POLITYKA INSIGHT | RESEARCH

National Champions

HOW THEY PROTECT US

2022 edition

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POLITYKA INSIGHT

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●	Daniel Obajtek	Tomasz Zdzikot	Tomasz Hinc	Jacek Michalak	Adam Góral
○	Płock	Lubin	Tarnów	Wrocław	Rzeszów
✖	35,424	34,286	15,673	2,140	30,374
◆	23,588	16,684	3,673	394	8,617
○	10.5	12.8	2.7	9.3	2.5
✸	45%	74%	50%	76%	88%
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✖	31,916	5,789	2,975	2,282	5,435
◆	7,855	1,360	2,056	202	1,293
○	6.0	12.5	17.6	6.4	10.9
✸	56%	27%	64%	38%	49%
⬢	Mining of hard coal	Manufacture of pharmaceutical preparations	Manufacture of synthetic rubber in primary forms	Manufacture of pharmaceutical preparations	Lead, zinc and tin production
⬡	4	5	8	6	15

Introduction

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Polityka Insight

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Polityka Insight

The COVID-19 pandemic and the war in Ukraine opened a new chapter in Polish politics, especially as regards the attitude to strategic businesses whose significance for the economy and society is major - these entities are known as national champions. The events of the previous few years changed the perception of national champions, who are no longer seen only as the constructors of the national economy, innovators or employers, but also as companies that help ensure national security in all areas and sectors, from defence, through energy security and cybersecurity, to such aspects as financial, health and food security.
The shift in attitude can also be seen in the transformation of the public discourse within the EU on the role of multinational companies – the narrative has changed from "whether capital has a nationality" to "how to use the capital to ensure the security of people and the state."

The war in Ukraine has rendered another, more complex meaning to the term "security." For the past three decades Western countries, i.e. those associated with NATO or the European Union, saw war as a distant threat, and security was analysed mainly about economic, and demographic challenges and crises related to migration and internal affairs. Military threats were rather linked to terrorism and the unstable situation in African states, in the Middle East and Central Asia. Russian aggression aimed at Ukraine has changed all this.

Apart from aiming at military victory, Russia opted for crimes against civilians and destroying public facilities, such as nuclear power plant installations. Civilians were killed in Bucha or Irpin, and Ukrainian cities and villages were destroyed. Russia also threatened to use nuclear warheads, and the occupation of nuclear power plants was supposed to intimidate Europeans - and it did. The people from eastern Europe, especially Estonia, Latvia and Poland, believe that unless Russia is defeated in this conflict, their countries will become the next target for the aggressor. This belief drove the people to sympathise with and help those who fled from Ukraine, and it still drives our state to focus on improving security, increasing expenditures on defence, and introducing military reasoning to political decisions and social attitudes.

The war in Ukraine is both the background and the impulse that incites changes in the global security balance. A "western bloc" is being shaped - an alliance of states that decide to build their cooperation on democratic values and on good relationships with the USA - the country that stands behind the creation of the abovementioned bloc. We are also witnessing the establishment of an "eastern bloc", based on the cooperation of China and Russia with a number of dictatorships (such as North Korea, Iran or Venezuela), yet devoid of any underlying ideology. This alliance is powered by the increasing presence and strength of China in Asia. Diplomatic and economic strife is going on, aimed at persuading the countries that are not engaged in the ongoing conflict, such as Brazil, India, and South Africa, to join one of the alliances.

In 2022 NATO adopted a new strategy - America brought its military forces back to Europe, while China confronted the US about Taiwan more decidedly. Europe has given up the discourse of "strategic autonomy" understood as an alternative to the US presence on the Old Continent. Europe once again looks to the USA for defence and stability.

The war has also become an economic conflict, which involves even the previously neutral states and multinational corporations. Sanctions imposed on Russia by the West have made it clear to those states or multinationals that were seemingly uninvolved in the conflict that their own economic relations also rely on the political situation and are closely linked to the war. That's how capital regained its nationality and was identified with one of the parties to the global strife for Ukraine. Capital flows are regulated by politics, which is contrary to the decade-long belief that companies can function in a global environment independently of national politics.

The war in Ukraine also impacts national champions. The conflict is perceived as an impulse for boosting armaments and as another face of the pandemic economic and energy crisis. The plans and ambitions of several European countries, such as Germany or Poland, to increase expenditure on armaments in the next decade will impact both European integration and the economic decisions of companies, including national champions. These companies have a major part in the creation and protection of critical infrastructure, in providing supplies to the public in times of crisis, and in obtaining resources when supply chains are broken or blocked.

As a result of the Russian aggression on Ukraine a capital regained its nationality and was identified with one of the parties to the global strife for Ukraine.

The war ended the period when food was readily available to everyone. It became clear that the abundance of grain or fertilizers resulted from the easy and general access to Ukrainian and Russian resources, all of which were suddenly blocked during the war. Some food products have thus become critical resources. Food businesses in Russia may be closed down within few weeks in response to the public moral outrage or following the decisions made by Western political leaders. During the pandemic and the war, the states realised how important it is to be able to respond in a critical situation. They understand they need an autonomous infrastructure and their own ammunition in store, as well as armaments, technology and control over the information flow. Cyber-attacks, information warfare, digital identity hijacking, and propaganda fight in social media (disruptive technologies) have all become increasingly significant for national defence. What matters now is national resilience to those methods and the ability to build a strong, powerful state.

The EU is consolidating its assertiveness. In the early years of this millennium, the increasing global competition produced a lot of doubt about the market-oriented approach of the EU. On the one hand, the focus was on European businesses dealing with advanced technologies, the main concern being their poor progress when compared to their global rivals, especially those from the USA. On the other hand, the success of Airbus – the European counterpart of the American Boeing – was soon used as an argument for targeted support for strategic sectors and major technological initiatives. The European Commission, which is supposed to oversee the competitiveness and openness of the EU market, was still reluctant to relax the regulations. In Brussels, the prevalent belief was that supporting corporations from powerful countries is done at the expense of smaller economies and consumers because concentration on the market usually leads to higher prices. France and Germany were in favour of supporting large corporations - no wonder, the number of national champions in these countries is impressive.

The pandemic was a game-changer in this respect. When speaking of turning points in the history of European protectionism, we have to mention the exit of market-oriented Great Britain from the European Union, and the rejection of the merger between French Alstom and German Siemens by the European Commission in 2019. Paris and Berlin believed this move would make it impossible to create a European railway champion, which could compete with China, also in the European market. Although some of the Commissioners from the European Commission were sceptical, as well as some smaller states from among the original fifteen members of the European Union, the arguments presented by Germany and France were accepted by Poland and Italy. As a result, amendments were introduced in the national regulations of some member states, but the new industrial strategy proposed by the European Commission still fails to address the need to amend the competition rules.

It was only the pandemic that brought about a change in the EU policy, when also smaller states realised that strategic sectors are important to ensure an efficient response in the event of a crisis. The pandemic also revealed to what extent Europe relies on global supply chains. In the industrial strategy verified in 2021 Brussels adopted a new approach, whereby it reconciled the countries that wished to strengthen industry with those that favoured greater openness. The European Commission focused on protecting European industry from unfair competition from the outside. The objective was to extend the rules of the EU market to third parties, especially those that build their advantage in Europe thanks to the support of their national governments. Such entities would be excluded from takeovers and public tenders in the EU. This measure also favours European industry, which is free to compete in a more transparent environment.

Europe will now focus on protecting strategic sectors. Although in the past the debate on economic champions focused on their global position in an increasingly competitive environment, in the future EU is planning to prioritise the security and protection of strategic sectors, which have now gained a broader definition and include branches of key economic importance (e.g. German automotive sector affected by high energy prices). Europe will now focus on combating unfair competition from third countries and on ensuring perspectives for the growth of the European industry by defining and eliminating global risks and threats. This was explicitly proved by the President of the European Commission, in her State of the Union address delivered on 14th September 2022. Ursula von der Leyen announced that a policy will be introduced for the European Union to stop relying on China for rare earth metals and lithium. This will essentially mean that the role of the "European champions" will grow in the strategic sectors, important for all the member states.

In this report, we will present how the role of Polish national champions has changed as regards ensuring security in the six key areas, and how the state affected the largest companies to stimulate their growth in the desired direction.

Military security

Marek Świerczyński
Head of Security and International Affairs Desk
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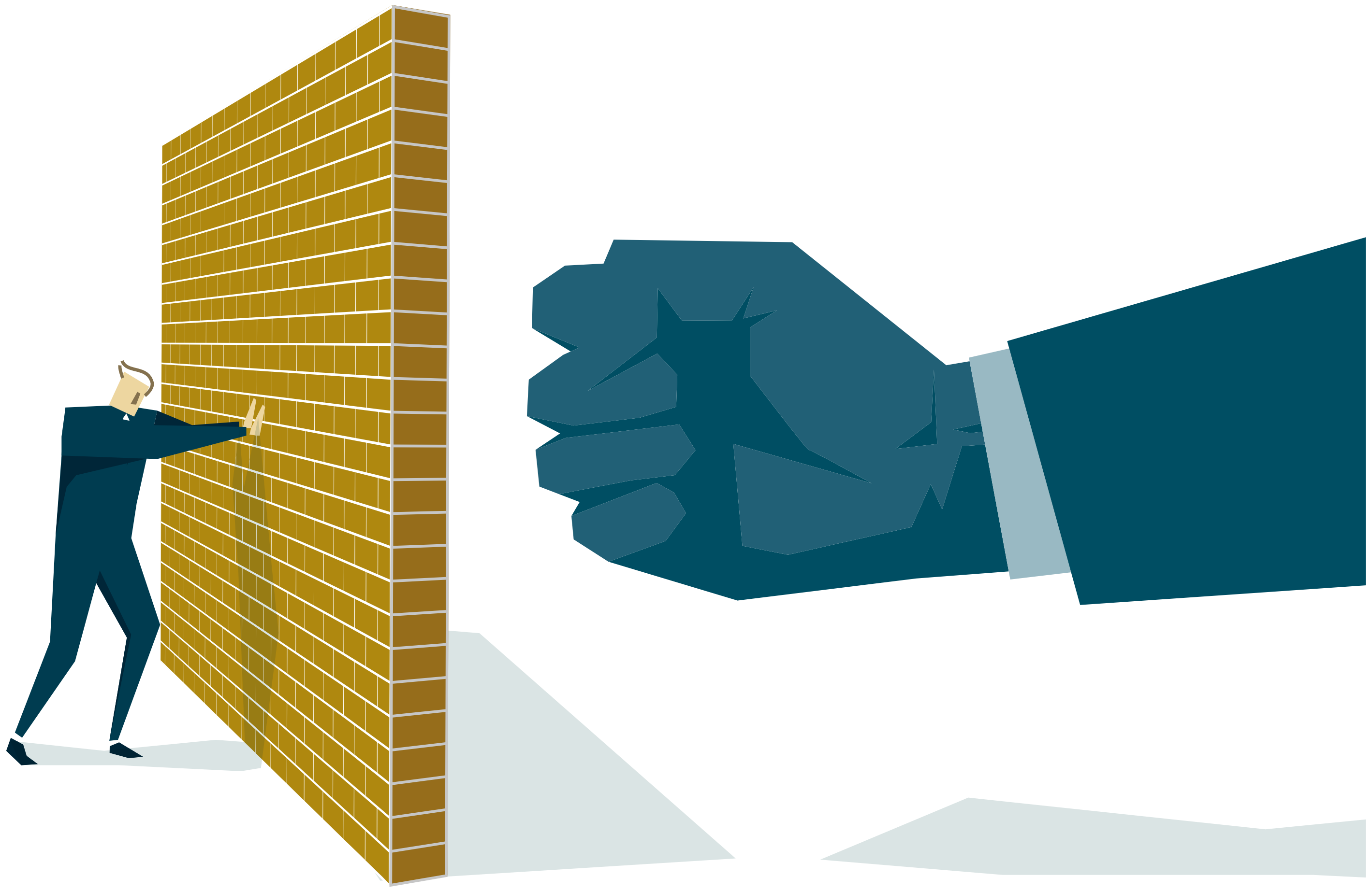
The war in Ukraine has triggered unprecedented amounts of funds for armaments along with the determination to procure new military equipment as soon as possible. The years ahead will be a time of abundance for the defence industry, but its long-term growth will only be possible if the armament process involves new investment and research projects and an extension of the existing production infrastructure.

24 February 2022 will be remembered as a symbolic date, a turning point, but not the origin of the security crisis in the eastern borderlands of Europe. The region dubbed as NATO's eastern flank and the region's key player, Poland, have realised for a few years that taking a serious approach to its own and collective defence is inevitable. The defence awakening, resulting in the military getting attention in public debate, could be noticed at least in 2016, which was only some time after Russia invaded Ukraine. However, it was last year that made a difference, with an accumulation of events: the first signs of an upcoming invasion of Ukraine, an attack on Poland's eastern border with instructions from Minsk and Moscow, the hostility of Russia's and Belarus's military strategic exercises after Putin's army and aggressive ideology „peacefully" took control of Poland's eastern neighbour. A crucial point in understanding the investment challenges raised by the growing geopolitical risk was a resumption of harmonious relations between Poland and the United States. It is not clear whether Polish leaders were told by their US counterparts that Europe and Poland should stand against Russia independently if the US had a more serious problem with China elsewhere in the world. It is, however, a fact that Polish politicians in Warsaw needed a few months to change their approach to defence and armament: a take-it-easy plan to modernise the Polish army was replaced with a procurement „avalanche", and what had previously been a gradual expansion of Poland's military forces was supplanted by a vision of an army more than double its present size. The basis for the change was a law passed by Parliament unanimously to raise Poland's defence spending to at least 3 per cent of the country's GDP and to set up an additional mechanism for funding the modernisation process. This will mean nearly PLN 140 billion in spending on defence and military equipment in 2023. The change was announced personally by the ruling party's top politician, Jarosław Kaczyński, head of the Law & Justice Party. The new approach was given the form of a directive to be followed by Mariusz Błaszczak, a deputy prime minister and the head of the defence ministry, which is a government department actually independent of the rest of the Cabinet.

In just a few months the Polish government changed their approach to defence and armament: a take-it-easy plan to modernise the Polish army was replaced with a procurement „avalanche".

This avalanche has engulfed what until recently was a slow, meandering stream of defence projects planned a decade ago and carried out more or less as planned until today. Poland's 2012 „technical modernisation plan" has been revised a few times already (it is now revised on an ongoing basis but in secret), but **the pillars of the plan are strong: an integrated air defence system, unmanned aerial vehicles, helicopters, frigates, field command systems, and modern artillery, including rocket launchers.** The development of military technology and the requirements of the military were correctly foreseen, and Poland is gradually building truly modern, network-centered armed forces with the capacity to detect and strike targets at increasing distances, with greater precision and operational stealth. A second area is the procurement policy, affected by the Law & Justice Party's defence vision: from the fast-track process leading to the decision to purchase F-35 multirole combat aircraft, through the Turkish Bayraktar drones, to new Abrams tanks ordered by Poland, riding on the wave of a rapprochement between Poland and the US. A third defence area, and the most noticeable one today, is the intervention purchasing policy based on the need to replace post-Soviet equipment with Western armaments quickly so that the resources no longer used by Poland could be given away to Ukraine, as well as to increase the quality and quantity of Poland's weapons to build a stronger army. This purchasing policy involves a so-called Korean package, which includes, according to the Polish defence ministry, delivery of 1,000 tanks and 700 howitzers. These are numbers unseen in European procurement lists for decades. This is to be supplemented with 116 used Abrams tanks and 48 (also) Korean aircraft, although these numbers are not shocking. Even a quick look at procurement lists raises the question: **who is the champion?**



With a long-term plan underway, a push for change imposed by the Law & Justice Party and the latest „wartime" expansion, **the different areas of the modernisation of Poland's arm have their champions.** The old technical modernisation plan involved mainly equipment and armaments which had to be designed and developed or which were unavailable otherwise than by importing them (such as manoeuvrable missiles or interceptors for air defence systems). The funds in that were therefore divided between purchases from Polish and international suppliers, in varying proportions. The money was spent sometimes on R&D work and sometimes on upgrade projects, which often involved Western partners, and sometimes on ready-to-use, off-the-shelf equipment. Particularly significant for Poland's national industrial defence potential system were long-term programmes (Regina, Poprad, Pilica), usually with generous funding. They created a multi-part armament system, not a particular component. Projects that helped develop cooperation with partners with better technology and better organisation included ones that involved upgrading Western technology in Poland (Leopard 2PL) or Polish companies importing equipment to Poland (the Wisła programme). If a company was successful in its own projects, it was usually successful in international ones. No-one was therefore surprised to see players such as HSW, PIT-Radwar or PCO succeed.

The contracts for F-35 aircraft (2020), HIMARS launchers (2019) and Abrams tanks (announced in 2021, a contract signed in 2022), which defence minister Mariusz Błaszczak likes to mention, all mean billions of US dollars flowing to US companies through the USA administration and the FMS (Foreign Military Sales) programme. The greatest champion in this military modernisation area is Lockhead Martin, which has raked in a total of over US 10 billion under various contracts. However, a huge contract for tanks placed General Dynamics, a company with no presence in Poland before, in second place, with its USD 4.7 billion. Raytheon, which spent more than a decade trying to find its way to the Polish market, had to settle for about USD 2bn from what was known as the first phase of the Wisła programme, expecting more in the second phase, but it will have to wait six more months to sign a contract. All these US rivals could be outperformed by Boeing, whose efforts in recent years brought it a request (LoR) for a quotation for the supply of 96 AH-64 Apache attack helicopters to Poland, which may turn into a deal worth USD 12bn. The Korean package is valued at PLN 33.4bn for land weapons (212 howitzers and 180 tanks). However, the bill for forty-eight FA-50 aircraft will total over USD 3bn, and this is not the final bill: the aircraft will need armaments. The contracts with Korea will make Hanwha Defense, Hyundai Rotem and Korean Aerospace Industries new champions in Poland's armaments industry. It is, however, uncertain what the value of the contract for 500 HIMARS rocket launchers from Lockhead will be. It is unofficially valued at PLN 50bn.

