awards at the pankration and MMA World Championships. As for the new challenge, Games of the Future, Sasha said the following, "There was an opportunity to take part, so I did not refuse it. My contract with the ASA League has ended, and Games of the Future is an interesting and promising tournament. I would like to try myself in it. Perhaps the phygital format is our future."

— **As for your combat training, everything is clear. Now, how is it going with your computer games?**

— *Until recently, poorly. I found out about Games of the Future about three months ago, and I got down to preparing. Now, I play Mortal Kombat three times a week. There are a lot of characters in this game, I chose Johnny Cage. In Mortal Kombat, same as in battles, it is impor-*

How is Alexander Kovalev — the only fighter who will represent our country in phygital martial arts — preparing for Games of the Future?

Both Alexander Kovalev and Johnny Cage hit accurately and hard



tant to feel when to strike a blow, that's why I settled on this fast and dynamic character. Johnny Cage does a lot of damage, but at the same time he punches and kicks unlike fantasy characters that use, for example, freezing techniques and so on.

— **What are Mortal Kombat training sessions like?**

— *First, they explained to me how to control the joystick better, then I studied the techniques. And now, I'm practising them during the game. In short, I'm honing my skills.*



— **Several test tournaments were held in Kazan before the start of Games of the Future. Did you have a chance to participate in them?**

— *Our guys did, but I have not performed in this format yet. Those who took part in the competitions said that it was interesting. The organisers gave a warm welcome. The level of those starts was not the same as that of the upcoming Games, though. There were no such strong fighters and high fees. In February, everything will be much more serious in Kazan.*

— **You will perform as part of a multinational team. Who else is included in it?**

— *There will be four people in it — three guys and a girl — one athlete in each of the weight categories. I know that the guys are from Switzerland and Brazil. We haven't met yet, and, in principle, the team composition is not so important to me.*

— **What kind of competition will be in your discipline?**

— *A lot of cool fighters will come to Kazan. I can't say that there are rivals that I would really like to meet, but I think there will be a lot of famous athletes at the tournament. Strong Russians are preparing, for example, Viktor Kolesnik, Timur*

Nagibin. Also, Americans and Brazilians are going to perform. So it's going to be tough. I am also preparing as much as possible — like for the World Cup.

— **You have already had Pankration and MMA World Championships in your career. And how did you get into mixed martial arts from Olympic judo?**

— *I came to judo quite late, at the age of 14. I could not achieve any great results. Probably my best result was when I took third place in sambo competitions among children under 15–16 years old. These are related sports, so I managed to combine. In judo, I won second and third places at regional competitions, but did not get into the top three at the republican ones. I have a judo friend. He finished his career, served in the government authorities and decided to open a club. So I joined it and started practising hand-to-hand combat, pankration, and a year later I began to take prizes. Probably, the reason why I liked it was because it started to work out — I was behind the rest in judo for four years, but things were going much better in mixed martial arts.*

— **At the same time, you studied at a pedagogical university and even managed to work in your specialty...**

— *Yes, I graduated from the Mogilev State A. Kuleshov University. I was assigned to the village of Bolshie Bortniki in Bobruisk district. I worked there, coached the guys, and trained myself at the same time. There was a good school in Bobruisk where I practised. Then, I took second place at the Pankration World Championship and I was reassigned to Minsk — now I train at the MMA Academy.*

— **How do you manage to combine work and training now?**

— *While I'm preparing for the competition, I spend a little less time coaching. Now I have two workouts a day, in the morning and in the evening, plus preparation for a computer game. So far, Games of the Future is a top priority for me. I'm flying to Kazan on February 17th. There will be a few more days before the start. It's interesting to see what kind of project it is. It may be a promising direction, worth participating in the future.*



Yelizaveta Kobetskaya

Photo of the week

The Naliboksky Republican Landscape Reserve is one of Belarus' largest nature protection areas, being home to about 50 Red Book animal species. Until recently, it was the country's only place where wild tarpan-like horses live.

DATES. EVENTS. PEOPLE.



February 8th, 1834 marks the birthday of Dmitri Mendeleev (1834–1907), a world-famous Russian chemist, corresponding

member at the St. Petersburg Academy of Sciences, professor at St. Petersburg University. He discovered one of the basic laws of natural science — the law of periodic dependence of chemical elements properties on their atomic masses. He is the author of over 500 printed works, including the classic *The Principles of Chemistry*, the first coherent exposition of inorganic chemistry.

February 9th is World Pizza Day.

Few products have gained such popularity as pizza. This seemingly simple Italian national dish, which is a thin flatbread topped with tomato paste, olive oil, tomato, mozzarella cheese and basil, won the hearts of billions of people all over the world. Harmoniously matched topping options determine the variety of types of pizza.



February 9th, 1895 is volleyball birthday.

American William Morgan came up with a new team ball game by mixing the elements of basketball, baseball and handball.



The essence of the game was to throw the ball over a stretched net. In a short period of time, this game became a mass entertainment for a wide range of people, and later turned into a modern and popular sport. Today, volleyball is an Olympic sport.

February 10th is World Legumes Day.

The most famous of them are peas, beans and lentils. Legumes are key ingredients for main dishes and make an integral part of cuisines around the world. Having a high nutritional value, these crops contribute to solving the problems of hunger in certain regions of the world, while their inclusion in a regular diet has a positive effect on human health.



February 10th, 1636 is considered the birthday of the iron. The first documentary mention of an iron was found in the book of expenses of the Russian royal court. The mentioned and described iron belonged to the simplest heating type. It weighed about 10kg and was monolithic. Then charcoal irons appeared, which had a hinged lid to load coal. There were also alcohol irons resembling a kerosene lamp. With the advent of electricity and the development of technology, electric irons were invented.



On February 11th, 1959, the first performance took place in the new building of the State Circus in Minsk. This date is considered the birthday of the contemporary Belarusian circus. Circus art has been known in the world since ancient times. It is associated with labour processes, religious rituals, folk festivals, the obligatory attributes of which were a demonstration of strength, dexterity and courage. All of this became a basis for the formation of circus art.



On February 11–12th, 2009, the first heart transplant operation in Belarus was performed on the basis of the Republican Scientific and Practical Centre for Cardiology. The main heart surgeon of Belarus, Yuri Ostrovsky was in charge of the operation. In 2022, the 500th heart transplant operation was made in Belarus.



On February 12th, 1809, Charles Darwin (1809–1882), an English naturalist, the author of the first scientific theory of biological evolution, was born. In his main work *On the Origin of Species by Means of Natural Selection*, published on November 24th,

1859, he substantiated the theory of organic evolution (Darwinism). The International Day of Science and Humanism is celebrated on his birthday.



February 12th, 2009 is the day when scientists of the Physical Technical Institute of the National Academy of Sciences announced the development of the first unmanned aviation complex in Belarus based on an ultralight unmanned aerial vehicle (UAV) designed for video monitoring of terrain and objects. The novelty weighed only 2.2 kg and flew in autonomous mode at the speed of over 60 km/h over distances of up to 20 km. It is multifunctional.



On February 13th, 1824, the *Belarusian Archive of Ancient Charters* was published in Moscow — the first collection of documents on the history of Belarusian lands. The 57 documents (acts) included in the collection testify to political ties. Many of them reflect the activities of princes and feudal lords aimed at supporting and strengthening the Orthodox Church in Belarus. There are documents on the development of Belarusian cities and trade, the formation of urban estates.

