

11
NOVEMBER
2023

Japan
Bank for
International
Cooperation

J B I C Today

Supporting
Your Global Challenges



CENTRAL &
EASTERN EUROPE
TODAY



JAPAN BANK FOR
INTERNATIONAL COOPERATION

Central & Eastern Europe Today

Many in Japan may not be familiar with Central and Eastern Europe (CEE), but numerous Japanese companies are setting up operations in this fast-growing, buzzing region. In this issue's special feature, a representative from the Japan Bank for International Cooperation (JBIC) Representative Office in Paris explains the past and present of the CEE economy. The significance of JBIC's guarantee of Samurai bonds to support Ukraine's neighboring countries is also discussed by members of that project team.



JBIC Representative Office in Paris Representative
IMAI Minami

Joined the bank in 2016. After engaging in fund investment operations in the Equity Investment Department and public relations work in the Corporate Planning Department's Press and External Affairs Division, she assumed her current position in 2020. She is involved in shaping projects in continental Europe and French-speaking Africa. Graduated from the University of Tokyo, College of Arts and Sciences.



Repeatedly destroyed and reconstructed, then finally restored after the end of World War II as the Historic Centre of Warsaw, the old townscape of the Polish capital symbolizes today's Central and Eastern Europe, which is venturing into new fields while always respecting its history.

Automobiles, IT, green investment: The industrial strength of Central and Eastern Europe rooted in history

- »» The region is characterized by “relatively low-cost labor force,” “industrial strength,” and “quality of human resources,” leading to the creation of a huge automotive supply chain from the 1990s.
- »» Reflecting the high level of math and science education, the software industry has been developing since the 2010s, giving birth to numerous startups.
- »» Suffering from soaring energy prices since Russia's invasion of Ukraine, momentum for environmental measures continues to grow.

The region's economy has tripled in the two decades since accession to the EU, with a strong industrial manufacturing sector, including automobiles

From 1989 through 1991, one CEE country after another transitioned away from socialist economic regimes. “There may be those in Japan who still carry an image of the impoverished region of that time. However, the situation has changed dramatically, especially from the 2000s when many of the countries joined the EU,” explains IMAI Minami of the JBIC Representative Office in Paris.

Various definitions exist for “Central and Eastern Europe,” but here it refers to 12 countries (see the map on the right): the 11 countries that joined the EU over

the 10 years from 2004 through 2013, with the addition of Austria (joined the EU in 1995), which historically has much in common with these countries. The Representative Office in Paris covers all of continental Europe, including the CEE countries, and French-speaking Africa, but “CEE is where the action is now,” says IMAI. Working quickly and agilely, she herself has visited 6 out of the 12 countries over the three years since assuming her post—11 if private visits are counted.

The 12 countries combined cover an area that is about three times the size of Japan, and home to some 110 million people. Their economies account for 14 percent of the EU's GDP. “The region's economy is surging, approximately tripling over the 20 years or so since the

countries joined the EU following their transition to democracy. Although it is a latecomer from the perspective of economic development, I believe this region is becoming ever more important.”

According to IMAI, territorial unions and dissolutions occurred repeatedly over the long history of the CEE region, making for a complex mix of ethnicity, religion, history, and culture. But when it comes to economics, the countries of this region have three characteristics in common: relatively low-cost labor force, industrial strength, and the quality of human resources.

“Against the backdrop of quality, inexpensive labor, from the 1990s, German and Japanese automakers began setting up operations in Hungary, Poland, and what was then Czechoslovakia.

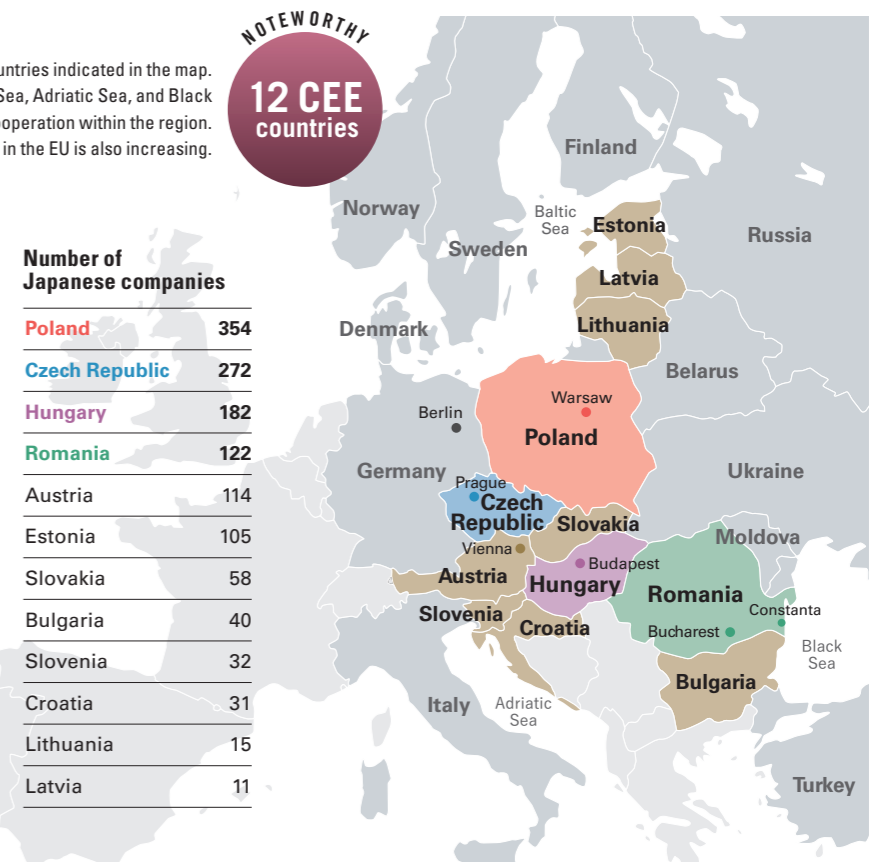
In this article, “Central and Eastern Europe” refers to the 12 countries indicated in the map. In 2015, these 12 countries, which are surrounded by the Baltic Sea, Adriatic Sea, and Black Sea, established the “Three Seas Initiative” to strengthen cooperation within the region. With an overall GDP of about USD 2,417.7 billion, its presence in the EU is also increasing.