The money flowing from various contracts to PGZ (Polish Armaments Group) may seem modest compared to the funds paid to non-Polish producers. The largest single contract is still the 2016 contract for the Regina system (Krab gun-howitzers with vehicles and equipment), which is worth PLN 4.6bn. This slow-moving modernisation programme has only in recent years began to be a source of regular income for PGZ, in excess of PLN 5bn annually. The funds flowing from this programme are not allocated equally among the PGZ companies, and the conglomerate (PGZ is not a single company or a holding company) lacks balancing measures, as each company in the conglomerate is making its own profit. This allocation has not been improved by the shipbuilding industry, with no contracts for combat ships (minehunters and tugboats were not enough), and the lack of the defence ministry's clear policy made it difficult for companies tasked with repairing Soviet equipment to plan their development pathways. Exports are marginal for PGZ, although the company's products are attractive to customers in many markets.

Large framework agreements signed in 2021 (for the Narew air defence system and Miecznik frigates) are the first contracts paving the way for Polish defence champions to be competitive internationally. Both agreements are intended to supply Poland by the end of the decade with weapons that Poland has never had. Such weapons will be supplied by rocket or ship technology manufacturers. Tens or hundreds of billions (PLN) will be spent under the agreements, which allows for making development plans for at least 10 years ahead. The war in Ukraine and the booming armaments market gave a new impetus to PGZ on the one hand, as the defence ministry began to place large orders for ammunition and Piorun anti-aircraft missiles, but created the risk of large imports, not only from Korea, on the other. Accustomed to a slow military modernisation plan spread over many years, PGZ companies are facing market demand levels they are unable to meet. The power of inertia is greater than emotions: it is easier for politicians to change their thinking than it is to build a howitzer factory. However, PGZ, a champion working its way up, has been promised that once the off-the-shelf purchasing is complete, Korean equipment will be made in Poland. It is unknown who is going to shoulder the burden of the necessary expenditure. The warfare avalanche is, therefore, a future risk factor.

In the long run the real champion will be the one that will use the additional funding to develop innovative products that will work well for generations.

Things are easier for those producers which are more flexible, have a product that can be trusted and a fast-working production system for smaller equipment. **The unquestionable champion in Poland's private armaments sector is the WB Group.** It is better known as a manufacturer of unmanned aerial vehicles, less as a producer of command and communication systems, but it has tapped into both market niches perfectly. In Ukraine, Krab gun-howitzers would not hit targets as precisely as they do without the Topaz combat management system or the FlyEye reconnaissance drone. Nearly every new vehicle today is equipped with the Fonet positioning and communication system, while subunits and individual soldiers communicate by means of radios made by Radmor, now owned by WB. The Warmate and Gladius suicide drones will create an innovative attack system within NATO, for which the Polish defence ministry has paid PLN 2bn in the largest contract ever awarded by Poland to a private company. WB's relationship with PGZ (and with the Stalowa Wola foundry) is symbiotic, and the Polish Development Fund's 24 per cent share in PGZ proves that the Polish Treasury is keeping an eye on what this independent champion is doing.

A time of abundance in the defence El Dorado, with the procurement avalanche, is round the corner, but it is the non-Polish champions that will find their way to it faster. It will take 10-15 years before Poland's military equipment is modernised, new equipment is added and the Polish army is expanded. Perhaps Poland's national industrial defence potential system will once benefit from that on a large scale, less the cost of changes. However, production for the Polish army will create temporary champions only. **The real champion will be the one that will use the additional funding to develop innovative products that will work well for generations.** It is not a matter of new factories, but of developing R&D facilities, a new generation of engineers and innovation that reaches far beyond howitzers and tanks.

Energy security

Robert Tomaszewski
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Polityka Insight

The war in Ukraine will strengthen the Polish government's capital control of the strategic sectors of the Polish economy. This will increase the country's energy security on the one hand, but will slow down the transition towards the production and use of electricity from sustainable sources.

For the last 20 years, decarbonisation has been the key factor defining the process of change in the energy reality of Europe and the world. The shift from fossil fuels has become a trend that has taken a global dimension following the 2015 Paris agreement on climate change. Russia's invasion of Ukraine has disrupted this reality and revealed the great reliance of the growth of European countries, and in Germany in particular, on access to Russian resources.

The war has led to the inflation of the prices of energy source materials and has forced Europe to focus on efforts to ensure energy security. As a result, the work to liberalise energy markets has been discontinued indefinitely and much emphasis has been placed on government intervention policies designed mainly to keep the rise in energy prices under control, to protect the interests of vulnerable customers and to save jobs. The policy also intends to prevent an increase in unemployment and to help key energy suppliers stay afloat.

As outdoor temperatures fall and demand for energy grows, the increasing radicalism of government intervention will be tolerated. More and more European governments are already taking extraordinary measures. The UK has frozen its energy prices for households, and France hopes to buy back EDF, the largest producer of nuclear energy, which has been struggling with a wave of reactor malfunctions, while Germany is gearing up to take over Uniper, the country's main gas supplier. Germany has also prepared a EUR 200bn package designed to freeze the prices of gas and electricity, which has created much controversy in other EU countries – the size of the package means that Germany's businesses might receive preferential treatment, which might lead to a distortion of competition and a breakdown of the European energy market.

State-owned companies in Poland control 88 per cent of gas sales, 77 per cent of electricity generation and as much as 92 per cent of petrol production.

As for Poland, the energy crisis may strengthen the Polish government's capital control of the strategic sectors of the Polish economy, and the electric power industry in particular. Treasury-owned companies control 88 per cent of gas sales, 77 per cent of electricity generation, 92 per cent of petrol production and 56 per cent of diesel production. This is the result of Poland's energy policy over the last three decades.

The Polish government has been reluctant to surrender its ownership interests in the electric power and fuel industries, in fear of foreign investors (especially from the East) taking more control, which was seen as a risk to Poland's strategic infrastructure. For this reason, the privatisation processes launched in the 1990s were gradually abandoned as soon as in the following decade. Gazprom's recent manipulation in the EU gas market shows that it was the right thing to do. A departure from the general policy was the decision to sell part of the assets of Lotos, including (and in particular) a 30-per-cent-stake in the Gdańsk refinery.

The decision was made in mid-2020, as one of the conditions of the European Commission's approval of the merger of Orlen and Lotos. In this case, the Polish government was less interested in keeping control of the critical infrastructure than it was in building a large group of companies with the capacity to increase the scale of its investment in Poland (especially the energy transition process) and to expand internationally.

Polish Treasury-owned companies are often treated as ‚corporate arm' of the government administration. During the Covid-19 pandemic, state-owned companies were used to import medical equipment. In the same way, during the ongoing energy crisis, such companies are instructed by the government to buy coal for use by households and heat for others. However, the green light to go ahead with government intervention measures and the need to keep energy price rises under control may cause the situation to get out of control.

This loss of control may be the risk of a break-up of the free energy market, which may be sparked off by the decision to release power producers from the obligation to sell their electricity through the Polish power exchange (TGE). Power producers, especially state-owned power stations, were until recently required by law to sell their electric power through the power exchange. The decision allows more electricity to be traded in within state-owned corporate groups. This will make the market less transparent and push private companies out of the market. Electricity prices can be controlled more easily through public intervention. This may bring prices down, but they will no longer be a reliable indicator of how the economy is going.

Faced with insufficient gas supplies, coal-fired power stations will have to work much longer to prevent the risk of blackouts.

Poland's energy sector may come to a standstill in the decarbonisation process. Faced with insufficient gas supplies, coal-fired power stations will have to work much longer to prevent the risk of blackouts. The old coal-fired plants (the average age of a Polish power station is 47 years) will need major repairs if they are to continue working. As a result, the state-owned companies, namely PGE, Tauron and Enea, may be unable to achieve the goal of transferring, by the end of 2022, their coal assets to a new entity, the National Agency for Energy Security (NABE). The idea behind the transfer was to accelerate investment in renewable energy sources. However, it may become impossible to go forward with ownership changes at the power making companies, which are earning record-high profits with the current prices of electricity.

At a time when the free energy market is falling apart and the decarbonisation process is slowing down, a gap will be created to be filled by **companies developing their own power sources.** Businesses are increasingly interested in reducing both the risks that come with rising energy prices and their carbon footprint. The same holds true for households, which have spent large amounts of money on micro-sized solar panel systems. As a result, the number of electricity prosumers in Poland has increased from 5,000 in 2015 to more than 1.1 million today.

The largest companies will be working to develop a technology for small nuclear reactors. The construction of such units is planned by Orlen and KGHM, as well as private companies, such as Synthos, ZE PAK and Ciech. Small companies will be developing their own renewable energy sources or rely on long-term arrangements with green energy producers to purchase such energy directly from them.

The situation will be different for Polish refineries and the entire oil and gas sector, which is to be consolidated under the capital umbrella of Orlen. **Following the acquisition of Energa, Lotos and PGNiG, the Płock-based group (Orlen) will become one of the largest fuel-and-energy players in Central Europe.** Orlen's total revenue (Lotos included) will come close to PLN 200bn (or EUR 43bn), a figure similar to that of Italy's giant Eni. Orlen will be a stronger player in negotiating the terms of contracts for the supply of oil or gas, and its capacity to finance the energy transition process will improve.

It will also be the company with the greatest responsibility for Poland's energy security (as for now this can be read in the articles of PGNiG, but not in the articles of Orlen), and this means that Orlen will be allowed to take measures that may produce losses if this is required for the sake of Poland's national interest. The Płock-based group will have the capital resources to accelerate the energy transition and to expand its operations internationally, although this will mean side-lining private market players, which will stifle competition in the markets for fuels and energy.

The energy crisis means new challenges for the governments of EU members and for the EU as a whole. In particular, **they will have to keep energy price rises under control as a way to prevent the collapse of their economies, as this could lead to social unrests.** Too much radicalism in the measures taken by EU governments, without appropriate EU-level coordination, may cause a break-up of the EU energy market. The temptation to control the energy market through government intervention measures may cause public debt to explode, while it is already high as a result of the Covid-19 pandemic.

At the same time, the energy crisis will create new opportunities. **With the prices of gas and electricity growing, people are cutting down on their use of electricity, public awareness of the problem is increasing and measures are taken for higher energy efficiency.** Furthermore, the government's expansion into the energy sector may facilitate and accelerate projects that would be infeasible under normal market and regulatory conditions. The relaxation of the EU's state aid policy may encourage EU members to expand their capital-intensive power infrastructure: power transmission networks or new nuclear power stations.

Financial market security

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Polish businesses rely on bank loans. Nearly all Treasury-dependent institutions, with the Polish Development Fund and Bank Gospodarstwa Krajowego (BGK) at the forefront, are playing a major role in helping Polish businesses overcome the crisis.

The Covid-19 pandemic and Russia's invasion of Ukraine have undermined the stability of the business environment in Poland. In 2020 and 2021, Polish businesses operating in the tourism, entertainment and food service sectors had to suspend their operations, while their customers struggled to pay their bills when due. In 2022, exporters to Ukraine, Belarus and Russia were cut off their markets. Yet others had to put their long-term investment projects on hold amid the serious geopolitical uncertainty, while inflation driven by the war in Ukraine left businesses struggling with an unprecedented increase in their operating expenses.

These problems alone led many organisations to the verge of bankruptcy. Some managed to stay afloat with government support available through a number of measures, including an anti-crisis shield, a financial shield (delivered by the Polish Development Fund) or an anti-inflation shield. However, when this support was stopped or limited, businesses had to face challenges in securing funds for their operations. **Rising interest rates have made it harder to get bank loans, while a downturn in the stock market and reluctance among investors virtually prevented companies from issuing shares and bonds at prices they would find attractive.** As was the case in 2008, the financial sector again became the pivot that may both create and fuel a crisis and play a major role in tackling the ongoing problems.

The financial sector again became the pivot that may both create and fuel a crisis and play a major role in tackling the ongoing problems.

Medium-sized and large enterprises in Poland, as well as in most European markets, rely mainly on bank money, and banks readily provide financing to them. Firstly, large companies are more creditworthy and make regular loan repayments. Secondly, bank loans, especially business investment loans, are long-term products, and this allows banks to develop business relationships with their clients and to offer them other products, such as leases, factoring services, revolving credit facilities, letters of credit, insurance, as well as pension plans for employees.

According to the National Bank of Poland, **banks provided a total of PLN 111bn in loans to non-financial organisations from January to July 2022, up by 44 per cent compared to the same period of last year.** An even higher increase, by 128 per cent, was seen in EUR bank lending, to nearly EUR 7bn. The interest rates on bank loans have risen considerably, to 8.7 per cent per annum for PLN loans and 2.2 per cent per annum for EUR loans. However, these figures are driven by large companies and revolving credit facilities. The number of investment projects has fallen significantly, and small companies often have no creditworthiness, because they have not been doing business long enough or have no regular income. As a result, bank products are either unavailable to them or only one or two banks are ready to support them.

This has led to the situation where financing costs are becoming an increasing part of the money originally earmarked for capex. **It may appear that an investment project that was profitable a year or two years ago is not such today due to the cost of financing.** This, in turn, has an impact on the entire economy and makes Polish exporters less competitive, while diminishing the potential of Polish enterprises: with no capex in their pockets, they cannot increase their market shares, improve their production efficiency or launch new products or services.

Small enterprises are struggling, as they have to fork out on financing costs more than their bigger competitors. And this gap is expanding. As a result, the barriers to entry to particular markets are growing, and markets are becoming less innovative: small enterprises lack the money to develop new products or services or it takes them a long time to reach out to potential investors and make them interested in their ideas or growth visions. This consolidates the dominant position of large enterprises at the expense of, for example, customers.

Poland's major providers of support for businesses are Treasury-controlled institutions, with the Polish Development Fund at the forefront. It is the Polish Development Fund that paid support money to businesses affected by the Covid-19 pandemic. Payments in the first edition of the Fund's support scheme were made to more than 347 thousand enterprises with a total of 3.2m employees. They were paid PLN 60.5bn in aggregate. If they meet specific conditions, some of the funding may be cancelled to bring relief to the businesses. Faced with the second wave of the pandemic, the Polish Development Fund launched its financial shield 2.0, which offered support to 40 industries. The Polish Development Fund said a year ago that they had paid PLN 7.13bn in support for 47.6 thousand enterprises, with 315.6 thousand employees.

The Polish Development Fund was in charge of the distribution of financial support during the Covid-19 pandemic while BGK provides so-called *de minimis* guarantees.

The Polish Development Fund Group comprises Bank Gospodarstwa Krajowego (BGK), which also plays a major role in delivering financial support to Polish businesses. The best known support measure offered by the bank is *de minimis* guarantees, which are guarantees of the repayment of loans for small businesses. This reduces the cost of bank financing for such entities. By the end of April 2022, BKG issued such guarantees for the total amount of PLN 136bn for loans of PLN 214.6bn. BGK launched this support scheme in 2013 and has since provided guarantees for more than 500 thousand loans to 227 thousand businesses. BGK supports households as well, by offering guarantees for deposits on home loans. However, this support scheme is not very popular due to a downturn in mortgage lending.

Other banks directly and/or indirectly related to the Polish Treasury also play a major role in delivering support to businesses and households. Bank Pekao, which returned to Polish investors in 2017, has one of the best teams of experts, who work with KUKE, an export credit agency, to finance and insure international contracts for Polish enterprises. In contrast, PKO BP is the only large Polish bank to be opening its corporate branches outside Poland, in countries such as Germany or Slovakia. It has also been the undisputed leader in mortgage loan sales for many years.

Both PKO BP and Pekao contribute to the delivery of Poland's economic policy. They are the only entities in Poland to be offering Treasury bonds. They partnered with Alior (a bank indirectly controlled by the Treasury) to be the first market players to offer loans with BGK's guarantees for deposits on home loans, and they did so at a time when other banks were reluctant to offer such loans. Finally, PKO BP and Pekao are the first banks to offer higher interest rates on term deposits, with pressure from the ruling party. As a result, the two banks are causing their market rivals to follow suit and adjust their interest rates.

It can be expected that the role of the two banks will continue to strengthen, particularly within the context of the upcoming parliamentary elections. The government will most likely want to distribute its instruments through banks and expects the banking sector to play a major role in helping Polish businesses overcome the crisis brought by the Covid-19 pandemic and the war in Ukraine. It is likely that the Law & Justice Party will take advantage of the downturn in the banking sector **to take over the foreign banks leaving Poland and, as a result, to increase the percentage of Polish capital on the market.**

Cyber security

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The awareness of cyber threats is increasing, which in turn boosts business expenditure on ICT security solutions. Polish companies are becoming more and more visible with their service portfolio, but foreign actors are still active, too.

It's hard to find a business area unaffected by digitalisation. Reality mingles with virtual space, so security in the latter domain is all-important for most businesses to operate. At the same time, cyber security trends also prove that the risk is constantly increasing. According to a study published in July 2022 by Check Point, **the second quarter of the year saw a record number of cyber-attacks – it increased by 32 per cent when compared to the same quarter of the previous year.**[1] Check Point concludes that halfway through the year Polish businesses experienced on average 938 attacks a week, which is 35 per cent more than six months before and 10 per cent more than the European average[2]. According to the data provided by Vecto[3], ca. 70 per cent of Polish businesses experienced at least one cyber-attack. In 2021 this number was 8 per cent lower, while in 2020 it was lower by as much as 25 per cent[4].

