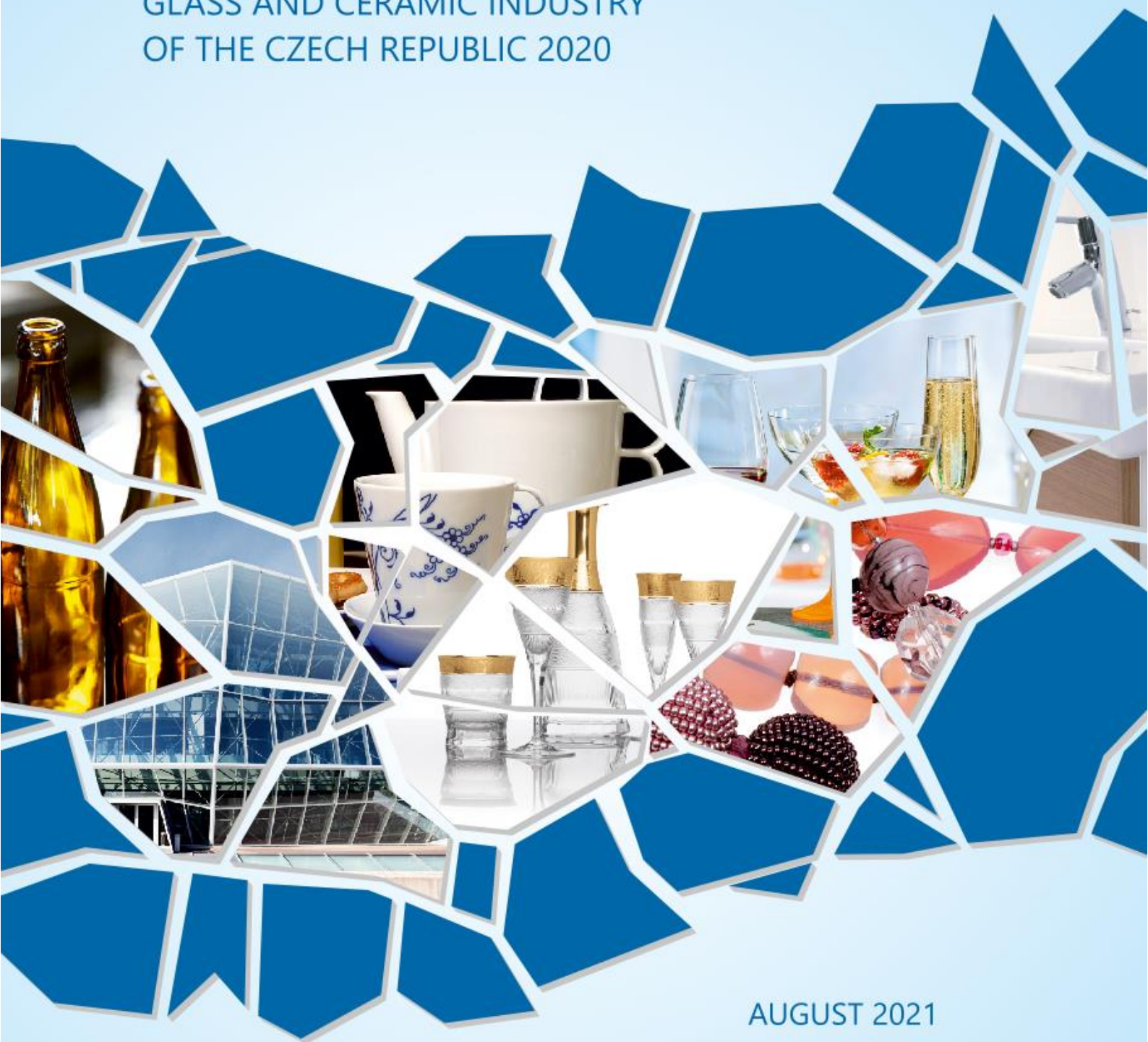




ASSOCIATION OF THE GLASS AND CERAMIC  
INDUSTRY OF THE CZECH REPUBLIC

# ANNUAL REPORT

GLASS AND CERAMIC INDUSTRY  
OF THE CZECH REPUBLIC 2020



AUGUST 2021

# Introduction

Dear colleagues,

We all are probably going to remember 2020. What hit Europe in the spring was unprecedented in modern history. A phenomenon has emerged that has completely paralyzed a well-functioning society and its markets. The hitherto unknown SARS-CoV-2 virus arrived and caused the COVID-19 disease.

It did not take long before society, markets, and individual states started to react. Disaster came, an unknown situation, worries about the future. I am glad we survived, both people and companies. Unfortunately, not everybody survived, and it is not over yet apparently. However, we can see certain healing, mostly thanks to vaccination. Therefore, we are more at ease and have time for work.



It was surprising that, in comparison with other European countries, our results remained mostly unchanged, which you will find out for yourself in our report. Of course, in the beginning, the world “stopped”, and the products remained home, the services were not offered, but later the production, as well as trade resumed. The market map, however, changed dramatically. Tourism, a large market segment for many glassmakers, a vein full of energy, has suddenly disappeared. The traffic route from China has stopped and with that the flow of products to many parts of our industry. And it still applies today. The wave of the scarcity of almost everything hasn't equalized yet.

I wish you enjoy reading our results even in these difficult times. I hope you can find the answers to your unspoken questions and the inspiration for your future decision-making. I also hope that you can be convinced, as I am, that our traditional industry is strong, resilient, and can overcome obstacles.

I wish you a nice read.

A handwritten signature in blue ink, belonging to Ing. Petr Mazzolini.

Ing. Petr Mazzolini  
president

Association of the Glass and Ceramic industry of the Czech Republic



ASOCIACE SKLÁŘSKÉHO  
A KERAMICKÉHO PRŮMYSLU ČR  
Association of the Glass and Ceramic Industry of the Czech Republic

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## INTRODUCTIONS

In the introductory part, the annual report provides an overview of the position of the glass and ceramic industry within the manufacturing industry of the Czech Republic, its structure, and its development in the period 2015–2020. The report includes an overview of exports and imports by individual production sectors. The report also presents an evaluation of the activities of the Association of the Glass and Ceramic Industry of the Czech Republic in the past period.

The data processed in the report are based on data from the Czech Statistical Office (valid as of June 30, 2021). These data are supplemented by data obtained from the annual reports of the members of the Association.

The division and nomenclature of the manufacturing industry, used in the chapter "The position of the glass and ceramic industry in the Czech Republic", is taken from the Czech Statistical Office.

The time series compared in the chapter "Development of the glass and ceramic industry" are given for the period 2015–2020.

In the presented annual report, the glass and ceramic industry is mainly monitored and described as divided into seven so-called aggregations. These aggregations are formed by technologically and marketing-related glass and ceramic production activities. This methodology also corresponds to the method of statistical reporting in the Czech Republic.

- **Flat Glass** (treated and untreated flat glass)
- **Packaging Glass** (bottles, cans, other glass containers)
- **Glass Fibres** (reinforcing / textile, insulating glass fibres)
- **Other Glass** (special glass - laboratory glass and laboratory instrument glass, tubes, glass parts for screens, technical balls, glass industrial apparatus, protective welding glass, optical glass, glass blocks, costume jewellery glass, etc.) and **Lighting glass**
- **Utility Glass** (beverage glass, household glass, decorative, artistic, etc.)
- **Utility Porcelain and Ceramics** (porcelain household products and decorative porcelain, ceramic household products, decorative ceramics)
- **Technical and Medical Ceramics** (insulators, laboratory porcelain, ceramic products for sanitary purposes, products for technical purposes).

The report does not focus on the development of the remaining group of activities (aggregation), which consists of the production of machinery and equipment, service, and services for the glass and ceramic industry. From the point of view of statistical reporting, the activities related to this aggregation are monitored in several different sub-sections of the manufacturing industry and thus cannot be, especially numerical data, reliably processed and compared.



# THE ASSOCIATION OF THE GLASS AND CERAMIC INDUSTRY OF THE CZECH REPUBLIC

## The Association of the Glass and Ceramic Industry of the Czech Republic

The Association of the Glass and Ceramic Industry of the Czech Republic is a member of the Confederation of Industry of the Czech Republic and a member of the Glass Alliance Europe.

The Association of the Glass and Ceramic Industry of the Czech Republic (Association) was established in 1990 as an interest group of producers of a flat, container, technical, utility, and lighting glass, glass and mineral fibres, household porcelain, household ceramics and sanitary ware, trade companies, suppliers of machinery, machine and technological equipment and services, specialized schools, research institutes and publishers of specialized journals. The members of the Association are the Czech Glass Society and the Union of Glass and Fashion Jewellery Producers. A separate part of this chapter is devoted to them.

The Association had 46 members at the date of December 31, 2020. The activities of the Association were based on the plan accepted by the general meeting of the Association on October 15, 2020.

The activities of the Association are focused, especially on the promotion, assertion, and defence of interests and demands concerning the bodies of the state administration, on organizing mutual cooperation of members in the solution of common problems, on rational utilization of local raw materials, on environmental problems solution, on ensuring collective negotiations with respective trade union and making collective bargains, on ensuring a database for strategic decisions of its members, on assistance in search of foreign partners, on coordination of research and development in the glass and ceramic industry in cooperation with specialized schools and workplaces, on expert and financial support in publishing specialized literature and journals, and also on the solution of specialized education problems.

## Activities of the Association in 2020

Contrary to the plan, the main activity of the Association in 2020 was affected by the pandemic situation associated with COVID-19. The Association was actively involved in supporting companies in the sector and defending the interests of the glass and ceramic industry in the Czech Republic. The Association was sending special newsletters with current information, addressed the specific conditions of the industry in lockdown, and negotiated with the government of the Czech Republic, the Ministry of Industry, and the Ministry of Health, and the Ministry of the Interior. The President of the Association and representatives of the Board of Directors discussed with the Minister of Industry and Trade the possibilities of supporting the industry. The Secretary of the Association actively participated in the meetings of the crisis team of the Confederation of Industry and Transport, where he/she defended the interests of the industry. There was also active communication with the members of the Association regarding current developments, support in submitting applications within the support programs, etc.

At the national level, the Association cooperated with the Czech Glass Society in fulfilling the program statement of the Confederation of Industry and Transport of the Czech Republic and in promoting interests directly related to the glass and ceramic industry. Within the European Union, the Association collaborated with the Glass Alliance Europe (GAE) on the promotion of interests of the glass industry, for the porcelain industry it cooperated with Cerame Union. In the framework of its possibilities, the Association also collaborated on the promotion of interests of other associated branches and with other professional groups.

The plan suggestion for 2020 followed the activities in 2019. The activities in 2020 were divided into the following themes: “Support of the glass and ceramic industry competitiveness”, “Environment”, “Collective negotiations of higher degree”, “Education (apprenticeship, secondary and university)”, “Social dialogue”, and “Services and information”. Support of research and development and lobbying for the glass and ceramic industry interests and activities promoting the Association and its members were an important part of activities of the Association.

The Association took part in several projects in 2020: National System for Qualification (NSK2), Interconnection of the national, sector and regional social dialogue in the Czech Republic, „Education and collaboration among social partners II.“ (as a partner with the Trade Union of Employees of Glass and Ceramic Industry and China (Trade Union).

## Support of competitiveness of the glass and ceramic industry

The Association continued its long-term activities and search for new opportunities to support the competitiveness of glass and ceramic products on the domestic market and international markets, given the Association's ability to cooperate with the Confederation of Industry of the Czech Republic. Specific problems of the glass and ceramics industry have been addressed directly with the Ministry of Industry and Trade, the Ministry of the Environment, and other state administration bodies and institutions of the European Union, such as the European Chemicals Agency (ECHA) and the European Commission.

The Association in cooperation with member companies and within the membership in the GAE, and also on a national level with the Confederation of Industry, took a firm stand actively against changes and elimination of the glass and ceramic industry from the list of sectors endangered by carbon leakage after 2050.

The Association carried out a systematic dialogue with the Ministry of Industry and Trade and the Ministry of Environment on general support of the glass and ceramic industry, especially in the area of competitiveness support.

Furthermore, the Association actively negotiated with the Ministry of Foreign Affairs, mainly in the matter of placing glass, ceramic, and porcelain products in events presenting the Czech Republic. To support the export of this industry, the Association again submitted an application for support of the industry within the framework of economic diplomacy at EXPO 2021. This event was postponed for a year due to the pandemic situation in the world. Other events were cancelled (Egypt, Russia) due to COVID-19.

The Association supported providing the working force, development of professional education, and motivation of working force through social dialogue and all further available means.

To support, promote and defend the interests of the glass and ceramic industry, the work of expert groups continued. These experts continuously discussed current issues related to the glass and ceramic industry. Expert groups aim to define the attitude to basic themes influencing the position of the Association members, and, subsequently, in cooperation with the Association secretary, to stand up for their promotion within the state authorities, the Confederation of Industry, and the GAE, and European Union bodies.

In the framework of the project Education and collaboration among social partners II. the Association was supposed to realize several pieces of training focused on the competitiveness support of companies in this sector. Out of the planned 10 events, due to limitations, only 2 seminars were actually implemented.

Representatives of the Association of the Glass and Ceramic Industry of the Czech Republic, the Czech Glass Society, and the Association of Glass and Jewellery Manufacturers also fulfilled the memorandum of cooperation in support of glassmaking. Together, they have been representing the industry for almost 30 years and are aware of the need to strengthen coordinated cooperation and progress in areas of common interest to further develop the Czech glass industry.

## Social Dialogue

For fulfilling employers' functions and keeping the social dialogue the Association managed the collective negotiation of higher degree with representatives of the Trade Union. Further on, the Association collaborated with the Confederation of Industry, the Ministry of Industry and Trade, and the Ministry of Labour and Social Affairs.

In 2020 the negotiation on a new Collective agreement of higher degree to the period from 2021 to 2022 with the Trade Union proceeded.

The Association took part in the project of the Confederation of Industry "Interconnection of the national, sector and regional social dialogue in the Czech Republic" (NORD); KA1 Bipartite negotiations on sector level.

To increase knowledge on social dialogue and strengthen the cooperation between employers and employees, the Association was a partner of the Trade Union in the project Education and cooperation between social partners and transfer of knowledge and experience from abroad. This project was accepted and realized in the period from June 2019 till May 2022. In 2020 the Association secretary was actively participating in the preparation of seminars and regional trainings within the project.

## Education (apprenticeship, secondary and university)

The Association is supporting the development and ensuring the quality of professional education on all levels.



In the area of education problems regarding the professional education system for the glass, jewellery, and ceramic industry are continuously solved. It is necessary to interest employers, as well.

The Association collaborated with the consortium of the Confederation of Industry, the Chamber of Commerce, and TRIXIMA, s.r.o. on the National Qualification System (NSK 2).

## Environment

The Association cooperated with the GAE, the Confederation of Industry of the Czech Republic, the Ministry of Environment, and the Ministry of Industry and Trade and took part in the activities of respective working groups.

In cooperation with the GAE, the Association took part, on the national level, in support of interests of the Czech glass and ceramic industry within the European environmental policy (REACH, EU ETS, IPPC, etc.) and in making favourable legislation surroundings.

In cooperation with the Confederation of Industry and within a systematic dialogue with the Ministry of Industry and Trade (Action plan for support of an increase of the Czech Republic independence in raw materials sources by substitution of primary sources by secondary raw materials) the Association promoted the solution of the problem of waste glass for recycling (waste flat glass, container glass, etc.). In collaboration with the Confederation of Industry and its members, the Association promoted the interests of the industry in the preparation of legal regulations regarding the environment.

In collaboration with the GAE and with the own members the Association solved the problem of the REACH, ROHS and incorporating substances, used as glass raw materials (new substances suggested for qualification, permission, and protection of raw materials as semi-products).

The Association monitored through the GAE and in cooperation with member companies the problem of contact of products with food (new values, total migration limits, specific problems, etc.).

## Services and information

The Association secretary continued in collecting and searching for information important for the Association members and transferred it to them. The Association gave information on this branch to the bodies of the state administration and to other institutions which can contribute to the development of the glass and ceramic industry.

In 2020, in the collection of information and its further sharing and processing, emphasis was placed on regulations, support, and other issues related to the pandemic situation and its impact on companies and organizations in the sector. Members were regularly informed about the current situation through special editions of the Association's COVID Newsletter.

Furthermore, a Glass Alliance Europe (GAE) newsletter and other information coming to the association's secretariat were regularly sent to members of the Association.

The Association regularly updated the information provided to members and the public on the Association's website and the website [www.skloakeramika.cz](http://www.skloakeramika.cz) focused on the support of the glass and ceramic industry in the Czech Republic and the Facebook profile.

The Association continuously provided information from the industry to state authorities and other institutions. If necessary, it collected and evaluated important data to determine the current situation and development of the industry.

In the framework of the project Education and collaboration with social partners the Association co-organized training for its members oriented to the social dialogue. In 2020, training was limited due to coronavirus-related limitations.

## Promotion of the Association and its members

The aim of the Association was to continue in the medial promotion of the glass and ceramic industry and improve its image. The aim was always to introduce to the public the production and the level of the branch and to contribute to gaining new qualified workers to companies and young people to schools of all levels of education.

The Association updated the website oriented to the glass and ceramic industry containing the latest news from this branch, report on glass and ceramics, a survey of companies and schools, an offer of working places, specialized publications, and a calendar of specialized activities (see [www.askpcr.cz](http://www.askpcr.cz) and [www.skloakeramika.cz](http://www.skloakeramika.cz)).

The Association promoted also the logo of the Czech product, guaranteed by the Association of the Glass and Ceramic Industry of the Czech Republic.

The Annual Report - Glass and Ceramic Industry of the Czech Republic - 2017 was published based on the collaboration with the Association members and the Czech Statistical Office.

The Association contributed to finishing of the survey Panorama zpracovatelského průmyslu ČR (Panorama of the manufacturing industry of the Czech Republic) published by the Ministry of Industry and Trade.

There were published articles on the Association activities in the Sklář a keramik journal, where the Association has a contract on cooperation.

Further on, the Association shared on media programmes in the Czech Television, Czech Radio, Hospodářské noviny, etc. devoted to the Czech glass and ceramic industry.

The Association became a partner of the International Triennial of Glass and Jewellery organized by the Museum of Glass and Jewellery in Jablonec nad Nisou.

In 2020, the Association prepared several events connected with the 30th anniversary of the Association of the Glass and Ceramic Industry of the Czech Republic in 1990. Due to the circumstances, events organized by the Association or co-organized with its partners could not be realized (VII. Meeting of Glassmakers and Ceramics, Czech-Slovak Conference on Glass (ČSS), gala evening to mark the 30th anniversary, an exhibition at the National Technical museum - HOT HOT HOT - Glass, ceramics and porcelain from A to Z, etc.).

## The Czech Glass Society

The Czech Glass Society is a member of the International Commission on Glass (ICG) and the European Society of Glass Science and Technology (ESG).

The Czech Glass Society was originally established in 1946 as a glass section of the Czechoslovak Glass and Ceramic Society. In its present form, it exists after the division of the Czech and Slovak Federal Republic in 1993 as the Czech Glass Society (CGS).

The CGS is a voluntary organization associating individual and collective members from the production of glass, fashion jewellery, and related branches.

## Activities of the CGS

The highest priority of the CGS was to organize the 23rd International Congress on Glass ICG in 2013. In subsequent years there were organized two dominant events - the 8th International Conference on Borate and Phosphate Glasses (2014) and the Czech and Slovak Conference on Glass (2014 and 2017) Annual Report 2018 Association of the Glass and Ceramic Industry of the Czech Republic 11 and International Conference on Glass Machinery including the seminary Metals in Glass Technologies (2015-2018). The CGS closely cooperates with the Slovak Glass Society and the Deutsche Glastechnische Gesellschaft (DGG). They also participated in the common conference organized by the DGG. An important activity of the CGS in the international field is the participation in activities of Technical Committees of the INTERNATIONAL COMMISSION ON GLASS (ICG). The CGS is represented in the following committees: TC 2 - Chemical Durability & Analysis, TC 3 - Basic Glass Science, TC 7 – Nucleation, Crystallisation & Glass-Ceramics, TC 13 - Environment, TC 14 - Gases in Glass, TC 19 - Glass Surface Diagnostics, TC 20 - Glasses for Optoelectronics, TC 21 - Modelling of Melting Processes, TC 23 - Education & Training in Glass Science & Engineering, and TC 25 – Modelling of Glass Forming Processes. The CGS took part also in the Annual Conference of American Glassmakers 2018 in San Antonio (USA).

The CGS participated together with the Museum of Glass and Jewellery in Jablonec nad Nisou on the project of elaboration the special category “Glass and Jewellery” for the website “CzechglassCompetence.com”.

The CGS devotes a great interest also to young glassmakers. The competition Master of Crystal is organized by PRECIOSA in collaboration with the Museum of Glass and Jewellery in Jablonec nad Nisou and with the support of the CGS.

The CGS is a publisher of Sklář a keramik journal. In 1924 the first number of the specialized glass journal Sklářské rozhledy, published by the Glass Institute in Hradec Králové. In 1954 the original name was changed to Sklář a keramik and since 1994 the journal is published by the CGS. In 2018 there were issued 6 double issues with almost 300 pages of texts about glass, jewellery, ceramics, and china. It was also a media partner of prestigious branch activities (e. g. Sklářské svítání).

The CGS is an official partner of the Centre of the Glass Art project in the Huť František. In 2006 the foundation “Nadace of Josef Viewegh” was established, the aim of which was to buy and reconstruct the Centre of the Glass Art project in the Huť František.

## Union of Glass and Fashion Jewellery Producers

The Union of Glass and Fashion Jewellery Producers (hereinafter the Union) has 52 members, from which 4 members are specialized schools and also Technical University Liberec and the Museum of Glass and Jewellery. The membership base is great enough and it represents the industry of glass beads, fashion jewellery, jewels, and gift articles made of glass.

The Union keeps wide contacts with key institutions on central, regional, and Jablonec Region level, e.g. with the Ministry of Foreign Affairs, the Ministry of Industry and Trade, and the Ministry of Culture of the Czech Republic.

### Activities of the Union of Glass and Fashion Jewellery Producers in 2020

The Union permanently looks for sales opportunities for its members' companies. It promotes putting of important European fashion jewellery exhibitions into programmes of the Ministry of Industry and Trade and the Czech Trade agency.

In 2020, the Union was also the main organizer of the Křehká Krása 2020 exhibition, which offered its visitors to see many of the beautiful products made by Czech jewellery and glass companies. It is also a unique opportunity to get a good bargain directly from manufacturers, which is why this event has found its regular supporters. The main partners of the exhibition were the Liberec Region, the Statutory City of Jablonec nad Nisou, MSB, and CzechTourism. The partners of the exhibition were the Ministry of Culture of the Czech Republic, JKIC, Preciosa, Texo Plus, and BusLine. The exhibition was attended by 40 exhibitors and 7600 visitors. The organization of the exhibition was significantly influenced by measures taken by the Czech government, issued two weeks before its opening. The Union eventually decided to organize the exhibition and it was the only exhibition of its kind in Europe.

The association's marketing and business activities were significantly limited under the influence of restrictions and measures of the Czech government. The traditional fashion show Made in Jablonec 2020 - Double Fantasy premiered in January 2020, the planned presentations in the Czech Republic and abroad were cancelled.

The Palace Plus jewellery centre started the year 2020 well, but after closing in March 2020 it only operated during the summer months. The centre fought for survival throughout the year and was ultimately successful, among other things, thanks to the financial assistance of the Statutory City of Jablonec nad Nisou. Turnover decreased by 60% compared to 2019.

During 2020, the Union focused primarily on assisting member companies in the form of advisory activities in the implementation of government support measures. Despite all the help, five of the member companies did not survive the year 2020. The main reason was the lockdown of retail and the loss of customers in the main tourist destinations of the Czech Republic. Overall, companies' turnover fell to 25% of the 2019 level, and most of the companies struggled for survival. It is the worst crisis since 2005 with gloomy prospects until 2021.