This buildup of the machinery industry, including automobiles, continued into the 2000s.”

Gathering not only automakers, but also manufacturers making various auto parts such as engine-related components, seats, and exhaust filters, an enormous automotive supply chain has now been formed in Europe. “Supporting this industrial strength is the quality of human resources. I often hear it said that people in the CEE are diligent and conscientious. They are dexterous with their hands and work hard to learn, and so they quickly become proficient at their jobs. There are also many who have a positive view of Japan, making this a region that is very attractive for Japanese companies.”

Environmental measures drive investments in electrical and EV-related industries

Many Japanese companies have established operations in four CEE countries:



Source: Survey of Japanese businesses operating in overseas locations, Ministry of Foreign Affairs of Japan (as of Oct. 1, 2022)

Four key CEE countries drive the regional economy and have deep relations with Japan

	Population	GDP	Economic growth rate	Key industries	Characteristics
Poland	38.01 million	USD 688.2 billion	4.9%	Food and beverages, metals, automobiles, electronic devices	With the fifth largest population in the EU, it has been attracting attention in recent years as a market. Has the largest number of Ukrainian refugees in the EU at 1.68 million (as of September 2023), and is becoming a base for reconstruction assistance.
Czech Republic	10.51 million	USD 290.9 billion	2.5%	Machinery including automobiles, chemicals, tourism	In 2002, Toyota and France's PSA Group established an automobile assembly plant. Utilizing its geographical location next to Germany, industrialization progressed historically. Its GDP per capita is the largest among the four key countries.
Hungary	9.73 million	USD 178.8 billion	4.6%	Machinery, chemicals and pharmaceuticals, agriculture, livestock	Government policies such as subsidies and tax incentives have been successful, and there is much investment in the automotive industry, especially in fields such as batteries for EVs.
Romania	19.03 million	USD 301.3 billion	4.8%	Services, industry, construction, agriculture, forestry and fisheries	In March 2023, President Iohannis visited Japan and concluded a strategic partnership with Japan to strengthen relations. The Black Sea port of Constanta in the east is a key logistics hub.

Data as of 2022. Sources: World Bank, Ministry of Foreign Affairs of Japan, UNHCR

Poland, the Czech Republic, Hungary, and Romania. Not surprisingly, the largest industry is automotive. Suzuki and Toyota have production bases in Hungary and the Czech Republic, respectively. Auto parts manufacturers such as Denso, Nidec, and Yazaki Corporation also have factories in the region. They not only supply Japanese companies, but are also expanding their businesses to include OEM supply to European companies.

Following the automobile industry is the electrical and electronics industry, led by companies such as Daikin, Panasonic, and Mitsubishi Electric. Driven by Europe's proactive measures

for environmental protection, recent years have seen noticeable additional investment in areas related to heat pumps, which collect heat energy from the air for uses such as air conditioning and hot water supply.

A recent automobile-related trend is Europe's shift to electric vehicles, also driven by environmental policies. Hungary, especially, has been working actively to attract EV-related factories, and German manufacturers such as the Mercedes-Benz Group, Audi AG, and BMW have set up operations in the country. In parallel with this, EV battery manufacturers are also building factory after factory. In addition to Korean

companies such as Samsung SDI and SK Innovation, the world's largest EV battery manufacturer, China's CATL, is now constructing what will be the largest battery plant in Europe, at a cost of EUR 7.34 billion.

One reason for this advancement by manufacturers is that parts can be procured within the region, another testament to the buildup of industries over many years. "Japanese companies such as Seiren (manufacture and investment in lightweight synthetic leather seats for EVs) and Toray (manufacture of battery separator film) are also expanding their investments in response to the shift to EVs. In addition, I hear many companies saying that they have already responded to this EV shift by expanding their factories or replacing their production lines, or will be doing so in the near future."

High skills, low cost, and entrepreneurial spirit are fueling rapid growth in the software industry

It is not that widely known in Japan yet, but other than the manufacturing industry, momentum is building in the software industry, which has been making significant developments since the beginning of the 2010s. IMAI explains this while touching on this region's history of producing famous scientists, such as Poland's Copernicus and Marie Curie, and Romania's Henri Coandă, the father of the jet engine, as one reason behind this.

"This region has a high tertiary education enrollment rate compared to its GDP, and the math and science levels are especially high. The numerous medalists in the International Mathematical Olympiad and the International Olympiad in Informatics bear witness to this fact. The CEE countries are leaders in terms of

producing software engineers in Europe, and there is no shortage of young people who can speak fluent English." On top of this, labor costs are lower than in the U.S. and Western Europe, where wages are soaring. "Some data indicate that wages for software engineers in this region are about half that in the United Kingdom."

Targeting this pool of math and science talent, Intel, Google and other big tech firms are also setting up R&D centers here. And some of the people who have worked for such global companies are, in turn, starting up their own businesses. Because of their limited financial resources, these startups also find this region attractive as they can secure highly skilled personnel at a low cost. In fact, about 30 unicorn companies have emerged in the CEE, some of which have gone public with market capitalization of more than USD 10 billion. With a historical background of industry concentration, many of the startups across this region offer B2B solutions for the manufacturing industry, but these unicorns also cover fields such as game development, e-commerce, cryptocurrency, and fintech.