Such a scale of cyber threats increases the awareness of cyber security among Polish business owners. For example, in the abovementioned study conducted by Vecto, representatives of 78 per cent of companies claimed they believed cyber security was important. Detailed figures differ from study to study, but certain findings are consistent: businesses are afraid of phishing - data leaks related to malware, as well as advanced persistent threats (APT)[5]. Another major threat is ransomware, which has recently been used to target whole states.

Fear of cyber-attacks means companies tend to regard their existing security as insufficient – 20 per cent of business representatives expressed this view in the study conducted by Vecto (twice as many as in 2020). Only half of the respondents claimed that the computers in their companies are protected by anti-virus software; 29 per cent use passwords, nearly 15 per cent have a response scenario in the event of a cyber-attack, and nearly 11 per cent use automatic backup solutions.

In the report titled *Bezpieczeństwo. Krytyczna aktualizacja*[6] *(Security, a critical update)* only 3 per cent of companies predicted they would spend less on cyber security in 2022. 39 per cent of respondents are planning to stick to the current expenditure level, the same number would like to increase spending, and 19 per cent are committed to making a significant increase in the funds assigned to cyber security. Following the pandemic and its aftermath, businesses focused significantly more on hybrid work and employee mobility. 61 per cent of respondents claimed they would increase the expenditure related to both these areas. The third area was "digital transformation and industry 4.0" – as many as 58 per cent of respondents decided to increase spending for this purpose. Many businesses also make investments in secure cloud solutions. Increased level of investments was mentioned in a number of surveys in this year's edition of the National Champions ranking. Such companies as Adamed, Grupa Polsat Plus or Polregio decided to expand their efforts related to cyber security.

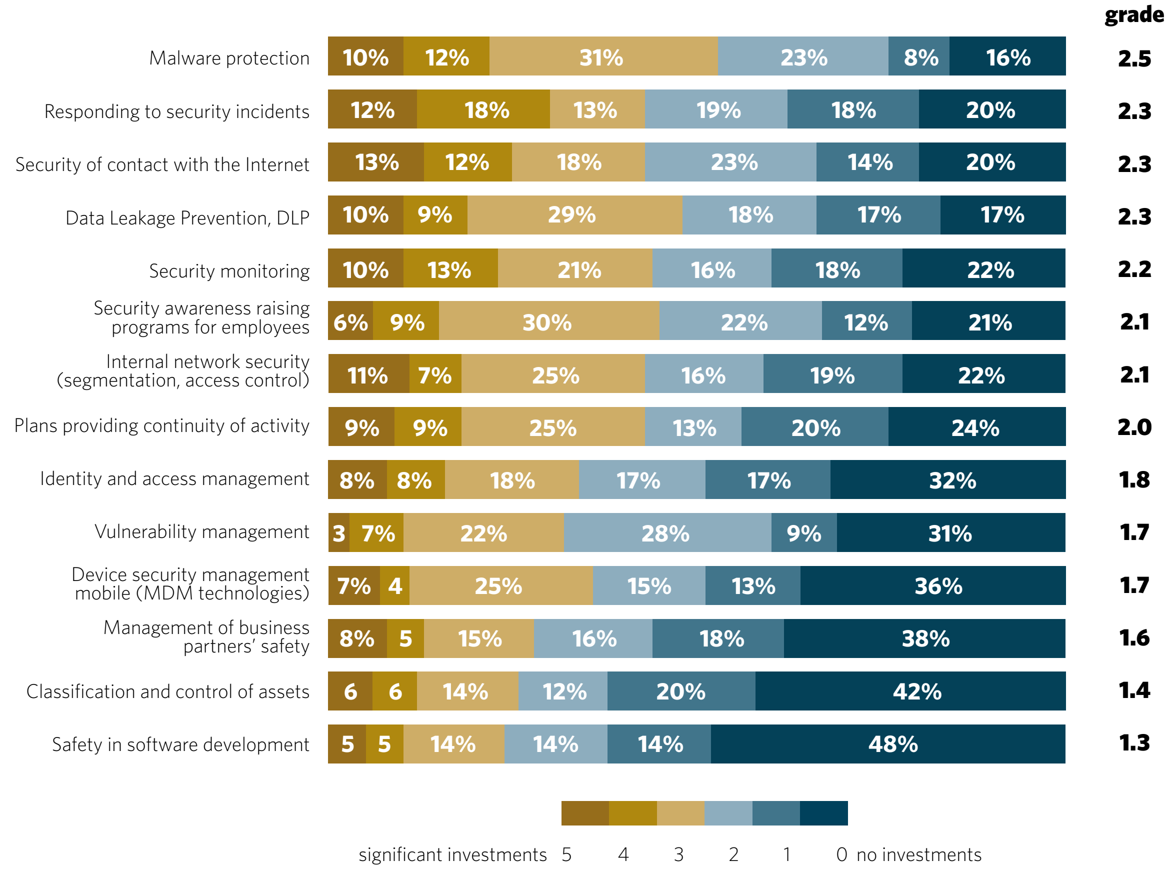
Businesses aspiring to enter the group of national champions took specific measures to mitigate the ever-increasing risk of cyber threats. Jastrzębska Spółka Węglowa had a hand in the creation of the Centre for Information Exchange and Analysis for the mining and energy sector. The Centre is supposed to support businesses in the exchange of know-how about ICT safeguards. Grupa Kruk announced their collaboration with a third party specialising in computer security and with a centre for operational security. Polregio implemented extra safeguards for card payments. And Asseco responded to the announcement of the CHARLIE-CRP alert by defining critical assets and taking steps in order to make sure they are accessible even in the event of military actions in Poland.

The increasing awareness of the need to make investments in cyber security is an opportunity for businesses that offer relevant services in this respect. As regards major Polish businesses, Asseco can boast an impressive portfolio – the company supplies solutions to Polish uniformed services, EU and NATO institutions. It has recently become a member of a European consortium, which developed the CYBER4DE project to come up with rapid response tools to address national and international cyber incidents. The tools will be used by cyber security rapid response teams within PESCO, the EU cooperation for defence and security. The operations of Asseco, a business based in Rzeszów, are diversified, but part of the Asseco group known as ComCERT focuses on cyber security. In May 2022 the CEO of ComCERT announced that the entity expects to double its budget with regard to the war in Ukraine and increased demand for ICT security solutions. The entity is part of the #CyberMadeInPoland cluster and the leader of a consortium that is currently working on an integrated analytical system for detecting, preventing and responding to APT[7]. The project is funded by the National Centre for Research and Development (NCBR). Exatel and the Silesian University of Technology also received funding under the same competition. These two entities collaborate on developing a system that will prevent another type of attack – Distributed Denial of Service (DDoS)[8]. The operations of Exatel are visible on the top level of the national hierarchy – the company is actively involved in the debate on the amendment of the law on the national cyber security system. It is Exatel that has been appointed as the prospective Operator of the Strategic Security Network - a safe network designed for top national institutions. Exatel is also active on the local level – it is involved in cyber security projects funded by the EU programme titled "Digital Commune" and would like to extend the activity onto the poviat level.

Companies gradually increase their investments in cyber security – confirms both public data and our annual surveys.

It is also good to note that foreign actors, such as Microsoft, Cisco or Sii, are also active in the Polish market. **Many Polish businesses are fairly young and still growing. Some classify as medium businesses or even start-ups.** Smaller companies that deal with cyber security are for example Secfense, ICSec or Billon. For them, the growing significance of ICT security means a greater chance for speedy development in the nearest future.

WHAT SECURITY AREAS ARE THE COMPANIES PLANNING TO INVEST IN?



Source: Bezpieczeństwo. Krytyczna aktualizacja.

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National drug security

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The COVID-19 pandemic highlighted the weak spots of security as regards medical supplies and the health care system. The situation will force the enhancement of the pharmaceutical sector, but the effectiveness of such changes in this strategic field of economy will depend on the development of the national production potential, on R&D investments and on integrating such operations with the broader European context.

As the virus was spreading rapidly and the number of infections grew at a staggering pace, on 11th March 2020 the World Health Organisation announced the COVID-19 pandemic. This fact changed the global business environment for all companies, regardless of their capital assets, size or scale of operations. **The impact of adverse effects of the pandemic was particularly visible in the case of businesses with large economic potential and considerable significance for the national economy.** National champions were then faced with new, previously unknown challenges.

The threats related to the pandemic elevated the importance of security management and forced certain changes in company structures, so as to enable an effective response to the new crisis. An example of a new structure is the Security Department established in 2020 at Polpharma in order to coordinate the operations of the response team composed of top management and experts. The efforts of the team produced a series of organisational modifications in production plants. The changes focused on production security, continuous supply of medicinal products to pharmacies and hospitals, separating employees critical for the production process from others, who worked remotely, and the necessary supply of individual means of protection and COVID-19 tests. A well-organised vaccination campaign was combined with educational actions. All of the above measures ensured the continuous production and uninterrupted supply of medications.

As a global threat to public health, the pandemic produced a wide range of consequences. Apart from strictly medical implications, it caused a serious global economic crisis. One of the elements of this crisis was the **disruption of global supply chains, observed in many sectors.** These unprecedented disruptions have been particularly painful for the pharmaceutical sector. Interrupted supplies of necessary ingredients affect not only the condition of the sector itself but also the security of medicinal supplies and public health. Previously, these issues were not important enough to be prioritised by those who make vital decisions in the field of national drug policy. The pandemic has proved that autonomy in the field of drug policy will require a major turn in the philosophy behind it: the security of medical supplies would now be treated on an equal footing with military or energy security.

For years, a common business practice in building a competitive advantage in a globalising market was to transfer production processes abroad, mainly to Asia. Apart from the localisation, the main advantage of such a shift was a notably lower cost, which was a major criterion also for pharmaceutical suppliers. Since it is much cheaper to produce active pharmaceutical ingredients (API) in Asia, 80 per cent of the European pharmaceutical industry relies on supplies from China and India. Poland is no exception. While it was not perceived as a problem in the past, during the pandemic it became a serious security threat. The need to stop this process and create a legal and administrative environment that favours national production was pointed out well before the pandemic, in the document titled *Strategia rozwoju krajowego przemysłu farmaceutycznego do roku 2030* [Development strategy for the national pharmaceutical industry until 2030] – the publication set our future directions for development and was prepared at the request of the Polish Union of Pharmaceutical Employers. Enhancing national production was also highlighted in the document prepared by the government and titled National Drug Policy 2018 - 2022. These documents failed to cause a major improvement in the security of medical supplies - the pandemic soon highlighted this fact. As follows from the data collected by Łukasiewicz Research Network, from **among 600 APIs used for the production of reimbursed medicines, only 40 are manufactured in Poland.** This shows the scale of the problem and proves the need to boost national production.

Over the past few years, national pharmaceutical champions made an effort to enhance the national production potential. The major API manufacturer in Poland is Polpharma – it produces 47 ingredients (used for reimbursed and non-reimbursed drugs), and is working on the next molecules. It has also commenced investments focused on API production (e.g. the construction of a production plant in Starogard Gdański - planned completion in 2024), whose value is predicted to exceed PLN 150 million in the next few years. The company wishes to consolidate its role as a guarantor of national drug security in Poland. It supplies one in every eight packages of medications sold in Polish pharmacies and one-third of all medications administered in Polish hospitals. In many situations, it is the only manufacturer of life-saving medications. Prioritising national drug security is also one of the pillars of the Adamed policy – the company is another national champion in the pharmaceutical sector.

In order to build national drug security, it is absolutely essential to enhance the production potential through investments in R&D. Last year Polpharma assigned more than PLN 280 million for this (nearly 230 million assigned to internal expenditures, and over 50 million - R&D investments outside the capital group), while in 2018–2021 a total of more than PLN 1 billion was allocated to such investments. That's how the company developed 70 patent applications and obtained 89 patents. The company strengthened its relationships with stakeholders related to innovation and support instruments (Ministry of Development, National Centre for Research and Development, Medical Research Agency), and with the academic community (e.g. Institute of Bioorganic Chemistry, Polish Academy of Sciences in Poznań). The result of these joint efforts was the first Polish test to distinguish between COVID-19 and flu. Work also started towards developing new RNA-based drugs. Polpharma also opened a new R&D lab, where modern inhalation drugs are prepared, and set up the abovementioned API production plant. In 2018 the company also established a brand new entity – Polpharma Biologics, one of the major stakeholders in the European sector of biotechnology. In 2020 the same company launched a new site for the production of non-sterile liquids. The production plant located in Sieradz doubled the production capacity as regards syrups, suspensions and solutions. The above proves that over the past five years Polpharma consolidated its reputation as a resilient organisation, which invests in R&D and aims at a stable growth.

Last year Adamed, another national champion from the pharmaceutical sector, invested more than PLN 140 million in R&D (more than 90 million in internal expenditure and nearly 50 million outside the group). In 2018 the company launched a Pilot Plant in Pabianice, and in 2020 an exclusive global licence agreement was signed with Acadia Pharmaceuticals - the subject matter was the development of an innovative molecule, which could be used in psychiatry. This year, as part of the New Drug Discovery strategy, Adamed purchased laboratory facilities in Kajetany, so as to be able to develop Polish original drugs and to intensify the efforts aimed at developing innovative medications (including mRNA-based drugs). These efforts are meant to be supported by close collaboration with the academic community and by grants from the Medical Research Agency. Over the past five years, the company has highlighted the role of drug security and underlined its commitment to this area.

Although the COVID-19 pandemic was a threat, it was also an opportunity for dynamic growth. An example is Mercator Medical – a Polish company and one of the East European leaders in the production of disposable gloves. The shares of this company were initially worth PLN 200 million, and after a few months of the pandemic, this value increased 36-fold, to PLN 8 billion. But as the pandemic subsided and individual states amasses a decent supply of gloves, the demand started to dwindle and the company soon experienced a loss. In early 2022 capitalised loss amounted to PLN 790 million, and Mercator Medical dropped out of WIG20. In this case, the company failed to become a national champion.

The idea of creating a Polish COVID-19 vaccine was not implemented, either. Medical Research Agency did offer a grant for the relevant research on the mRNA technology, but following a competition, several companies were selected, none of which had the necessary experience. Besides, the budget only covered the first stage of the research and was not enough for the scientists to create a Polish vaccine from scratch. However, there was one Polish organisation that contributed to the creation of a COVID-19 vaccine. Mabion entered into a contract with the American Novavax to manufacture antigens for the Nuvaxovid vaccine, which is going to be expanded to include the Omicron variant.

In order to increase the national drug security it is necessary to expand the production infrastructure and shorten the API supply chain used in the production of medicines.

Considering the importance of drug security, **the government decided to expand the production infrastructure and shorten the API supply chain used in the production of drugs.** Shifting this strategic production area to Poland and the EU should ensure the availability of medications regardless of the global political situation, even in the event of broken supply chains. The Ministry of Development and Technology, working together with other institutions, planned to create a system to support projects aimed at the development of an efficient ecosystem for the production of medications and medicinal products. Apart from economic benefits (e.g. new jobs, supporting innovation), this move should improve the availability of drugs to patients and facilitate access to the pharmaceutical substance, which will in turn grant Poland more independence from other countries and their supplies. The whole process is to be preceded by creating a record of critical APIs for which it is necessary to patch the production gaps. EUR 139.5 million was supposed to be assigned to this purpose from the National Recovery Plan. So far no funds have been paid out because the milestones were not complied with. That's why the whole project is temporarily suspended.

At the moment, health and drug security should not be treated only as a national concern – **it is necessary to come up with a new approach on the EU level.** The solution relies upon coordinated EU actions. The issue was also noted by the National Pharmaceutical Manufacturers in the petition they filed with the European Parliament. When national measures are integrated with the broader European agenda, the ecosystem for API production on the Old Continent might be restored. The role of national champions, in this case, will be invaluable.

Food security

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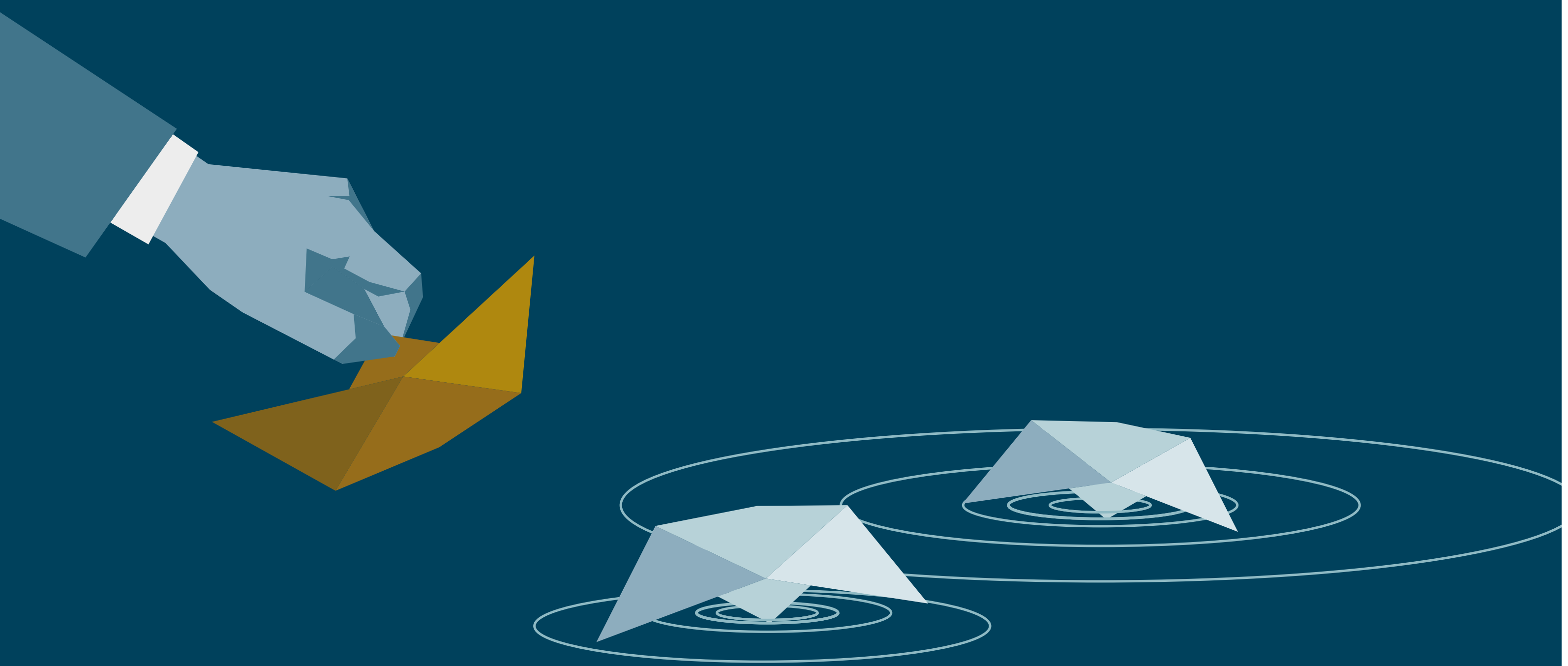
Over the past five years, the level of food security in Poland plummeted. Until recently we believed that as a developed country, as a participant in the global market and the EU free trade we are protected from food shortages not only concerning basic food products but all the others that are currently in demand. The COVID-19 pandemic and the war in Ukraine have changed this situation.