## STRUCTURE OF THE GLASS AND CERAMIC INDUSTRY IN THE CZECH REPUBLIC

The structure of the glass and ceramic industry of the Czech Republic is described below according to the division of individual production branches, as it is used in the following parts of this Annual Report. Companies profiling the branch through their economic importance and prestige are given in individual groups. Further on, also basic information on Czech producers of machinery and equipment and on companies providing services for the glass and ceramic industry and suppliers of basic raw materials is given.

There are 108 companies in the Czech Republic with more than 50 employees at the date of June 30, 2021:

CZ-NACE 23.1 - Production of glass and glass products – 108 companies are included. According to the investigated production branches, there are 32 producers of flat glass, 38 producers of hollow glass (from which 4 producers of container glass, other companies produce utility glass), 6 producers of glass fibres and products made of, and 32 producers of the other glass (see the following text).

CZ-NACE 23.41 - Production of ceramic and china products, mostly for household and decorative products – 19 companies are included, from which 7 producers of china.

CZ-NACE 23.42 - Production of ceramic sanitary ware – 2 companies are included.

### Flat Glass

#### ***AGC Flat Glass Czech, a.s.: the key player in the area of flat glass production and processing***

The only producer of large-dimension flat glass in the Czech Republic is AGC Flat Glass Czech, a.s., a member of the AGC Group with the seat in Teplice. This company is at present the greatest producer of flat glass and its applications in Central and Eastern Europe. The 100 % owner of the company is Asahi Glass Co. Ltd., Japan.

The activities of AGC Flat Glass Czech, a.s. include the production of basic flat float glass, clear or with a defined green tint. It is finished by further transformation to the so-called low-emission glasses controlling the light and energy flow, safety laminated or toughened glass, sound-insulating glass, matt or painted glasses for exterior and interior applications, and mirrors. By further treatment double or triplex insulating glass, bent building glass, furniture glass, glass for solar technique, and fire-resistant glass, are produced. Beside float glass, the company produces dozens of ornamental patterns of cast glass. The trade policy of the company is based on export to the countries of Central and Eastern Europe. The company production is applied also in the world distribution channels of the AGC Group.

The activities of AGC Flat Glass Czech, a.s. are supported by distribution channels in the Czech Republic, Slovakia, and Poland created by subsidiary companies for the distribution of glass for

architecture and the building industry. Through them, the company is a supplier of important volumes of unfinished flat glass to other independent processing companies.

Great volumes of flat glass are processed in the Czech Republic in the automotive division of the AGC Group, in this case, AGC Automotive Czech, a.s. Chudeřice u Bíliny. This company produces toughened and laminated safety glasses, especially for private cars, lorries, buses and coaches, including the additional operations like application of encapsulated or extruded plastic profiles and application of required additional components (strips, pins, connectors, holders, etc.). AGC Automotive Czech produces and sells approx. 25 mill. of automotive glasses/windshields per year and so, it is one of the greatest and the most complex producers in Europe.

The company is a part of the European group of producing, development, and trade subjects of the AGC Automotive Europe Ltd. group. Its activities are concentrated in Belgium, the Czech Republic, France, Italy, Hungary, Germany, Russia, Spain, Turkey, and Great Britain. The company is a producer of more than 70 mill. of windshields, rear windows, sidescreens and skylights made of safety automotive glass per year.

AGC Automotive Europe Ltd. is a part of the worldwide Automotive Glass Company, Asahi Glass Co. Ltd., Japan. The main vision is to be the most respected world supplier of all types of safety glass for the automotive industry.

In the Czech Republic, there are many other companies processing flat glass for various specialized products. It is for instance Saint-Gobain Sekurit ČR, spol. s r.o. and Pilkington AGC Czech spol. s r.o. - production of glass for private cars; Amirro, s.r.o. Čelákovice - production of mirrors and furniture glass; ERTL GLAS, s.r.o. Říčany - production of laminated safety glass, heat-protective glass; WMAGlass, s.r.o. Chrastava - production of insulation glass; Bepof, spol. s r.o. Hranice u Aše - processing of flat glass and mirrors, etc.

Beside the above-mentioned companies, there are also many wholesale companies trading with products and services regarding finished flat glass.

## Container glass

The production of container glass includes beverage bottles and preserve glass jars made for the food industry (beer, wine, liquors, non-alcoholic drinks, mineral waters, fruit, etc.), and further on, glass containers for products of the chemical, pharmaceutical, and cosmetic industries.

Dominant producers of container glass in the Czech Republic are O-I Czech Republic, a.s. with trading company O-I Sales and Distribution Czech Republic, s.r.o. Dubí u Teplic, members of the transnational group of companies Owens-Illinois, USA, and VETROPACK MORAVIA GLASS, a.s. Kyjov, a member of the transnational group Vetropack Holding AG, Switzerland. Both these companies have about 80 % of a market share of container glass in the Czech Republic and they have also important export shares in neighbouring countries within their transnational ownership and trade bonds.

Further on, there are producers of container glass, e.g. SKLÁRNY MORAVIA, a.s. Úsobrno and STÖLZLE UNION, s.r.o. Heřmanova Huť (the owner is Stölzle - Oberglas GmbH) in the Czech Republic.



## Glass fibres and products made of

The only producer of glass textile fibres and products made of in the Czech Republic is SAINT-GOBAIN ADFORS CZ, s.r.o. Litomyšl, which is organizationally included in the sector of innovative materials of the Saint-Gobain group. As far as products it includes activities: "Vertex" and "ADFORS CONSTRUCTION PRODUCTS EUROPE". The term "CONSTRUCTION PRODUCTS" reflects the final utilization of company products.

The only Czech producer of thermal and sound insulation made of glass fibres in the form of mats and slabs is Union Lesní Brána, a.s. Dubí u Teplic.

Insulation material based on glass wool in the form of slabs and rolls is produced by KNAUF INSULATION, spol. s r.o. Krupka u Teplic. The plant in Krupka is one of the most up-to-date production plants for the production of mineral insulation made of glass wool in Europe.

## Utility Glass

There are about thirty companies with more than 20 employees with the main production of utility glass. Crystalex CZ, s.r.o., the production plant in Nový Bor (machine-made utility soda potassium glass), Crystal BOHEMIA, a.s. Poděbrady (lead crystal) and CRYSTALITE BOHEMIA, a.s. Světlá nad Sázavou belongs to the greatest. Further on, there are many smaller companies with various assortments, e.g. art glass, cut lead crystal, utility glass decorated with painting, pen-and-ink drawing, staining, high enamel and engraving, handmade utility glass, historical replicas, off-hand glass, etc. For example Ajeto, spol. s r.o. Czech Glass Craft Lindava, Blažek Glass, s.r.o. Poděbrady, CAESAR CRYSTAL BOHEMIAE, a.s. Světlá nad Sázavou, SKLÁRNA SLAVIA, s.r.o. Nový Bor, Královská Huť, s.r.o. Doksy, EGERMANN, s.r.o. Nový Bor, BOHEMIA MACHINE, s.r.o. Světlá nad Sázavou, and a number of other companies.

Luxury handmade utility glass is produced by MOSER, a.s. Karlovy Vary.

## Other Glass

Products included in this group of the glass industry are often (especially abroad) called special glasses. It is a wide range of glass products with specifically defined properties having their customers mostly in other processing branches of the industrial market. The assortment of this group is very wide in the Czech Republic. It includes technical, laboratory, and laboratory apparatus glass, technical spheres, glass industrial apparatuses, protective welding glass, optical glass. Also, the production of glass blocks, fashion jewellery semi-products, and lighting glass are included.

A dominant Czech producer of technical and laboratory glass, tubing and apparatus glass made of borosilicate glass is KAVALLIERGLASS, a.s. Sázava. Technical and laboratory glass is also produced by TECHNOSKLO, s.r.o. Držkov, EXATHERM, s.r.o. Železný Brod (glass thermometers and densimeters), Detesk, s.r.o. Železný Brod (technical borosilicate glass) and other smaller companies.

From the producers of optical glass ECOGLASS, s.r.o. Jablonec nad Nisou, the producer of exactly pressed components of optical glass for electro-optical apparatuses can be stated.

S VITRABLOK, s.r.o. Duchcov is a producer of glass blocks for the building industry.

Frits and glazes are produced by the company Glazura s.r.o.

Production of fashion jewellery semi-products is a subject of activities of many companies mostly in the north part of the Czech Republic in the Jablonec region (Preciosa, a.s., PAS Jablonec, a.s.).

Lighting glass is produced by Sklárna Janštejn, s.r.o. and it is a supplementary assortment of several smaller producers of utility and technical glass. A number of companies are engaged in the production of components for chandeliers and also in individual production of chandeliers, the most significant is Preciosa, a.s.

## Household china and ceramics

The assortment of household china includes not only products intended for daily use but also luxury products, e.g. luxury household china, household and decorative china, for instance, rose and onion pattern, and figural china.

Among significant china producers belong Thun 1794, a.s. Nová Role, Český porcelán, a.s. Dubí u Teplic, G. Benedikt Karlovy Vary, s.r.o., Rudolf Kämpf, s.r.o. Nové Sedlo, König-Porzellan Sokolov, spol. s r.o. Sokolov.

A great number of more specialized smaller companies produce household ceramics. The greatest are KERAMO Kožlany, v.d., and Keramika Krumvíř, spol. s r.o. Krumvíř. Ceramic tiles are made in KERAMIA, s.r.o. Znojmo.

## Technical ceramics and sanitary ware

There are two dominant Czech producers of sanitary ware – LAUFEN CZ, s.r.o. (with producing facilities in Bechyně and Znojmo), a member of the Roca and Ideal Standard, s.r.o. Teplice. Both companies are strongly oriented to export and their market success is dependent to a great extent on the building industry boom in Europe.

The producers of technical china are Jizerská porcelánka, s.r.o. Desná v Jizerských horách producing laboratory chinaware and china tubing, and ELPOR, s.r.o. Krupka Bohosudov.

From the producers of technical ceramics can be stated: KERAMTECH, spol. s r.o. Žacléř - production of foundry ceramics and technical china, BRISK TÁBOR, a.s. - production of spark and glow plugs for internal combustion engines and technical ceramics, HOFMANN CERAMIC CZ, s.r.o. Bělá nad Radbuzou - production of technical ceramics for foundries, ESTCOM CZ-oxidová keramika, a.s. Louny - production of refractory ceramics and ceramic tubes, and Diamorph Hob Certec, s.r.o. Horní Bříza - production of technical ceramics, etc.

## Other mineral products

Aluminosilicate fibres resistant to high temperatures and insulating fibre products made of (wool, mats, shaped pieces, and slabs) with SIBRAL trademark, used mainly in the construction of heat appliances, are produced by UNIFRAX, s.r.o. Dubí u Teplic.

Fused basalt products (abrasion-resistant and refractory materials with EUROR trademark), abrasion-resistant piping, and tiles for industry and interiors are produced in EUTIT, s.r.o., Stará Voda. This company is the only world producer of interior floor basalt tiles.

## **Furnaces/kilns, glass machinery and equipment, and special services for the glass and ceramic industry**

Nowadays, about forty or fifty independent companies produce and deliver glass furnaces, kilns, machinery and equipment, glass moulds and apparatuses for glass and ceramic production, or carry out service, design, and various specialized and consultancy work for this industry. These companies are of a different size and they have, of course, various ranges of their activities.

Among the companies with individual production and trade activities exceeding significantly the territory of the Czech Republic belong some producers of machinery and equipment, e.g. Sklostroj Turnov CZ, s.r.o. producing machines and equipment for automatic production of container glass. Further on, SKLOPAN LIBEREC, a.s. is a supplier of machinery for processing of flat glass, and SKLÁŘSKÉ STROJE ZNOJMO, s.r.o. delivers various glass machinery pieces of equipment. Heat appliances and kilns for china and ceramics firing, as a complex and in greater amount, are designed and delivered by REALISTIC, a.s. Karlovy Vary, BVD PECE, s.r.o. Karlovy Vary, and LAC, s.r.o. Rajhrad. The company Elsklo, s.r.o. Desná v Jizerských horách designs and delivers equipment for small-scale electric melting of glass. Glass melting aggregates are designed and delivered by Teplotechna - Prima, s.r.o. Teplice. Companies GLASS SERVICE, s.r.o. Vsetín and DITES, s.r.o. Teplice (automatized control systems for technological processes) have important activities abroad in the area of design and control systems for glass melting aggregates. Gas-fired melting furnaces and auxiliary furnaces for hand production of glass are produced by EGT servis, s.r.o. Hradec Králové.

Producer and supplier of cast iron and steel moulds for container glass SKLOFORM, a.s. Suchdol nad Lužnicí - works predominantly on the level of services and deliveries for Czech producers. Further on, Desko, a.s. Desná v Jizerských horách delivers machinery and moulds for fashion jewellery production. Other producers of machinery for the production of glass are, e.g. FOR G, s.r.o. Teplice, and BOHEMIA MACHINE, s.r.o. Světlá nad Sázavou.

Quite a great group of companies and also a number of independent individuals are dealing with the design of procedures and construction of machinery for mechanical working of glass (engraving, cutting, polishing), e.g. DIAS TURNOV, s.r.o. and POLPUR, s.r.o. Turnov.

## **Raw materials for the glass and ceramic industry**

A long tradition and the development of glass, china, and ceramic production were determined, beside other factors, by an abundance of basic raw materials, i.e. sand, kaolin, feldspar, and quartz.

High-quality glass sands with an extremely high content of SiO<sub>2</sub> are outstanding for the glass industry and also for various utilizations in other branches. Sands are delivered in a moistened or dried form.

Companies Provodínské písky, a.s. Provodín and Sklopísek Střeleč, a.s. Mladějov v Čechách mine and deliver these sands in the Czech Republic

Mining and processing of kaolin is carried out by LB MINERALS, s.r.o. Horní Bříza, Sedlecký kaolin, a.s. Božičany, and Kaolin Hlubany, a.s. Podbořany. LB MINERALS, s.r.o. is a supplier of ceramic kaolins intended for wall and floor tiles and sanitary ware, mixed kaolins for sanitary ware, paper mills kaolins, and kaolins for glass fibres. Floated kaolin delivered by Sedlecký kaolin, a.s. is used, especially for china and ceramics. Kaolin Hlubany, a.s. delivers floated kaolins for ceramics.

Beside mining and processing of kaolins also mining and processing of feldspar is a part of the production of the LB MINERALS, s.r.o. Potassium feldspars are suitable for the production of container and flat glass, glazes, and china; soda-lime feldspars are suitable for the production of frits and enamels. Soda-potassium and potassium-sodium feldspars are delivered by K M K GRANIT, a.s. Krásno. Feldspars are applied as flux.

## **POSITION OF THE GLASS AND CERAMIC INDUSTRY IN THE CZECH REPUBLIC**

The glass and ceramic industry is a traditional part of the processing industry in the Czech Republic.

The glass and ceramic industry is included in the subcategory Production of other non-metallic mineral products according to the Classification of Economic Activities (NACE) used by the European Union.

The CZ-NACE 23 Production of other non-metallic mineral products put together productions of glass, ceramics, and building materials of various types and utilization. Production of these commodities has a long tradition and a high level in the Czech Republic.

**Classification of CZ-NACE 23 activities is the following:**

- 23.1 Production of glass and glass products
- 23.2 Production of refractory products
- 23.3 Production of building materials from clay materials
- 23.4 Production of other china and ceramic products
- 23.5 Production of cement, lime and plaster
- 23.6 Production of concrete, cement and plaster products
- 23.7 Cutting, shaping and finishing of stones
- 23.9 Production of abrasive materials and other non-metallic mineral products not stated elsewhere

**Sections 23.1 and 23.4 from which:**

23.41 Production of ceramic and china products, mostly for household and decorative products

23.42 Production of ceramic sanitary ware

23.43 Production of ceramic insulators and insulation accessories

23.44 Production of other technical ceramic products

represent the production of glass, glass products, and the production of china and ceramic products which are a subject of evaluation of this Annual Report.

In the following tables, there are stated revenues without the value-added tax (VAT) from the sale of own products and services of industrial character (hereinafter revenues) and revenues without the VAT from the direct export (hereinafter direct export) of individual subcategories of the processing industry. Revenues and direct export are given at current prices. Revenues and direct export are given without the CZ-NACE 33 Repair and installation of machines and equipment.

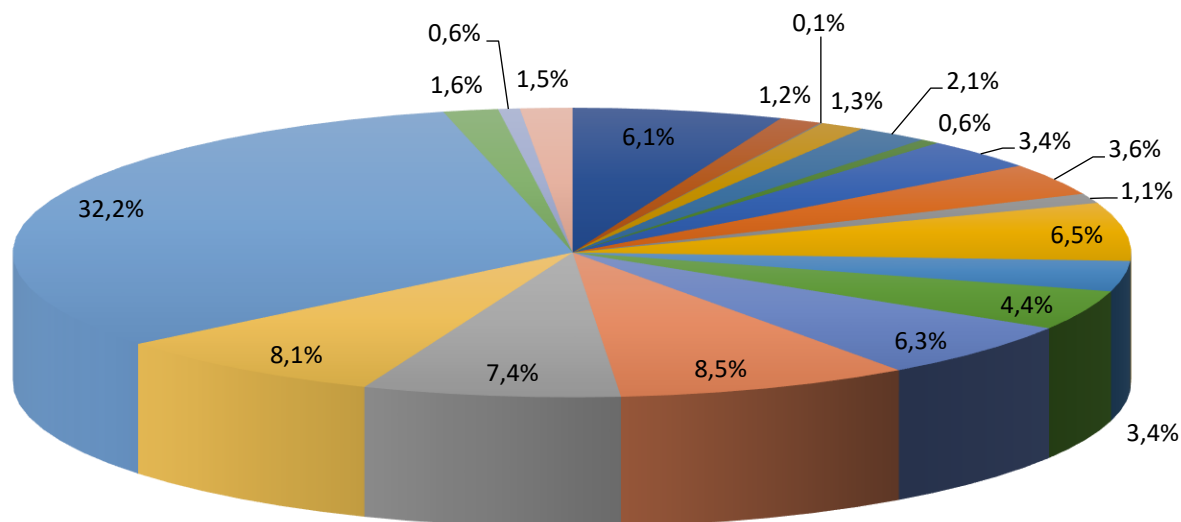
The revenues of the processing industry in the Czech Republic reached the value of 3841.68 bill. CZK in 2020 (in 2019 it was 4123.50 bill. CZK). In comparison with the previous year, the revenues of the processing industry decreased by 6.83 %. The revenues in the amount of 119.40 bill. CZK in the category Production of other non-metallic mineral products means the decrease by 2.1 % in comparison with 2019. The Production of other non-metallic mineral products shared on revenues of the processing industry with 3.10 % in 2020.



## Revenues of the processing industry in 2020

	Revenues	Share
	(mld. Kč)	(%)
Production of food, beverages and tobacco products	213,61	5,6
Production of textiles and clothing	43,30	1,1
Production of leather and related products	2,40	0,1
Processing of wood, production of wood, wicker and straw products, except furniture	45,23	1,2
Production of paper and products made of	73,87	1,9
Printing and copying of recorded media	19,92	0,5
Production of coke and refined oil products	120,77	3,1
Production of chemical substances and chemical preparations	125,92	3,3
Basic production of pharmaceutical products and pharmaceutical preparations	37,94	1,0
Production of rubber and plastic products	228,27	5,9
Production of other non-metallic mineral products	119,40	3,1
Production of basic metals, metallurgical processing of metals; foundry	155,97	4,1
Production of metal constructions and metal-working products, except machines	222,32	5,8
Production of computers, electronic and optical devices and equipment	299,82	7,8
Production of electrical devices	261,22	6,8
Production of machines and equipment not stated elsewhere	283,49	7,4
Production of motor vehicles (except motorcycles), trailers and semitrailers	1129,98	29,4
Production of other transport means	55,75	1,5
Production of furniture	21,92	0,6
Other processing industry not stated elsewhere	53,00	1,4
Processing industry	3 841,68	100,0

## Structure of revenues of the processing industry in 2020



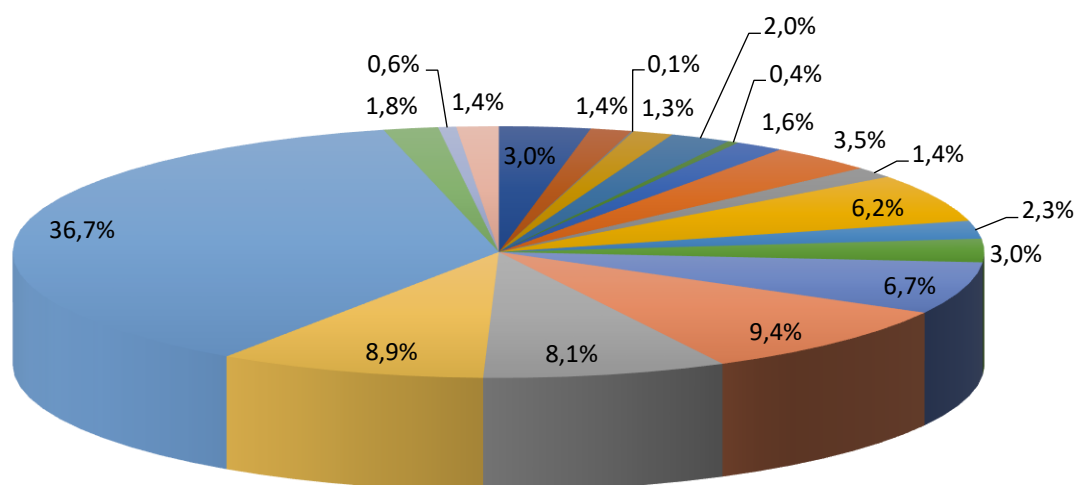
- Production of food, beverages and tobacco products
- Production of textiles and clothing
- Production of leather and related products
- Processing of wood, production of wood, wicker and straw products, except furniture
- Production of paper and products made of
- Printing and copying of recorded media
- Production of coke and refined oil products
- Production of chemical substances and chemical preparations
- Basic production of pharmaceutical products and pharmaceutical preparations
- Production of rubber and plastic products
- Production of other non-metallic mineral products
- Production of basic metals, metallurgical processing of metals; foundry
- Production of metal constructions and metal-working products, except machines
- Production of computers, electronic and optical devices and equipment
- Production of electrical devices
- Production of machines and equipment not stated elsewhere
- Production of motor vehicles (except motorcycles), trailers and semitrailers
- Production of other transport means
- Production of furniture
- Other processing industry not stated elsewhere

**Direct export of the processing industry in 2020**

The direct export of the processing industry was 2302,42 bill. CZK, i.e. by 6,2 % less than in 2019 (2453,53 bill. CZK).