"There is a palpable spirit of entrepreneurship here. This region still has memories of the transition from socialist regimes around 1990, and similar to post-war Japan, there are many who wish to reinvigorate their country through economic growth. In that sense, there is probably quite a thirst for success here. In addition, since the CEE market is not very large, many entrepreneurs are strongly focused on expansion into overseas markets. A cycle of giving back is also building, in which entrepreneurs who were able to achieve a successful exit in the U.S. return to their home countries to support the next generation of entrepreneurs."

Inflation driven by the Ukraine invasion, while the EU bolsters decarbonization policies

Since democratization, the CEE has enjoyed long-term stable growth, but a large shadow has been cast on this region by Russia's invasion of Ukraine, which began in February 2022. Before the invasion, the four major countries had been posting GDP growth of around 5 percent, but in most of these countries that is expected to drop to below 1 percent in 2023. The major reason is inflation caused by energy dependence on Russia.

"The CEE is more dependent on Russian energy resources than Western Europe, and the Russian invasion of

MOU between JBIC and Romania to support investment by Japanese companies

In March 2023, JBIC signed a memorandum of understanding (MOU) with Romania's Ministry of Finance and Exim Banca Românească S.A. (EximBank), which included strengthening cooperation to promote direct investment and business expansion by Japanese companies in Romania, and to diversify the Romanian Government's funding sources.

The MOU is expected to create new

business opportunities for Japanese companies in Romania. According to IMAI, "We hope to leverage this MOU for cooperation with EximBank to help Japanese companies develop their business. In addition to manufacturing and software-related industries, Romania still has much room for growth in the fields of energy conservation and renewable energy."



At the signing ceremony (From left: H.E. Mr. Ovidiu Dranga, Ambassador Extraordinary and Plenipotentiary of Romania to Japan (representing the Ministry of Finance), JBIC Governor Mr. HAYASHI Nobumitsu, EximBank Executive President Mr. Traian Sorin Halalai)

Ukraine caused crude oil, natural gas, coal, and other fuel prices to soar. Economic growth slowed due to higher procurement costs and sluggish consumption." Inflation in this region was higher than the EU average, with many CEE countries recording rates of 10 percent or more in 2022. This surpassed 15 percent in some countries such as Lithuania.

In the case of natural gas, for example, 10 of the 12 CEE countries were more dependent on Russia than the EU average. Suddenly forced to rethink its dependence on Russia, the region needs to not only change where it procures its energy resources, but to also accelerate switching to renewable energy sources and improving energy efficiency. Based on the policy package, "Fit for 55," which aims for a 55 percent reduction of greenhouse gas emissions by 2030, the EU has also initiated the REPowerEU plan to shift away from dependence on Russia, and is promoting more efficient use of energy through heat pumps and other such technologies, as well as the further introduction of renewable energy sources.

IMAI sees this trend as also a commercial opportunity for Japanese companies. "Japanese companies have always been strong in energy-saving technologies such as heat pumps, as well as interconnector projects with submarine cables for offshore wind farms. In addition, amid a modal shift in cargo

transportation from trucks and other vehicles to rail, which has less environmental impact, business opportunities can also be anticipated in the rail sector to enhance connectivity among the CEE countries."

Since spring 2023, inflation has been subsiding and there are signs of an upturn in economic growth. Central and Eastern Europe, which has a competitive labor force, industrial strength, and quality human resources that are rooted in its deep history, is already taking steps toward the next era. IMAI says, "I want Japanese companies of all sectors to take note of this region, and to come here sometime soon to feel its dynamism. JBIC will be happy to provide support."

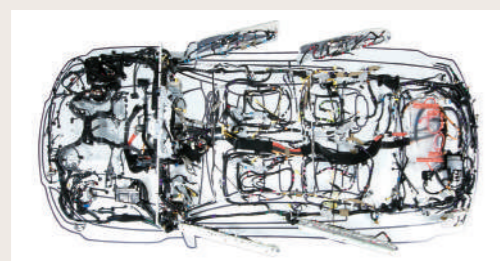


Romania's largest trade port, Constanta, located on the Black Sea, symbolizes the economic growth of the Central and Eastern Europe region.

Supporting Yazaki Corporation's automotive parts business in Romania and other markets

JBIC has supported numerous businesses in their operations in Central and Eastern Europe. This particular case involves Yazaki Corporation's manufacture of wire harnesses (assembled wires for automotive), which, as IMAI points out, "requires labor that is high in quality and low in cost because much of the process involves meticulous work such as making subtle adjustments by hand, therefore, making the process difficult to mechanize."

Demand for wire harnesses is growing due to the rise of autonomous driving and electric vehicles. Ever since Yazaki Corporation established its wire harness operations base in Romania in 2003, it has been expanding its production centers. In May 2022, JBIC concluded loan agreements totaling EUR 27 million with Yazaki Corporation's European subsidiary to support the company's business expansion.



Courtesy of Yazaki Corporation



Left: An artist's rendition of a wire harness (assembled wires for automotive) / Above: Factory in Romania

Supporting Ukraine by working with neighbors: The significance and role of Samurai bonds

- » Poland's Bank Gospodarstwa Krajowego (BGK) issued its first yen-denominated foreign bonds in the Japanese bond market (Samurai bonds) with guarantees by JBIC.
- » The move raises capital for the Aid Fund set up by BGK to provide humanitarian aid to Ukrainian refugees.
- » JBIC will continue to support aid that can only be provided by a policy-based financial institution and take on new challenges.



When the project team visited the Ukrainian refugee facility near Warsaw, BGK provided them with the opportunity to interact with the people living there.

What JBIC can do to support Ukraine and its neighbors

In February 2022, Russia invaded Ukraine. Along with taking a resolute stance on this issue, the Japanese government promptly announced its unwavering support for Ukraine. JBIC immediately formed a task force to plan what support it could provide as a policy-based financial institution. Project leader KANAMORI Hisashi, then Deputy Director General of the New Energy and Power Finance Department I, recalled, "Ukraine needed support. That being said, from our position as a bank, not an aid agency, it was not an easy matter to provide direct loans or financial support to a country at war." (An amendment to the JBIC Act has now made it possible for JBIC to guarantee loans to

recovery projects issued by multilateral development banks for the purpose of supporting Ukraine.)