The outbreak of the pandemic in 2020 put international trade, especially by sea, at a halt. The situation proved to what extent the dependence on global production chains has become the reason behind the shortages of agriculture commodities, materials and semi-finished goods, spare parts and means of transport (new delivery vans or containers), even though it used to be perceived as a guarantee of security. As a result, for a couple of years, we experienced a serious threat of a shortage of basic food products - people expressed their fear by raiding shop shelves.

And when we were just about to learn to live with COVID-19 thanks to mass vaccine campaigns, procedures and new drugs, the war in Ukraine broke out. The world has faced the threat of another food crisis – bulk carriers loaded with grain could not leave the Odesa harbour as a result of the Russian blockade on the Black Sea. It transpired that some countries fully or partially rely on supplies from Ukraine and can face famine. Help arrived in the form of emergency supplies and seaway was unblocked for ships carrying Ukrainian grain.

Europe did not experience a complete lack of food products, but **the resulting shortages and trouble with food supplies contributed to the increasing inflation,** which has now covered all the world – from Sri Lanka, immersed deep in a financial crisis, through Argentina and Turkey, where prices keep soaring day to day, to Germany and the United States with rocketing levels of inflation unseen in more than 40 years. All this proves that the globalised food production system is in fact fragile. The proverbial butterfly effect is ever-present - a flap of the wings of a Chinese butterfly may cause famine in Africa or a shortage of fizzy drinks in Europe.

The shortage of ingredients and raw materials is a risk that only recently has been taken into consideration by politicians from the EU countries.

This aspect was soon grasped by politicians in the EU member states. **Over the past few years, they started introducing protective measures, such as the obligation to maintain extra food reserves, supporting local food production and contracting food supplies way in advance,** even from distant countries. But the range of available and tested measures still remains limited. The existing protectionist interventions, such as import blockades, protective duties, food quotas or strict sanitary regulations, were designed to protect local jobs, businesses and capital rather than ensure food security. Food security was supposed to be guaranteed by the free market, whose invisible hand was meant to drive supply to meet current needs. The only risk was an uncontrolled price increase. But it was never about the shortage of ingredients and raw materials.

If the economic policy does not offer sufficient tools, businesses - especially those classified as national champions - are responsible for ensuring food security.

What is more, they have a vital interest in ensuring this security, because restrictions in production and food processing impact profitability. Any stopovers or drops in supply reduce the revenue to the extent that cannot be compensated for by a short-term increase in prices. As a result, when supply chains are broken, national food producers and food processing plants, which rely mainly on local subcontractors, stand a chance to succeed. This is reflected in the ranking of national champions - although there are strong global competitors, Polish dairy producers (Mlekovita, SM Grajewo) and retailers (Dino) manage to stand their ground.

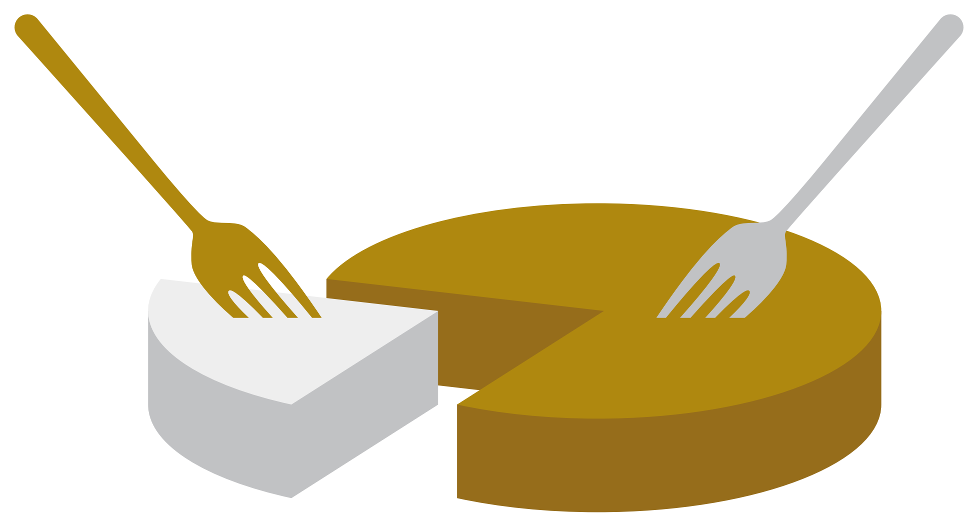
When supply chains are broken, national food producers and food processing plants, which rely mainly on local subcontractors, stand a chance to succeed.

Polish subcontractors can also succeed thanks to nearshoring - this is a process where international businesses shorten supply chains and transfer key elements of their production closer to the outlet. Poland has been an attractive location for the production of food intended for the European Union, especially East and Central Europe. Nearly all multinational food companies have their facilities here: Mars, Unilever, Nestle, and Danone, to mention but a few. Some were established back in the 1990s and contributed to the growth of Polish subcontractors and resulted in the increase in the quality of their products, which was in turn reflected in the greater competitiveness of Polish companies on the international market. What is interesting, the very presence of international food producers with their strict standards contributes to the higher quality of food products. For example, in 1995, the percentage of top-quality milk produced for Polish dairy producers was lower by a third compared to that for non-Polish producers. In 2000, following a consistent standardisation policy, the levels were similar for both groups. At the moment, the most rapid growth can be observed in the sector of meat processing, where national meat processing plants (Biernacki, JBB Import, Skiba) regularly increase their economic impact and may soon classify as aspiring national champions.

The Polish government also wants to boost food security by creating state-controlled national champions. Such companies would consider not only economic parameters, but also follow the state economic policy regarding food security and protect agricultural jobs. Unlike in the finance or power sectors, these measures did not produce the desired results, particularly in securing local production capacity. In April 2022 the Polish government established the Polish Food Group by supplying extra capital to the company known as Polish Sugar and operating since the early 21st century. The purpose of the newly founded entity is to take over other food processing companies, in order to gain greater bargaining power and to be “a partner in a dialogue with Polish farmers.” This is at least the official declaration of the Ministry of State Assets. So far, however, the government has failed to establish an entity that would be a strong competitor for foreign or national commercial networks.

In the next years, the efforts will continue to focus on nearshoring in food production, and on the search for legislative solutions that could increase the EU food security without overly restricting the competition on the internal market. Elements of this institutional governance will probably become integrated with the concept of building the strategic autonomy of the EU. The proposed solutions related to building national holdings in Poland don’t stand much chance of being included in this project, though, and they probably won’t be promoted abroad. Contrary to regulated industries, such measures taken by the government in a highly competitive environment will have a limited impact on the market and will not improve food security. On the contrary, creating a holding generated extra expenses related to coordinating the operations of multiple actors, which may limit the effectiveness of management and make state-controlled companies lose any competitive power whatsoever.

The European Green Deal also poses a risk to food security. When implemented without proper protection for farmers, such as funds for modernisation and investments in new technologies, it will decrease agricultural production in the EU and boost our dependence on imported goods. On the other hand, if the programme is properly implemented and supported by relevant funds, in the long run, it could improve food security in Europe by increasing biodiversity and reducing human impact on the environment. As a result, agricultural production in the EU will be more resilient in the face of biological threats, especially plant and animal diseases.



Champions speak about themselves

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The past five years were marked by disturbances and crises, which disrupt business routines and force a redefinition of priorities. National champions had to review their role as actors in the social, economic and even natural life. We decided to ask them how they see themselves in the context of such major events and processes as climate change, the COVID-19 pandemic, or the war in Ukraine. This means we expanded our research methodology, based on a quantitative study of the organisation and management quality in companies, by adding the perspective of company owners.

We were interested in the business owners' reflections on their **relationships with the broadly understood business environment** rather than in their efficiency in earning profits. Our respondents talked about lobbying (e.g. by speaking their mind as regards the ongoing legislative efforts or being involved in employers' associations), extra investments in their employees' well-being, security, business digitalisation or climate protection. The business owners answered a number of open and closed questions – and as many as 19 out of 21 took the opportunity to talk to us as well. The profile of the respondent companies is fairly broad, so **after a qualitative study we could classify certain models of collaboration between national champions and their environment, and come up with business strategy profiles in the face of momentous changes.**

Basic findings

The companies were heterogeneous – they have different definitions of key employees and different ideas as regards new operations. For this reason, it is hard to identify a dominant trend in the responses (the distribution of various responses was fairly even). However, **more than half of the companies stated that climate was one of the new areas of development after 2018.** The detailed answers revealed that organisations strive to reduce environment-related expenses, e.g. by minimising the use of raw materials or cutting down on toxic waste (such as LPP and the process of dying textiles), or they focus on recycling (e.g. Alumetal uses metal deposits). Some companies invest in new sources of energy. This is the reality of those companies that rely on fossil fuels (e.g. PKN Orlen invests in micronuclear technologies or pure hydrogen, while Jastrzębska Spółka Węglowa undertook measures to reduce its carbon footprint). Companies that decided to expand their business also focus on such investments – e.g. Polsat Plus invests in the wind or solar energy, which, as the company estimates, should reduce CO_2 emissions by 2 million tons a year. LPP expands its know-how as regards environment-friendly business by joining international initiatives focused on exchanging best practices and making specific commitments as regards the use of forest resources or transitional cotton.

Climate and security challenges have been key to address by the companies surveyed since 2018.

A slightly smaller number of companies (nine) stated they **increased their interest in security issues,** e.g. as regards restructuring their supply chain or implementing new procedures for crisis management. The survey was conducted at a time when the war in Ukraine was a major issue, but the answers to the open questions point to the relevance of the COVID-19 pandemic as an experience that affected business to the greatest extent. The champions made an effort to restructure the work of their employees to make sure they are safe from health threats, to minimise the risk of a sudden business discontinuity. The employers implemented new workplace safety procedures and provided access to coronavirus testing and vaccines. It only seems natural that the leaders of such activities were pharmaceutical companies, such as Polpharma or Adamed. What is important, their activity was not limited to *ad hoc* interventions required by the current law but caused an actual change in strategic directions. Polpharma established a new structure – a security department, which assumed a long-term responsibility for this business aspect.

In many cases, the need to address security issues has remodelled the previous shape of business operations. For example, Selena regularly scans its business environment for sanitary threats or price fluctuations, to align its strategy in advance. In the context of the war in Ukraine, LPP decided to modify the direction of foreign expansion, which entailed some expenses related to the withdrawal from eastern markets and loss of relevant contracts, but also pushed the company in a brand new direction. The war in Ukraine does not appear often in the responses to our survey, which is due to the fact that the national champions are more closely linked to the western markets, mainly those in the EU.

National champions want to be active in both economic and political spheres of social life.

Two strategies: change of scale and change of quality

In this year's survey, we focused not only on new content but also on new forms of operations undertaken by the national champions. The responses prove that the champions react to the existing trends, especially those defined by the state. **Most respondents stated that they make optional investments in strategic areas of development defined by the government** (such as renewable energy or electric vehicles). Slightly fewer (eleven) business owners **claimed they participate in legislative debates** – the champions feel they have a significant part in the economic and political life.

The past five years made the champions **review the quality of their business**, which involves participating in new activities, which may diverge from the existing company profile, and make them prominent in company expenditures and image. This may be expressed in searching for new business areas to engage in. For example, Polsat Plus, a media and communications company, started to invest in the energy sector now. **The scope of corporate social responsibility has increased as well.** Business is often expanded to engage financial fixed assets or to increase its international outreach. For example, Adamed started a collaboration with the Ukrainian community sector organisations. Grupa Ciech is involved in actions defined by international organisations, e.g. by joining United Nations Global Compact. Between February and April, 2022 POLREGIO transported 260 thousand of Ukrainian refugees (in collaboration with the German and Ukrainian railways). The next champion, Grupa Azoty, assigned PLN 4 million to subsidise Polish hospitals during the pandemic.

Although there is a risk of stopovers and increased business expenses, the champions still decide to increase the scale of their operations. This is relevant for all the companies we surveyed, but in particular for Grupa Azoty (building a reloading terminal), Polpharma (a new production plant), Grupa Asseco (taking over more than 60 businesses), PKN Orlen (large corporate merger) and Jastrzębska Grupa Węglowa (significant increase in raw material extraction). Such measures may seem obvious when taken by developing businesses, but they are still noteworthy in the context of major crises that affect increased operational costs and the unwillingness of Polish companies to make investments. We could say that the national champions are increasing their participation in social and economic life through conscious, informed expansion. This consciousness is reflected in the references to significant political contexts - e.g. PKN Orlen is taking steps to import electricity from Ukraine, which will boost Poland's energy independence and improve the economic standing of Ukraine.

The marks of a National Champion

The majority of company listings published in Poland focus solely on the size of a company or of a corporate group, measured by basic macroeconomic indicators such as income, profits, exports or number of employees. This is, however, but one of the many aspects on which the public puts an emphasis when talking about national champions. Next to the size, what matters is a company's efficiency, its position in the industry, international presence, and innovation and development investments.

Winners of the National Champions ranking

Below we are presenting the results of this year's ranking - just like the previous editions, this one has also been based on our National Champions index (NC). The index is derived from the average score a company obtained in each of the four key categories: economy, sector, international presence and innovation. We have extracted the figures from the information for 2021 available in the public domain and related to the business operations of Polish non-financial capital groups with a headcount of at least 100 and a revenue exceeding PLN 100 billion. We also relied on the surveys prepared for the purpose of this report and completed by parent companies. The calculation method used for computing individual indices is described in the appendix. Based on our calculations, we picked 42 Polish companies that may be dubbed national champions. We classified them into four categories: **International Champions, National Champions, Aspiring National Champions and Local Champions.**

	PKN ORLEN	KGHM	GRUPA AZOTY	SELENA FM	ASSECO	JASTRZĘBSKA SPÓŁKA WĘGLOWA	POLPHARMA	SYNTHOS	ADAMED	STALPRODUKT	PGNiG	CIECH	COMARCH
	90	80	78	69	67	66	63	61	60	60	58	57	57
Economy	81	87	65	44	81	81	47	47	39	50	81	42	55
Sector	100	100	68	93	41	63	48	89	30	78	89	53	26
International Presence	94	90	94	97	100	49	71	52	90	80	3	90	96
Innovation	84	45	85	40	45	69	87	56	79	31	59	42	51

International Champions (NC index: >75)

This group includes large innovators who operate both locally and abroad and are considered leaders in their industries both in Poland and in the region. The latest edition of our ranking features PKN Orlen, which consolidated its position as number one on our list with 90 out of 100 available points. This is the highest value ever obtained in our survey – last year's record of 87 points was also scored by Orlen. The extra 3 points can be linked to the improvement in the "sector" category – over the past few years, the company consolidated its position as the leader in the fuels sector, topped by the successful takeover of Grupa Lotos, formally finalised in the early August 2022 (that's why Grupa Lotos dropped out of the ranking). Just like last year, this time the runner-up is KGHM Polska Miedź, whose score has dropped slightly when compared to the last year's results (from 85 to 80 points.) What is important, Grupa Azoty joins the International Champions for the first time with a score of 78 points. The score is 20 points higher than in the previous survey. This record leap results from the company's rapid growth, especially on foreign markets, and higher expenditures on innovation.

National Champions (NC index: 56–75)

The companies from this group conform to most of the criteria defined for national champions, but there is some area for improvement before they can be promoted to International Champions. These businesses have an insufficient impact on the economy and sometimes their share in their respective sector is too small. It might also be the case that their presence in foreign markets is not so impressive. This year this category was topped by Selena FM with 69 points (compared to the last year's score of 59), closely followed by Asseco Poland with a score of 67 (compared to the previously obtained 73 points). The improvement of Selena FM resulted mainly from organic growth and consolidating its position among competitors from the same sector. Other National Champions also ranked high in each of the four analysed categories – some of them, e.g. JSW or PGNiG, are very large, but this is by no means a requirement. Some of the National Champions rank among the third or fourth ten as regards their impact on the economy (Polpharma, Synthos, Ciech.) In this edition, only one new company joined the list of the National Champions – Comarch. This IT company improved its score, leaping from 54 to 57 points.

Aspiring National Champions (NC index: 36–55)

These companies are very efficient and have some features of the national champions, but have numerous areas for improvement before they can satisfy all the criteria to be promoted to the higher category. Most of these companies have a small impact on the economy, small capital, low salaries or small headcount. They do have impressive export sales and are active innovators. They usually rank higher in their sector than local champions. This year saw one new company in the Aspiring National Champions group – Polskie Sieci Elektroenergetyczne, with a considerable impact on the economy. Aspiring National Champions stand a chance of becoming National Champions in the nearest future, but since the competition is high, it will not be easy for them to maintain their high positions. After a period of prosperity, two companies dropped to the Aspiring National Champions category: last year Boryszew and LPP were classified as National Champions.