	Revenues	Share
	(mld. Kč)	(%)
Production of food, beverages and tobacco products	69,51	3,0
Production of textiles and clothing	31,42	1,4
Production of leather and related products	1,78	0,1
Processing of wood, production of wood, wicker and straw products, except furniture	30,46	1,3
Production of paper and products made of	46,55	2,0
Printing and copying of recorded media	8,42	0,4
Production of coke and refined oil products	37,42	1,6
Production of chemical substances and chemical preparations	81,11	3,5
Basic production of pharmaceutical products and pharmaceutical preparations	32,23	1,4
Production of rubber and plastic products	141,87	6,2
Production of other non-metallic mineral products	52,98	2,3
Production of basic metals, metallurgical processing of metals; foundry	68,72	3,0
Production of metal constructions and metal-working products, except machines	153,13	6,7
Production of computers, electronic and optical devices and equipment	215,03	9,3
Production of electrical devices	185,98	8,1
Production of machines and equipment not stated elsewhere	204,60	8,9
Production of motor vehicles (except motorcycles), trailers and semitrailers	841,00	36,5
Production of other transport means	41,68	1,8
Production of furniture	13,74	0,6
Other processing industry not stated elsewhere	32,04	1,4
<b>Processing industry</b>	<b>2 302,42</b>	<b>100,0</b>

## Structure of direct export of the processing industry in 2020



- Production of food, beverages and tobacco products
- Production of textiles and clothing
- Production of leather and related products
- Processing of wood, production of wood, wicker and straw products, except furniture
- Production of paper and products made of
- Printing and copying of recorded media
- Production of coke and refined oil products
- Production of chemical substances and chemical preparations
- Basic production of pharmaceutical products and pharmaceutical preparations
- Production of rubber and plastic products
- Production of other non-metallic mineral products
- Production of basic metals, metallurgical processing of metals; foundry
- Production of metal constructions and metal-working products, except machines
- Production of computers, electronic and optical devices and equipment
- Production of electrical devices
- Production of machines and equipment not stated elsewhere
- Production of motor vehicles (except motorcycles), trailers and semitrailers
- Production of other transport means
- Production of furniture
- Other processing industry not stated elsewhere

In the following table, the individual processing industry subcategories are arranged according to the level of the inter-year change of revenues reached within the years 2020 and 2019. These inter-year changes are used here as indicators of the growth dynamism of individual branches.

**Dynamism of sale according to the individual processing industry subcategories**

The highest increase was in the basic production of pharmaceutical products and pharmaceutical preparations.

	Revenues 2019	Revenues 2020	Index 20/19
	(mld. Kč)	(mld. Kč)	(%)
Production of leather and related products	2,44	2,40	98,4
Other processing industry not stated elsewhere	50,35	53,00	105,3
Production of computers, electronic and optical devices and equipment	304,16	299,82	98,6
Production of other transport means	59,20	55,75	94,2
Production of metal constructions and metal-working products, except machines and equipment	236,99	222,32	93,8
Processing of wood, production of wood, wicker and straw products, except furniture	44,53	45,23	101,6
Production of machines and equipment not stated elsewhere	309,47	283,49	91,6
Production of electrical devices	270,02	261,22	96,7
Production of paper and products made of	73,42	73,87	100,6
Production of textiles and clothing	48,49	43,30	89,3
Processing industry	<b>3 851,71</b>	<b>3 514,10</b>	91,2
Production of food, beverages and tobacco products	266,49	213,61	80,2
Production of other non-metallic mineral products	121,97	119,40	97,9
Production of rubber and plastic products	250,54	228,27	91,1
Basic production of pharmaceutical products and pharmaceutical preparations	37,14	37,94	102,2
Production of furniture	23,44	21,92	93,5
Production of motor vehicles (except motorcycles), trailers and semitrailers	1250,21	1129,98	90,4
Production of chemical substances and chemical preparations	141,32	125,92	89,1
Production of basic metals, metallurgical processing of metals; foundry	178,94	155,97	87,2
Production of coke and refined oil products	161,29	120,77	74,9
Printing and copying of recorded media	21,30	19,92	93,5

**Glass and ceramic industry**

In the following chapter “Development of the glass and ceramic industry in the period from 2015 till 2020”, there is studied and described in more detail the glass and ceramic industry as a part of the Czech processing industry, which corresponds to the characteristic orientation of organizations activities included in the Association. For understanding the relations among the processing industry, production of other non-metallic mineral products, and the glass and ceramic industry an informative table is given further on.

**Glass and ceramic industry in the processing industry in 2020**

	Revenues	Direct export
<b>Glass and ceramic industry</b>		
Indicators in bill. CZK (current prices)	48,15	29,81
Share in the Other non-metallic mineral products (%)	40,32	56,27
Share in the processing industry (%)	1,25	1,29
<b>Production of the other non-metallic mineral products</b>		
Indicators in bill. CZK (current prices)	119,40	52,98
Share in the processing industry (%)	3,11	2,30
<b>Processing industry Indicators in bill. CZK (current prices)</b>	<b>3 841,68</b>	<b>2 302,42</b>

The revenues of the glass and ceramic industry in 2020 in comparison with 2019 decreased by 2,8 bill. CZK, i.e. by 5,5 %, the direct export decreased by 7,9 bill. CZK, i.e. by 21,1 %.



## DEVELOPMENT OF THE GLASS AND CERAMIC INDUSTRY IN THE PERIOD FROM 2015 TILL 2020

In this part of the Annual Report characteristic values of the main production indices of the glass and ceramic industry of the Czech Republic in 2020 and the period from 2015 till 2020 are recorded. In the context of the real outer and inner background of the Czech Republic, based on these data, the aim is to analyze and describe the main trends of the development of economic indices of the glass and ceramic industry in the above-mentioned years.

In the introduction of the glass and ceramic industry development analysis, a survey of basic macroeconomic indices for the Czech Republic in the investigated period from 2015 till 2020 is given for understanding wide relations.

### Main macroeconomic indices in the Czech Republic in the period from 2015 till 2020

(Source: Czech Statistical Office, July 2021)

		2015	2016	2017	2018	2019	2020
<b>Gross domestic product</b>	growth in %, actually	5,4	2,5	5,2	3,2	3,0	-5,8
<b>Average inflation rate</b>	growth in %, actually	0,3	0,7	2,5	2,1	2,8	3,2
<b>General unemployment rate</b>	average in %	5,0	4,0	2,9	2,2	2,0	2,6
<b>Average real wage growth</b>	in %	2,9	3,7	4,2	5,9	5,0	-0,1
<b>Balance of trade</b>	bill. CZK	155,2	183,9	152,6	132,7	149,0	190,0
<b>CZK / EUR</b>	average per year	27,3	27,0	26,3	25,6	25,7	26,4
<b>CZK / USD</b>	average per year	24,6	24,4	23,4	21,7	22,9	23,2

As expected, the Czech economy contracted sharply in the second quarter of 2020, by 10.9% compared to the same period last year. At a time when there has been an absolutely exceptional reduction in several economic activities, a large part of the industry has experienced a historically unprecedented decline. The only component of domestic demand with a positive contribution to GDP growth has become government consumption. The Czech Republic did not deviate from the European comparison, we can say that within the EU it was one of the countries with a less dramatic decline. All the world's economies have experienced an unprecedented decline, including the largest,

the United States. For the Czech Republic, as an export-oriented economy, the decline in foreign demand played a crucial role.

When hit by a coronavirus, the Czech economy was in a good condition with the lowest unemployment rate in the EU. Thanks to government support programs “Antivirus” and follow-up measures, unemployment has not risen much yet. Developments in individual sectors of the economy were quite different and, in some cases, there was an increase in the number of persons employed, for example in the production of electricity, gas, and heat. The spring restrictions had a significant impact, especially on accommodation, food, and hospitality.

After a long period of growth, the average wage increased only slightly year on year. The real wage even fell by 2.5%. Understandably, the accommodation and hospitality sectors, as well as real estate activities and, more or less, the entire manufacturing industry, have had particularly large declines. On the contrary, there has been growth in health and social care. Thus, the decline in real wages cannot be applied to all sectors.

Although wage growth has practically stopped, many factors, such as rising input prices and a reduction in some supply relationships, have translated into rising consumer prices. Inflation was driven up mainly by food and housing expenditures. The highest growth on the part of producers took place in the electricity, gas and steam sector.

The Czech crown exchange rate against the dollar and the euro developed entirely according to epidemiological development at home and abroad. After a significant weakening at the turn of February and March, from mid-May, the Czech crown strengthened. During the summer months, the Czech crown strengthened significantly against the dollar.

Industrial production declined significantly in the second quarter, not only due to the coronavirus epidemic but also due to the phase of the economic cycle, as the slowdown had already occurred in the previous period. So far, the recovery of the industry is very hesitant, due to domestic processes and developments in neighbouring countries. Global trends, such as trade wars or the possibility of hard Brexit, do not seem to be the most important mover now. The manufacturing industry has failed in almost all sectors, especially in the production of motor vehicles. Hand in hand with this kind of development, sales also fell in all sectors. The trend of a slight decline in employment continued, but it was hampered by government support measures. Across the EU, the industrial sector has performed similarly.

Construction production showed a significant year-on-year decline. In a European comparison, this was one of the slightest declines. New construction contracts developed ambiguously, the value increased and the number decreased, which means that the average contract price increased, especially in building construction. The number of building permits issued slightly decreased. Expectations in the construction sector are still rather pessimistic.

Foreign trade in goods continued to be affected by the effects of measures against the spread of coronavirus disease. Although the reopening of borders and the resumption of production had a positive effect on foreign trade dynamics at the end of the quarter, in total for the whole period domestic foreign trade showed a double-digit decline in both export and import. Territorial

diversification of foreign trade remained unchanged. Exports to countries with transition economies fell the most, by almost a third. The above-mentioned decline in production in the area of machinery and transport equipment occurred as a result of a decline in demand for these traditional Czech export goods. The entire EU underwent a similar development in the second quarter, where the Czech Republic holds its former positions in terms of exports. As expected, retail also went through the deepest decline in the history of monitoring. The influence of the pandemic was also reflected in a decline in consumer confidence, which was reflected in the growth of household savings. At the same time, drastic anti-epidemic measures have significantly reduced the chances of spending. Despite a sharp rise in food prices, retail sales in this area also fell. Recent surveys confirm persistently lower consumer confidence and more caution.

The glass and ceramics industry, which is included in the Manufacture of other mineral products sector, falls within the competence of the Ministry of Industry and Trade (MIT), which expects a gradual growth of industrial production to the pre-covid level.

The gross domestic product (GDP) of the Czech economy fell by 5.6 % in 2020, which was the deepest decline in the history of the independent Czech Republic. All components of GDP contributed to the decline last year, mostly domestic consumption and investment. The 4th quarter of 2020 was affected by another wave of measures against the spread of covid-19. However, unlike in the second quarter of the year, foreign demand was not affected to such an extent. Therefore, the resulting year-on-year decline eased to 4.7% and GDP grew by 0.6% quarter on quarter. However, in the fourth quarter of the year, domestic consumption and investment fell sharply. The new wave of the covid disease has forced the rest of the EU to take action as well. Therefore, gross domestic product in the Union fell by 0.4% quarter on quarter and the year-on-year decline deepened to -4.8%. However, the results were negatively affected by the quarter-on-quarter decline in the large economies - France and Italy. By contrast, a large number of European economies grew slightly quarter on quarter.

The general reduction in economic operation during the second quarter negatively affected foreign trade, and in the second half of the year, exporters tried to catch up. Last year, total exports of goods and services fell by 6.0% and imports by 6.1%. The balance reached a surplus of 390.5 billion crowns, which was 42.3 billion more year on year. The improvement was mainly in trade in goods. The increase in the positive balance was mainly influenced by trade in oil and natural gas, while the surplus in trade in motor vehicles decreased. In the fourth quarter, foreign trade achieved record results (a surplus of 145.5 billion), in which trade in motor vehicles, on the other hand, played a large role.

The economic downturn also affected employment, which fell by 1.5% last year. The manufacturing industry made a significant contribution to this, but the situation improved rather in Q4 and the decline did not deepen further. In contrast, in the trade, transport, accommodation and hospitality segment, the decline in employment deepened to 5% in the fourth quarter. On the other hand, the significant development of information and communication activities continued (an increase of 3.5%). The general unemployment rate rose only slightly last year, which is connected to government stabilization programs and a relatively significant increase in the number of economically inactive. Last year, the average wage increased by 4.4% to 35,6 thousand Czech crowns. Nevertheless, there were large differences in wage developments within individual sectors. (Source: Czech Statistical Office; Development of the Czech economy in 2020; March 2021)

The following data and analysis were collected and processed for the glass and ceramics industry, as an area of the Czech manufacturing industry, which corresponds to the characteristic focus of the activities of the companies linked to the Association. The chosen method of describing industrial development is based on monitoring data organized into individual branches of the glass and ceramics industry. For the 2020 analysis, the available statistical data for companies with more than 50 employees, current as of 30 June 2021, were used. These were supplemented by qualified estimates.

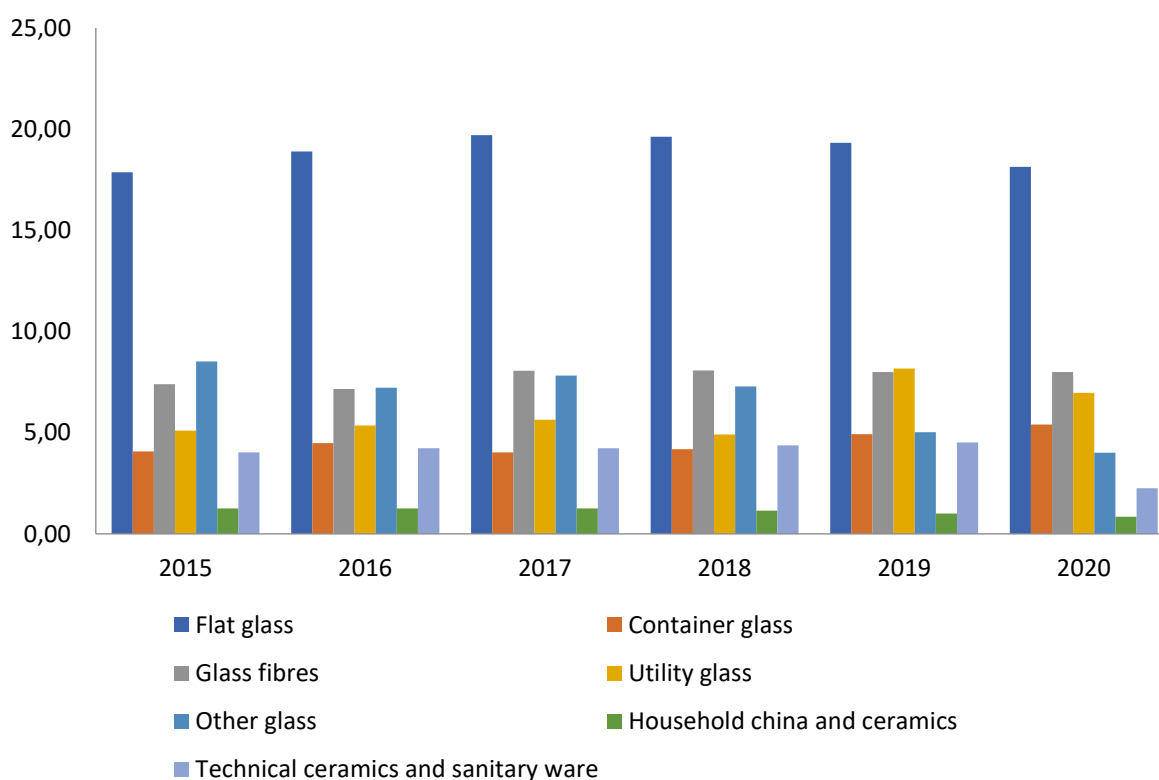
## Revenues for sale of own products and services

### Revenues for sale of own products and services (bill. CZK)

	2015	2016	2017	2018	2019	2020	index 20/19
							(%)
Flat glass	17,87	18,90	19,71	19,63	19,32	18,13	93,8
Container glass	4,07	4,49	4,02	4,19	4,93	5,40	109,7
Glass fibres	7,40	7,17	8,07	8,08	8,00	7,99	99,9
Utility glass	5,10	5,35	5,64	4,91	8,17	6,97	85,3
Other glass	8,52	7,23	7,82	7,29	5,02	4,02	80,0
Glass, total	42,96	43,13	45,26	44,10	45,44	42,51	93,6
Household china and ceramics	1,25	1,26	1,26	1,15	1,00	0,85	84,6
Technical ceramics and sanitary ware	4,03	4,23	4,23	4,37	4,51	2,26	50,1
Ceramics, total	5,28	5,48	5,49	5,52	5,51	3,11	56,4
Glass and ceramics, total	48,24	48,61	50,75	49,62	50,96	45,62	89,5

\* Data affected by the change in classification according to the CZ-NACE classification of major companies in the field between 2018 - 2019

### Development of revenues for the sale of own products and services (bill. CZK)



In 2020, the revenues for sales of own products and services (hereinafter revenues) reached in investigated branches 45,62 bill. CZK.

The revenues of the glass industry reached 42.51 bill. CZK, which is by 6.4 % less than in 2019. We can say that the revenues stayed on the level of the previous two years. The more significant decline is caused by the negative effects of the pandemic situation in 2020 on production and trade in the Czech Republic and the world. The share of flat glass was 42.6 %, other glass 9.4%, glass fibres and products made of 18.8 %, container glass 12.7 %, and utility glass 16.4 %.

The revenues of investigated branches of china and ceramics reached 3.11 bill. CZK, which is by 43.6 % less than in 2019. The share of household china and ceramics was 27.3 %, the share of technical ceramics and sanitary ware was 72.7 %. The significant decrease in ceramics sales compared to 2019 is due to the effects of the pandemic situation in 2020, which affected sales, even within the retail network in the Czech Republic, throughout Europe, and in the world.

### **The development of revenues in 2020 in individual branches**

The revenues for flat glass in 2020 were 18.13 bill. CZK. In comparison with 2019, it decreased by 6.2 %. The flat glass production is dependent on the development of the building and automotive industries, which was negatively affected in 2020 by the global pandemic situation.

The building production declined in 2020 by 7.7 % year on year. The restrictions manifested themselves especially in building construction, where the operation of companies was reduced during the year due to labour shortages, stagnant demand, or administrative unpreparedness of constructions. It was especially new construction that faced problems. Reconstruction and modernization work has not been so affected. The building authorities issued 0.7 % more building permits year on year, and the approximate value of these permits fell by 2.8 %. Year on year, 23 % fewer apartments were started. 5.4 % more apartments were completed. In December, the construction industry was divided into two different segments. Terrestrial construction recorded the largest decline in the whole year, and in addition to the slowdown caused by the epidemic situation, it did not benefit from a higher base. On the contrary, after six months of declines, civil engineering recorded a positive zero, which is a good result given the circumstances. In 2020, construction enterprises with 50 or more employees in the Czech Republic concluded 63,159 construction contracts and this number increased by 1 % year-on-year. The total value of these orders increased by 1.1% year on year to CZK 251.9 billion, CZK 116.2 billion in building construction (up 6.4 %), and CZK 135.7 billion in civil engineering (down by 3.1 %). The number of building permits issued decreased by 0.3% year-on-year in 2020. Building authorities issued 85,987 of these permits. The approximate value of these constructions was 389.7 billion CZK and decreased by 5.9 % compared to 2019. The number of completed apartments in 2020 decreased by 5.4% year on year and was about 34,433 apartments. (Source: Czech Statistical Office)

Complications connected to the coronavirus pandemic have caused a significant decline in vehicle production in the Czech Republic. In 2020, a total of 1,186,151 of all types of road vehicles were produced (-18.8 %). The production of motor vehicles decreased year-on-year to 1,159,704 units (-19.2%), but the volume of production of trailers was maintained, of which 26,447 units were produced (+ 0.8 %). The most important segment of production - passenger cars - recorded the

sharpest decline in modern history and the volume of production returned to the level of 2014. (Source: Association of the Automotive Industry)

The development of flat glass in the following years will be influenced mainly by further development of the building industry in Central Europe and by the production of the automotive industry.

The revenues for container glass reached the amount of 4.19 bill. CZK in 2018, i.e. they increased in comparison with 2017 by 4.23 %. The revenues for glass fibres and products made of increased by 0.12 % in comparison with the previous year. The increase of the building industry in the Czech Republic influenced revenues. The growth of export of this assortment to foreign countries, especially to the European Union and Russia, which completed the development on the Czech market, projected positively to the revenues.

Since 2010 the revenues for utility glass have been increasing steadily, rising by 66.3% year-on-year in 2019. This jump increase is influenced by a change in classification and reporting according to the CZ-NACE classification of one major company in the industry between 2018 and 2019. Nevertheless, after adjusting the data, it is possible to present an increase in sales between 2018 and 2019 in the commercial glass sector. Although sales reached CZK 6.97 billion in 2020 and the decrease due to the negative impact of the pandemic was lower by 14.7 % compared to 2019. The decrease is lower than expected by the negative scenarios in mid-2020 and the situation of the manufacturing sector is good. This branch of production is always sensitive to the development of the economic and political situation in the key regions for commercial glass producers. Exports, which were limited in 2020 due to a global pandemic, are decisive for the number of sales. There is very tough competition in the field, and Czech companies face this competition with high quality, design, and originality of products. We can say that, since 2010, companies with their products have been consolidating their position in the world and the decline in sales in 2020 is only temporary.

The revenues for other glass decreased compared to 2019 (CZK 1.1 billion). This decline is due to the tricky situation in terms of product export opportunities, but also the limitations in global retail sales caused by the pandemic situation. This group includes a wide range of products (technical and laboratory glassware, glass tiles and bricks, glass semi-finished products for jewellery, etc.). The development of sales of individual assortment groups is very unbalanced.

The revenues for household china and ceramics decreased year on year (15.4 %). The china producers have succeeded in concluding the required number of trade contracts through a consistent trade policy. However, their activities have still been affected by the unstable situation and reduced demand in a pandemic year, on a global scale.

Sales of technical and sanitary ceramics decreased by 49.9 %. The markedly negative situation was caused by the restrictions in the year of pandemic, which affected this production branch to a greater extent.



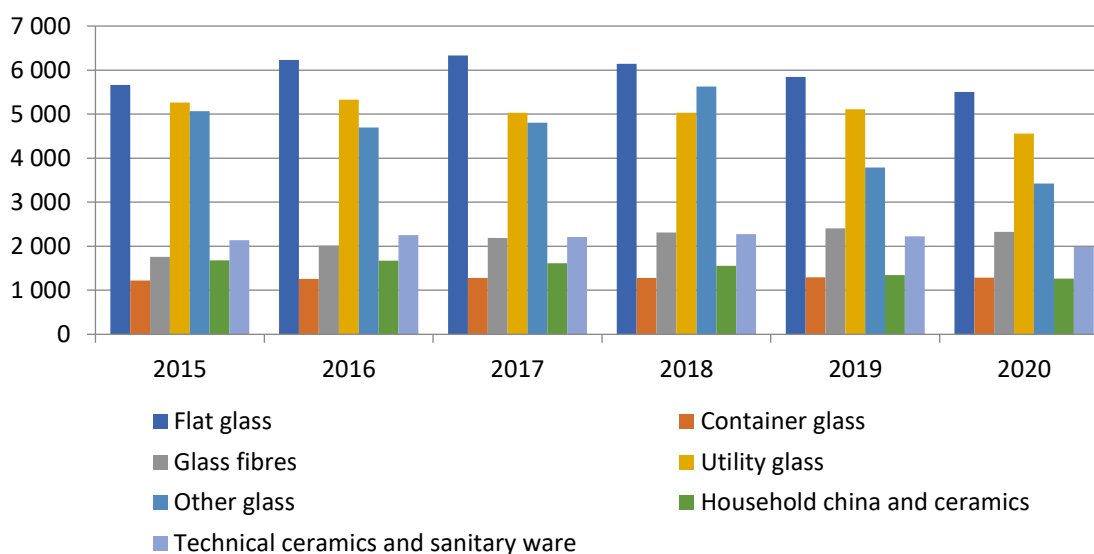
## Workers

### Average accounting number of workers (persons)

	2015	2016	2017	2018	2019	2020	index 20/19
							(%)
Flat glass	5 660	6 229	6 335	6 143	5 847	5 501	94,1
Container glass	1 223	1 257	1 280	1 279	1 291	1 284	99,5
Glass fibres	1 763	2 012	2 189	2 312	2 407	2 326	96,6
Utility glass	5 264	5 327	5 030	5 031	5 109	4 555	89,2
Other glass	5 070	4 694	4 806	5 628	3 789	3 425	90,4
Glass, total	18 980	19 519	19 640	20 393	18 443	17 091	92,7
Household china and ceramics	1 680	1 671	1 617	1 555	1 347	1 268	94,1
Technical ceramics and sanitary ware	2 138	2 251	2 210	2 279	2 227	1 987	89,2
Ceramics, total	3 818	3 922	3 827	3 834	3 574	3 255	91,1
Glass and ceramics, total	22 798	23 441	23 467	24 227	22 017	20 346	92,4

\*Data affected by the change in classification according to the CZ-NACE classification of major companies in the field between 2018 and 2019

### Development of average accounting number of workers (persons)



The total workers' number in the glass and ceramic industry shown in 2020 in comparison with 2019 decreased by 7.6 %. The situation is different in individual production branches. The glass industry showed a decrease of 7,3 % (by 1352 persons) and the ceramic industry decreased by 8.9 % (by 319 persons). The inter-year development of workers' number differs in individual branches. The decrease of the number of workers despite necessity and interest of companies to engage new employees is given by shortage not only of qualified working force but also by general shortage of free employees on the labour market. In individual cases, it can be also connected to the negative effects of the pandemic situation on production and trade.