So JBIC turned its eyes to Ukraine's neighbors. The aim was to provide indirect assistance to Ukraine by supporting the Central and Eastern European countries around Ukraine that were feeling the impacts of the war. In collaboration with the JBIC Representative Office in Paris, which is charged with this region, JBIC conducted studies on what countries to support. Through assessments that included the size of the economy and population, and market entry by Japanese companies, JBIC decided to first focus on Poland.

"With the exclusion of Russia, Poland was the country taking in the largest number of refugees from Ukraine," said KANAMORI. "So, from a humanitarian

aid perspective as well, it was a natural course of action to first provide support to Poland."

Discussions with Poland's Bank Gospodarstwa Krajowego (BGK) began soon afterwards, focusing on the urgent issue of energy. Like other Central and



Deputy Director General (then)
Formerly of the New Energy and Power Finance Department I, Infrastructure and Environment Finance Group of JBIC
KANAMORI Hisashi

Photo: Omar Marques/Getty Images



Ukrainians who fled to Poland to escape the conflict.

Eastern European countries, Poland is highly energy dependent on Russia, the source of about 80 percent of its natural gas imports. In addition, Poland produces about 70 percent of its electricity from burning coal. Such conditions make it crucial to promote Poland's transition to a carbon-neutral society. In September 2022, JBIC and BGK signed a memorandum of understanding on support that included enhancing natural gas-related infrastructure and the use of renewable energy. Half a year had passed since the invasion began.

Samurai bond guarantee to raise capital for a refugee support fund

The next step in selecting specific financing recipients took more time than expected, but it was during this process that a new form of support came to attention—the Aid Fund established by BGK. The purpose of this fund is to provide humanitarian aid, such as health care, education, housing, and social security, to Ukrainians who had fled to Poland. But the number of refugees kept increasing, and at one year from the invasion reached 1.5 million in Poland. "With no end to the war in sight, refugees were increasing day by day," said KANAMORI. "As the fund's budget had its limits, it was clear that additional capital would have to be raised."

JBIC also learned that BGK wanted to diversify its financial sources and was considering the issuance of yen-denominated bonds in the Japanese bond market (Samurai bonds). Japanese investors are wary of investing in countries around Ukraine that are affected by the conflict. A proposal was then made to BGK for the issuance of Samurai bonds guaranteed by JBIC under the condition that proceeds would be solely used for the Aid Fund. Following a request from BGK in January 2023,

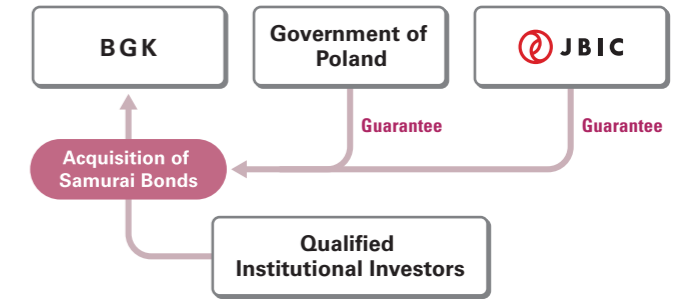
negotiations to realize this plan began moving at full speed. Aspiring to provide support as soon as possible, the goal was set for an official announcement at the G7 Hiroshima Summit in May. With about four months to prepare, time was just about up. However, the hurdles to overcome proved more difficult than anticipated.

Emboldened by a sense of challenge, JBIC will engage in supporting Ukraine's other neighbors

Since this was BGK's first-ever issuance of Samurai bonds, a great deal of time was spent on preparing the Japanese prospectus and contract to comply with Japanese law. Consequently, it was not until April that unofficial approval was obtained from the Polish government. That left only one month to the Hiroshima Summit. No one thought it could be done in time. SHIMIZU Yusuke played a central role in the negotiations after joining the project team as a member of the New Energy and Power Finance Department I and the Corporate Planning Department. "All adjustments we could do on the Japan side were done during the day and sent to the Poland side late at night, and we waited for their response the next morning," said SHIMIZU. "We took advantage of the time difference to rush through this one month."

Through such efforts, the official announcement was made immediately prior to the May 19 opening of the G7 Summit. When the President of Ukraine, Volodymyr Zelenskyy, made a surprise visit to Japan during the summit, Prime Minister KISHIDA Fumio introduced the JBIC initiative in his explanation of Japan's continued support for Ukraine. President Zelenskyy expressed his gratitude for the support.

At the end of May, after the G7 Summit, members of the project team



Deputy Director
Formerly of the New Energy and Power Finance Department I, Infrastructure and Environment Finance Group and Operation Policy and Strategy Copredication Division, Corporate Planning Department, Corporate Planning Group of JBIC
SHIMIZU Yusuke

visited a Ukrainian refugee facility near Warsaw, Poland. It houses some 100 people, mainly women and children who fled the conflict. Many expressed their appreciation to the team. "It brought home the fact that our financial support was helping their daily lives," KANAMORI said. "This form of assistance, which differed from our usual projects in that we are able to see the actual beneficiaries of our support, gave us a new sense of challenge and achievement," added SHIMIZU.

This initiative is a form of support that can only be provided by a policy-based financial institution and is also a new challenge for JBIC to take on in order to fulfill its expected role. JBIC will continue to realize support for Ukraine and its neighboring countries.



JBIC Governor HAYASHI Nobumitsu (right) visited Poland in June 2023 and met with Prime Minister of Poland MATEUSZ MORAWIECKI (center) and Jadwiga Emilewicz, Secretary of State, Government Plenipotentiary for Polish-Ukrainian Development Cooperation of Poland (left).