		NC Index	Economy	Sector	International Presence	Innovation
14	GRUPA KĘTY S.A.	**54**	46	46	89	35
14	KRUK S.A.	**54**	44	100	44	30
16	AMICA S.A.	**53**	37	28	98	47
17	BORYSZEW S.A.	**52**	49	39	91	28
18	LPP S.A.	**51**	64	33	98	12
19	WIELTON S.A.	**49**	39	37	91	29
20	INTER CARS S.A.	**46**	45	53	58	26
20	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**46**	82	52	4	44
22	MLEKOVITA S.A.	**43**	38	21	80	35
22	POLSKIE KOLEJE PANSTWOWE S.A.	**43**	62	64	15	31
24	PRESS GLASS SP. Z O.O.	**41**	36	24	95	8
25	CCC S.A.	**40**	47	38	62	13
26	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**39**	63	31	7	52
27	TDJ S.A.	**38**	41	45	55	10
28	ENEA S.A.	**37**	71	49	0	30
29	CYFROWY POLSAT S.A.	**36**	69	46	0	28
29	POCZTA POLSKA S.A.	**36**	59	54	13	17
29	TAURON POLSKA ENERGIA S.A.	**36**	72	30	2	38

Local Champions (NC index: 25–35)

These companies are usually leaders in their sector, which have a considerable impact on the economy. However, most of them focus only on the national market and their business condition depends on the general situation in the industry. As a result, they score lowest in the categories of “international presence” and “innovation.” This group includes mainly large state-controlled companies, from energy companies to transport businesses, and a couple of private service providers: IMPEL, Agora, Benefit System or this year’s new addition, Drutex. Local Champions hardly ever aspire to become National Champions, because they tend to focus on their own core business and the local market. Should they wish to jump to the higher category, they would have to leave their niche or become global leaders in their sectors. Energy companies would have to take over some foreign actors, while publishers would have to enter foreign markets.

		NC Index	Economy	Sector	International Presence	Innovation
32	AGORA S.A.	**33**	46	35	23	27
32	DRUTEX S.A.	**33**	37	35	45	13
32	PKP POLSKIE LINIE KOLEJOWE S.A.	**33**	67	47	0	17
32	SANOK RUBBER COMPANY S.A.	**33**	36	40	44	13
36	WĘGLOKOKS S.A.	**32**	42	2	67	16
37	COGNOR HOLDING S.A	**31**	36	43	13	30
38	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ - SYSTEM S.A.	**30**	49	42	0	30
38	POLSKA GRUPA GÓRNICZA S.A.	**30**	62	29	4	24
40	IMPEL S.A.	**29**	44	63	2	8
41	PERN S.A.	**27**	37	44	12	16
42	BENEFIT SYSTEMS S.A.	**25**	38	16	26	20

Other large companies (NC index: <25)

More than 80 other businesses with revenues of more than PLN 1 billion and a headcount of more than 100 people, which, however, lack the potential to impact the economy. Some of them managed to find a niche for themselves, though, and have become crypto-champions - known under other brand names or their own product names. These companies are often monopolists for European commercial networks. What is important, the pandemic has slowed down the growth of Polish companies, which is why this year’s edition includes 126 capital groups - exactly the same number as our ranking for 2019.

		NC Index	Economy	Sector	International Presence	Innovation
43	ERBUD S.A.	**24**	46	13	12	26
44	DINO POLSKA S.A.	**23**	57	24	0	10
44	POLENERGIA S.A.	**23**	38	30	0	23
46	EURO NET SP. Z O.O.	**22**	38	37	0	13
46	PELION S.A.	**22**	41	29	4	12
46	TELEWIZJA POLSKA S.A.	**22**	49	16	0	25
49	NEUCA S.A.	**21**	39	30	1	13
50	POLREGIO S.A.	**18**	40	27	0	6

Changes when compared to the previous edition

Due to the unprecedented impact of the COVID-19 pandemic on business, we decided to skip data for 2020 when compiling the ranking – the fourth edition of the ranking was based on data from 2019, and this year's (fifth) on information about companies for 2021. **The average NC index in the 2022 ranking dropped to 43 points.** This is higher than in the 2018 edition (40) but lower than last year (45 points). The reduction reflects the impact of the pandemic recession on the growth of most businesses and the opportunities for foreign expansion. **When compared to the previous edition, the innovation of the national champions has also dropped - the expenditure on R&D and participation in scientific consortia are notably lower.** According to the information offered by the National Centre for Research and Development (NCBR), none of the 50 largest companies participated in a scientific consortium funded by public sources in 2021. A few companies, however, coped surprisingly well with this difficult situation, which is reflected in a greater-than-ever shuffle on the list and changes in the NC indices of individual capital groups. **A notable example is Grupa Azoty, which improved its score by as many as 20 points** (moving seven positions up in the ranking). Another company that moved significantly up on the list was Kruk (19 positions up), which improved its standing thanks to foreign expansion and increased amount of managed debts during the pandemic. On this occasion, it is good to note that Kruk entered our ranking last year, which means 2021 was another consecutive year of rapid development in the history of this company. Inter Cars also deserves a mention here: its growth was not stopped by the crisis in the automotive industry, caused by a shortage of spare parts.

Pandemic disturbances also caused a record-breaking extent of changes on the list of 50 national champions. **This year saw as many as 10 new capital groups, 5 of which joined our ranking for the first time ever** (Press Glass, Drutex, PERN, Neuca and Euro-Net - the owner of the chain store known as RTV EURO AGD), as well as three companies returning to the top of the list (Węglokoks, Cognor Holding and Polenergia). The other two new capital groups are businesses which replaced companies listed in the previous ranking as a result of acquisitions and changes in consolidation – TDJ replaced Famur, its daughter company, while Polskie Koleje Państwowe replaced two companies from this group, which were previously listed under two separate names: PKP Intercity and PKP Cargo.

When compared to the previous edition, two companies dropped out of the list of 50 businesses of key importance for the economy - Grupa Lotos and Polimex-Mostostal left the ranking following changes in ownership and structure. Two other capital groups – Porty Lotnicze and Stocznia Gdańska – could no longer be listed, because as a result of the pandemic their revenue for 2021 failed to reach the required threshold of PLN 1 billion. Two other companies dropped out of the ranking because they chose not to share their results and their annual reports of the related businesses were not publicly available. These companies are Cersanit and Polska Grupa Zbrojeniowa. The last company that was not included in this year's ranking because of significantly lower turnover was Polskie Linie Lotnicze LOT, which obviously resulted from a reduced number of passenger flights during pandemic restrictions.

In 2021 we did not introduce any changes in the NC calculation methodology. The newly available data from the NCBR concerning the participation in scientific consortia after the expiry of the Horizon 2020 projects, increased level of detail in the reporting of some capital groups, and changes affecting the main class of business activity in some of the groups (e.g. following the changes in revenue earned by individual segments of the group, Cyfrowy Polsat will now be classified as a company engaged in wireless telecommunications) did not affect the comparability of the results of this and last year's edition to a significant extent.

1	International Champions	◆	PKN ORLEN S.A.
2	International Champions	◆	KGHM POLSKA MIEDŹ S.A.
3	International Champions	▲	GRUPA AZOTY S.A.
4	National Champions	▲	SELENA FM S.A.
5	National Champions	▽	ASSECO POLAND S.A.
6	National Champions	▽	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.
7	National Champions	▽	POLPHARMA S.A.
8	National Champions	◆	SYNTHOS S.A.
9	National Champions	▽	ADAMED PHARMA S.A.
9	National Champions	▲	STALPRODUKT S.A.
11	National Champions	▲	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.
12	National Champions	▲	CIECH S.A.
12	National Champions	▽	COMARCH S.A.
14	Aspiring National Champions	▲	GRUPA KĘTY S.A.
14	Aspiring National Champions	▲	KRUK S.A.
16	Aspiring National Champions	▲	AMICA S.A.
17	Aspiring National Champions	▽	BORYSZEW S.A.
18	Aspiring National Champions	▽	LPP S.A.
19	Aspiring National Champions	▲	WIELTON S.A.
20	Aspiring National Champions	▲	INTER CARS S.A.
20	Aspiring National Champions	▲	PGE POLSKA GRUPA ENERGETYCZNA S.A.
22	Aspiring National Champions	▲	MLEKOVITA S.A.
22	Aspiring National Champions	↻	POLSKIE KOLEJE PANSTWOWE S.A.
24	Aspiring National Champions	✱	PRESS GLASS SP. Z O.O.
25	Aspiring National Champions	▲	CCC S.A.
26	Aspiring National Champions	▲	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.
27	Aspiring National Champions	↻	TDJ S.A.
28	Aspiring National Champions	▲	ENEA S.A.
29	Aspiring National Champions	▲	CYFROWY POLSAT S.A.
29	Aspiring National Champions	▽	POCZTA POLSKA S.A.
29	Aspiring National Champions	◆	TAURON POLSKA ENERGIA S.A.
32	Local Champions	▲	AGORA S.A.
32	Local Champions	✱	DRUTEX S.A.
32	Local Champions	▲	PKP POLSKIE LINIE KOLEJOWE S.A.
32	Local Champions	▲	SANOK RUBBER COMPANY S.A.
36	Local Champions	✱	WĘGLOKOKS S.A.
37	Local Champions	✱	COGNOR HOLDING S.A
38	Local Champions	◆	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ - SYSTEM S.A.
38	Local Champions	▽	POLSKA GRUPA GÓRNICZA S.A.
40	Local Champions	▲	IMPEL S.A.
41	Local Champions	✱	PERN S.A.
42	Local Champions	◆	BENEFIT SYSTEMS S.A.
43	Other large companies	▲	ERBUD S.A.
44	Other large companies	▲	DINO POLSKA S.A.
44	Other large companies	✱	POLENERGIA S.A.
46	Other large companies	✱	EURO NET SP. Z O.O.
46	Other large companies	▲	PELION S.A.
46	Other large companies	▲	TELEWIZJA POLSKA S.A.
49	Other large companies	✱	NEUCA S.A.
50	Other large companies	◆	POLREGIO S.A.

- International Champions
- National Champions
- Aspiring National Champions
- Local Champions
- Other large companies
- ▲ increase in the ranking
- ◆ same place in the ranking
- ▽ drop in the ranking
- ✱ new in the ranking
- ↻ change in ownership structure

Classification of champions **in specific categories**

Economy

The new leader in this category, which reflects the contribution of a company to the economic growth of Poland, is KGHM. The runner-up is PGE, which lost its position gradually over the past years and was left behind by its major competitors from the mining and energy sector. The next positions of the TOP 10 in this category are respectively: JSW, PKN Orlen, PGNiG, ENEA, Tauron and PKP. This group of companies have topped the list in this category ever since the first edition of our survey. Their success is the result of their high position in all the subcategories. This, in turn, is caused by the economies of scale, the considerable size of an individual company, and the high capital intensity of the energy sector, which entails a considerable amount and value of fixed assets and high investments.

In the economic ranking, local champions ranked fairly high, which is because of the large scale of their business activity and high barriers to entry, defined by the state, which makes these companies seem almost like monopolists in their sector. As a result, you can see the dominance of state-controlled companies, especially in the energy sector. Just like was the case in the previous editions, also this year only two private-owned companies found a place in the TOP 10 in this category: the Polish IT leader, Asseco Poland, and the media and ICT giant, Cyfrowy Polsat. Finally, the last positions on the list of 50 companies of key importance for the economy are Aspiring National Champions and companies that have only recently joined the ranking: Cognor Holding, Press Glass and Sanok Rubber Company.

International Champions
National Champions
Aspiring National Champions
Local Champions

		Economy	Value-Added	Employment	Average salary	Payroll budget	Liquidity and solvency	Contribution to the state budget	Investments and fixed assets	Capitalisation
1	KGHM POLSKA MIEDŹ S.A.	**87**	94	88	100	39	53	100	93	100
2	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**82**	91	90	46	35	71	100	98	100
3	ASSECO POLAND S.A.	**81**	82	86	100	81	97	80	37	100
3	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**81**	80	87	84	70	64	100	65	99
3	PKN ORLEN S.A.	**81**	100	89	40	19	55	100	98	100
3	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**81**	95	83	54	20	73	100	97	100
7	TAURON POLSKA ENERGIA S.A.	**72**	76	84	34	50	54	79	89	100
8	ENEA S.A.	**71**	75	78	34	36	72	87	83	100
9	CYFROWY POLSAT S.A.	**69**	82	65	44	11	94	100	62	100
10	PKP POLSKIE LINIE KOLEJOWE S.A.	**67**	73	90	0	57	37	54	100	75
11	GRUPA AZOTY S.A.	**65**	66	76	0	38	58	100	81	100
12	LPP S.A.	**64**	67	87	0	35	43	100	80	54
13	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**63**	58	51	100	22	88	100	55	75
14	POLSKA GRUPA GÓRNICZA S.A.	**62**	74	89	31	78	0	50	60	0
14	POLSKIE KOLEJE PANSTWOWE S.A.	**62**	65	80	19	62	52	54	60	75

Sector

The top positions in this category are relatively diversified as regards industry and ownership. The leaders are monopolists in their sector (PKN Orlen, KGHM or PGNiG), and their special position is often achieved with state support. However, private companies, which enjoy no significant public support, can also become monopolists or leaders in their respective sectors. Such positive examples are Kruk, Selena FM, Synthos or IMPEL, which comes 10. in this category.

One thing that is worth noting is the relatively low position of most Local Champions. More often than not it's because their results do not match the average profitability levels of other businesses in the sector. This is by no means surprising – large state-owned companies are usually much less profitable than small private companies from the same sector. Businesses from highly competitive segments - such as food production, retail and wholesale, or transport - also have poor results in this category. Telewizja Polska stands out among other companies, but it is a negative example - the company has systematically been losing its position in the media industry.

International Champions
National Champions
Aspiring National Champions
Local Champions

		Sector	Share in the value-added of all sectors and in the employment of the main sector	Profitability and earning power against the main industry	Main sector of activity (PKD/NACE code)	Other important business sections
1	KGHM POLSKA MIEDŹ S.A.	**100**	100	100	Mining of other non-ferrous metal ores (07.29)	4
1	KRUK S.A.	**100**	100	100	Activities of collection agencies and credit bureaus (82.91)	1
1	PKN ORLEN S.A.	**100**	100	100	Manufacture of refined petroleum products (19.20)	5
4	SELENA FM S.A.	**93**	100	73	Manufacture of glues (20.52)	7
5	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**89**	100	56	Trade of gas through mains (35.23)	4
5	SYNTHOS S.A.	**89**	89	92	Manufacture of synthetic rubber in primary forms (20.17)	5
7	STALPRODUKT S.A.	**78**	71	100	Lead, zinc and tin production (24.43)	2
8	GRUPA AZOTY S.A.	**68**	74	50	Manufacture of fertilisers and nitrogen compounds (20.15)	3
9	POLSKIE KOLEJE PANSTWOWE S.A.	**64**	68	50	Freight rail transport (49.20)	0
10	IMPEL S.A.	**63**	67	50	Other building and industrial cleaning activities (81.22)	12
10	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**63**	51	100	Mining of hard coal (05.10)	4
12	POCZTA POLSKA S.A.	**54**	70	5	Postal activities under universal service obligation (53.10)	6
13	CIECH S.A.	**53**	53	50	Manufacture of other inorganic basic chemicals (20.13)	4
13	INTER CARS S.A.	**53**	38	100	Wholesale trade of motor vehicle parts and accessories (45.31)	6
15	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**52**	66	13	Production of electricity (35.11)	2

International presence

In this category, Asseco remains the leader. It was the only company to score a maximum of 100 points. In the whole history of our survey, Asseco is the most dynamically growing business with an increasing international presence and consolidated reputation in many markets – from the Middle East to Latin America. But there are also other capital groups whose results in this category are impressive. The next positions in this category went to industrial processing companies: Amica, LPP and Selena FM. Another IT company, Comarch, comes fifth.

The last places in the international presence ranking went to Local Champions. Their low ranking in this category is the reason why they are known as LOCAL Champions. They are mostly focused on the local market – they do not have businesses abroad, nor do they sell their services to recipients from outside Poland. Many companies from our list fail to provide any data on the export of their products or services because these figures are often negligible for the overall business, that's why they scored zero in this category. The top position among Local Champions in this category goes to Węglokoks – the company is gradually increasing its foreign revenue from the trade in Polish energy carriers. It is also good to note the advancement of Grupa Azoty, which improved its position by increasing foreign operations, and jumped from the 28. to the 7. position shared with PKN Orlen. For this reason, this year Grupa Azoty joined the proud category of National Champions for the first time in the history of our survey.

Innovation

Changes in the data regarding participation in scientific consortia caused numerous shuffles in this category. Nevertheless, Polpharma remains the leader with a score of 87. (the same score as last year). The runner-up is Grupa Azoty (who jumped from the 10. position) closely followed by PKN Orlen. This outstanding result proves that Polish National Champions prioritise innovation not only in those sectors that have traditionally focused on R&D, such as IT (Comarch came ninth, while Asseco - eleventh) but also in industrial processing. Even companies that are commonly not known for being innovative, e.g. those from the mining sector, obtained very good results in this category. For example, Jastrzębska Spółka Węglowa climbed to the 5. position (from the last year's 8. place) thanks to the investments in R&D, collaborations with scientific communities and systematic addition of new patents.