The workers' number decrease in flat glass production is dependent on the up-to-date situation on labour market and the demand for processed flat glass in the automotive industry. The number of workers decreased by 346 persons.

The workers' number in container glass production has been stable for a long time. In the production of glass fibres and products made of the number decreased by 3.4 %.

The workers' number in utility glass production has been stable over time. Companies have to solve a great job-switching of workers and often also their deficit. The workers' number is influenced by the permanent decline of demand for glass semi-products for fashion jewellery and reduction of the assortment with a prevailing share of manual work, which were more severely impacted by the effects on trade and exports in the pandemic 2020.

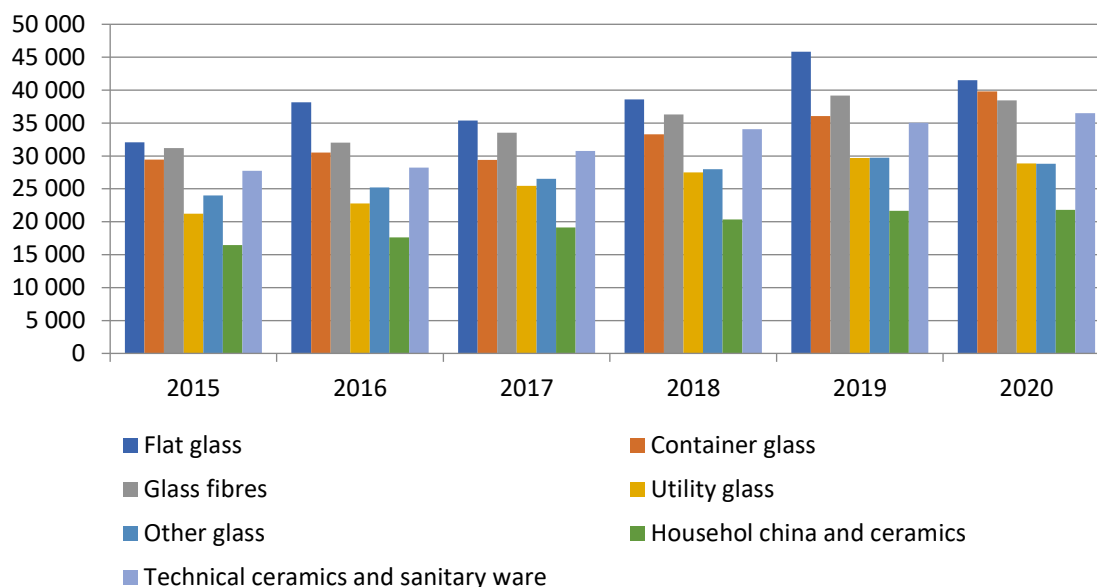
The workers' number in household china and ceramics production shows a decline, which is directly connected with a lack of workers on labour market and with the development of this branch. It is possible to say that the situation is stable.

## Average month-wages

### Average month-wages (CZK)

	2015	2016	2017	2018	2019	2020	index 20/19
							(%)
Flat glass	32 093	38 172	35 394	38 587	45 815	41 482	90,5
Container glass	29 431	30 509	29 403	33 275	36 070	39 819	110,4
Glass fibres	31 216	32 041	33 507	36 310	39 175	38 462	98,2
Utility glass	21 207	22 773	25 456	27 494	29 681	28 854	97,2
Other glass	23 997	25 192	26 531	27 968	29 753	28 787	96,8
Househol china and ceramics	16 440	17 606	19 128	20 344	21 644	21 811	100,8
Technical ceramics and sanitary ware	27 721	28 224	30 734	34 074	35 013	36 516	104,3
Glass and ceramics, total	25 382	26 042	28 593	31 150	33 879	33 676	99,4

## Development of average month-wages (CZK)



The development of average monthly wages between 2020 and 2019 documents the economic situation of glass and ceramic industry companies.

The more and more noticeable tendency in the differentiation of wages in mass and practically full-automatized production continues. It means the production of flat glass and its processing (41,482 CZK), glass fibres, and products made of and container glass. Further on, it applies to branches with more frequent changes (shorter production series) in the regime of automatized production lines and also a certain share of manual production. Significantly above the wage median in the Czech Republic (32,870 CZK; Source: Czech Statistical Office, 4th quarter 2020), there are average wages reached in the branches of glass fibres and products made of, flat and container glass. The average wage reached in the technical ceramics and sanitary ware (36,516 CZK) is higher than the average wage in the Czech Republic, while the average wage in the sanitary ware is 38,860 CZK. The level of the average wage in other glass is influenced on one side by strengthening the share of more qualified work (a group of technical glass production), and low wages in the production of glass semi-products for fashion jewellery on the other side. Average wages in utility glass and, especially, in household china stay deeply below the average wage in the Czech Republic. In the long run, they are approaching it faster and faster.

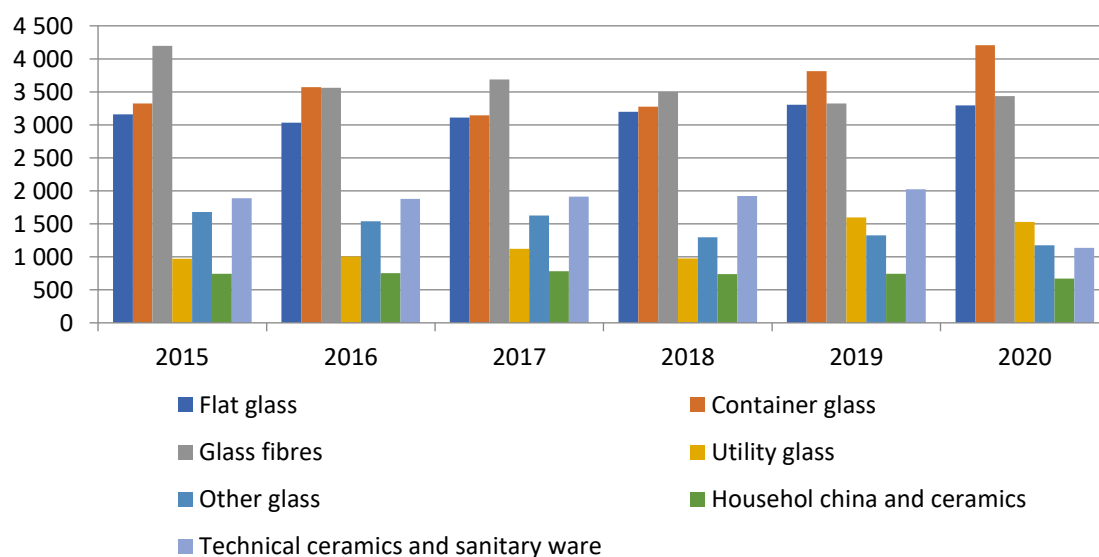
## Productivity of labour

### Productivity of labour from sales in current prices (ths. CZK/worker)

	2015	2016	2017	2018	2019	2020	index 20/19
							(%)
Flat glass	3 158	3 034	3 112	3 196	3 305	3 296	99,7
Container glass	3 324	3 570	3 142	3 276	3 815	4 207	110,3
Glass fibres	4 195	3 561	3 685	3 496	3 324	3 437	103,4
Utility glass	970	1 005	1 122	975	1 598	1 530	95,7
Other glass	1 681	1 539	1 627	1 295	1 326	1 173	88,5
Househol china and ceramics	743	753	781	739	745	670	89,9
Technical ceramics and sanitary ware	1 886	1 877	1 914	1 922	2 025	1 137	56,1
Glass and ceramics, total	2 280	2 191	2 198	2 128	2 305	2 207	95,7

\*Data affected by the change in classification according to the CZ-NACE classification of major companies in the field between 2018 and 2019

### Development of productivity of labour from sales in current prices (ths. CZK/worker)



The above-mentioned information (development of revenues, workers number, and production character) is projected in the more complex index of the productivity of labour from sales. The productivity of labour of the glass and ceramic industry as a whole decreased by 4.3 % in comparison with the previous year. In 2020 the productivity of labour was without significant changes, in container glass it increased by 10.3 % and glass fibres increased productivity by 3.4 %. Productivity in other manufacturing sectors decreased.

## Export

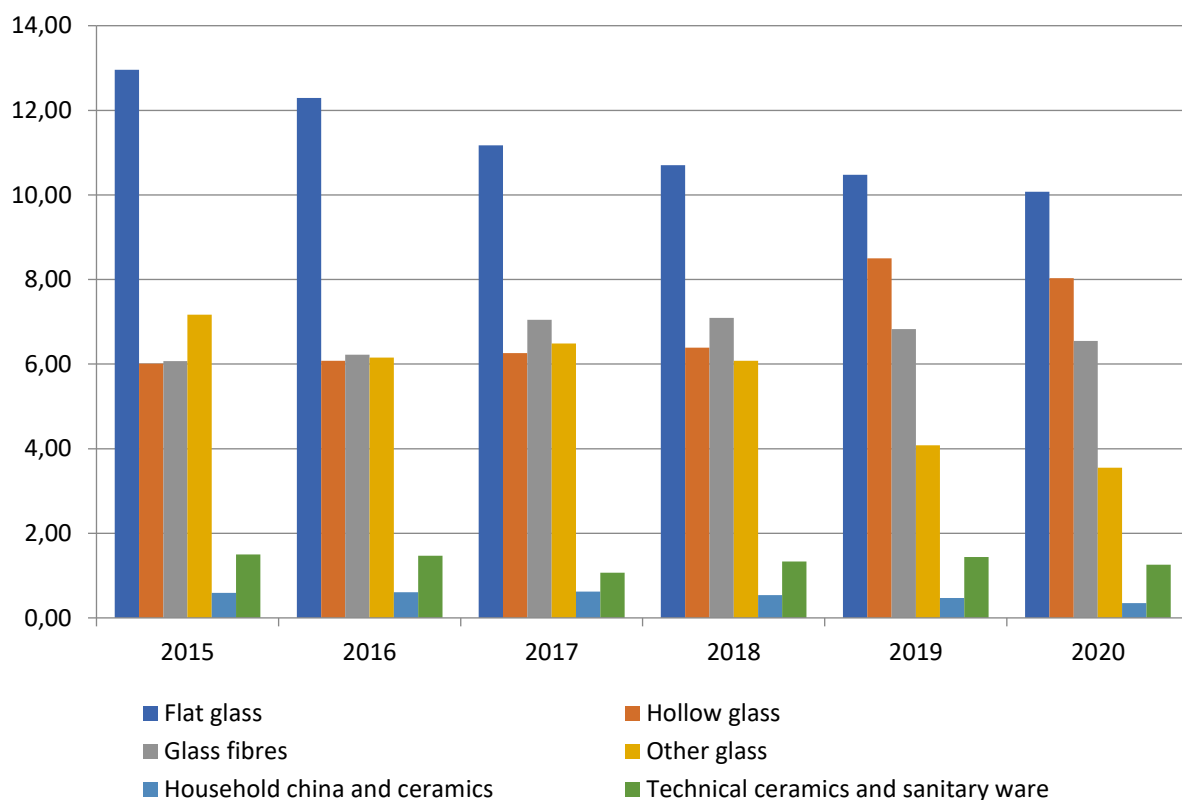
Further on, the export is stated in revenues from direct export in current prices (hereinafter direct export) and total export (i.e. direct export, indirect export).

The development of direct export is given in the following table. The hollow glass production includes utility and container glass. Due to the statistical investigation, it is not possible to divide the hollow glass into the above-mentioned production branches.

### Direct export (bill. CZK)

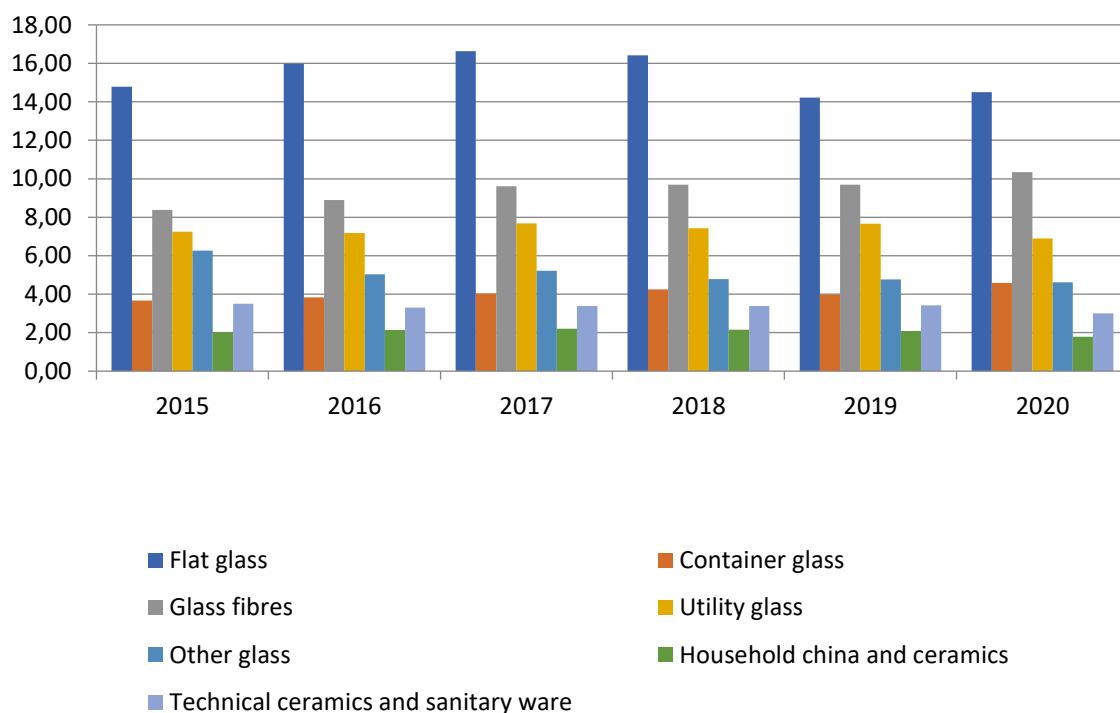
	2015	2016	2017	2018	2019	2020	index 20/19
							(%)
Flat glass	12,96	12,29	11,17	10,70	10,47	10,08	96,2
Hollow glass	6,01	6,08	6,26	6,39	8,50	8,03	94,5
Glass fibres	6,07	6,22	7,05	7,09	6,83	6,54	95,8
Other glass	7,17	6,15	6,49	6,08	4,08	3,55	86,9
Glass total	32,21	30,74	30,97	30,26	29,89	28,20	94,4
Household china and ceramics	0,59	0,60	0,62	0,54	0,47	0,35	74,5
Technical ceramics and sanitary ware	1,50	1,47	1,07	1,33	1,44	1,26	87,2
Ceramics, total	2,09	2,07	1,69	1,87	1,91	1,61	84,1
Glass and ceramics	34,30	32,82	32,66	32,13	31,80	29,81	93,8

### Development of direct export (bill. CZK)



**Export (bill. CZK)**

	2015	2016	2017	2018	2019	2020	index 20/19
							(%)
Flat glass	14,778	15,980	16,624	16,415	14,225	14,505	102,0
Container glass	3,667	3,829	4,031	4,245	3,981	4,577	115,0
Glass fibres	8,374	8,897	9,614	9,692	9,692	10,348	106,8
Utility glass	7,240	7,181	7,678	7,433	7,665	6,891	89,9
Other glass	6,266	5,036	5,214	4,784	4,767	4,612	96,8
Glass, total	40,325	40,923	43,161	42,569	40,329	40,933	101,5
Household china and ceramics	2,019	2,132	2,212	2,152	2,091	1,794	85,8
Technical ceramics and sanitary ware	3,501	3,307	3,382	3,387	3,416	2,998	87,8
Ceramics, total	5,520	5,439	5,594	5,539	5,508	4,792	87,0
Glass and ceramics, total	45,845	46,362	48,755	48,108	45,836	45,725	99,8

**Development of export (bill. CZK)**

The glass and ceramic industry of the Czech Republic is oriented to export, i.e. it is directly influenced by economic changes in the world, especially in the European Union where 78.4 % of the export of investigated production branches are directed.

After the decline of this branch export within years 2008 and 2009, the export has been increasing since 2010. However, in comparison with 2018, the direct export in 2019 decreased a little by 1 %. Even in 2020 due to the global negative effects of the pandemic. Total exports decreased in 2020 compared to 2019, by 6.2%, which is better than expected during the year. Direct exports of the monitored industries in 2020 were CZK 29.81 billion, total exports were CZK 45.73 billion.

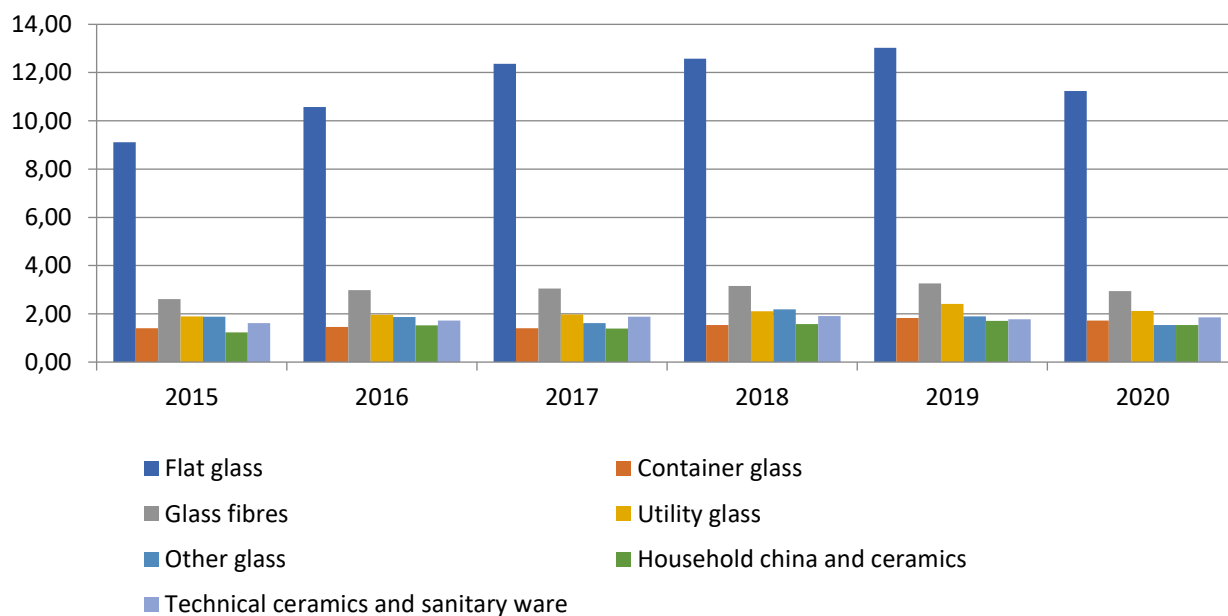
The export development in 2020 in individual branches is given in more detail in Chapter 5, which analyses the export and import.

## Import

### Import (bill. CZK)

	2015	2016	2017	2018	2019	2020	index 20/19
							(%)
Flat glass	9,111	10,57	12,367	12,573	13,025	11,243	86,3
Container glass	1,397	1,459	1,409	1,532	1,827	1,720	94,1
Glass fibres	2,617	2,982	3,054	3,149	3,259	2,945	90,4
Utility glass	1,897	1,956	1,978	2,106	2,406	2,123	88,2
Other glass	1,875	1,868	1,616	2,183	1,898	1,542	81,3
Glass, total	16,897	18,835	20,424	21,543	22,415	19,573	87,3
Household china and ceramics	1,232	1,518	1,385	1,582	1,712	1,537	89,8
Technical ceramics and sanitary ware	1,615	1,716	1,879	1,902	1,773	1,859	104,8
Ceramics, total	2,847	3,234	3,264	3,484	3,485	3,395	97,4
Glass and ceramics, total	19,744	22,069	23,688	25,027	25,899	22,968	88,7

### Import development (bill. CZK)





The total import of glass and ceramic industry products has been increasing since 2016. It was not until 2020 that there was a change and imports decreased, mainly due to the global pandemic situation.

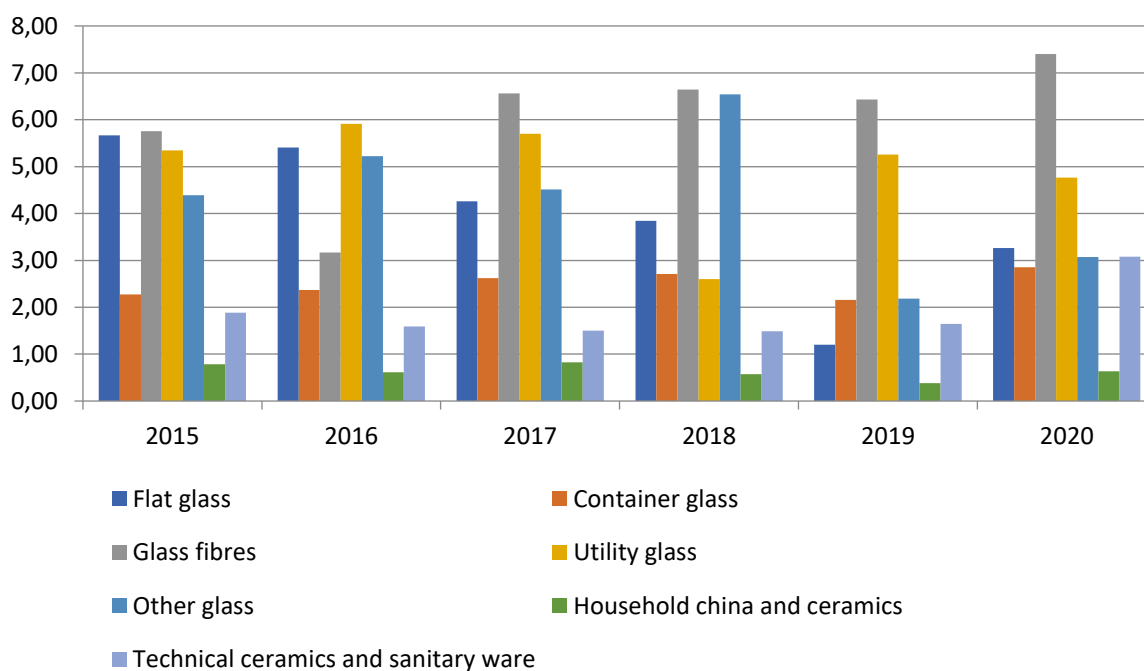
The import development in individual production branches in 2020 is given in more detail in Chapter 5.