JBIC engages in various projects around the world. Senior JBIC staff on the front line share their thoughts and stories behind their projects.

JBIC's new finance office advancing the realization of a decarbonized society: Energy Transformation Strategy Office

Aiming to build a global-scale hydrogen supply chain to simultaneously realize carbon neutrality, economic growth, and energy security

Expectations are growing for hydrogen as a solution in the realization of a decarbonized society.

A new finance office has been established in JBIC to promote hydrogen supply chain creation.

HIDAKA Yoshitaka and TSUJI Naoki from the new office, speak about its role and share their enthusiasm for their work.

For Japan to take the lead in utilizing new energy

"As one of the generation responsible for the future, I was excited to be involved in a new business field at the opportunity to be at the forefront of hydrogen finance," says TSUJI Naoki of the Energy Transformation Strategy Office, which was established in July 2022. On the other hand, its director HIDAKA Yoshitaka recalls, "I was frantically searching for what needs to be done in this new mission."

There are high expectations globally for hydrogen and its derivatives such as ammonia in realizing carbon neutrality and promoting green transformation (GX). Although many challenges exist in the use of hydrogen, international competition in the field is now intensifying, due in part to the energy crisis triggered by the situation in Ukraine. Many Japanese companies are also working

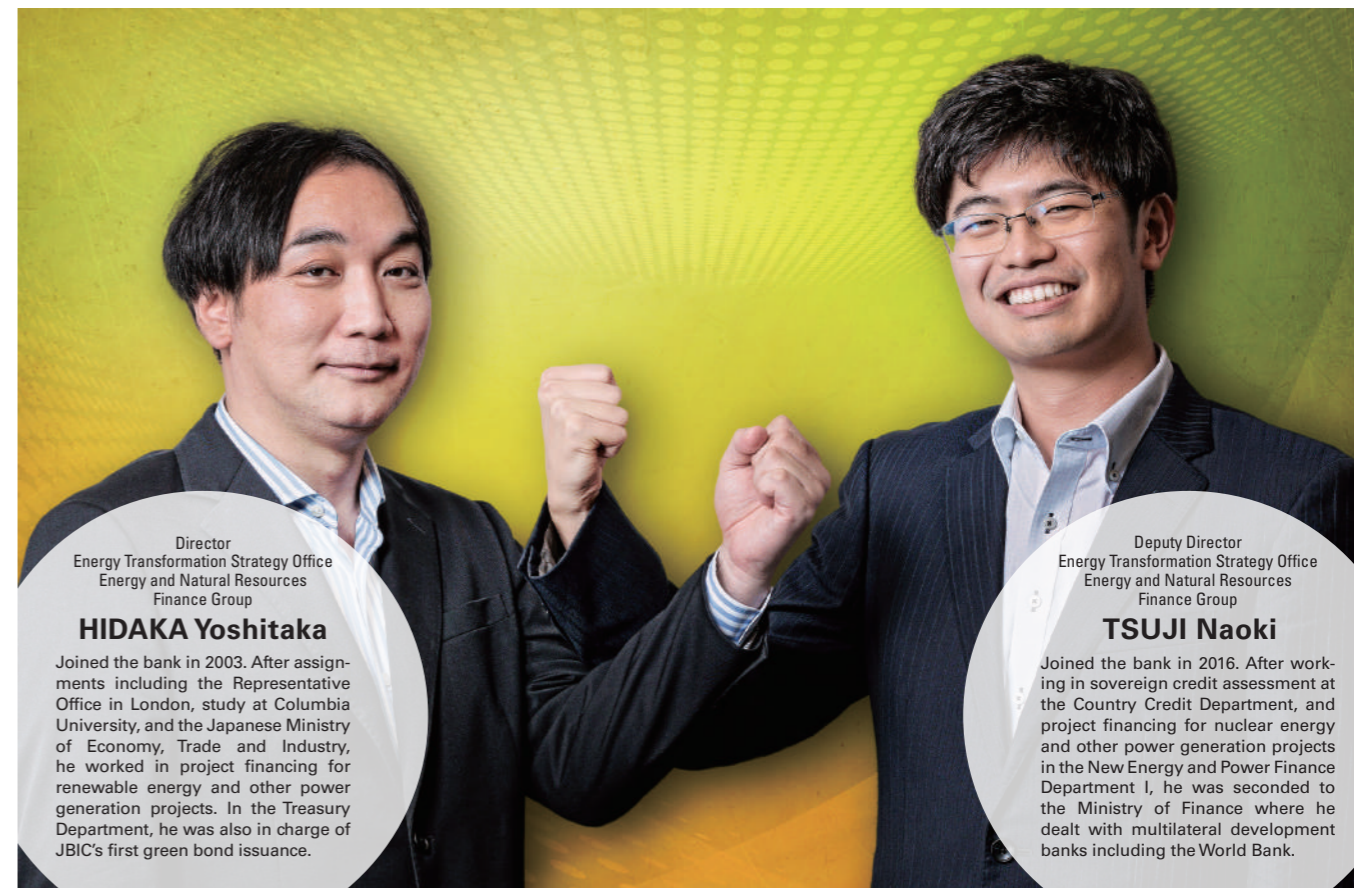
to take on the challenge of building a hydrogen-based society. It was against such a background that JBIC's Energy Transformation Strategy Office was established to take charge of projects related to global hydrogen supply chain creation and development. "By handling all projects related to hydrogen production, transportation and utilization, it has become possible for us to both consolidate information and respond smoothly to customers," says HIDAKA.

However, they had to start from scratch. For the first six months, the focus was on disseminating information and letting people know about the new finance office. Potential customers around the world were identified and divided up between the staff, who visited them one by one. This led to the signing of memorandums of understanding (MOUs) for cooperation and collaboration with governments and government agencies of countries which could be producers of

hydrogen, and with major hydrogen-related businesses overseas. Some 20 MOUs have already been concluded. "We are also working actively disseminating information by making presentations at international conferences to explain our initiatives. Going forward, I wish to structure projects that will involve Japanese companies in the entire supply chain, with this not only contributing to Japan's zero emissions, but economic growth as well," says TSUJI proudly.