It is good to note that while International and National Champions rank high in this category, companies from other groups are also present on various positions of the list. This means the level of innovation depends on the attitude of the management and the adopted strategy, rather than the industry, shareholder structure or international activity. Many business owners still fail to realise the importance of R&D investments and broadly understood human resources. Without these two aspects, no Polish company has a chance to become a National or International Champion.

Just like was the case in the previous years, many companies fail to report or collect the relevant data in these two categories, and often have no information on how many of their employees deal with the development of innovative products. It follows from the ranking that only a few Polish companies focus on innovativeness and are interested in the development of new technologies. It is one of the shortcomings of the Polish champions, although, in fact, they should boast not only high productivity per employee but also considerable and continuous investment in R&D. That's why organisations which do not collect or report such data scored zero in the R&D subcategory.

		International Presence	International activity	Export
1	ASSECO POLAND S.A.	**100**	100	100
2	AMICA S.A.	**98**	91	100
2	LPP S.A.	**98**	88	100
4	SELENA FM S.A.	**97**	86	100
5	COMARCH S.A.	**96**	79	100
6	PRESS GLASS SP. Z O.O.	**95**	75	100
7	GRUPA AZOTY S.A.	**94**	68	100
7	PKN ORLEN S.A.	**94**	71	100
9	BORYSZEW S.A.	**91**	55	100
9	WIELTON S.A.	**91**	56	100
11	ADAMED PHARMA S.A.	**90**	51	100
11	CIECH S.A.	**90**	51	100
11	KGHM POLSKA MIEDŹ S.A.	**90**	51	100
14	GRUPA KĘTY S.A.	**89**	46	100
15	MLEKOVITA S.A.	**80**	0	100
15	STALPRODUKT S.A.	**80**	23	95

		Innovation	Intellectual property	R&D activities	Business & science cooperation	Work efficiency
1	POLPHARMA S.A.	**87**	84	98	100	64
2	GRUPA AZOTY S.A.	**85**	100	83	87	63
3	PKN ORLEN S.A.	**84**	100	53	84	100
4	ADAMED PHARMA S.A.	**79**	90	88	100	24
5	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**69**	52	69	90	67
6	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**59**	90	50	0	100
7	SYNTHOS S.A.	**56**	91	34	0	100
8	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**52**	42	75	4	100
9	COMARCH S.A.	**51**	53	100	0	50
10	AMICA S.A.	**47**	87	47	0	47
11	ASSECO POLAND S.A.	**45**	16	100	0	77
11	KGHM POLSKA MIEDŹ S.A.	**45**	83	n.d.	0	100
13	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**44**	80	n.d.	0	100
14	CIECH S.A.	**42**	28	62	0	94
15	SELENA FM S.A.	**40**	49	61	0	50

International Champions · National Champions · Aspiring National Champions

Local Champions · Other large companies

Classification of champions **by the main sectors of the economy**

The TOP 50 list of Polish national champions is dominated by industrial processing companies. There are a total of 16 capital groups from this sector - while in the previous edition there were as many as 19. Out of the 16, two are International Champions, six – are National Champions, and another six – are Aspiring International Champions. Their average NC index is 55 – better results in the sector ranking were achieved only by mining companies. **This means that the competitive advantage of the Polish economy relies on industry, which in turn is highly foreign-oriented** – the average index of industrial processing companies was 79 in the "international presence" category, while the runner-up, the ICT sector, could boast a score of only 49.

The highest average score (59) belongs to mining companies. It was mainly the two TOP 10 members, KGHM and Jastrzębska Spółka Węglowa, that contributed to this impressive result. Polska Grupa Górnicza was the only company with a lower score and ranked as a Local Champion, while this year's newbie – Polenergia – came last. Capital groups from the mining sector obtained the highest result in the „economy" category, overtaking even energy champions.

The weakest scores were observed among the capital groups from the building and assembly production sector. Despite a very good situation on the market, only one of such companies made it to our list this year (Erbud), while in the previous edition we classified two businesses from this sector. This means the sector is not making the most of the favourable situation, especially in the housing segment, and since it is not growing, it is gradually pushed out of the Polish market by foreign competitors.

It is, however, good to note that companies from the trade sector are steadily gaining significance. In this year's ranking, we have twice as many trade companies as last year (10 vs 5 respectively). The difficult pandemic period favoured the development of large companies, which had ample means to promote the new distribution and sales channels, especially via online commercial platforms. This quantitative increase was not accompanied by a corresponding qualitative boost, though. The average NC index in this group was slightly lower when compared to the previous edition - it dropped from 36 to 34 points. This is the result of reduced economic activity during the pandemic, coupled with increasing foreign competition, including new e-commerce actors entering the Polish market.

Transport companies are yet another group that experienced losses during the pandemic. The number of companies included in the TOP 50 of our ranking dropped from 8 to 6, and the average score was lower, too (last year's 37 vs this year's 31). This figure results mainly from the losses suffered by the rail and aviation industry. The only companies that yielded a profit in 2021 were those dealing with liquid fuel transmission - PERN and Gas-System.

Ranking by the key sectors

	Number of companies	NC Index	Economy	Sector	International Presence	Innovation
Industrial processing	16	**55**	45	52	79	43
Retail	10	**34**	46	33	39	17
Energy	6	**40**	68	47	3	41
Transport	6	**31**	52	46	7	19
Information and telecommunications	4	**46**	64	32	49	37
Other services	4	**35**	43	53	24	21
Mining and extraction	3	**59**	77	64	48	46
Construction	1	**24**	46	13	12	26

International Champions
National Champions
Aspiring National Champions
Local Champions
Other large companies

Processing and construction

		NC Index	Economy	Sector	International Presence	Innovation
1	PKN ORLEN S.A.	**90**	81	100	94	84
2	GRUPA AZOTY S.A.	**78**	65	68	94	85
3	SELENA FM S.A.	**69**	44	93	97	40
4	POLPHARMA S.A.	**63**	47	48	71	87
5	SYNTHOS S.A.	**61**	47	89	52	56
6	ADAMED PHARMA S.A.	**60**	39	30	90	79
6	STALPRODUKT S.A.	**60**	50	78	80	31
8	CIECH S.A.	**57**	42	53	90	42
9	GRUPA KĘTY S.A.	**54**	46	46	89	35
10	AMICA S.A.	**53**	37	28	98	47
11	WIELTON S.A.	**49**	39	37	91	29
12	MLEKOVITA S.A.	**43**	38	21	80	35
12	PRESS GLASS SP. Z O.O.	**41**	36	24	95	8
14	TDJ S.A.	**38**	41	45	55	10
15	SANOK RUBBER COMPANY S.A.	**33**	36	40	44	13
15	DRUTEX S.A.	**33**	37	35	45	13
17	ERBUD S.A.	**24**	46	13	12	26

Mining and power

		NC Index	Economy	Sector	International Presence	Innovation
1	KGHM POLSKA MIEDŹ S.A.	**80**	87	100	90	45
2	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**66**	81	63	49	69
3	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**58**	81	89	3	59
4	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**46**	82	52	4	44
5	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**39**	63	31	7	52
6	ENEA S.A.	**37**	71	49	0	30
7	TAURON POLSKA ENERGIA S.A.	**36**	72	30	2	38
8	POLSKA GRUPA GÓRNICZA S.A.	**30**	62	29	4	24
9	POLENERGIA S.A.	**23**	38	30	0	23

Trade and transport

		NC Index	Economy	Sector	International Presence	Innovation
1	BORYSZEW S.A.	**52**	49	39	91	28
2	LPP S.A.	**51**	64	33	98	12
3	INTER CARS S.A.	**46**	45	53	58	26
4	POLSKIE KOLEJE PANSTWOWE S.A.	**43**	62	64	15	31
5	CCC S.A.	**40**	47	38	62	13
6	POCZTA POLSKA S.A.	**36**	59	54	13	17
7	PKP POLSKIE LINIE KOLEJOWE S.A.	**33**	67	47	0	17
8	WĘGLOKOKS S.A.	**32**	42	2	67	16
9	COGNOR HOLDING S.A	**31**	36	43	13	30
10	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ - SYSTEM S.A.	**30**	49	42	0	30
11	PERN S.A.	**27**	37	44	12	16
12	DINO POLSKA S.A.	**23**	57	24	0	10
13	PELION S.A.	**22**	41	29	4	12
13	EURO NET SP. Z O.O.	**22**	38	37	0	13
15	NEUCA S.A.	**21**	39	30	1	13
16	POLREGIO S.A.	**18**	40	27	0	6

Professional services

		NC Index	Economy	Sector	International Presence	Innovation
1	ASSECO POLAND S.A.	**67**	81	41	100	45
2	COMARCH S.A.	**57**	55	26	96	51
3	KRUK S.A.	**54**	44	100	44	30
4	CYFROWY POLSAT S.A.	**36**	69	46	0	28
5	AGORA S.A.	**33**	46	35	23	27
6	IMPEL S.A.	**29**	44	63	2	8
7	BENEFIT SYSTEMS S.A.	**25**	38	16	26	20
8	TELEWIZJA POLSKA S.A.	**22**	49	16	0	25

International Champions   National Champions   Aspiring National Champions

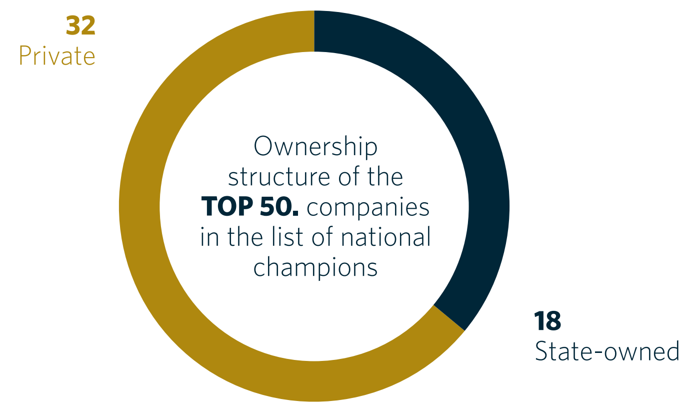
Local Champions   Other large companies

Classification of champions **by company ownership**

This is another consecutive year that sees a growing number of privately owned national champions – in this edition, there are 32 of them (compared to 28 last year and 26 two years ago). As regards state-owned companies, there are 18 of them - and that's the smallest number since we started our surveys. These figures prove that private business grew during the pandemic because it was more flexible and adjusted to the new reality much sooner than the public sector.

The disproportion between private and state-owned groups was consistently observed in individual categories of champions. Although the number of International Champions has increased, this title was awarded only to state-controlled companies, but the prevalence of privately owned businesses in the group of National Champions increased (8 privately owned companies vs 2 state-controlled entities). Proportions of state-controlled and privately owned companies remained unchanged in the group of Aspiring Champions, with 12 privately owned and 6 state-controlled companies. Among Local Champions there were more state-controlled companies - 6, compared to 5 private businesses. This is the smallest difference in ownership in the history of our survey.

The outcome of the ranking proves that the state decided to create and nurture a few international champions, who enjoy considerable political support and improve their position in our ranking with every year. Other state-owned companies receive less and less support, and are gradually becoming pawns in a political game and might be taken over by either of the two major groups. In the nearest future, the position of Orlen will not be at risk, after the company acquired Grupa Lotos and PGNiG. The runner-up, the monopolist in copper mining - KGHM - is safe, too.



Ownership	State-owned	Private
International Champions	**3**	**0**
National Champions	**2**	**8**
Local Champions	**6**	**12**
Aspiring National Champions	**5**	**6**

Special index:
the five-year ranking

The five-year ranking was **prepared based on the results of all the editions of our National Champions ranking published for the years 2018 to 2022.** For each company we calculated the average NC index together with subindices (economy, sector, foreign markets, innovation), considering all the editions when the company was listed. On top of this, we also calculated the delta of the NC index between 2018 and 2022 – this was done only for those companies that were listed among the TOP 50 each year.

A total of 71 capital groups made it to the TOP 50 in all the editions organised to date. Fewer than half of them (28 companies) were listed in all the editions of the ranking. As regards other entities, 14 companies were classified only once, 11 – twice, 5 – three times, and 13 were listed in four editions. **The overall average NC index over the past five years was ca. 40. – the highest average NC index (44) was noted in 2021,** while the lowest average value (38) was observed in 2019.

PKN Orlen with an average NC index of 86 got the best score in the overall ranking over the past five years. This can be linked to the exceptionally good result obtained by the company in the past three years when it invariably held the position of the leader in the raking. **The runner-up is KGHM Polska Miedź with a score of 84** – this company has been classified as an International Champion since the first survey, and ranked first in the first two editions.

Asseco Poland from Rzeszów, with a score of 66, comes third. This is also number one among Polish privately controlled companies. Polpharma with 61 points comes fourth. In the five-year classification, it overtook two state-owned companies: PGNiG and Azoty (with 60 points each).

As regards the classification of individual subindices, **KGHM wins in the "economy" category with a score of 88,** closely followed by PGE and PGNiG. **PKN Orlen comes first in the "sector" class,** with an average five-year score of 88 – which is slightly more than the runner-up, KGHM, and Synthos, which comes third. In the **"international presence" category the leader is Asseco Poland** with a score of 100, which means this capital group obtained the maximum available number of points in each edition of our ranking. It is followed by Comarch (96) and Orlen (94). **The leader of the fourth category, "innovation", is Polpharma** – the average score for the past five years is 82. The second position goes to Orlen (77), followed by KGHM (75).

		NC Index	Economy	Sector	International Presence	Innovation	Change of the NC Index in 5 years
1	PKN ORLEN SA.	**86**	83	88	94	77	4
2	KGHM POLSKA MIEDZ SA	**84**	88	86	89	75	-8
3	ASSECO POLAND S.A.	**66**	81	34	100	48	5
4	POLPHARMA S.A.	**61**	50	38	74	82	-1
5	POLSKIE GORNICTWO NAFTOWE I GAZOWNICTWO SA	**60**	84	75	12	71	-10
5	GRUPA AZOTY S.A.	**60**	66	59	48	66	19
7	SYNTHOS S.A.	**59**	49	78	n.d.	68	-4
7	COMARCH SA	**59**	56	26	96	56	-4
9	CIECH SA	**58**	43	67	92	28	-10
10	BORYSZEW SPOLKA AKCYJNA	**57**	52	44	91	41	-5
11	JASTRZEBSKA SPOLKA WEGLOWA SA	**56**	81	48	39	54	25
12	STALPRODUKT S.A.	**54**	50	54	75	35	21
13	SELENA FM S.A.	**53**	40	68	81	25	31
14	GRUPA KETY SA	**51**	45	45	82	30	7
15	AMICA S.A	**49**	42	27	83	43	9
16	TDJ S.A.	**44**	43	36	52	44	6
17	MLEKOVITA S.A.	**43**	40	10	80	43	1
17	CCC S.A.	**43**	49	42	67	13	-3
19	PGE POLSKA GRUPA ENERGETYCZNA S.A	**39**	88	36	1	32	13
20	TAURON POLSKA ENERGIA SA	**38**	79	29	1	44	3
21	POCZTA POLSKA S.A.	**37**	62	55	n.d.	18	4
22	CYFROWY POLSAT SA	**36**	68	45	n.d.	29	3
23	ENEA S.A.	**33**	74	34	n.d.	26	7
23	PKP POLSKIE LINIE KOLEJOWE S.A.	**33**	66	41	n.d.	26	2
25	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**31**	60	18	n.d.	41	10
26	POLSKA GRUPA GORNICZA S.A.	**30**	71	26	n.d.	18	1
27	IMPEL S.A.	**28**	48	54	2	8	2
28	POLREGIO S.A.	**19**	43	28	n.d.	6	-9

Among all the companies classified in the TOP 50 in all the editions of our ranking, **Selena FM is the one that can boast the greatest leap.** In 2018 it ranked 22. with a score of 38, thus classifying as an Aspiring National Champion, while in the latest edition it came fourth with a score of 69 and the title of a National Champion. It is also good to mention four companies that had their début in subsequent editions of our ranking and then worked their way up, overtaking a number of companies regarded as national champions for years. In 2019 LPP was classified in the TOP 50 for the first time - with the best score out of all the newbies listed in the second edition (its average score for the four years is 49). The best début in 2020 was Adamed Pharma (58), and in 2021 - Grupa Kruk (45). And this time, in the fifth edition of the ranking, Press Glass can boast the best score among the newbies (41).