## Balance of foreign trade

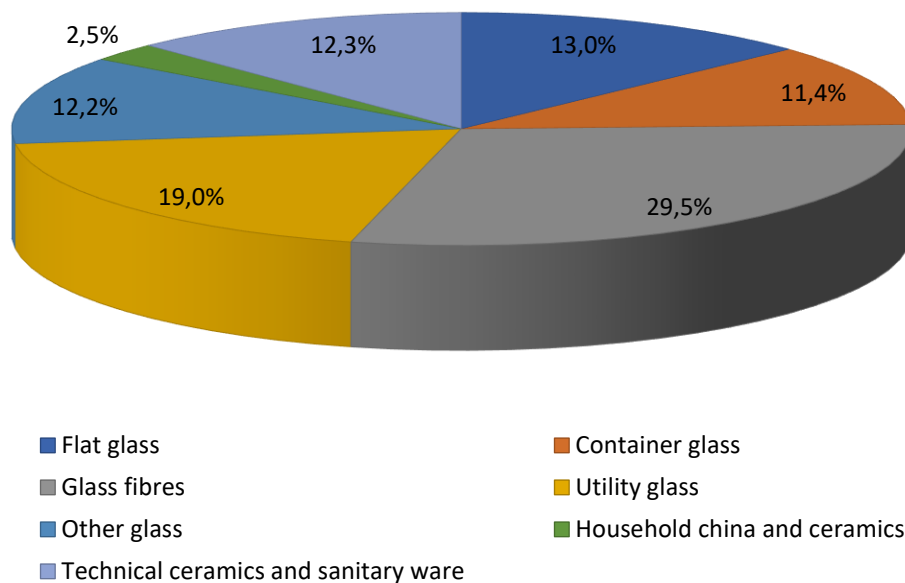
### Balance of foreign trade (bill. CZK)

	2015	2016	2017	2018	2019	2020	index 20/19 (%)
<b>Flat glass</b>	5,667	5,410	4,257	3,842	1,200	3,262	271,8
<b>Container glass</b>	2,270	2,370	2,622	2,713	2,154	2,857	132,6
<b>Glass fibres</b>	5,757	3,168	6,560	6,643	6,434	7,403	115,1
<b>Utility glass</b>	5,343	5,915	5,700	2,601	5,258	4,768	90,7
<b>Other glass</b>	4,391	5,225	4,513	6,543	2,184	3,070	140,6
<b>Glass, total</b>	23,428	22,088	22,088	21,026	17,230	19,188	111,4
<b>Household china and ceramics</b>	0,787	0,614	0,827	0,570	0,379	0,633	167,0
<b>Technical ceramics and sanitary ware</b>	1,886	1,591	1,503	1,485	1,644	3,078	187,2
<b>Ceramics, total</b>	2,673	2,205	2,205	2,055	2,023	3,711	183,4
<b>Glass and ceramics, total</b>	26,101	24,293	24,293	23,081	19,252	22,899	118,9

### Development of balance of foreign trade (bill. CZK)



## Structure of balance of foreign trade



The branches of the glass and ceramic industry in the investigated period from 2015 till 2020 notably contributed to the active balance of foreign trade of the whole processing industry of the Czech Republic. The values of the balance of foreign trade confirm the significantly important export orientation of this industry. The balance of foreign trade was 22.90 bill. CZK in 2020, it increased by 18.9 % in comparison with 2019.

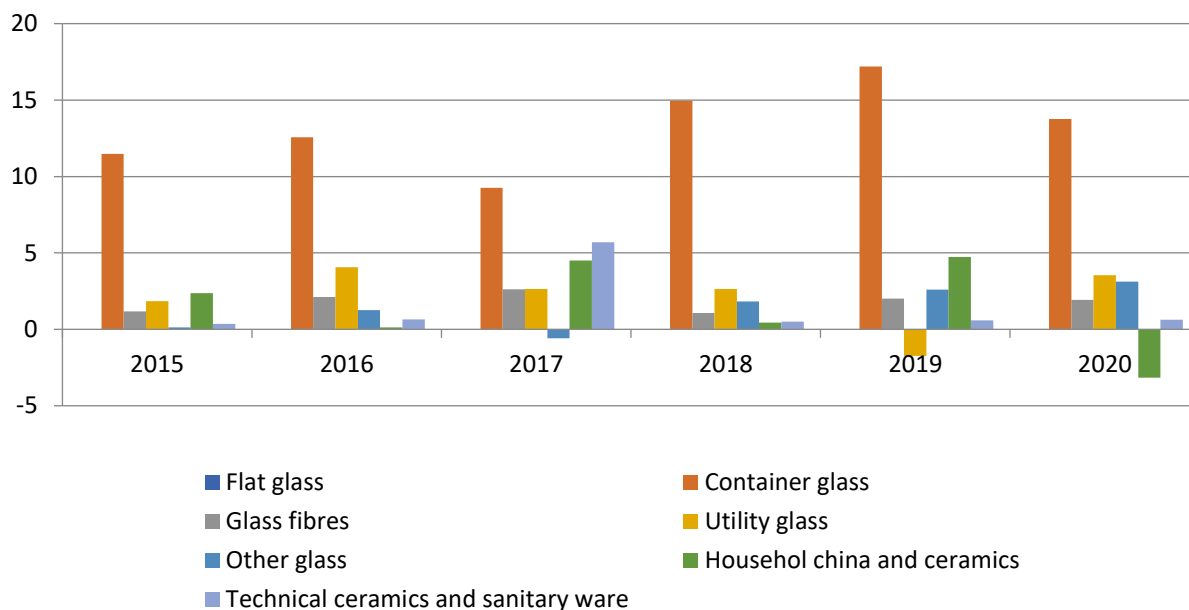
## Effective home demand

The effective home demand index is defined by the formula:

(The revenues from industrial activities + Import-Export)

## Effective home demand (bill. CZK)

	2015	2016	2017	2018	2019	2020
<b>Flat glass</b>						
Container glass	11,47	12,56	9,27	14,95	17,20	13,77
Glass fibres	1,18	2,12	2,62	1,08	2,02	1,94
Utility glass	1,85	4,06	2,64	2,65	-1,75	3,53
Other glass	0,13	1,25	-0,58	1,83	2,60	3,12
Househol china and ceramics	2,36	0,13	4,51	0,45	4,74	-3,17
Technical ceramics and sanitary ware	0,36	0,64	5,70	0,51	0,58	0,63
	0,75	2,64	1,50	1,21	1,10	3,08

**Development of effective home demand (bill. CZK)**

The development of the effective home demand in individual groups of the glass and ceramic industry is differentiated and specific.

## Summary of 2020 and predictions for 2021

The past year 2020 has exposed the whole world to great challenges. The changes it brought were also a great threat to the stability of the manufacturing industry, which also includes the production of glass, ceramics, and porcelain. The industry has addressed several issues related to production, trade, exports, and retail, on a global scale, as the pandemic situation and the associated threats and measures have affected the whole world without exception. With a certain distance from 2020, knowledge of the development in the first half of 2021, it can perhaps be said that the industry has settled in 2020 with honour and full expectations for the year 2021, which in the first half tested the readiness of the manufacturing industry for continued pandemic development.

The pandemic of a new type of coronavirus, the anti-epidemic measures taken and their side effects caused a deep synchronized downturn in the world economy in 2020. Its scope is unprecedented in the period after World War II. Economic policy in all affected countries responded by drastically easing and adopting massive fiscal and monetary stimulus, limiting the pandemic's negative impact on short-term growth. At the same time, these measures have helped to minimize the impact on long-term growth.

The year 2021 should be marked by a revival of global economic activity. In most countries, however, it is unlikely to be strong enough to offset the fall in 2020. The uncertainties surrounding the forecast for this year are enormous. Among the biggest uncertainties are the global development of the

pandemic with the possibility of further reduction of economic activities, delays in the process of vaccination of the population, long-term effects on the potential product, and, last but not least, the risk of financial instability. At the national level, sensitive decisions will have to be made between stimulating the economy and rising debt.

The improved epidemic situation in 2021 and the resulting gradual loosening of measures against the spread of coronavirus, increased consumer and business confidence, and strong fiscal stimulus are pushing the world's advanced economies back on track. At the same time, these factors outweigh the temporary disruption of production chains due to the lack of some production inputs and the growth of their prices.

Consumer inflation forecasts are rising and reflecting rising energy and other commodity prices, production barriers due to shortages of some components and raw materials, capacity constraints against expanding demand, as well as loose central bank monetary policy.

The results in 2020 and the development in 2021 are dependent on the development of the pandemic situation, and the development of the Czech economy, and the development of foreign markets.

The summary of the Ministry of Finance's April 2021 forecast states:

In 2021, we expect a recovery in global economic activity. The growth outlook has improved quite significantly in the last few months, thanks to the ongoing vaccination against COVID-19 and other fiscal stimuli in some countries, especially in the United States. Available data also suggest that some economies are coping better with restrictive anti-epidemic measures than during the first wave of the pandemic. Nevertheless, the outlook remains burdened by significant negative risks. The speed and efficiency of the vaccination process and the effectiveness of vaccines against new coronavirus mutations will be critical.

During the fourth quarter of 2020, the Czech economy proved to be resilient to the unfavourable epidemic situation. Real gross domestic product, free from seasonal and calendar effects, grew by 0.6% quarter on quarter and its year-on-year decline moderated from 5.1% in the third quarter to 4.8% in the fourth quarter. However, for the whole year 2020, the economy declined by 5.6%, which was the largest decline in the history of the independent Czech Republic.

On the side of usage, the result of foreign trade, driven by the growth of production in the export industry, especially in the automotive industry, contributed most significantly to year-on-year growth in the fourth quarter (3.3 pp). The record trade surpluses were also helped by very weak investment activity by domestic companies, a renewed decline in household consumption, and the still low price of oil.

Within domestic demand, the year-on-year decline in household consumption deepened significantly, to 8.1 %. Both the closure of a large proportion of shops and service outlets and the persistently high level of savings due to increased uncertainty about further developments were to blame. The consumption of the government institutions, including increased expenditures not only in healthcare but also in some government anti-crisis programs targeted on the business sector, was the only growing component of domestic use with an increase of 6.8%.

Labour development on the labour market is largely influenced by fiscal stimulus measures. Thus, despite a certain increase, unemployment is at a significantly lower level than would correspond to the current cyclical position of the Czech economy. The unemployment rate according to the Labour Force Survey should increase to 3.6% in 2021 due to the delayed effects of the economic downturn.

### Prediction of the development of main macroeconomic indices

(Source: Ministry of Finance, August 2021)

		2019	2020	2021
<b>Gross domestic product</b>	increase %, s.c.	7,0	-1,7	6,2
<b>Average inflation rate</b>	%	2,8	3,2	3,2
<b>Unemployment rate</b>	average %	2,0	2,6	3,0
<b>Wages and salaries</b>	increase %, b.c.	7,8	0,2	2,9
<b>CZK / EUR</b>	average per year	25,7	26,4	25,7

The whole national and world economy faces a difficult challenge in the coming period. For the development of the glass and ceramic industry, the above-mentioned facts are good news, which also brings high expectations of further development. The export orientation and dependence on a great number of related industrial branches, for which it delivers its products, make the glass and ceramic industry very vulnerable. Not only development of home demand but also future economic development, connected to the aftermath of the pandemic, especially in Europe, the greatest export territory of the Czech glass and ceramic industry, will be important. However, exporters will have to face up also losing markets in regions stricken with war conflicts. The increasing competition of countries of the Third World, and mainly from the Far East, is permanently a great problem. This competition impinges without exceptions all branches of the glass and ceramic industry investigated in this Annual Report.

The glass and ceramic industry is a traditional branch of the processing industry of the Czech Republic. During its long-term existence, this branch went through periods of prosperity and also recessions. It is possible to say, that it has never faced up to such uncertainty and unpredictability of development on markets like in the last years and with the aftermath of the global pandemic. For companies' owners and managers, it is necessary not only to predict at the very least development on markets but also to search new markets and strengthen their marketing activities. Also, a consistent orientation to the production with high added value must be carried out. At the same time, the product innovations and related services must be strengthened as much as possible. Another challenge will be the increasing prices of power and other input commodities.

## **EXPORT AND IMPORT DEVELOPMENT ACCORDING TO PRODUCTION BRANCHES IN THE PERIOD FROM 2015 TILL 2020**

### **Export**

In the following text - the export of the assortment of the glass and ceramic industry is investigated according to the codes of the Customs Tariff, i.e. not only the direct export but the total export from the Czech Republic.

### **Flat glass**

The export of flat glass in 2020 reached an amount of 14,504.9 mill. CZK. In comparison with 2019, export decreased.

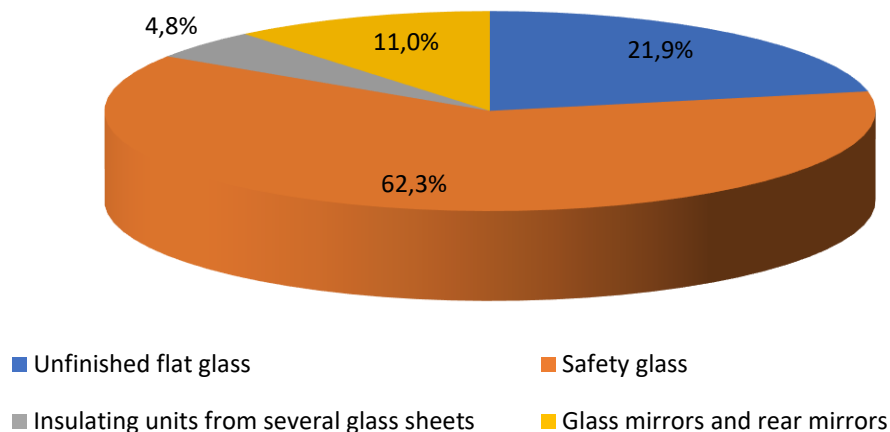
## Export of flat glass according to the assortment

	2015			2016			2017		
	netto	mil. Kč	share	netto	mil. Kč	share	netto	mil. Kč	share
	( t )		(%)	( t )		(%)	( t )		(%)
Unfinished flat glass	315 500,0	3 522,0	23,8	337 721,7	3 836,2	25,2	339 093,6	3 419,8	20,6
Safety glass	110 371,1	9 144,3	61,9	125 758,2	9 144,3	60,1	143 574,6	10 827,5	65,1
Insulating units from several glass sheets	14 039,3	479,7	3,2	14 756,7	538,8	3,5	17 068,4	632,7	3,8
Glass mirrors and rear mirrors	40 159,6	1 632,3	11,0	47 306,7	1 687,2	11,1	51 384,0	1 744,3	10,5
<b>Totally</b>	<b>480 070,0</b>	<b>14 778,3</b>	<b>100,0</b>	<b>525 543,3</b>	<b>15 206,5</b>	<b>100,0</b>	<b>551 120,6</b>	<b>16 624,3</b>	<b>100,0</b>

	2018			2019			2020		
	netto	mil. Kč	share	netto	mil. Kč	share	netto	mil. Kč	share
	( t )		(%)	( t )		(%)	( t )		(%)
Unfinished flat glass	350 230,9	3 609,8	22,0	330 866,0	3 654,0	23,3	303 597,1	3 172,2	21,9
Safety glass	149 221,8	10 557,2	64,3	135 162,2	9 729,0	62,1	129 714,4	9 039,9	62,3
Insulating units from several glass sheets	14 956,7	575,4	3,5	16 782,7	647,1	4,1	17 846,5	697,4	4,8
Glass mirrors and rear mirrors	51 971,1	1 672,5	10,2	51 296,9	1 644,0	10,5	51 836,9	1 595,4	11,0
<b>Totally</b>	<b>566 380,5</b>	<b>16 414,9</b>	<b>100,0</b>	<b>534 107,8</b>	<b>15 674,1</b>	<b>100,0</b>	<b>502 994,9</b>	<b>14 504,9</b>	<b>100,0</b>

## Structure of export of flat glass according to the assortment in 2020 (CZK)



The greatest share of export in weight units had the unfinished flat glass in 2020 with 22 % (86 % was created by float glass), followed by the safety glass export with 26 %. As far as the export in CZK, the situation was contrary. The greatest share had the export of safety glass with 62 %. The share of the unfinished flat glass export is 22 %.

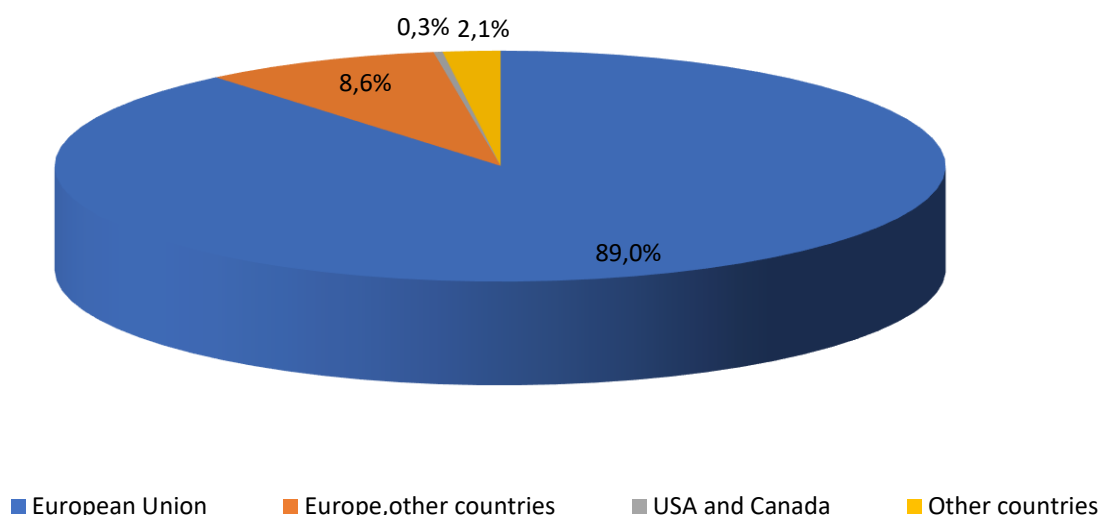


**Export of flat glass according to territories**

	2015			2016			2017		
	netto ( t )	mil. Kč	share (%)	netto ( t )	mil. Kč	share (%)	netto ( t )	mil. Kč	share (%)
<b>European Union</b>	444 096,7	13 289,0	89,9	489 230,4	14 406,7	94,7	278 313,2	13 068,5	78,6
<b>Europe, other countries</b>	19 012,2	561,8	3,8	19 886,3	534,8	3,5	31 523,5	696,1	4,2
<b>USA and Canada</b>	3 066,2	243,9	1,7	2 265,2	163,9	1,1	3 446,0	246,1	1,5
<b>Other countries</b>	13 895,0	683,6	4,6	14 161,4	101,0	0,7	237 838,8	2 613,6	15,7
<b>Totally</b>	<b>480 070,1</b>	<b>14 778,3</b>	<b>100,0</b>	<b>525 543,3</b>	<b>15 206,4</b>	<b>100,0</b>	<b>551 121,5</b>	<b>16 624,3</b>	<b>100,0</b>

	2018			2019			2020		
	netto ( t )	mil. Kč	share (%)	netto ( t )	mil. Kč	share (%)	netto ( t )	mil. Kč	share (%)
<b>European Union</b>	518 396,6	14 824,1	90,3	491 797,0	14 225,1	90,8	455 035,5	12 902,5	89,0
<b>Europe, other countries</b>	27 125,8	817,6	5,0	22 544,9	775,5	4,9	23 724,3	1 252,3	8,6
<b>USA and Canada</b>	3 354,5	144,3	0,9	2 840,6	70,5	0,4	2 043,3	47,3	0,3
<b>Other countries</b>	17 503,7	628,9	3,8	16 925,3	602,8	3,8	22 191,7	302,9	2,1
<b>Totally</b>	<b>566 380,6</b>	<b>16 414,9</b>	<b>100,0</b>	<b>534 107,8</b>	<b>15 673,9</b>	<b>100,0</b>	<b>502 994,8</b>	<b>14 505,0</b>	<b>100,0</b>

**Structure of export of flat glass according to territories in 2020 (CZK)**

A substantial part of flat glass export is directed to the European Union countries. In 2020 the share on export was 89 %. The greatest customers were France, Germany, Italy, Spain, and the Netherlands. The greatest customers out of the European Union were the USA and Bosnia and Herzegovina.

The structure of export corresponds to the final use of the assortment of flat glass (mostly utilized in the building and automotive industries) and to the production and trade strategy of companies.

**Container glass**

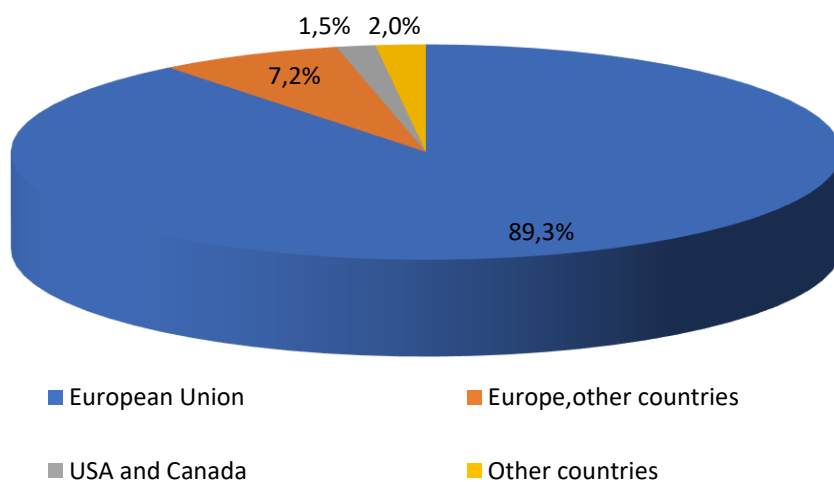
Container glass export in 2020 was 4,5775. mill. CZK. In comparison with 2019, the export increased.

**Export of container glass according to territories**

	2015			2016			2017		
	netto ( t )	mil. Kč	share (%)	netto ( t )	mil. Kč	share (%)	netto ( t )	mil. Kč	share (%)
<b>European Union</b>	313 740,1	3 514,7	90,9	287 631,7	3 344,9	87,3	308 571,3	3 647,3	90,5
<b>Europe,other countries</b>	11 019,4	168,1	4,3	11 595,8	183,7	4,8	14 316,0	208,2	5,2
<b>USA and Canada</b>	3 587,3	79,8	2,1	2 177,7	84,1	2,2	2 365,4	76,5	1,9
<b>Other countries</b>	5 026,6	104,8	2,7	9 081,3	217,2	5,7	3 565,3	99,1	2,5
<b>Totally</b>	<b>333 373,4</b>	<b>3 867,4</b>	<b>100,0</b>	<b>310 486,5</b>	<b>3 829,9</b>	<b>100,0</b>	<b>328 817,9</b>	<b>4 031,2</b>	<b>100,0</b>

	2018			2019			2020		
	netto ( t )	mil. Kč	share (%)	netto ( t )	mil. Kč	share (%)	netto ( t )	mil. Kč	share (%)
<b>European Union</b>	324 197,6	3 875,3	91,3	314 519,2	3 566,7	89,6	306 463,1	4 089,4	89,3
<b>Europe,other countries</b>	14 883,5	216,9	5,1	16 187,3	273,8	6,9	17 235,7	329,0	7,2
<b>USA and Canada</b>	1 740,1	59,8	1,4	2 415,7	66,3	1,7	2 199,2	69,4	1,5
<b>Other countries</b>	4 049,8	93,1	2,2	1 515,2	73,7	1,9	4 177,2	89,3	2,0
<b>Totally</b>	<b>344 870,9</b>	<b>4 245,0</b>	<b>100,0</b>	<b>334 637,5</b>	<b>3 980,5</b>	<b>100,0</b>	<b>330 075,2</b>	<b>4 577,0</b>	<b>100,0</b>

**Structure of export of container glass according to territories in 2020 (CZK)**

The export is determined by the character of the use of a substantial part of container glass assortment. It is not economical to deliver bottles and preserve jars over long distances. In 2020 an 89.3 % of export was intended to the European Union countries. The greatest customers were Germany, Poland, Slovakia, Austria, and Italy. The 7.2 % of export was directed to other European countries. The greatest customers of those countries were Switzerland and Russia.