Being the first in the world to create a hydrogen supply chain from scratch

Hydrogen can be made from renewable energy sources or fossil fuels and does not emit CO₂ when burned. When Japan announced the "Basic Hydrogen Strategy" in 2017, it was the first country with such a plan, and is a world-leader in hydrogen technology. But transportation is a major issue for Japan, which lacks both renewable energy sources and



Director
Energy Transformation Strategy Office
Energy and Natural Resources
Finance Group

HIDAKA Yoshitaka

Joined the bank in 2003. After assignments including the Representative Office in London, study at Columbia University, and the Japanese Ministry of Economy, Trade and Industry, he worked in project financing for renewable energy and other power generation projects. In the Treasury Department, he was also in charge of JBIC's first green bond issuance.

Deputy Director
Energy Transformation Strategy Office
Energy and Natural Resources
Finance Group

TSUJI Naoki

Joined the bank in 2016. After working in sovereign credit assessment at the Country Credit Department, and project financing for nuclear energy and other power generation projects in the New Energy and Power Finance Department I, he was seconded to the Ministry of Finance where he dealt with multilateral development banks including the World Bank.

fossil fuels, for the large-scale use of hydrogen. The main producers of hydrogen will be the United States, the Middle East, Australia, India, as well as South America and Africa. To get hydrogen to Japan, it must be shipped in the form of liquid hydrogen (minus 253 degrees Celsius), a liquid organic hydrogen carrier (LOHC) such as methylcyclohexane (MCH), ammonia or synthetic methane.

The transportation sector, however, is one area where Japan can demonstrate its strength. "More than 50 years ago, Japan was the first country in the world to successfully build a global-scale supply chain for liquefied natural gas (LNG). I hear that there were more than a few who questioned its economic efficiency at that time, but today, LNG is utilized across the globe," emphasizes HIDAKA. "JBIC has knowledge and expertise in this area from its long years of supporting the development of LNG supply chains. So, I also want JBIC to lead the way in new forms of financing for building a hydrogen supply chain."

If used for hydrogen-single fuel power generation, each power plant would require the equivalent of 2 to 5 million fuel cell vehicles' hydrogen

consumption. But financing to build a supply chain for large-scale introduction of hydrogen does not yet exist. The mission of the Energy Transformation Strategy Office is to create this system from scratch.

Taking the leadership in connecting players while maintaining a proactive mindset

Was there any hesitancy in taking up this new challenge? HIDAKA takes a positive approach: "I am working on this proactively, without fear of failure, so that Japan can lead the world in this field." TSUJI adds, "I am proud to be involved in an important effort to achieve zero emissions, a challenge not just for Japan but for the whole world."

A business model has not yet been established, making public support, including JBIC financing, a key element in realizing the hydrogen project. But the main players are of course the businesses in the industry. In order to be a presence that businesses can always depend on, HIDAKA and TSUJI stress that they wish to respond in a flexible manner that is not bound by convention.

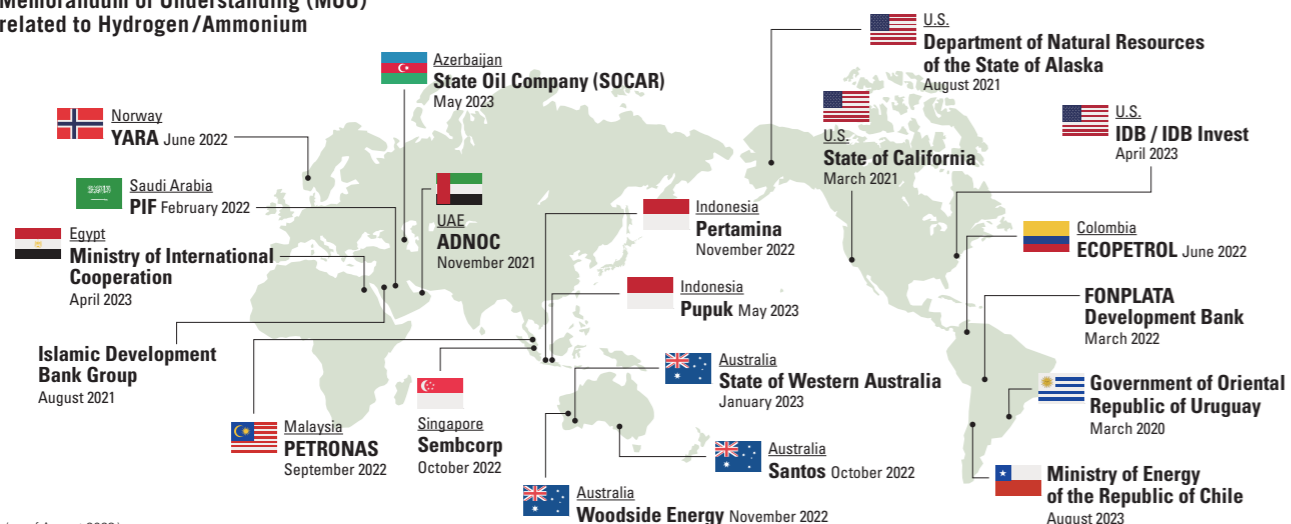
As a policy-based financial institution,

it is JBIC's role to actively take risks in new fields such as hydrogen. For TSUJI, now in his eighth year at the bank, every day is busy but fulfilling. "Being able to take the lead in connecting policy and business from a neutral position is the real thrill of working at JBIC. Also, I often go on business trips alone to confer with overseas governments and companies. It is very rewarding to be entrusted with such work at a young age."

One year has passed since the establishment of the office, and they are now seeing projects that will soon lead to loans. These two talented individuals are spreading their wings and taking on the challenges of this new field, on which rests not only the future of Japan, but that of our planet as well.