FIVE-YEAR LEADERS IN INDIVIDUAL CATEGORIES:

Economy	**KGHM POLSKA MIEDŹ**	**88 p.**
Sector	**PKN ORLEN**	**88 p.**
International Presence	**ASSECO POLAND**	**100 p.**
Innovation	**POLPHARMA**	**82 p.**

THE BIGGEST INCREASE OF NC INDEX:

SELENA FM **+31 p.**

THE BEST DÉBUT:

2019 edition	**LPP**
2020 edition	**ADAMED PHARMA**
2021 edition	**KRUK**
2022 edition	**PRESS GLASS**

Full results

Place	Company	NC Index	Economy	Sector	International Presence	Innovation
1	PKN ORLEN S.A.	**90**	81	100	94	84
2	KGHM POLSKA MIEDŹ S.A.	**80**	87	100	90	45
3	GRUPA AZOTY S.A.	**78**	65	68	94	85
4	SELENA FM S.A.	**69**	44	93	97	40
5	ASSECO POLAND S.A.	**67**	81	41	100	45
6	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**66**	81	63	49	69
7	POLPHARMA S.A.	**63**	47	48	71	87
8	SYNTHOS S.A.	**61**	47	89	52	56
9	ADAMED PHARMA S.A.	**60**	39	30	90	79
9	STALPRODUKT S.A.	**60**	50	78	80	31
11	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**58**	81	89	3	59
12	CIECH S.A.	**57**	42	53	90	42
12	COMARCH S.A.	**57**	55	26	96	51
14	GRUPA KĘTY S.A.	**54**	46	46	89	35
14	KRUK S.A.	**54**	44	100	44	30
16	AMICA S.A.	**53**	37	28	98	47
17	BORYSZEW S.A.	**52**	49	39	91	28
18	LPP S.A.	**51**	64	33	98	12
19	WIELTON S.A.	**49**	39	37	91	29
20	INTER CARS S.A.	**46**	45	53	58	26
20	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**46**	82	52	4	44
22	MLEKOVITA S.A.	**43**	38	21	80	35
22	POLSKIE KOLEJE PANSTWOWE S.A.	**43**	62	64	15	31
24	PRESS GLASS SP. Z O.O.	**41**	36	24	95	8
25	CCC S.A.	**40**	47	38	62	13
26	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**39**	63	31	7	52
27	TDJ S.A.	**38**	41	45	55	10
28	ENEA S.A.	**37**	71	49	0	30
29	CYFROWY POLSAT S.A.	**36**	69	46	0	28
29	POCZTA POLSKA S.A.	**36**	59	54	13	17
29	TAURON POLSKA ENERGIA S.A.	**36**	72	30	2	38
32	AGORA S.A.	**33**	46	35	23	27
32	DRUTEX S.A.	**33**	37	35	45	13
32	PKP POLSKIE LINIE KOLEJOWE S.A.	**33**	67	47	0	17
32	SANOK RUBBER COMPANY S.A.	**33**	36	40	44	13
36	WĘGLOKOKS S.A.	**32**	42	2	67	16
37	COGNOR HOLDING S.A	**31**	36	43	13	30
38	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ - SYSTEM S.A.	**30**	49	42	0	30
38	POLSKA GRUPA GÓRNICZA S.A.	**30**	62	29	4	24
40	IMPEL S.A.	**29**	44	63	2	8
41	PERN S.A.	**27**	37	44	12	16
42	BENEFIT SYSTEMS S.A.	**25**	38	16	26	20
43	ERBUD S.A.	**24**	46	13	12	26
44	DINO POLSKA S.A.	**23**	57	24	0	10
44	POLENERGIA S.A.	**23**	38	30	0	23
46	EURO NET SP. Z O.O.	**22**	38	37	0	13
46	PELION S.A.	**22**	41	29	4	12
46	TELEWIZJA POLSKA S.A.	**22**	49	16	0	25
49	NEUCA S.A.	**21**	39	30	1	13
50	POLREGIO S.A.	**18**	40	27	0	6

Places 51-75

(Alphabetic order)

- AB S.A.
- AGATA S.A.
- AUTO PARTNER S.A.
- BLACK RED WHITE S.A.
- CEDROB S.A.
- ELEKTRIM S.A.
- FABRYKI MEBLI FORTE S.A.
- FARMACOL S.A.
- KRAJOWA GRUPA SPOŻYWCZA S.A.
- MERCATOR MEDICAL S.A.
- MIRBUD S.A.
- NOWY STYL SP. Z O.O.
- PEKABEX S.A.
- POLSKIE LINIE LOTNICZE LOT S.A.
- RTB HOUSE S.A.
- SOLID SECURITY SP. Z O.O.
- SPÓŁDZIELNIA MLECZARSKA MLEKPOL W GRAJEWIE
- TELE-FONIKA KABLE S.A.
- TORPOL S.A.
- TORUŃSKIE ZAKŁADY MATERIAŁÓW OPATRUNKOWYCH S.A.
- UNIBEP S.A.
- VRG S.A.
- WIPASZ S.A.
- ZARMEN SP. Z O.O.
- ZJEDNOCZONE PRZEDSIĘBIORSTWA ROZRYWKOWE S.A.

Places 76-100

(Alphabetic order)

- ACTION S.A.
- ALUMETAL S.A.
- ATAL S.A.
- AUTO HANDEL CENTRUM GRUPA CICHY SP. Z O.O.
- BOWIM S.A.
- FERMY DROBIU WOŹNIAK SP. Z O.O.
- FIDELTRONIK POLAND SP. Z O.O.
- FRAPO-DYSTRYBUCJA SP. Z O.O.
- GRUPA MASPEX SP. Z O.O.
- IGLOTEX S.A.
- KONSORCJUM STALI S.A.
- MENNICA POLSKA S.A.
- OKRĘGOWA SPÓŁDZIELNIA MLECZARSKA W ŁOWICZU
- OKRĘGOWA SPÓŁDZIELNIA MLECZARSKA W PIĄTNICY
- OSADKOWSKI SP. Z O.O.
- OTCF S.A.
- POLMLEK SP. Z O.O.
- PRZEDSIEBIORSTWO USŁUGOWO - HANDLOWE CHEMIROL SP. Z O.O.
- RAINBOW TOURS S.A.
- SUPERDROB S.A.
- TIM S.A.
- TRANSFER MULTISORT ELEKTRONIK SP. Z O.O.
- ZAKŁAD PRZEMYSŁU MIĘSNEGO BIERNACKI SP. Z O.O.
- ZAKŁAD PRZETWÓRSTWA MIĘSNEGO JBB IMPORT
- ZAKŁADY MIĘSNE SKIBA S.A.

Places 101-126

(Alphabetic order)

- AGROLOK SP. Z O.O.
- AMPOL - MEROL SP. Z O.O.
- ANWIM S.A.
- BEMO MOTORS SP. Z O.O.
- DEKPOL S.A.
- ENTER AIR SP. Z O.O.
- GRUPA AWW SP. Z O.O.
- GRUPA PSB HANDEL S.A.
- HURTAP S.A.
- KENO SP. Z O.O.
- KOLPORTER SP. Z O.O.
- KOMAGRA SP. Z O.O.
- KOMPUTRONIK S.A.
- KONIMPEX SP. Z O.O.
- LERG S.A.
- MIROSŁAW WRÓBEL - SP. Z O.O.
- MOTO-PROFIL SP. Z O.O.
- NOVA TRADING S.A.
- NTT SYSTEM S.A.
- OPONEO.PL S.A.
- POLOMARKET SP. Z O.O.
- PRUSZYŃSKI SP. Z O.O.
- PRZEDSIĘBIORSTWO PRZEMYSŁOWO--HANDLOWE STANDARD SP. Z O.O.
- PRZEDSIĘBIORSTWO USŁUG TECHNICZNYCH INTERCOR SP. Z O.O.
- UNIMOT S.A.
- WERNER KENKEL BOCHNIA SP. Z O.O.

International Champions · National Champions · Aspiring National Champions · Local Champions · Other large companies

Economy

Rank	Company	Economy	Value-Added	Employment	Average salary	Payroll budget	Liquidity and solvency	Contribution to the state budget	Investments and fixed assets	Capitalisation
1	KGHM POLSKA MIEDŹ S.A.	**87**	94	88	100	39	53	100	93	100
2	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**82**	91	90	46	35	71	100	98	100
3	ASSECO POLAND S.A.	**81**	82	86	100	81	97	80	37	100
3	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**81**	80	87	84	70	64	100	65	99
3	PKN ORLEN S.A.	**81**	100	89	40	19	55	100	98	100
3	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**81**	95	83	54	20	73	100	97	100
7	TAURON POLSKA ENERGIA S.A.	**72**	76	84	34	50	54	79	89	100
8	ENEA S.A.	**71**	75	78	34	36	72	87	83	100
9	CYFROWY POLSAT S.A.	**69**	82	65	44	11	94	100	62	100
10	PKP POLSKIE LINIE KOLEJOWE S.A.	**67**	73	90	0	57	37	54	100	75
11	GRUPA AZOTY S.A.	**65**	66	76	0	38	58	100	81	100
12	LPP S.A.	**64**	67	87	0	35	43	100	80	54
13	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**63**	58	51	100	22	88	100	55	75
14	POLSKA GRUPA GÓRNICZA S.A.	**62**	74	89	31	78	0	50	60	0
14	POLSKIE KOLEJE PANSTWOWE S.A.	**62**	65	80	19	62	52	54	60	75
16	POCZTA POLSKA S.A.	**59**	68	100	0	87	2	59	35	12
17	DINO POLSKA S.A.	**57**	61	87	0	55	50	67	36	52
18	COMARCH S.A.	**55**	46	64	59	79	99	65	17	36
19	STALPRODUKT S.A.	**50**	47	60	0	39	99	100	26	55
20	BORYSZEW S.A.	**49**	47	68	8	70	58	62	24	40
20	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ - SYSTEM S.A.	**49**	51	52	34	24	50	62	48	75
20	TELEWIZJA POLSKA S.A.	**49**	41	51	100	63	50	51	22	6
23	CCC S.A.	**47**	51	75	0	62	7	57	30	35
23	POLPHARMA S.A.	**47**	48	61	59	61	60	17	28	20
23	SYNTHOS S.A.	**47**	55	51	22	16	64	80	38	19
26	AGORA S.A.	**46**	28	48	81	83	57	57	21	32
26	ERBUD S.A.	**46**	31	27	100	79	98	56	14	31
26	GRUPA KĘTY S.A.	**46**	49	61	9	38	59	64	27	41
29	INTER CARS S.A.	**45**	49	55	12	27	70	68	26	52
30	IMPEL S.A.	**44**	45	75	0	90	75	1	12	28
30	KRUK S.A.	**44**	47	53	22	28	100	64	5	48
30	SELENA FM S.A.	**44**	25	46	73	86	81	52	10	30
33	CIECH S.A.	**42**	45	53	29	34	66	22	43	46
33	WĘGLOKOKS S.A.	**42**	39	59	0	53	99	53	22	20
35	PELION S.A.	**41**	47	71	0	41	2	57	26	5
35	TDJ S.A.	**41**	32	60	0	69	100	50	18	9
37	POLREGIO S.A.	**40**	27	63	0	100	51	52	18	5
38	ADAMED PHARMA S.A.	**39**	13	47	22	100	100	58	20	16
38	NEUCA S.A.	**39**	35	55	6	56	36	55	22	33
38	WIELTON S.A.	**39**	29	54	13	73	52	51	17	29
41	BENEFIT SYSTEMS S.A.	**38**	26	40	59	48	55	51	22	30
41	EURO NET SP. Z O.O.	**38**	41	64	0	55	10	57	10	5
41	MLEKOVITA S.A.	**38**	45	59	0	17	100	50	5	10
41	POLENERGIA S.A.	**38**	34	10	100	8	78	59	30	41
45	AMICA S.A.	**37**	32	53	0	40	62	61	16	35
45	DRUTEX S.A.	**37**	32	53	0	46	95	55	15	7
45	PERN S.A.	**37**	33	48	0	17	75	62	33	43
48	COGNOR HOLDING S.A	**36**	36	45	16	28	66	59	15	31
48	PRESS GLASS SP. Z O.O.	**36**	27	59	0	48	83	57	13	13
48	SANOK RUBBER COMPANY S.A.	**36**	26	53	1	74	59	51	13	29

International Champions

National Champions

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Sector

Rank	Company	Sector	Share in the value-added of all sectors and in the employment of the main sector	Profitability and earning power against the main industry	Main sector of activity (PKD/NACE code)	Other important business
1	KGHM POLSKA MIEDŹ S.A.	**100**	100	100	Mining of other non-ferrous metal ores (07.29)	4
1	KRUK S.A.	**100**	100	100	Activities of collection agencies and credit bureaus (82.91)	1
1	PKN ORLEN S.A.	**100**	100	100	Manufacture of refined petroleum products (19.20)	5
4	SELENA FM S.A.	**93**	100	73	Manufacture of glues (20.52)	7
5	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**89**	100	56	Trade of gas through mains (35.23)	4
5	SYNTHOS S.A.	**89**	89	92	Manufacture of synthetic rubber in primary forms (20.17)	5
7	STALPRODUKT S.A.	**78**	71	100	Lead, zinc and tin production (24.43)	2
8	GRUPA AZOTY S.A.	**68**	74	50	Manufacture of fertilisers and nitrogen compounds (20.15)	3
9	POLSKIE KOLEJE PANSTWOWE S.A.	**64**	68	50	Freight rail transport (49.20)	0
10	IMPEL S.A.	**63**	67	50	Other building and industrial cleaning activities (81.22)	12
10	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**63**	51	100	Mining of hard coal (05.10)	4
12	POCZTA POLSKA S.A.	**54**	70	5	Postal activities under universal service obligation (53.10)	6
13	CIECH S.A.	**53**	53	50	Manufacture of other inorganic basic chemicals (20.13)	4
13	INTER CARS S.A.	**53**	38	100	Wholesale trade of motor vehicle parts and accessories (45.31)	6
15	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**52**	66	13	Production of electricity (35.11)	2
16	ENEA S.A.	**49**	44	63	Production of electricity (35.11)	7
17	POLPHARMA S.A.	**48**	31	99	Manufacture of pharmaceutical preparations (21.20)	2
18	PKP POLSKIE LINIE KOLEJOWE S.A.	**47**	63	0	Service activities incidental to land transportation (52.21)	0
19	CYFROWY POLSAT S.A.	**46**	29	100	Wireless telecommunications activities (61.20)	3
19	GRUPA KĘTY S.A.	**46**	28	100	Aluminium production (24.42)	0
21	TDJ S.A.	**45**	43	50	Manufacture of machinery for mining, quarrying and construction (28.92)	5
22	PERN S.A.	**44**	37	65	Transport via pipeline (49.50)	7
23	COGNOR HOLDING S.A	**43**	25	100	Wholesale of metals and metal ores (46.72)	3
24	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ - SYSTEM S.A.	**42**	41	45	Transport via pipeline (49.50)	0
25	ASSECO POLAND S.A.	**41**	37	50	Computer programming activities (62.01)	2
26	SANOK RUBBER COMPANY S.A.	**40**	36	50	Manufacture of synthetic rubber in primary forms (20.17)	4
27	BORYSZEW S.A.	**39**	39	36	Wholesale of metals and metal ores (46.72)	8
28	CCC S.A.	**38**	34	50	Retail sale of footwear and leather goods in specialised stores (47.72)	2
29	WIELTON S.A.	**37**	43	20	Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers (29.20)	4
29	EURO NET SP. Z O.O.	**37**	49	0	Retail sale of electrical household appliances in specialised stores (47.54)	3
31	AGORA S.A.	**35**	30	50	Media representation (73.12)	5
31	DRUTEX S.A.	**35**	24	69	Manufacture of builders' ware of plastic (22.23)	3
33	LPP S.A.	**33**	27	50	Retail sale of clothing in specialised stores (47.71)	0
34	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**31**	37	15	Transmission of electricity (35.12)	0
35	ADAMED PHARMA S.A.	**30**	24	50	Manufacture of pharmaceutical preparations (21.20)	2
35	NEUCA S.A.	**30**	30	28	Wholesale of pharmaceutical goods (46.46)	4
35	POLENERGIA S.A.	**30**	30	29	Production of electricity (35.11)	5
35	TAURON POLSKA ENERGIA S.A.	**30**	40	0	Trade of electricity (35.14)	5
39	PELION S.A.	**29**	24	44	Wholesale of pharmaceutical goods (46.46)	2
39	POLSKA GRUPA GÓRNICZA S.A.	**29**	38	0	Mining of hard coal (05.10)	0
41	AMICA S.A.	**28**	21	50	Manufacture of electric domestic appliances (27.51)	2
42	POLREGIO S.A.	**27**	36	0	Passenger rail transport, interurban (49.10)	1
43	COMARCH S.A.	**26**	19	50	Computer programming activities (62.01)	2
44	DINO POLSKA S.A.	**24**	5	81	Retail sale in non-specialised stores with food, beverages or tobacco predominating (47.11)	0
44	PRESS GLASS SP. Z O.O.	**24**	25	21	Shaping and processing of flat glass (23.12)	1
46	MLEKOVITA S.A.	**21**	11	50	Operation of dairies and cheese making (10.51)	0
47	BENEFIT SYSTEMS S.A.	**16**	5	50	Other personal service activities n.e.c. (96.09)	0
47	TELEWIZJA POLSKA S.A.	**16**	21	0	Television programming and broadcasting activities (60.20)	0
49	ERBUD S.A.	**13**	17	0	Construction of residential and non-residential buildings (41.20)	2
50	WĘGLOKOKS S.A.	**2**	3	1	Wholesale of solid, liquid and gaseous fuels and related products (46.71)	0

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International Presence

Rank	Company	International Presence	International activity	Export
1	ASSECO POLAND S.A.	**100**	100	100
2	AMICA S.A.	**98**	91	100
2	LPP S.A.	**98**	88	100
4	SELENA FM S.A.	**97**	86	100
5	COMARCH S.A.	**96**	79	100
6	PRESS GLASS SP. Z O.O.	**95**	75	100
7	GRUPA AZOTY S.A.	**94**	68	100
7	PKN ORLEN S.A.	**94**	71	100
9	BORYSZEW S.A.	**91**	55	100
9	WIELTON S.A.	**91**	56	100
11	ADAMED PHARMA S.A.	**90**	51	100
11	CIECH S.A.	**90**	51	100
11	KGHM POLSKA MIEDŹ S.A.	**90**	51	100
14	GRUPA KĘTY S.A.	**89**	46	100
15	MLEKOVITA S.A.	**80**	0	100
15	STALPRODUKT S.A.	**80**	23	95
17	POLPHARMA S.A.	**71**	39	80
18	WĘGLOKOKS S.A.	**67**	2	83
19	CCC S.A.	**62**	64	61
20	INTER CARS S.A.	**58**	55	58
21	TDJ S.A.	**55**	13	66
22	SYNTHOS S.A.	**52**	58	51
23	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**49**	0	61
24	DRUTEX S.A.	**45**	0	56
25	KRUK S.A.	**44**	76	36
25	SANOK RUBBER COMPANY S.A.	**44**	53	41
27	BENEFIT SYSTEMS S.A.	**26**	54	18
28	AGORA S.A.	**23**	2	29
29	POLSKIE KOLEJE PANSTWOWE S.A.	**15**	0	19
30	COGNOR HOLDING S.A	**13**	3	16
30	POCZTA POLSKA S.A.	**13**	0	16
32	ERBUD S.A.	**12**	23	9
32	PERN S.A.	**12**	0	15
34	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**7**	5	8
35	PELION S.A.	**4**	0	5
35	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**4**	0	5
35	POLSKA GRUPA GÓRNICZA S.A.	**4**	0	5
38	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**3**	8	2
39	IMPEL S.A.	**2**	3	1
39	TAURON POLSKA ENERGIA S.A.	**2**	1	2
41	NEUCA S.A.	**1**	7	0
42	CYFROWY POLSAT S.A.	**0**	2	0
42	DINO POLSKA S.A.	**0**	0	0
42	ENEA S.A.	**0**	0	0
42	EURO NET SP. Z O.O.	**0**	0	0
42	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ - SYSTEM S.A.	**0**	0	0
42	PKP POLSKIE LINIE KOLEJOWE S.A.	**0**	0	0
42	POLENERGIA S.A.	**0**	1	0
42	POLREGIO S.A.	**0**	0	0
42	TELEWIZJA POLSKA S.A.	**0**	0	0