**Glass fibres and products made of**

The export of glass fibres and products made of in 2020 was 10, 348.0 mill. CZK. In comparison with 2019, it increased.

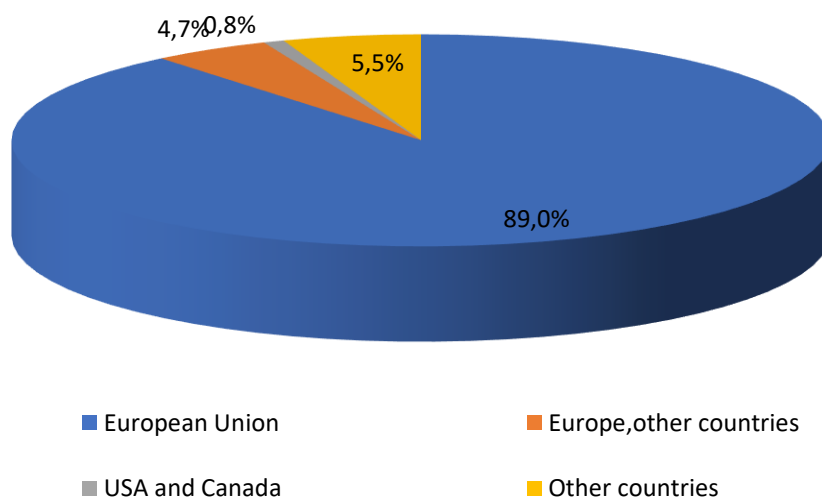
## Export of glass fibres and products made of according to territories

	2015			2016			2017		
	netto	mil. Kč	share	netto	mil. Kč	share	netto	mil. Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>European Union</b>	143 555,7	7 240,3	87,6	149 212,2	7 689,1	91,8	165 292,0	8 080,6	90,8
<b>Europe,other countries</b>	4 392,0	233,0	2,8	3 032,1	198,0	2,4	4 761,5	267,1	3,0
<b>USA and Canada</b>	3 405,5	169,0	2,0	2 202,7	94,3	1,1	5 725,5	262,1	2,9
<b>Other countries</b>	1 322,3	624,0	7,5	10 634,4	393,1	4,7	-4 580,2	287,9	3,2
<b>Totally</b>	<b>152 675,4</b>	<b>8 266,3</b>	<b>100,0</b>	<b>165 081,5</b>	<b>8 374,5</b>	<b>100,0</b>	<b>171 198,8</b>	<b>8 897,6</b>	<b>100,0</b>

	2018			2019			2020		
	Netto	mil.Kč	Share	Netto	mil.Kč	Share	Netto	mil.Kč	Share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>European Union</b>	168 406,1	8 250,1	85,8	178 194,6	8 760,7	90,4	183 474,9	9 213,8	89,0
<b>Europe,other countries</b>	6 995,0	382,6	4,0	7 193,3	415,6	4,3	10 821,9	483,8	4,7
<b>USA and Canada</b>	3 048,6	162,6	1,7	987,7	86,3	0,9	1 077,2	85,2	0,8
<b>Other countries</b>	16 841,6	819,3	8,5	6 314,5	492,4	5,1	7 845,4	565,2	5,5
<b>Totally</b>	<b>195 291,4</b>	<b>9 614,6</b>	<b>100,0</b>	<b>196 282,2</b>	<b>9 692,5</b>	<b>100,6</b>	<b>203 219,4</b>	<b>10 348,0</b>	<b>100,0</b>

## Structure of export of glass fibres and products made of according to territories in 2020 (CZK)



A substantial part of export (89 %) was realized in the European Union countries. The greatest customers in 2020 were Germany, Poland, France, Slovakia, Italy, and Great Britain. As far as countries out of the European Union it was Serbia, Bosnia and Herzegovina, and the USA.

## Utility Glass

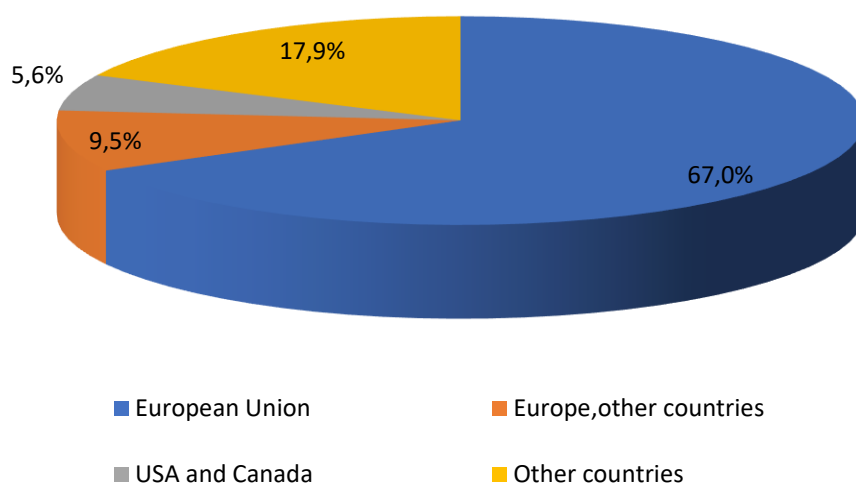
The export of utility glass belongs to traditional export branches of the Czech processing industry. In 2020 the export was in the amount of 6,891.1 mill. CZK. In comparison with 2019, it decreased due to pandemic measures.

	2015			2016			2017		
	netto	mil. Kč	share	netto	mil. Kč	share	netto	mil. Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>European Union</b>	52 511,3	3 913,3	54,0	57 024,5	4 069,3	56,7	60 368,8	4 359,2	56,8
<b>Europe,other countries</b>	5 985,7	611,1	8,4	6 354,4	626,6	8,7	6 371,4	599,2	7,8
<b>USA and Canada</b>	4 111,2	671,9	9,3	4 645,5	673,0	9,4	5 175,7	699,0	9,1
<b>Other countries</b>	14 805,8	2 044,0	28,2	13 604,2	1 812,5	25,2	15 788,6	2 020,9	26,3
<b>Totally</b>	<b>77 413,9</b>	<b>7 240,3</b>	<b>100,0</b>	<b>81 628,6</b>	<b>7 181,4</b>	<b>100,0</b>	<b>87 704,5</b>	<b>7 678,2</b>	<b>100,0</b>

	2018			2019			2020		
	Netto	mil.Kč	Share	Netto	mil.Kč	Share	Netto	mil.Kč	Share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>European Union</b>	66 074,9	4 458,5	60,0	67 303,3	5 055,2	66,0	63 036,8	4 618,6	67,0
<b>Europe,other countries</b>	8 898,2	685,2	9,2	7 660,8	634,9	8,3	6 954,8	654,6	9,5
<b>USA and Canada</b>	4 775,1	645,1	8,7	3 740,0	510,5	6,7	3 248,8	386,0	5,6
<b>Other countries</b>	13 341,8	1 644,4	22,1	12 649,1	1 464,0	19,1	10 426,1	1 231,8	17,9
<b>Totally</b>	<b>93 089,9</b>	<b>7 433,2</b>	<b>100,0</b>	<b>91 353,2</b>	<b>7 664,6</b>	<b>100,0</b>	<b>83 666,6</b>	<b>6 891,1</b>	<b>100,0</b>

#### Structure of export of utility glass according to territories in 2020 (CZK)



It is possible to say that the utility glass assortment is exported to the whole world. The share of export in 2020 to the European countries was 67 %. The greatest customers were Germany, Bulgaria, Poland, France, Slovakia, Austria, Italy, and Slovenia. The share on export directed to the Other countries (export to 80 countries) and the USA and Canada was in the amount of 33 %. The greatest customers were China, Russia, Egypt, Turkey, the USA, and Indonesia.

## Other glass

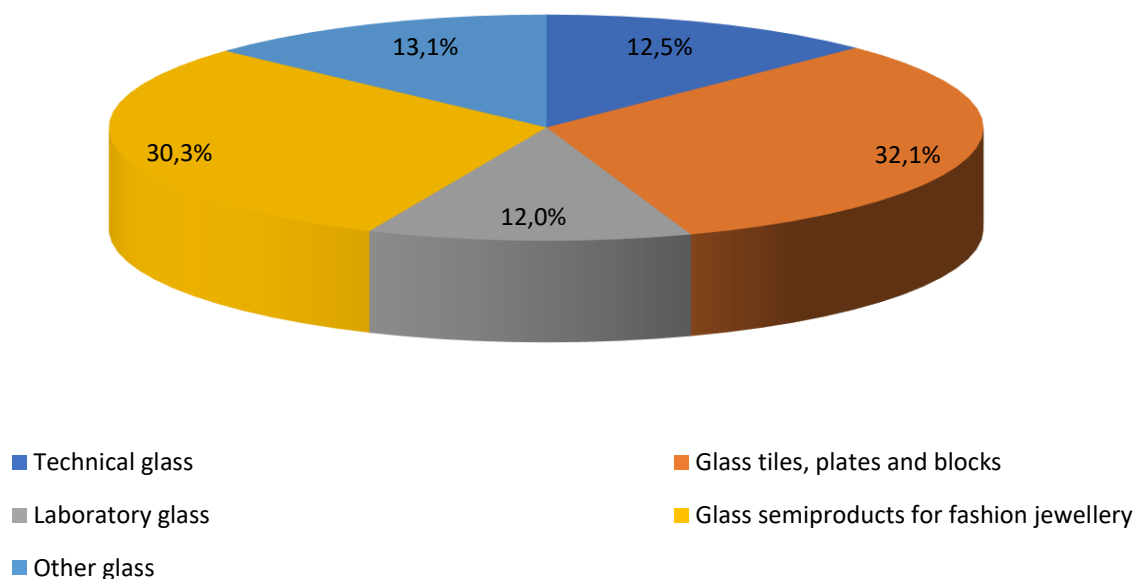
The assortment of the other glass export is very wide. It includes technical, laboratory, and laboratory apparatus glass, technical spheres, glass industrial apparatuses, protective welding glass, optical glass, and also the production of glass blocks, glass fashion jewellery semi-products, and production of lighting glass, is incorporated.

The other glass export in 2020 reached the amount of 4,612.1 mill. CZK. In 2020 lighting glass which is not stated in codes for the export and import of glass (products for electrical lighting devices made of glass, except reflectors and facet glass, etc., glass decorations for electrical chandeliers, approx. 300 mill. CZK) was not included to the export.

### Export of other glass according to the assortment

	2015			2016			2017		
	netto	mil. Kč	share	netto	mil. Kč	share	netto	mil. Kč	share
	( t )		(%)	( t )		(%)	( t )		(%)
<b>Technical glass</b>	4 176,8	500,0	8,0	4 816,8	543,9	10,8	4 251,5	511,4	9,8
<b>Glass tiles, plates and blocks</b>	57 652,5	1 444,9	23,1	57 249,9	1 368,4	27,2	64 013,4	1 493,2	28,6
<b>Laboratory glass</b>	3 140,2	556,9	8,9	2 789,3	555,3	11,0	2 851,4	562,2	10,8
<b>Glass semiproducts for fashion jewellery</b>	4 606,9	3 546,1	56,6	3 755,4	2 319,3	46,0	3 565,6	2 216,4	42,5
<b>Other glass</b>	20 982,5	217,9	3,5	41 079,0	249,7	5,0	32 414,5	430,8	8,3
<b>Totally</b>	<b>90 558,9</b>	<b>6 265,8</b>	<b>100,0</b>	<b>109 690,4</b>	<b>5 036,6</b>	<b>100,0</b>	<b>107 096,4</b>	<b>5 214,0</b>	<b>100,0</b>
	2018			2019			2020		
	netto	mil. Kč	share	netto	mil. Kč	share	netto	mil. Kč	share
	( t )		(%)	( t )		(%)	( t )		(%)
<b>Technical glass</b>	3 963,7	464,4	9,7	5 399,4	470,6	9,7	2 845,6	578,3	12,5
<b>Glass tiles, plates and blocks</b>	57 281,5	1 281,9	26,8	62 465,0	1 358,7	28,1	61 066,8	1 481,3	32,1
<b>Laboratory glass</b>	3 007,4	585,0	12,2	2 968,0	602,9	12,5	2 598,5	551,3	12,0
<b>Glass semiproducts for fashion jewellery</b>	3 477,8	1 992,1	41,6	3 649,1	1 873,7	38,7	2 798,8	1 395,4	30,3
<b>Other glass</b>	25 781,0	460,6	9,6	26 985,8	529,9	11,0	20 742,5	605,7	13,1
<b>Totally</b>	<b>93 511,5</b>	<b>4 784,0</b>	<b>100,0</b>	<b>101 467,3</b>	<b>4 835,8</b>	<b>100,0</b>	<b>90 052,2</b>	<b>4 612,0</b>	<b>100,0</b>

### Structure of other glass export according to assortment in 2020 (CZK)



The greatest share with 32.1 % has the export of glass tiles, plates, and blocks. The second position with 30.3% has fashion jewellery and glass fashion jewellery semi-products. The export of this assortment which is traditional in the Czech Republic has been facing up still stronger and substantially cheaper competition from the Far East, now, also with the consequences of the pandemics and tourism.

The following table shows the exports of other glass by territory.

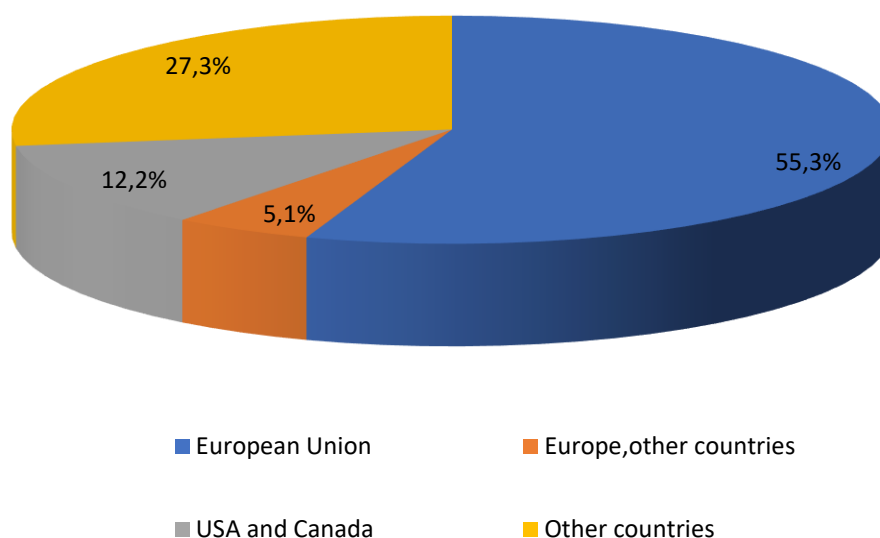
#### Export of other glass according to territories

	2015			2016			2017		
	netto (t)	mil. Kč	share (%)	netto (t)	mil. Kč	share (%)	netto (t)	mil. Kč	share (%)
<b>European Union</b>	52 508,5	2 394,6	38,2	66 729,1	2 025,3	40,2	56 595,1	2 228,1	42,7
<b>Europe, other countries</b>	3 364,8	323,9	5,2	5 215,7	346,7	6,9	5 298,0	317,5	6,1
<b>USA and Canada</b>	5 998,9	599,3	9,6	9 537,4	598,8	11,9	11 916,4	634,5	12,2
<b>Other countries</b>	28 686,6	2 948,0	47,0	28 208,3	2 065,9	41,0	33 187,0	2 033,9	39,0
<b>Totally</b>	<b>90 558,8</b>	<b>6 265,8</b>	<b>100,0</b>	<b>109 690,5</b>	<b>5 036,7</b>	<b>100,0</b>	<b>106 996,5</b>	<b>5 214,0</b>	<b>100,0</b>

	2018			2019			2020		
	netto (t)	mil. Kč	share (%)	netto (t)	mil. Kč	share (%)	netto (t)	mil. Kč	share (%)
<b>European Union</b>	47 180,6	2 194,9	45,9	49 205,5	2 256,8	47,3	44 080,2	2 552,5	55,3
<b>Europe, other countries</b>	4 434,8	271,0	5,7	3 382,6	233,8	4,9	3 644,3	236,1	5,1
<b>USA and Canada</b>	11 159,8	534,1	11,2	10 562,5	560,0	11,7	11 313,0	564,4	12,2
<b>Other countries</b>	30 736,2	1 784,0	37,3	38 111,9	1 715,9	36,0	31 014,8	1 259,1	27,3
<b>Totally</b>	<b>93 511,4</b>	<b>4 784,0</b>	<b>100,0</b>	<b>101 262,5</b>	<b>4 766,5</b>	<b>100,0</b>	<b>90 052,3</b>	<b>4 612,1</b>	<b>100,0</b>

#### Structure of export of other glass according to territories in 2020 (CZK)



In contrast with flat, container, and fiberglass export and products made of, most of the other glass export (39.5 %) is oriented to the countries out of Europe. In each group of products, there is a different situation and it can differ according to orders every year. In 2020 the share of export of glass tiles, plates, and blocks assortment (60.4%), laboratory glass (66.4 %), and technical glass (74.7 %) to the European Union prevailed. On the other side, the export of glass semi-products for fashion jewellery assortment (22.6 %) to the other countries, including the USA and Canada, prevailed.

The greatest customers in the European Union were Germany, Poland, Italy, France, Belgium, Austria, and Romania, in the other European countries Russia, Ukraine, Switzerland, and Norway. From the Other countries and the USA and Canada the greatest customers, mostly of fashion jewellery and glass semi-products for fashion jewellery, were the United Arab Emirates, China, Hongkong, the USA, Japan, and India.

## Household china and ceramics

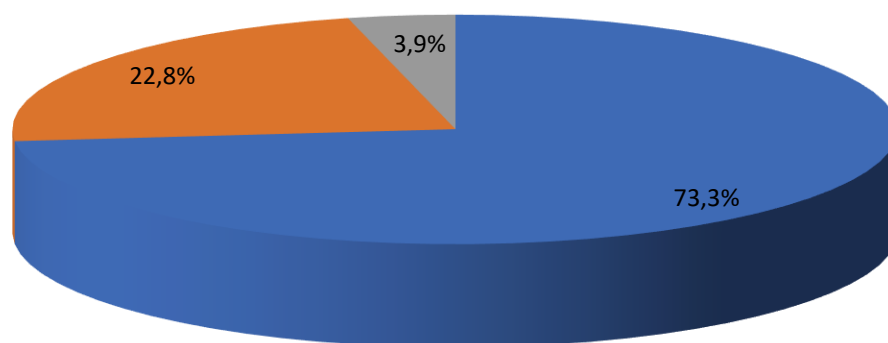
The household china export similarly as the utility glass export belongs to the traditional export branches of the Czech processing industry. In 2020 the export decreased to 1793.3 mill. CZK. In comparison with 2019 the export decreased.

### Export of household china and ceramics according to the assortment

	2015			2016			2017		
	netto (t)	mil.Kč	share (%)	netto (t)	mil.Kč	share (%)	netto (t)	mil.Kč	share (%)
<b>Household china</b>	14 470,7	1 739,7	86,2	13 449,6	1 720,4	80,7	13 260,5	1 733,3	78,4
<b>Household ceramics</b>	1 799,5	202,2	10,0	1 940,1	352,8	16,5	2 118,7	408,2	18,5

Decorative and figural china and ceramics	303,3	77,3	3,8	283,6	59,2	2,8	920,8	70,2	3,2
<b>Totally</b>	<b>16 573,5</b>	<b>2 019,2</b>	<b>100,0</b>	<b>15 673,3</b>	<b>2 132,4</b>	<b>100,0</b>	<b>16 300,0</b>	<b>2 211,7</b>	<b>100,0</b>
	2018			2019			2020		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	(t)		(%)	(t)		(%)	(t)		(%)
<b>Household china</b>	<b>13 173,1</b>	<b>1 710,0</b>	<b>79,4</b>	<b>11 698,1</b>	<b>1 620,3</b>	<b>77,5</b>	<b>8 125,2</b>	<b>1 315,0</b>	<b>73,3</b>
<b>Household ceramics</b>	<b>1 905,9</b>	<b>362,2</b>	<b>16,8</b>	<b>1 876,8</b>	<b>378,8</b>	<b>18,1</b>	<b>1 722,6</b>	<b>408,0</b>	<b>22,8</b>
<b>Decorative and figural china and ceramics</b>	<b>363,1</b>	<b>80,1</b>	<b>3,7</b>	<b>485,5</b>	<b>92,1</b>	<b>4,4</b>	<b>289,6</b>	<b>70,2</b>	<b>3,9</b>
<b>Totally</b>	<b>15 442,0</b>	<b>2 152,3</b>	<b>100,0</b>	<b>14 060,4</b>	<b>2 091,2</b>	<b>100,0</b>	<b>10 137,4</b>	<b>1 793,2</b>	<b>100,0</b>

#### Structure of export of household china and ceramics according to the assortment in 2020 (CZK)



- Household china
- Household ceramics
- Decorative and figural china and ceramics

The share of household china in the branch household china and ceramics is 73.3 %.

#### Export of household china and ceramics according to territories

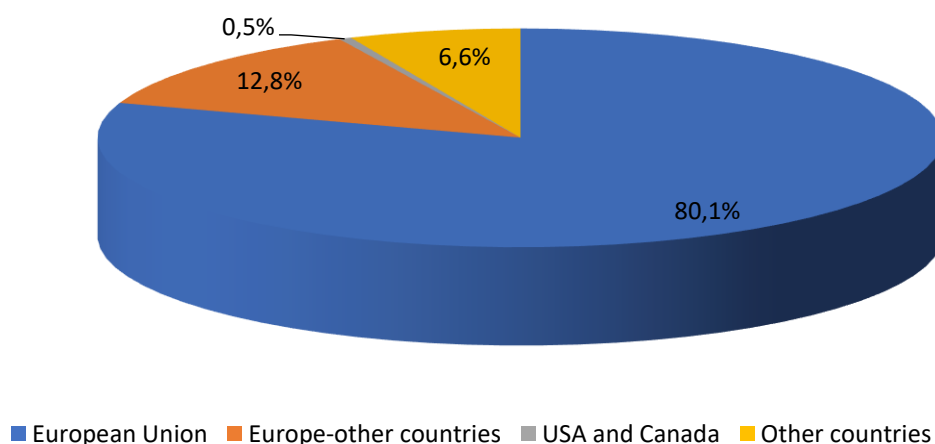
2015	2016	2017
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	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	(t)		(%)	(t)		(%)	(t)		(%)
<b>European Union</b>	13 662,1	1 426,9	70,7	13 111,4	1 578,2	74,0	13 705,1	1 682,8	76,1
<b>Europe-other countries</b>	1 569,4	363,7	18,0	1 745,0	349,9	16,4	1 517,4	322,0	14,6
<b>USA and Canada</b>	134,8	22,1	1,1	109,1	19,8	0,9	167,7	27,8	1,3
<b>Other countries</b>	1 207,2	206,5	10,2	707,8	184,5	8,7	909,8	179,1	8,1
<b>Totally</b>	<b>16 573,5</b>	<b>2 019,2</b>	<b>100,0</b>	<b>15 673,3</b>	<b>2 132,4</b>	<b>100,0</b>	<b>16 300,0</b>	<b>2 211,7</b>	<b>100,0</b>

	2018			2019			2020		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	(t)		(%)	(t)		(%)	(t)		(%)
<b>European Union</b>	13 252,9	1 694,9	78,7	12 246,4	1 706,9	81,6	8 560,6	1 437,3	80,1
<b>Europe,other countries</b>	1 324,1	272,6	12,7	1 196,0	247,1	11,8	1 011,4	229,3	12,8
<b>USA and Canada</b>	101,9	14,5	0,7	105,1	18,1	0,9	50,3	8,6	0,5
<b>Other countries</b>	763,0	170,3	7,9	512,9	119,1	5,7	515,1	118,1	6,6
<b>Totally</b>	<b>15 441,9</b>	<b>2 152,3</b>	<b>100,0</b>	<b>14 060,4</b>	<b>2 091,2</b>	<b>100,0</b>	<b>10 137,4</b>	<b>1 793,3</b>	<b>100,0</b>

#### Structure of export of household china and ceramics according to territories in 2020 (CZK)



As follows from the above given table and graph, there is visible that export to all investigated territories is relatively stable without significant decreases and increases.