Memorandum of Understanding (MOU) related to Hydrogen/Ammonium



(as of August 2023)

Summary

In July 2022, the Energy Transformation Strategy Office was established within the Energy and Natural Resources Finance Group as a finance office responsible for dealing with hydrogen, ammonia, and other new energy sources to help achieve a decarbonized society and green transformation (GX).



Video introduction of the department >>>



President
Nihon Shinkan Co., Ltd.

HOSONUMA Naoyasu

Joined Sony Corporation after completing a master's degree in science and engineering at the Tokyo Institute of Technology. Joined Nihon Shinkan, which was founded by his father, in 2001 and became president in 2008. Under the slogan of "Aiming to be a 'small but world-leading company,'" he is working to develop new domestic and overseas sales channels.

Nihon Shinkan Co., Ltd.

An aluminum processor committed to an integrated manufacturing system leverages its world-class technology to diversify

Wielding its competence in a process known as aluminum drawing, the company began licensing its technology overseas in the 1990s. In order to facilitate business expansion not only in Japan but in Thailand as well, the company is one of the few in the industry with an integrated manufacturing system in which the entire process is done in-house.

Processing aluminum pipes at production centers in Saitama, Fukushima, and Thailand

Aluminum is one of the lightest metals in existence, and has outstanding corrosion resistance, electrical conductivity, and thermal conductivity. It can reduce the weight of components while maintaining the required strength, and can also be fairly easily formed into complex configurations used in various products. These include AT spool valves (parts for adjusting hydraulic pressure in automobile automatic transmission systems), components of automatic rear doors for vehicles, camera lens barrels, and photoconductor drums in copiers.

Headquartered in Niiza City, Saitama Prefecture, Nihon Shinkan specializes in aluminum processing, including the drawing, processing, and surface treatment of aluminum pipes. Manufacturing centers are located in its headquarters, Fukushima (Nishigo Village), and Thailand. It has established an integrated manufacturing system to handle

the entire process from procurement of materials to product assembly using advanced technological capabilities that have won praise from the Japanese government as "world-leading aluminum processing technology." According to its president, HOSONUMA Naoyasu, "Flexible technological skills and responsiveness are crucial in materializing our client's ideas. Our company's strengths are our ability to deliver consistent quality in mass production and to accommodate needs for integrated manufacturing, which lowers total costs." Since its foundation in 1967, the company has been enhancing technologies that specialize in drawing, in which the diameter and cross-sectional area of aluminum pipes are reduced by passing them through drawing dies at room temperature.

However, if the company rested on its laurels, its potential growth would eventually reach its limits. With this in mind, in 1985 former President HOSONUMA Tetsuo established Alma Co., Ltd., an aluminum surface treatment plant for hard anodic oxidation that improves

resistance to metal corrosion. This laid the foundation for Nihon Shinkan to be one of the few companies in the industry that handles the entire process from procurement of materials to metal processing and surface treatment. Even after his son took over the business in 2008, this thinking outside the box for future business prospects has remained strong. HOSONUMA says, "We do our best to not turn down customer requests," he says, "and by taking on challenges to meet their needs, new possibilities are born. Recently, we have even begun assembling and packaging products in-house."

Consistent mass production capability for opportunities in areas other than industrial equipment

Nihon Shinkan's work covers multiple sectors, from office equipment to camera parts, automotive parts, agricultural and forestry equipment, household goods, railroad parts, and even pipes to drill through Antarctica's thick ice sheet. The National Institute of Polar Research launched an

ambitious project in Antarctica to shed light on Earth's crustal movements and the mechanism of climate change by drilling deep into 1 million-year-old ice core and analyzing the atmospheric components found inside. Deeper ice core drilling was made possible by a proprietary outer casing manufactured in 2003 by Nihon Shinkan. This not only contributed to the future of humanity, but also showed the world Japan's advanced technological capabilities.

According to HOSONUMA, the company's big turning point came with its production of parts for cleaning tools. Mass production requirements were met with peak monthly shipments surpassing 1 million units. This advancement into a new field was made possible by the company's reputation of having successfully produced more than 2 million photoconductor drums a month (the third largest share in the world). "Manufacturing per se is not difficult. But it is a totally different matter when you have to consistently make 500,000 to 1 million units a month while maintaining quality," he says, recalling that this experience broadened the perspectives of all the employees and helped drive the company's subsequent growth.

Understanding local production needs with the aim of expanding revenues and sales channels in Thailand

Another management strategy that has been carried forward since the founding of the company is a focus on overseas markets. In the beginning of the 1990s, office automation equipment, one of Japan's leading areas in manufacturing, caught the attention of European countries. The high-tech capabilities of Nihon Shinkan were recognized here, and it began licensing its technology to a

British company. That experience proved extremely useful in its later advancement into the Thai market.

In September 2012, Nihon Shinkan established its Thai plant in Ayutthaya Province. Back then, there were hardly any Japanese aluminum drawing companies with cutting-edge technologies operating in Thailand. The deciding factors in choosing Thailand were a better industrial infrastructure than other Southeast Asian countries, ease of raw material procurement, and a good labor force. And with many Japanese affiliates located there, business opportunities could be expanded. According to HOSONUMA, "The Japanese economy was in a slump due to the global financial crisis triggered by the collapse of Lehman Brothers, making Thailand's vitality very attractive. The atmosphere there was similar to that of Japan during the post-war rapid economic growth era, and I acutely felt that the know-how we had cultivated up to now would be put to good use here." The Thai factory celebrated its 10th anniversary in 2022, and a second factory was completed in 2023. The company continues to expand its market, centering on Japanese-affiliates.

Overseas expansion has given the company a broader view of the global market through access to a great deal of information that could not be obtained in Japan alone. Clients would provide information that is only known locally because "your company has a factory overseas." That is the big difference between a company that has taken steps forward, however small, and one that only has the intention to do so.