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Innovation

Rank	Company	Innovation	Intellectual property	R&D activities	Business & science cooperation	Work efficiency
1	POLPHARMA S.A.	**87**	84	98	100	64
2	GRUPA AZOTY S.A.	**85**	100	83	87	63
3	PKN ORLEN S.A.	**84**	100	53	84	100
4	ADAMED PHARMA S.A.	**79**	90	88	100	24
5	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**69**	52	69	90	67
6	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**59**	90	50	0	100
7	SYNTHOS S.A.	**56**	91	34	0	100
8	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**52**	42	75	4	100
9	COMARCH S.A.	**51**	53	100	0	50
10	AMICA S.A.	**47**	87	47	0	47
11	ASSECO POLAND S.A.	**45**	16	100	0	77
11	KGHM POLSKA MIEDŹ S.A.	**45**	83	n.d.	0	100
13	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**44**	80	n.d.	0	100
14	CIECH S.A.	**42**	28	62	0	94
15	SELENA FM S.A.	**40**	49	61	0	50
16	TAURON POLSKA ENERGIA S.A.	**38**	81	n.d.	0	67
17	GRUPA KĘTY S.A.	**35**	70	n.d.	0	71
17	MLEKOVITA S.A.	**35**	51	28	0	64
19	STALPRODUKT S.A.	**31**	48	14	0	64
19	POLSKIE KOLEJE PANSTWOWE S.A.	**31**	72	n.d.	0	48
21	COGNOR HOLDING S.A	**30**	32	n.d.	0	100
21	ENEA S.A.	**30**	37	n.d.	0	93
21	KRUK S.A.	**30**	13	23	0	100
21	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ - SYSTEM S.A.	**30**	33	n.d.	0	100
25	WIELTON S.A.	**29**	69	1	0	39
26	BORYSZEW S.A.	**28**	41	32	0	38
26	CYFROWY POLSAT S.A.	**28**	25	0	0	100
28	AGORA S.A.	**27**	23	39	0	52
29	ERBUD S.A.	**26**	20	n.d.	0	100
29	INTER CARS S.A.	**26**	21	n.d.	0	100
31	TELEWIZJA POLSKA S.A.	**25**	25	n.d.	0	89
32	POLSKA GRUPA GÓRNICZA S.A.	**24**	51	n.d.	0	42
33	POLENERGIA S.A.	**23**	8	4	0	100
34	BENEFIT SYSTEMS S.A.	**20**	13	n.d.	0	83
35	PKP POLSKIE LINIE KOLEJOWE S.A.	**17**	32	n.d.	0	37
35	POCZTA POLSKA S.A.	**17**	47	n.d.	0	15
37	PERN S.A.	**16**	9	n.d.	0	66
37	WĘGLOKOKS S.A.	**16**	22	n.d.	0	45
39	CCC S.A.	**13**	23	n.d.	0	32
39	DRUTEX S.A.	**13**	13	n.d.	0	45
39	EURO NET SP. Z O.O.	**13**	19	n.d.	0	37
39	NEUCA S.A.	**13**	13	n.d.	0	47
39	SANOK RUBBER COMPANY S.A.	**13**	21	n.d.	0	34
44	LPP S.A.	**12**	16	0	0	33
44	PELION S.A.	**12**	19	n.d.	0	33
46	DINO POLSKA S.A.	**10**	19	n.d.	0	24
46	TDJ S.A.	**10**	12	n.d.	0	30
48	IMPEL S.A.	**8**	12	n.d.	0	21
48	PRESS GLASS SP. Z O.O.	**8**	9	0	0	23
50	POLREGIO S.A.	**6**	7	0	0	18

Methodological Appendix

The National Champion Index (NC Index) is an arithmetic average of points obtained for the four indices in the following categories: Economy, Sector, International Presence, and Innovation. The NC Index was calculated for the top 50 corporate groups (interchangeably called "companies") in the Economy category. This index was, in turn, calculated for 126 Polish-owned corporate groups that had over PLN 1 billion in revenue in 2021, over 100 employees, and over PLN 100 million in capital. We used the dataset consolidated for the entire corporate group. For each company, the NC Index was rounded to an integer.

Index: Economy

The index is calculated based on eight subindexes, each representing another aspect of the company's influence on the economy:

The value-added generated by a company in 2021 is calculated based on the consolidated data from the company or – if there is no data available – as the product of the sum of the added value quotients and the income for all relevant departments and PKD codes of a given company's activity and its revenue. The value of the subindex is then calculated using the formula:

$$G_i^1 = 100 * \frac{\log(10 * VA_i)}{\log(10 * VA_{MAX})}$$

where VA_i is the added value of the i-th company, and VA_{MAX} is the highest added value from all companies surveyed (in billion PLN). Moreover, whenever we mention the notion of logarithms in this Appendix, we refer to base ten logarithm, unless stated otherwise.

The staff count is the total number of people employed at a given company at the end of 2021 in full-time equivalents from its annual report. The value of the subindex is then calculated using the formula:

$$G_i^2 = 100 * \frac{\log(10 * E_i)}{\log(10 * E_{MAX})}$$

where E_i represents the employment at an i-th company, and E_{MAX} the highest employment at all the companies surveyed (in thousands of people).

The average salary is calculated based on the average annual gross salary in the company, provided in the survey received from companies. If a company provides data on employee-related expenditure, the quotient of this data and the number of employees is calculated. In the absence of data, we use the average remuneration paid in the sector (according to the main PKD section). The value of the subindex is then calculated using the formula:

$$G_i^3 = \begin{cases} 100 & \text{jeżeli } w_i \geq 2\overline{w} \\ 100 * \dfrac{w_i - \overline{w}}{\overline{w}} & \text{jeżeli } w_i \in (\overline{w}; 2\overline{w}) \\ 0 & \text{jeżeli } w_i \leq \overline{w} \end{cases}$$

where w_i is the average salary at the i-th company and $\overline{w}$ is the annual average salary in the enterprise sector in Poland in 2021.

The payroll fund is calculated based on employment, salary, and value-added data using the formula:

$$G_i^4 = Min\left\{100 * \frac{E_i * w_i}{VA_i}; 100\right\}$$

The contribution to the state budget is calculated based on data on taxes paid by a given company in 2021 obtained from surveys sent to the companies or, if there was no response, from the data included in its consolidated financial report for 2021, as the difference between gross profit and net profit (after tax deduction) plus sectoral taxes paid by the company. The subindex is thus calculated using the formula:

$$G_i^5 = 50 * Min\left\{10^3 * \frac{Tax_i}{BTAX}; 1\right\} + 50 * 1_{PL}(Reg_i)$$

where Tax_i is the tax paid by the i-th company, B_{TAX} is the state budget's total tax revenue in 2021 in thousands of zloty, 1_{PL} is a one-element set consisting of Poland, and Reg_i the country of registration of the dominant entity in the i-th corporate group.

Fixed assets are calculated based on data for late 2021 obtained from the consolidated financial reports for 2021, and investments based on data on gross spending on fixed assets in 2021 collected from the survey distributed to enterprises or, if there was no response, based on an estimate analogous to that used to calculate the added value. The subindex is then calculated using the formula:

$$G_i^6 = 0{,}5 * Min\left\{10^4 * \frac{GFCF_i}{GFCF}; 100\right\} + 0{,}5 * Min\left\{100 * \frac{\log(10 * K_i)}{\log(10 * K_{MAX})}; 100\right\}$$

where $GFCF_i$ is spending on fixed assets at the i-th company, GFCF is the value of gross fixed assets in the national economy, K_i the fixed assets of the i-th company, and K_{MAX} the highest K among the surveyed companies.

Liquidity and solvency are calculated based on the solvency ratio and liquidity ratio data (calculated following the Polish accounting reporting recommendations), obtained from the consolidated financial report for 2021. The subindex is then calculated using the formula:

$$G_i^7 = 50 * \mathrm{F}(x = SR_i, \mu = 20, s = 2) + 50 * \mathrm{F}(x = LR_i, \mu = 1, s = \frac{1}{6})$$

where SR_i is the solvency ratio at the i-th company, LR_i the liquidity ratio index at the i-th company, and $F(\chi,\mu,s)$ the distribution function of the logistic distribution with argument χ and parameters μ and s.

Capitalisation is calculated based on the nominal value of shareholders' equity (million PLN) at the end of 2021 obtained from the company's financial report and information on whether a given company was listed on the stock exchange at the end of September 2022. The subindex is then calculated using the formula:

$$G_i^8 = Min\left\{75 * \frac{Funds_i}{Funds_{10}}; 75\right\} + 25 * \mathbf{1}_{GPW}(i)$$

where $Funds_i$ is the value of shareholders' equity of the i-th company, $Funds_{10}$ is the lower limit of 10^{th} decile of the $Funds_i$ wdistribution among all companies studied, GPW represents the set of all companies listed on the Warsaw Stock Exchange's main stock market, and 1_{GPW} the indicator for that set.

The full index in the economy category is the weighted average of the components above using the formula:

$$G_i = 0{,}3 * G_i^1 + 0{,}2 * G_i^2 + 0{,}1 * G_i^3 + 0{,}1 * G_i^4 + 0{,}1 * G_i^5 + 0{,}1 * G_i^6 + 0{,}05 * G_i^7 + 0{,}05 * G_i^8$$

Index: Sector

This index is calculated based on two subindexes, the first of which reflects the company's position in its sector and in other significant sectors, and the other shows its productivity and profitability compared to other companies in the same sector:

Share in the sector is calculated based on data on revenue, employment, and spending on investment from the consolidated financial report for 2021 and based on data on the segments of business activity from received surveys or estimated from companies' annual reports and publicly available information. The subindex is then calculated using the formula:

$$B_i^1 = \mathrm{Min}\left\{60 * \frac{GO_i}{GO_k} + 20 * \frac{E_i}{E_k} + 10 * \frac{GFCF_i}{GFCF_k} + 10 * log_2(j)\right\}$$

where GO_i is the value of the i-th company's revenue from its main activity, GO_k the value of revenue in the k-th PKD class that is the i-th company's main activity, E_i is employment at the i-th company, E_k employment in the k-th PKD class that is the i-th company's main activity, $GFCF_i$ is gross spending on fixed assets at the i-th company, $GFCF_k$ gross spending on fixed assets in the k-th PKD section that is the i-th company's main activity, and j is a set of all other classes of PKD, in which the i-th company obtains at least 1% of its revenue, and log_2 is a logarithm with the base 2. All the above data were collected for 2021.

Profitability in relation to sector is calculated based on data on ROA index (percentage of net profit to asset value) and the gross margin from surveys received from companies or from the consolidated financial report for 2021. The subindex is then calculated using the formula:

$$\begin{aligned} B_i^2 = Min\{Max\{10 * (ROA_i - ROA_k) \quad ; \quad 0\} \quad ; \quad 50\} \\ + Min\{Max\{5 * (GM_i - GM_k) \quad ; \quad 0\} \quad ; \quad 50\ ; 100\} \end{aligned}$$

where ROA_i is the i-th company's ROA, ROA_k t the ROA in the k-th PKD section that constitutes the i-th company's main activity, GM_i is the i-th company's gross margin and GM_k the gross margin in the k-th PKD section that constitutes the i-th company's main activity.

The full index in the sector category is the weighted average of the components above using the formula:

$$B_i = 0{,}75 * B_i^1 + 0{,}25 * B_i^2$$

Index: International Presence

This index is calculated on the basis of two subindexes, the first of which illustrates the scope of the company's foreign activity, and the second the importance of exports for the company's size:

Foreign activity is calculated based on data on the number of entities from the corporate group registered outside Poland and the share of revenue generated by entities abroad in total revenue, obtained from the survey filled out by companies or, if no information was provided, based on our own estimates from annual reports for 2021 and publicly available information. The subindex is then calculated using the formula:

$$Z_i^1 = 100 * \frac{\log(A_i + 1)}{\log(A_{Max})}$$

where A_{Max} is the highest A value for companies in the top 50 in the ranking of national champions, with A_i counted using the following formula:

$$A_i = 100 * FE_i * FR_i$$

where FE_i is the percentage of a corporate group's entities registered abroad, and FR_i the share of the revenue from foreign entities in a corporate group's total revenue.

The export subindex is calculated based on data on the number of countries to which the goods and services of a given company are exported, obtained from the survey filled out by companies or, if no response was provided, from publicly available data on the company's activity, including the annual report. Data on the share of the revenue from exports in total revenue, obtained from financial reports for 2021, surveys or from publicly available information was also included. The subindex is then calculated using the formula:

$$Z_i^2 = Min\left\{100 * \frac{x_i + \bar{x}}{2\bar{x}} * ER_i \quad ; \quad 100\right\}$$

where x_i tis the number of countries to which the i-th company sells its goods and services, $\bar{x}$ is the median number of countries where companies in the top 50 of the ranking of National Champions sell their goods and services, and ER_i the share of export sales in the i-th company's revenue.

The index in the 'International Presence' category is calculated as a weighted average of these two subindexes using the formula:

$$Z_i = 0{,}2 * Z_i^1 + 0{,}8 * Z_i^2$$

Index: Innovation

This index is calculated based on four subindexes, each illustrating another dimension of innovation in a given corporate group:

Intellectual property is calculated based on data on a given corporate group's current number of patents and trademarks in the Polish Patent Office's database that belonged to the company at the end of 2021. The subindex is then calculated using the formula:

$$I_i^1 = 0{,}75 * Min\left\{100 * \frac{\log(P_i + 1)}{\log(P_{10})} \quad ; \quad 100\right\} + 0{,}25 * Min\left\{100 * \frac{\log(ZT_i + 1)}{\log(ZT_{10})} \quad ; \quad 100\right\}$$

where P_i is the number registered by the i-th company, P_{10} the lower limit of the tenth decile of the distribution of patents registered by companies in the top 50 of the ranking of National Champions, ZT_i the number of trademarks registered by the i-th company, and ZT_{10} the lower limit of the tenth decile of the distribution of trademarks registered by companies in the top 50 of the ranking of National Champions.

R&D activity is calculated based on the number of R&D employees and the company's expenditure on research and development, according to the data from the survey. Missing data was collected from public sources, including annual reports for 2021. Since in the case of many corporate groups, the data were not available, it was assumed in further calculations that that company's R&D subindex is 0. When data were available, the subindex was calculated using the formula:

$$I_i^2 = Min\left\{50 * \frac{\log(E_i^{BR} + 1)}{\log(E_{10}^{BR})}; 50\right\} + Min\left\{50 * \frac{\log(BR_i + 1)}{\log(BR_{10})}; 50\right\}$$

where E_i^{BR} is the number of R&D employees at the i-th company, E_{10}^{BR} the lower limit of the tenth decile of the distribution of the number of R&D staff at companies in the top 50 of the ranking of National Champions, BR_i spending on R&D at the i-th company (in PLN million), and BR_{10} the lower limit of the tenth decile of the distribution of the expenditure on R&D (in PLN million) by companies in the top 50 of the National Champions ranking.

Research is calculated based on data from the National Centre for Research and Development in Poland (NCBiR) concerning the number of research projects carried out by the companies in the corporate group under NCBiR programmes at the end of 2021 and based on data concerning the financing of research units by the companies in the corporate group in 2021 declared in questionnaires received from the companies. In the case of companies which did not send questionnaires, it was assumed that the company's Science index is 0. The subindex was calculated using the formula:

$$I_i^3 = Max\left\{Min\left\{100 * \frac{NCBiR_i}{NCBiR_{10}}; 100\right\}; Min\left\{100 * \frac{\log(Fin_i + 1)}{\log(Fin_{10})}; 100\right\}\right\}$$

where $NCBiR_i$ is the number of research projects carried out by the i-th company, $NCBiR_{10}$ is the lower limit value of the tenth decile of the distribution of the number of research projects carried out by the top 50 companies from the National Champions list, Fin_i is the value of i-th company's expenditure on financing research units in thousand PLN, and Fin_{10} is the lower limit value of the tenth decile of the distribution of spending on financing research units of top 50 companies in the National Champions list.

Labour productivity is calculated based on data on value-added and employment at a corporate group, obtained for the index in the Economy category. The subindex was then calculated using the formula:

$$I_i^4 = Min\left\{100 * \frac{va_i}{va_4} \quad ; \quad 100\right\}$$

where va_i is the value-added per one employee at the i-th company, va_4 tthe lower limit value of the fourth quartile of the value-added distribution per employee at companies in the top 50 of the ranking of National Champions.

The full index in the Innovation category is calculated as a weighted average of the categories above using the formula:

$$I_i = 0{,}3 * I_i^1 + 0{,}25 * I_i^2 + 0{,}25 * I_i^3 + 0{,}2 * I_i^4$$

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