The greatest customers in the European Union countries were Germany, Slovakia, Sweden, and Austria. In the other European countries, it was Russia and Switzerland. In the group of Other countries, incl. the USA and Canada, the export was directed to 55 countries of the world. The greatest customers have long been the USA and Korea.

The household china export was very strongly influenced by substantially cheaper ware from the Far East like the export of utility glass and glass semi-products for fashion jewellery.

## Technical ceramics and sanitary ware

The technical ceramics and sanitary ware export was 2998 mill. CZK in 2020. In comparison with 2019 the export decreased due to the negative effects of the pandemic.

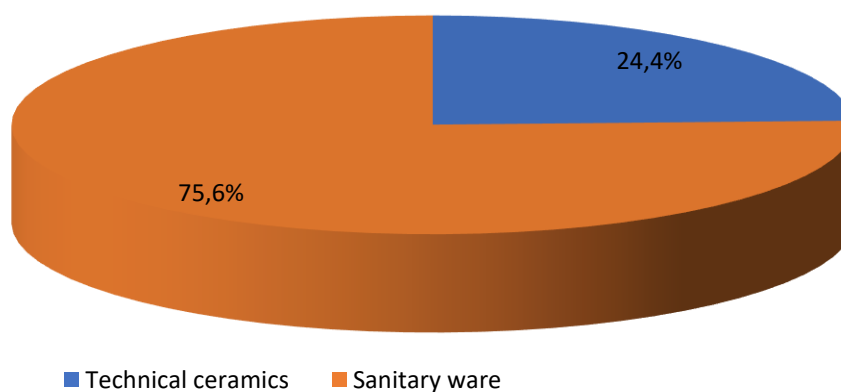
### Export of technical ceramics and sanitary ware according to the assortment

	2015			2016			2017		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>Technical ceramics</b>	4 751,1	1 215,3	34,7	4 740,6	971,2	29,4	4 665,5	992,7	29,3
<b>Sanitary ware</b>	35 532,6	2 286,0	65,3	35 346,9	2 336,2	70,6	36 128,2	2 389,7	70,7
<b>Totally</b>	40 283,7	3 501,3	100,0	40 087,5	3 307,4	100,0	40 793,7	3 382,4	100,0

	2018			2019			2020		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>Technical ceramics</b>	3 847,1	981,3	29,0	3 477,9	902,4	26,4	2 045,0	732,2	24,4
<b>Sanitary ware</b>	35 431,5	2 405,9	71,0	34 151,2	2 513,9	73,6	30 102,6	2 265,8	75,6
<b>Totally</b>	39 278,6	3 387,2	100,0	37 629,1	3 416,3	100,0	32 147,6	2 998,0	100,0

### Structure of export of technical ceramics and sanitary ware according to the assortment in 2020 (CZK)



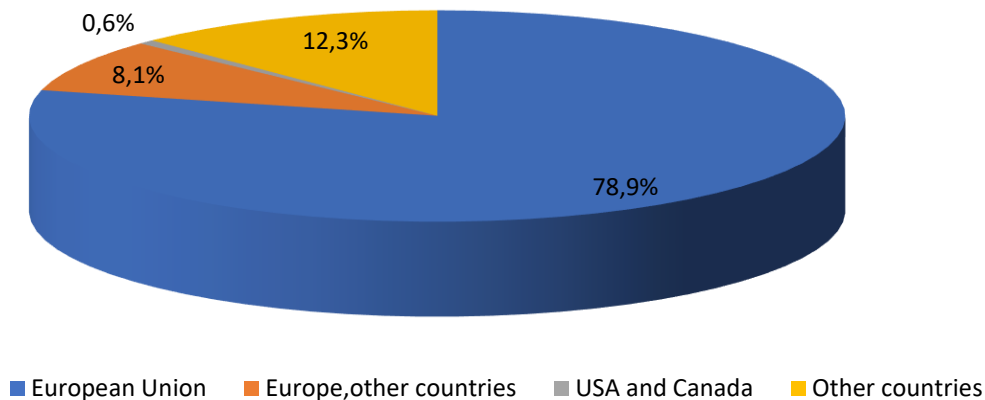
In 2020 the sanitary ware shared with 75,6 % and the technical ceramics with 24,4 % on export.

### Export of technical ceramics and sanitary ware according to territories

	2015			2016			2017		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>European Union</b>	32 075,2	2 502,1	71,5	32 188,2	2 532,4	76,6	32 103,5	2 587,2	76,5
<b>Europe, other countries</b>	4 100,5	299,2	8,5	3 483,9	271,7	8,2	4 353,5	317,4	9,4
<b>USA and Canada</b>	244,2	36,1	1,0	116,6	23,0	0,7	122,0	24,6	0,7
<b>Other countries</b>	3 863,8	663,9	19,0	4 298,8	480,2	14,5	4 215,8	453,2	13,4
<b>Totally</b>	40 283,7	3 501,3	100,0	40 087,5	3 307,3	100,0	40 794,8	3 382,4	100,0

	2018			2019			2020		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	(t)		(%)	(t)		(%)	(t)		(%)
<b>European Union</b>	31 089,1	2 696,1	79,6	30 412,8	2 744,7	80,3	25 169,3	2 365,7	78,9
<b>Europe, other countries</b>	3 785,6	276,3	8,2	3 605,4	327,6	9,6	3 440,7	243,1	8,1
<b>USA and Canada</b>	107,0	17,9	0,5	139,3	27,5	0,8	53,7	19,4	0,6
<b>Other countries</b>	4 296,9	396,9	11,7	3 471,6	316,5	9,3	3 483,8	369,9	12,3
<b>Totally</b>	<b>39 278,6</b>	<b>3 387,2</b>	<b>100,0</b>	<b>37 629,1</b>	<b>3 416,3</b>	<b>100,0</b>	<b>32 147,5</b>	<b>2 998,1</b>	<b>100,0</b>

#### Structure of export of technical ceramics and sanitary ware according to territories in 2020 (CZK)



A substantial part of both assortments was exported to the countries of Europe. Sanitary ware shared on export to the European countries in 2020 with 85.7 % (from which 76.2 % to the European Union), technical ceramics shared on the export with 91 % (from which 87.2 % to the European Union). Germany, Great Britain, Slovakia, Austria, and France belong to the greatest customers of sanitary ware in Europe.

Due to an unpleasant development in the building industry in the European Union, sanitary ware producers look for new markets in the countries out of Europe. Sanitary ware is exported e.g. to China, the Republic of South Africa, Tunis, Oman, Nigeria, and Mongolia.

## Import

## Flat glass

The import of flat glass assortment was in 2020 in the amount of 11,243.3 mill. CZK. In comparison with 2019 it decreased.

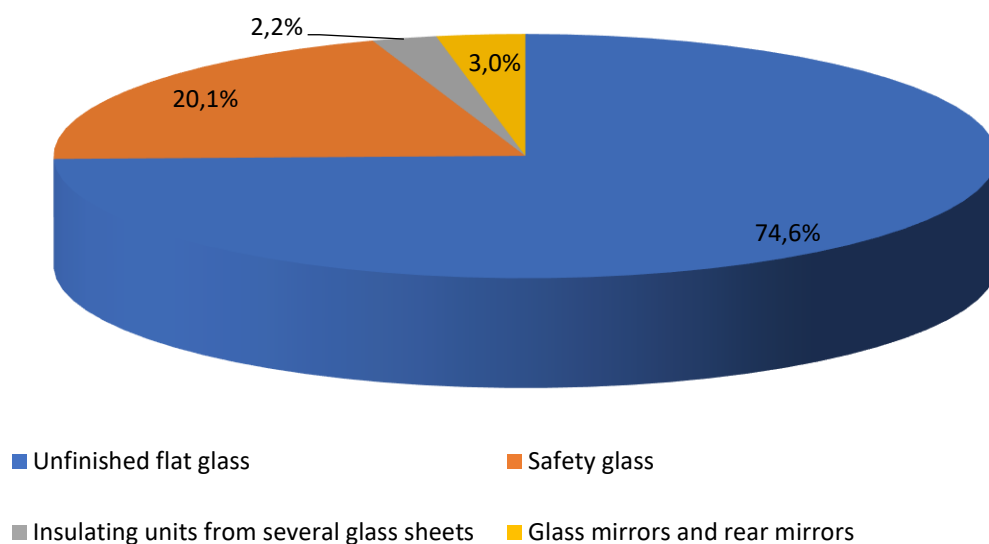
### Import of flat glass according to the assortment

	2015			2016			2017		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>Unfinished flat glass</b>	181 369,0	2 613,2	28,7	206 741,3	2 869,6	27,2	229 361,8	3 112,6	25,2
<b>Safety glass</b>	63 943,7	4 263,5	46,9	69 987,7	5 124,2	48,5	81 744,7	5 983,9	48,4
<b>Insulating units from several glass sheets</b>	6 181,3	217,7	2,4	6 421,5	233,1	2,2	7 763,4	302,3	2,4
<b>Glass mirrors and rear mirrors</b>	9 301,1	1 996,4	22,0	9 791,2	2 336,2	22,1	10 964,6	2 969,1	24,0
<b>Totally</b>	<b>260 795,1</b>	<b>9 090,8</b>	<b>100,0</b>	<b>292 941,7</b>	<b>10 563,1</b>	<b>100,0</b>	<b>329 834,5</b>	<b>12 367,9</b>	<b>100,0</b>

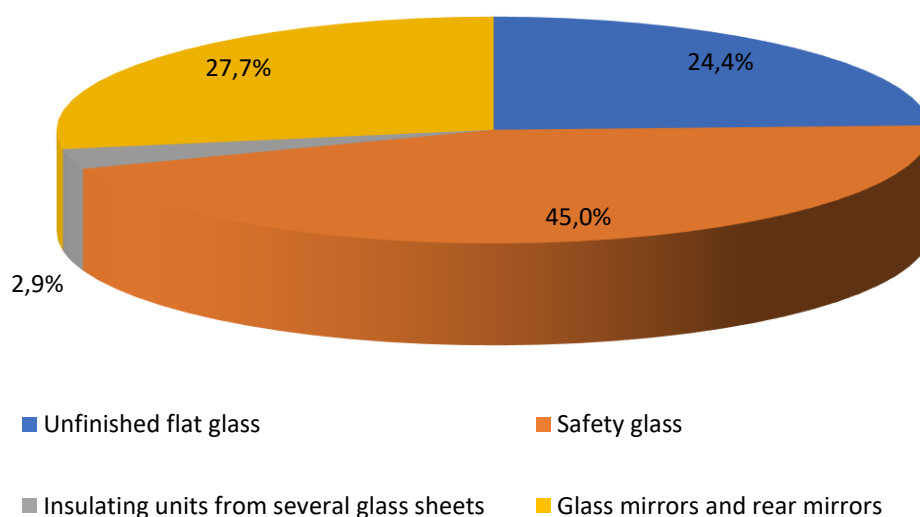
  

	2018			2019			2020		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>Unfinished flat glass</b>	247 582,1	3 017,2	24,0	257 762,2	3 108,6	24,0	225 588,8	2 740,9	24,4
<b>Safety glass</b>	86 285,4	6 184,8	49,2	82 496,5	5 777,2	44,7	60 917,0	5 064,0	45,0
<b>Insulating units from several glass sheets</b>	9 047,9	366,7	2,9	9 703,1	425,8	3,3	6 735,9	320,7	2,9
<b>Glass mirrors and rear mirrors</b>	13 364,5	3 004,8	23,9	14 684,3	3 616,0	28,0	9 185,3	3 117,7	27,7
<b>Totally</b>	<b>356 279,8</b>	<b>12 573,5</b>	<b>100,0</b>	<b>364 646,1</b>	<b>12 927,6</b>	<b>100,0</b>	<b>302 427,0</b>	<b>11 243,3</b>	<b>100,0</b>

### Structure of import of flat glass according to the assortment in 2020 (t)



#### Structure of import of flat glass according to the assortment in 2020 (CZK)



As shown in the above-stated table (in CZK), the import of all investigated assortments increased. The share on the flat glass import in mass had the import of unfinished flat glass with 74,6 %, from

which float glass shows 88,9 %. The amount of imports is given by the processing capacities in the Czech Republic.

Toughened laminated safety glass shared with 45 % (in CZK) on import. It is followed by the unfinished flat glass with 24.4 %

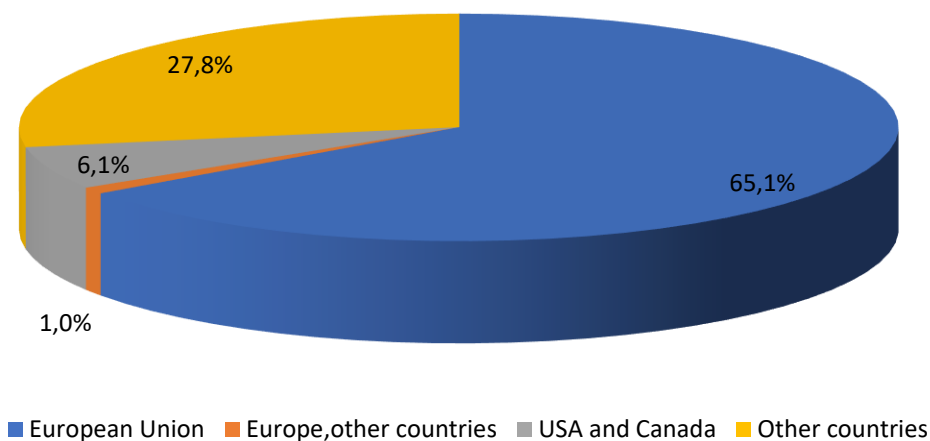
#### Import of flat glass according to territories

	2015			2016			2017		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>European Union</b>	244 007,0	7 627,5	83,9	278 716,1	9 165,2	86,8	308 501,8	10 665,5	86,2
<b>Europe,other countries</b>	78,1	52,4	0,6	971,9	91,4	0,9	3 546,1	170,3	1,4
<b>USA and Canada</b>	417,9	531,9	5,9	410,2	571,4	5,4	520,7	673,3	5,4
<b>Other countries</b>	16 292,1	879,1	9,7	12 843,5	735,2	7,0	17 266,0	858,8	6,9
<b>Totally</b>	<b>260 795,1</b>	<b>9 090,9</b>	<b>100,0</b>	<b>292 941,7</b>	<b>10 563,2</b>	<b>100,0</b>	<b>329 834,6</b>	<b>12 367,9</b>	<b>100,0</b>

	2018			2019			2020		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>European Union</b>	326 806,4	10 815,7	86,0	333 314,1	10 640,8	81,7	300 308,6	7 321,9	65,1
<b>Europe,other countries</b>	2 843,9	169,2	1,3	2 763,4	120,0	0,9	1 179,2	107,0	1,0
<b>USA and Canada</b>	580,9	712,6	5,7	753,0	1 081,3	8,3	557,0	686,3	6,1
<b>Other countries</b>	26 048,7	876,0	7,0	27 815,6	1 183,2	9,1	32 555,5	3 128,1	27,8
<b>Totally</b>	<b>356 279,9</b>	<b>12 573,5</b>	<b>100,0</b>	<b>364 646,1</b>	<b>13 025,3</b>	<b>100,0</b>	<b>334 600,3</b>	<b>11 243,3</b>	<b>100,0</b>

#### Structure of import of flat glass according to territories in 2020 (CZK)



In 2020 there was imported 65,1% of flat glass (expressed in CZK) to the Czech Republic from the European Union countries. The greatest importers from the European Union were Poland, Germany, Bulgaria, and Belgium.

## Container glass

The container glass import in 2020 was in the amount of 1719.5 mill. CZK, i.e. it was by 3.8 % less than in 2019.

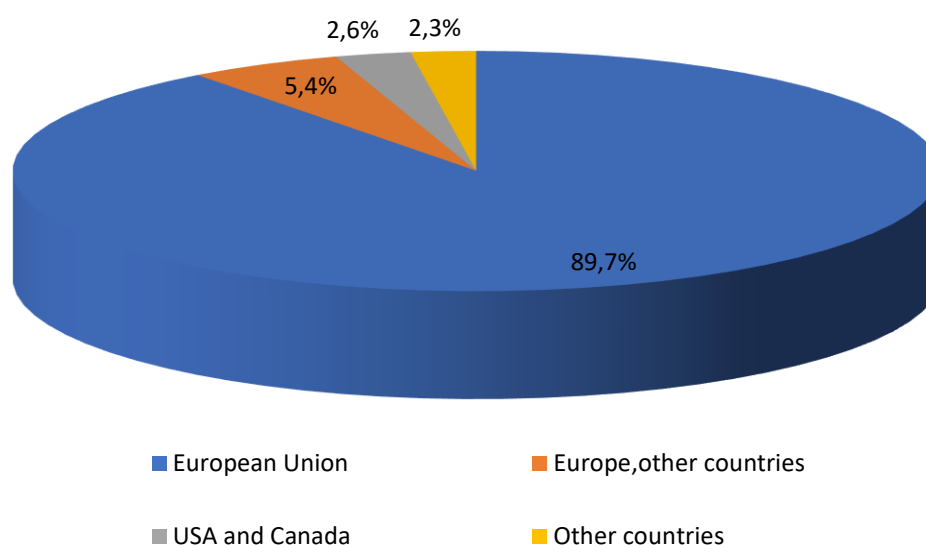
### Import of container glass according to territories

	2015			2016			2017		
	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )
<b>European Union</b>	113 082,3	1 283,3	91,8	104 133,5	1 331,7	91,3	97 595,8	1 304,6	92,6
<b>Europe,other countries</b>	1 099,3	10,2	0,7	1 810,4	16,1	1,1	6 738,0	53,2	3,8
<b>USA and Canada</b>	5,8	5,0	0,4	7,0	3,6	0,3	14,4	3,5	0,2
<b>Other countries</b>	9 510,5	98,7	7,1	10 609,3	107,6	7,4	1 103,8	47,3	3,4
<b>Totally</b>	<b>123 698,0</b>	<b>1 397,2</b>	<b>100,0</b>	<b>116 560,1</b>	<b>1 459,1</b>	<b>100,0</b>	<b>105 452,0</b>	<b>1 408,6</b>	<b>100,0</b>

	2018			2019			2020		
	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )
<b>European Union</b>	108 097,7	1 377,0	89,9	109 982,9	1 478,8	81,0	94 850,0	1 542,7	89,7
<b>Europe,other countries</b>	5 604,8	49,1	3,2	5 011,3	50,4	2,8	11 401,3	92,4	5,4
<b>USA and Canada</b>	220,6	10,3	0,7	144,4	9,7	0,5	865,2	45,3	2,6
<b>Other countries</b>	2 900,1	95,8	6,3	2 555,7	287,6	15,7	6 008,7	39,1	2,3
<b>Totally</b>	<b>116 823,2</b>	<b>1 532,3</b>	<b>100,0</b>	<b>117 694,4</b>	<b>1 826,5</b>	<b>100,0</b>	<b>113 125,2</b>	<b>1 719,5</b>	<b>100,0</b>

### Structure of import of container glass according to territories in 2020 (CZK)



The import, as well as the export, is determined by the character of the use of container glass assortment. In 2020 there was realized 89.7 % of import from the European Union countries. The greatest importers were Germany, Poland, and Slovakia.

## Glass fibres and products made of

The import of glass fibres and products made of to the Czech Republic was 3148.9 mill. CZK in 2018, which is by 3.10 % more than in 2017.

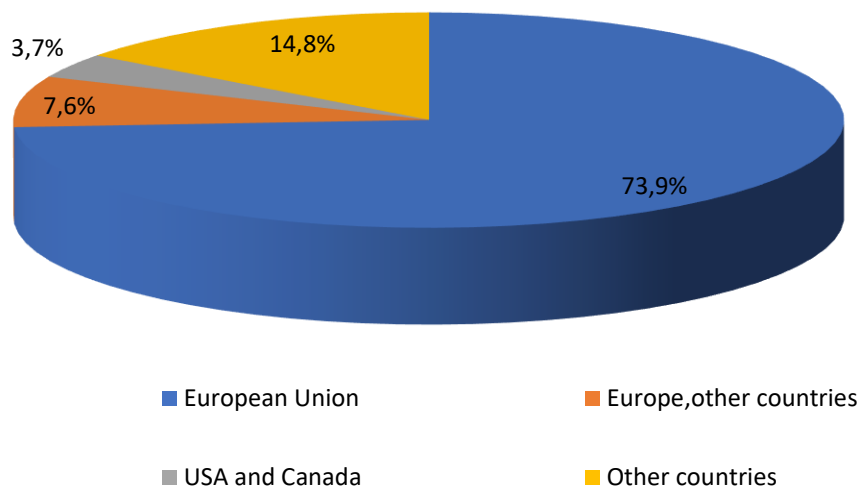
### Import of glass fibres and products made of according to territories

	2015			2016			2017		
	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )
<b>European Union</b>	41 265,1	2 053,3	78,5	45 534,0	2 275,3	76,3	45 703,2	2 288,9	74,9
<b>Europe,other countries</b>	1 862,6	82,1	3,1	3 223,4	102,3	3,4	9 159,8	250,6	8,2
<b>USA and Canada</b>	965,6	127,0	4,9	1 477,3	148,4	5,0	901,3	135,0	4,4
<b>Other countries</b>	6 504,6	354,6	13,5	9 558,3	456,6	15,3	7 526,2	379,5	12,4
<b>Totally</b>	50 597,8	2 617,0	100,0	59 793,0	2 982,5	100,0	63 290,5	3 054,1	100,0

	2018			2019			2020		
	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )
<b>European Union</b>	48 427,8	2 290,3	72,7	47 715,0	2 337,5	71,7	40 327,0	2 176,7	73,9
<b>Europe,other countries</b>	11 161,5	279,1	8,9	8 552,2	230,0	7,1	8 562,7	225,1	7,6
<b>USA and Canada</b>	688,3	138,6	4,4	518,8	160,3	4,9	339,9	107,7	3,7
<b>Other countries</b>	8 528,2	440,8	14,0	11 588,2	530,8	16,3	8 129,6	435,2	14,8
<b>Totally</b>	68 805,8	3 148,9	100,0	68 374,3	3 258,7	100,0	57 359,2	2 944,7	100,0

### Structure of import of glass fibres and products made of according to territories in 2020 (CZK)





The share of the European Union countries on import was 73.9 %. The greatest importers were Germany, Poland, Italy, Belgium, and Austria. The biggest importers from the other European countries were Russia and Taiwan.

## Utility glass

The utility glass import in 2020 was 2 122.8 mill. CZK, i.e. by 11.8 % less than in 2019.