While Nihon Shinkan does face issues particular to small and medium-sized enterprises such as developing global human resources, it does not intend

to stop moving ahead. The company is responding to a wide range of customers' requirements through research and development at the Technology Development Center, which was established in Japan in 2014. It also aims to expand its business in December 2023, centering on agricultural and forestry equipment, by utilizing its integrated manufacturing system in Thailand. "It is our job to help companies commercialize their products. We hope to continue to expand our technologies by leveraging our strengths in accommodating requests that go beyond drawing." The goal is to become "a small but world-leading company," Nihon Shinkan will continue to meet client needs by balancing specialization and diversification, and promoting long-term technological development.

Nihon Shinkan Co., Ltd.	
1967	Company established
1976	Fukushima and Shirakawa plants completed
1985	Established Alma Co., Ltd. (hard anodic oxidation plant)
1991	Started licensing technology to a British company
2003	Developed and manufactured outer casing for Antarctic ice sheet drills
2012	Established NIHON SHINKAN (THAILAND) Co., Ltd.
2014	Established the Technology Development Center
2023	Completed its second plant in Thailand



The second plant in Thailand was completed in 2023. The site is more than 35,000 square meters, and employees number more than 100. In addition to office automation equipment parts, new orders for small electronic device parts will be handled here.



With high-level specialized technologies and a system capable of mass production, the company manufactures aluminum components for a wide range of fields from precision instruments to household appliances. Camera lens barrels and other products are stacked in the factory.



Loan Summary

Since March 2018, loan agreements have been signed with Nihon Shinkan's Thai affiliate, NIHON SHINKAN (THAILAND) Co., Ltd., for loans up to 99 million Thai baht (JBIC portion). Co-financed with the Musashino Bank and Saitama Resona Bank. This supports the manufacturing and marketing of aluminum products in Thailand, and contributes toward maintaining and improving the international competitiveness of Japanese industry.

1985

JEXIM's functions expand as friction intensifies Plaza Accord to Japan's bubble economy

In 1985 the Plaza Accord was signed to adjust exchange rates, and Japan faced a sharp appreciation of the yen. At that time, JBIC's predecessor, the Export-Import Bank of Japan (JEXIM), played an integral part in resolving international trade friction.



Finance ministers of the G5 nations—France, Germany, Japan, the U.K., and the U.S. met at the Plaza Hotel in New York on September 22, 1985. The agreement that was signed to reduce the strength of the U.S. dollar is known as the Plaza Accord.

Photo: The New York Times/AFLO

As Japan's trade surplus grew, friction escalated into a trade war

After the second oil crisis of 1979, which caused rising prices and a deterioration of the balance of payments, early measures taken to control inflation returned Japan's current account balance to surplus in 1981. The international competitiveness of Japanese products, which incorporated energy-saving and semiconductor technologies, rose rapidly, increasing the trade surplus with the U.S. by 2.5 times, from USD 13.3 billion in 1981 to USD 33.2 billion in 1984. In turn, Western countries became very critical of Japan, targeting the promotion of imports and opening of markets, and even structural changes for the Japanese economy and way of doing business. This friction intensified to the point that in 1985 it came to be called the Japan-U.S. trade war.

Japan's government worked to resolve this with measures including active use of JEXIM's functions in the implementation of emergency foreign currency loans for imports, promotion of industry cooperation, and development of import loan systems. In 1984, the Export-Import Bank of Japan Act (JEXIM Act) was amended as a measure to promote imports, facilitating import financing such as low-interest loans for product imports, as well as making foreign corporations eligible for import loans.

While Japan's trade surplus expanded,

the U.S. in the early 80s confronted twin fiscal and trade deficits, becoming a net debtor nation in 1985. The Reagan administration, through its "Reaganomics" economic policy, adopted a "small government" approach. And with its top priority after the oil crisis being to overcome inflation, introduced high interest rates, which in turn caused the dollar to appreciate. In order to correct this excessive appreciation of the dollar through currency adjustments, the Plaza Accord was signed by the G5 nations in September 1985. The yen appreciated against the dollar by an annual rate of around 20% in the three years after the accord, going from 240 yen to the dollar just before the agreement, to 127 yen three years later.

Foreign direct investment surges, stock and land prices soar

Japan then faced a recession caused by this appreciation of the yen. In response to the strong yen, foreign direct investment (FDI) grew at an unprecedented rate—increasing annually by USD 10 to 20 billion from 1985 to reach a record USD 67.5 billion in 1989. The Japanese government also placed importance on promoting FDI as a way to shape an internationally balanced trade and industrial structure, and to contribute to the global economy as a creditor nation. The JEXIM Act was also amended in 1985 and 1989 to enhance support measures for FDI.

In addition, the government took measures to expand domestic demand.

The Bank of Japan also lowered the official interest rate (base rate) in stages, and the economy recovered robustly. However, against the backdrop of excessive liquidity arising from the current account surplus, expectations of continuous price rises led to an extraordinary surge in stocks and other assets. The Nikkei Stock Average, which had hovered around the 10,000 mark in 1985, rose sharply and hit an all-time high of 38,915 at the end of 1989.

But the asset bubble, which had become detached from the real economy, burst after peaking in 1990. Banks and businesses were left holding huge amounts of bad debt and liabilities. This was the start of Japan's economic stagnation.

Japan-U.S. economic friction and JEXIM's expanded functions

1981	April	Voluntary export restraint on automobiles exported to the U.S.
1983	November	U.S. President Reagan visits Japan. Requests market opening and deregulation.
1984	May	JEXIM Act amended (expansion of import loans)
1985	June	JEXIM Act amended (development of overseas investment loans, etc.)
	September	Plaza Accord
1989	June	JEXIM Act amended (creation of investment function, etc.)
	December	Nikkei Stock Average reaches all-time high