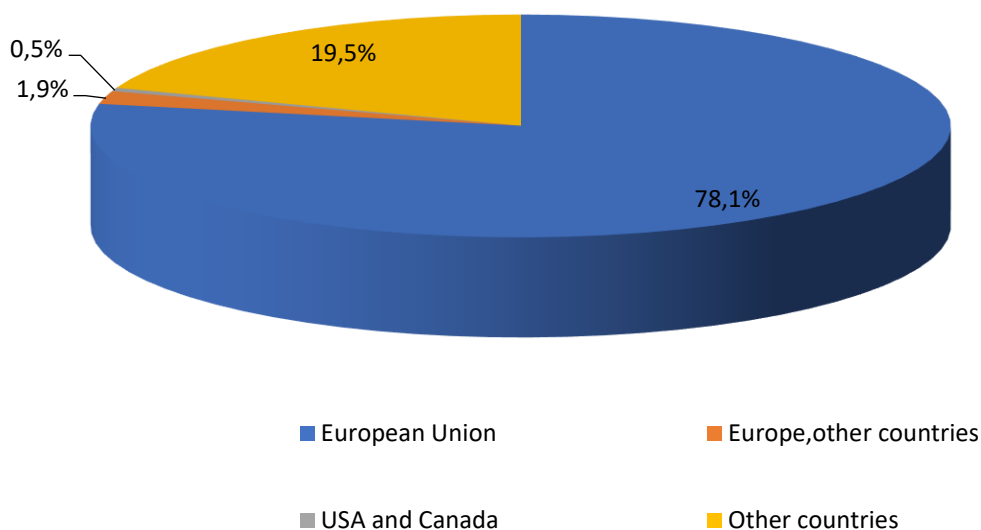
### Import of utility glass according to territories

	2015			2016			2017		
	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )
<b>European Union</b>	45 654,0	1 547,5	81,6	34 354,9	1 541,6	78,8	36 887,9	1 614,2	81,6
<b>Europe,other countries</b>	778,2	23,2	1,2	1 151,8	17,6	0,9	423,8	15,6	0,8
<b>USA and Canada</b>	70,5	0,5	0,0	39,1	7,6	0,4	38,9	7,5	0,4
<b>Other countries</b>	6 613,7	325,7	17,2	8 108,9	389,3	19,9	6 206,6	340,4	17,2
<b>Totally</b>	<b>53 116,4</b>	<b>1 896,9</b>	<b>100,0</b>	<b>43 654,7</b>	<b>1 956,1</b>	<b>100,0</b>	<b>43 557,2</b>	<b>1 977,7</b>	<b>100,0</b>

	2018			2019			2020		
	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )
<b>European Union</b>	41 998,3	1 667,7	79,2	48 971,6	1 911,8	79,5	32 068,2	1 658,9	78,1
<b>Europe,other countries</b>	3 277,3	51,4	2,4	11 565,6	79,0	3,3	7 046,7	39,8	1,9
<b>USA and Canada</b>	29,4	7,8	0,4	35,1	7,3	0,3	94,1	10,6	0,5
<b>Other countries</b>	6 301,8	378,8	18,0	6 859,7	408,1	17,0	5 557,6	413,4	19,5
<b>Totally</b>	<b>51 606,9</b>	<b>2 105,6</b>	<b>100,0</b>	<b>67 431,9</b>	<b>2 406,2</b>	<b>100,0</b>	<b>44 766,6</b>	<b>2 122,8</b>	<b>100,0</b>

### Structure of import of utility glass according to territories in 2020 (CZK)



The greatest share of import (78.1%) was realized from the countries of the European Union. The greatest importers were Germany, Bulgaria, Poland, Portugal, France, and Italy. From the Other countries (19 % of total import) the greatest importers in 2020 were China and Turkey. Both these countries created a total of 95 % of import from the Other countries.

## Other glass

The import of other glass in 2020 was 1,542.3 mill. CZK.

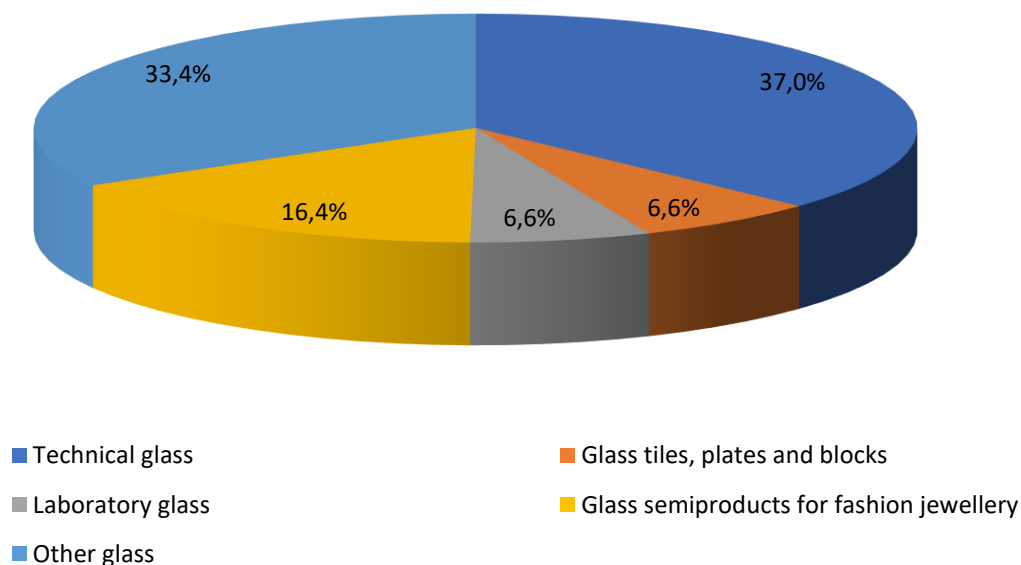
### Import of other glass according to the assortment

	2015			2016			2017		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
Technical glass	3 726,0	425,5	23,0	3 658,6	451,6	28,2	8 552,0	494,8	30,6
Glass tiles, plates and blocks	4 214,2	225,5	12,2	3 971,0	160,3	10,0	2 665,9	132,6	8,2
Laboratory glass	567,8	103,1	5,6	260,7	91,2	5,7	262,5	92,6	5,7
Glass semiproducts for fashion jewellery	3 088,0	446,6	24,2	3 063,0	254,6	15,9	3 325,4	194,2	12,0
Other glass	171 104,4	647,8	35,0	175 633,8	644,6	40,2	207 270,2	701,3	43,4
<b>Totally</b>	<b>182 700,4</b>	<b>1 848,5</b>	<b>100,0</b>	<b>186 587,1</b>	<b>1 602,3</b>	<b>100,0</b>	<b>222 076,0</b>	<b>1 615,5</b>	<b>100,0</b>

	2018			2019			2020		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
Technical glass	4 916,2	632,7	29,0	4 051,2	472,3	24,9	3 086,6	570,0	37,0
Glass tiles, plates and blocks	3 516,6	160,2	7,3	4 194,8	128,9	6,8	2 288,0	102,5	6,6
Laboratory glass	6 634,9	360,5	16,5	302,9	139,7	7,4	217,7	101,8	6,6
Glass semiproducts for fashion jewellery	3 773,4	223,4	10,2	3 146,0	231,1	12,2	3 035,8	253,4	16,4
Other glass	213 169,6	806,4	36,9	220 804,7	925,9	48,8	192 252,1	514,6	33,4
<b>Totally</b>	<b>232 010,7</b>	<b>2 183,2</b>	<b>100,0</b>	<b>232 499,6</b>	<b>1 897,9</b>	<b>100,0</b>	<b>200 880,2</b>	<b>1 542,3</b>	<b>100,0</b>

### Structure of import of other glass according to the assortment in 2020 (CZK)



In the following table the other glass import according to territories is given.

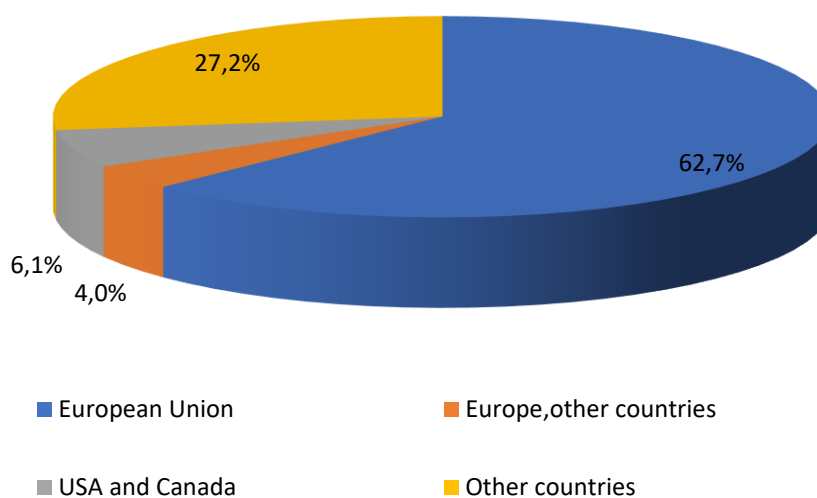
### Import of other glass according to territories

	2015			2016			2017		
	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )
<b>European Union</b>	174 132,6	1 199,0	63,7	159 908,6	1 077,4	67,8	168 902,6	451,6	64,4
<b>Europe,other countries</b>	103,3	82,9	4,4	111,8	79,4	5,0	48,6	65,8	9,4
<b>USA and Canada</b>	496,7	74,1	3,9	375,8	52,1	3,3	8,0	28,2	4,0
<b>Other countries</b>	26 470,3	525,6	27,9	26 299,5	379,9	23,9	38 310,9	155,8	22,2
<b>Totally</b>	<b>201 202,9</b>	<b>1 881,6</b>	<b>100,0</b>	<b>186 695,7</b>	<b>1 588,8</b>	<b>100,0</b>	<b>207 270,1</b>	<b>701,4</b>	<b>100,0</b>

	2018			2019			2020		
	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )
<b>European Union</b>	170 148,3	532,9	66,1	206 038,9	622,4	67,2	195 252,1	514,6	62,7
<b>Europe,other countries</b>	40 547,8	71,5	8,9	7 549,6	23,4	2,5	43,7	33,2	4,0
<b>USA and Canada</b>	9,3	32,8	4,1	9,2	32,6	3,5	12,4	50,1	6,1
<b>Other countries</b>	2 464,2	169,2	21,0	7 207,1	247,6	26,7	17 396,0	222,9	27,2
<b>Totally</b>	<b>213 169,6</b>	<b>806,4</b>	<b>100,0</b>	<b>220 804,8</b>	<b>926,0</b>	<b>100,0</b>	<b>212 704,2</b>	<b>820,8</b>	<b>100,0</b>

### Structure of import of other glass according to territories in 2020 (CZK)



In 2020 the import from the European Union countries was 62.7 % and 27 % from the Other countries. The import was realized from various countries according to the assortment. In 2020, the

greatest importers of technical glass were Germany, France, China, Malaysia, and Taiwan, laboratory glass Germany, Italy, the USA, Great Britain, and India, glass tiles, plates, and blocks Belgium, Germany, the USA, Greece, France, and Brazil, and glass semi-products for fashion jewellery Austria, Germany, France, the USA, China, Hongkong, and Japan.

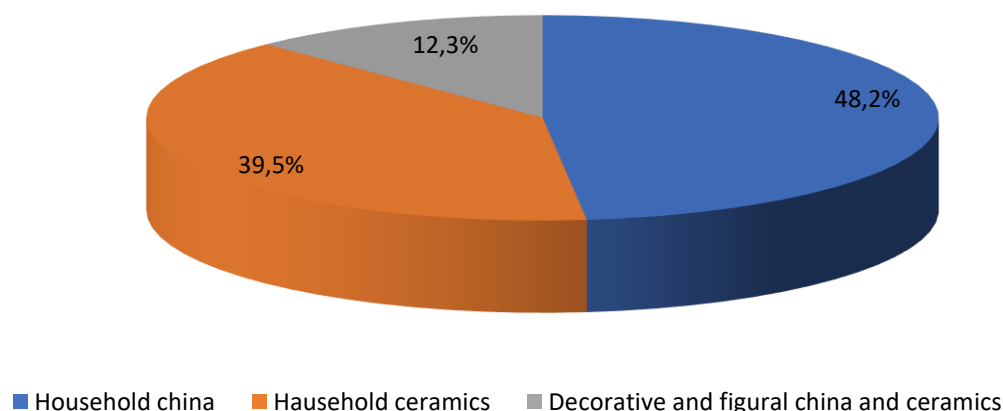
## Household china and ceramics

In 2020, the household china and ceramics were imported to the Czech Republic at a value of 1581.6 mill. CZK, which is less than in 2019.

### Import of household china and ceramics according to the assortment

	2015			2016			2017		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>Household china</b>	7 070,9	709,4	57,6	11 253,9	740,2	48,8	7 189,9	721,0	52,1
<b>Household ceramics</b>	5 574,8	377,7	30,6	7 147,9	615,2	40,5	5 803,0	485,2	35,0
<b>Decorative and figural china and ceramics</b>	2 248,5	145,2	11,8	2 480,0	162,7	10,7	2 639,6	178,3	12,9
<b>Totally</b>	<b>14 894,2</b>	<b>1 232,3</b>	<b>100,0</b>	<b>20 881,8</b>	<b>1 518,1</b>	<b>100,0</b>	<b>15 632,5</b>	<b>1 384,5</b>	<b>100,0</b>
	2018			2019			2020		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>Household china</b>	21 373,6	762,7	48,2	37 050,0	831,6	48,6	21 373,6	762,7	48,2
<b>Household ceramics</b>	8 220,3	624,4	39,5	8 496,0	634,4	37,1	8 220,3	624,4	39,5
<b>Decorative and figural china and ceramics</b>	4 524,2	194,5	12,3	3 597,0	245,9	14,4	4 524,2	194,5	12,3
<b>Totally</b>	<b>34 118,1</b>	<b>1 581,6</b>	<b>100,0</b>	<b>49 143,0</b>	<b>1 711,9</b>	<b>100,0</b>	<b>34 118,1</b>	<b>1 581,6</b>	<b>100,0</b>

### Structure of import of household china and ceramics according to the assortment in 2020 (CZK)



The household china shares with 48.2 %, household ceramics with 39.5 %, and decorative and figural china and ceramics with 12.3 % on the import of this group assortment.

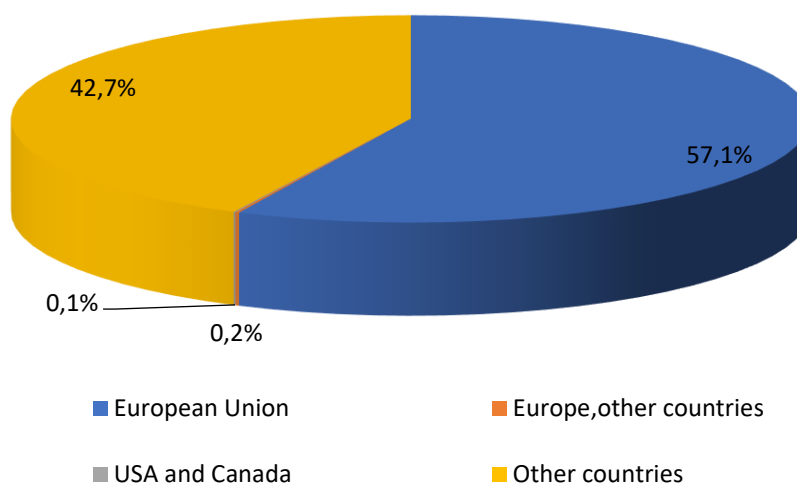
### Import of household china and ceramics according to territories

	2015			2016			2017		
	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )
<b>European Union</b>	12 247,1	1 202,1	74,4	12 318,0	1 228,5	71,6	8 924,3	908,1	65,6
<b>Europe,other countries</b>	1 616,1	76,5	4,7	1 547,9	102,6	6,0	7,2	1,3	0,1
<b>USA and Canada</b>	5,9	75,7	4,7	7,8	74,6	4,3	2,0	1,6	0,1
<b>Other countries</b>	4 517,0	260,9	16,2	5 136,0	310,3	18,1	6 698,9	473,7	34,2
<b>Totally</b>	<b>18 386,1</b>	<b>1 615,2</b>	<b>100,0</b>	<b>19 009,7</b>	<b>1 716,0</b>	<b>100,0</b>	<b>15 632,4</b>	<b>1 384,7</b>	<b>100,0</b>

	2018			2019			2020		
	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )	netto ( t )	mil.Kč	share ( % )
<b>European Union</b>	12 426,9	1 059,0	55,7	13 109,1	1 182,7	66,7	8 681,5	876,6	57,1
<b>Europe,other countries</b>	1 856,6	148,4	7,8	1 796,5	158,9	9,0	34,3	2,4	0,2
<b>USA and Canada</b>	23,7	126,0	6,6	23,2	187,2	10,6	2,1	1,2	0,1
<b>Other countries</b>	5 390,0	568,7	29,9	3 684,5	244,0	13,8	6 739,4	656,3	42,7
<b>Totally</b>	<b>19 697,2</b>	<b>1 902,1</b>	<b>100,0</b>	<b>18 613,3</b>	<b>1 772,8</b>	<b>100,0</b>	<b>15 457,3</b>	<b>1 536,5</b>	<b>100,0</b>

### Structure of import of household china and ceramics according to territories in 2020 (CZK)



The import from the European Union countries shared on total import with 57.1 %. The greatest importer was Germany followed by Poland.

The Other countries shared on import of household china and ceramics with 42.7 %. The greatest importer was China, sharing on import from the Other countries with 38.7% (253.7 mill. CZK).

## Technical ceramics and sanitary ware

The technical ceramics and sanitary ware import was 1,190.2 mill. CZK in 2020. The import increased in comparison with 2019.

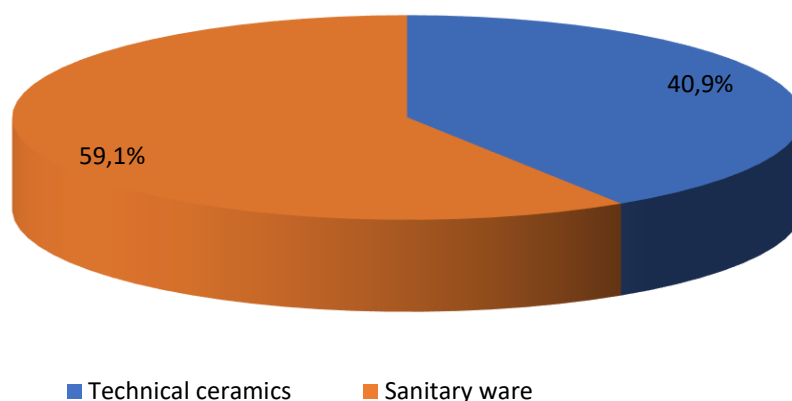
### Import of technical ceramics and sanitary ware according to the assortment

	2015			2016			2017		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	(t)		( % )	(t)		( % )	(t)		( % )
<b>Technical ceramics</b>	3 838,0	642,0	39,7	3 758,6	655,9	38,2	4 144,7	710,5	37,8
<b>Sanitary ware</b>	14 548,2	973,1	60,3	15 251,0	1 060,2	61,8	16 612,5	1 168,4	62,2
<b>Totally</b>	18 386,2	1 615,1	100,0	19 009,6	1 716,1	100,0	20 757,2	1 878,9	100,0

	2018			2019			2020		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	(t)		( % )	(t)		( % )	(t)		( % )
<b>Technical ceramics</b>	4 032,7	778,3	40,9	2 772,0	721,1	40,7	4 032,7	778,3	40,9
<b>Sanitary ware</b>	15 664,5	1 123,9	59,1	15 841,4	1 051,7	59,3	15 664,5	1 123,9	59,1
<b>Totally</b>	19 697,2	1 902,2	100,0	<b>18 613,4</b>	<b>1 772,8</b>	<b>100,0</b>	19 697,2	1 902,2	100,0

### Structure of import of technical ceramics and sanitary ware according to the assortment in 2020 (CZK)



Sanitary ware shared on import in 2020 with 59.1 % and technical ceramics with 40.9 %.

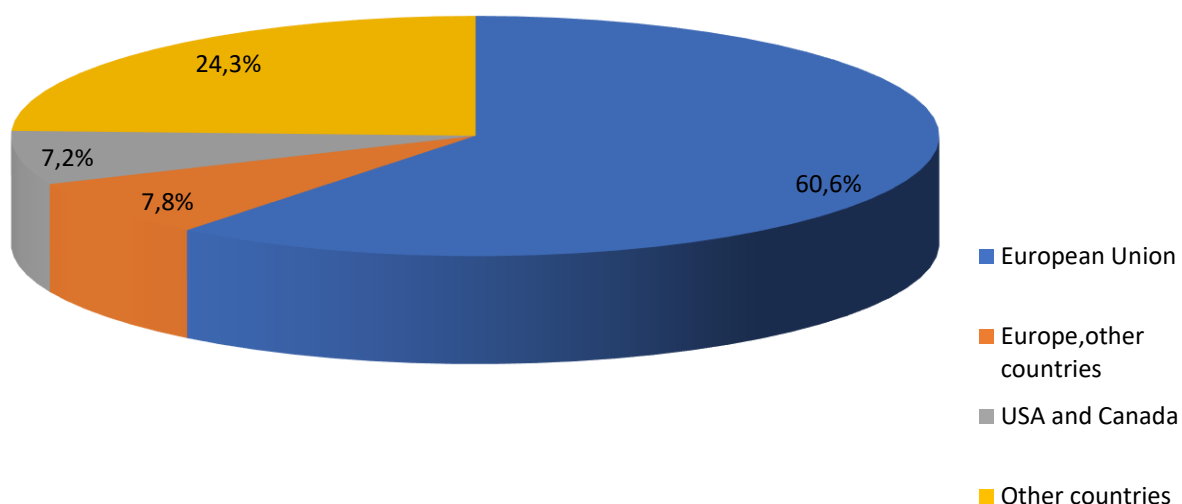
## Import of technical ceramics and sanitary ware according to territories

	2015			2016			2017		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>European Union</b>	12 247,1	1 202,1	74,4	12 318,0	1 228,5	71,6	13 474,2	1 287,7	68,5
<b>Europe,other countries</b>	1 616,1	76,5	4,7	1 547,9	102,6	6,0	2 451,0	177,2	9,4
<b>USA and Canada</b>	5,9	75,7	4,7	7,8	74,6	4,3	22,1	100,2	5,3
<b>Other countries</b>	4 517,0	260,9	16,2	5 136,0	310,3	18,1	4 809,9	313,8	16,7
<b>Totally</b>	<b>18 386,1</b>	<b>1 615,2</b>	<b>100,0</b>	<b>19 009,7</b>	<b>1 716,0</b>	<b>100,0</b>	<b>20 757,2</b>	<b>1 878,9</b>	<b>100,0</b>

	2018			2019			2020		
	netto	mil.Kč	share	netto	mil.Kč	share	netto	mil.Kč	share
	( t )		( % )	( t )		( % )	( t )		( % )
<b>European Union</b>	12 426,9	1 059,0	55,7	13 109,1	1 182,7	66,7	9 535,7	1 127,0	60,6
<b>Europe,other countries</b>	1 856,6	148,4	7,8	1 796,5	158,9	9,0	1 392,0	144,4	7,8
<b>USA and Canada</b>	23,7	126,0	6,6	23,2	187,2	10,6	46,6	134,6	7,2
<b>Other countries</b>	5 390,0	568,7	29,9	3 684,5	244,0	13,8	9 914,1	452,5	24,3
<b>Totally</b>	<b>19 697,2</b>	<b>1 902,1</b>	<b>100,0</b>	<b>18 613,3</b>	<b>1 772,8</b>	<b>100,0</b>	<b>20 888,4</b>	<b>1 858,5</b>	<b>100,0</b>

## Structure of import of technical ceramics and sanitary ware according to territories in 2020 (CZK)



In 2020 the import from the European Union countries shared on technical ceramics import with 58.3 %. The greatest importer was Germany. As far as sanitary ware the share of import from the European Union countries was 61.7 %. The greatest importers were Poland, Austria, and Germany. From the Other countries, the share on total import of sanitary ware of which was 38.3 %, the greatest importers of this assortment were China and Turkey.



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