



ASOCIACE SKLÁŘSKÉHO
A KERAMICKÉHO PRŮMYSLU ČR

Association of the Glass and Ceramic Industry of the Czech Republic

ANNUAL REPORT

GLASS AND CERAMIC INDUSTRY
OF THE CZECH REPUBLIC 2015



AUGUST 2016

Dear friends

We present our Annual Report - Glass and Ceramic Industry of the Czech Republic – 2015 which contains information on the activities of the Association made last year. As usual, it contains arranged data on trade and production of the greater part of Czech glass companies, china factories and companies producing white ceramics. The Report brings a faithful picture of situation, successes and also problems of this branch.

Before you start reading, I would like to mention several facts accompanying us and significantly influencing our entrepreneur's environment and results during the last year. The year 2015 from the point of view of macrodata was successful for our country. The gross domestic product, consumption of households and building and industrial production grew noticeably. It could be said, it is very positive information. However, there are two sides to everything and the same it is in the entrepreneur's environment of the Czech Republic. Lingering corruption and untaxed business continue on damaging opportunities of honest companies life. Sweet-and-sour fruits of our development is that we have almost the lowest rate of unemployment in Europe. The labour market is full of labour offers, but good quality and loyal workers are missing all the time. It is obvious, that our country goes through quantitative and qualitative change of labour market. Where are the snows of yesteryear? Where is the competitive advantage of a country with sufficient amount of low-priced and at the same time good quality labour force? It is necessary to react quickly; the price of work grows significantly.

Our branch, our companies fare very well in this changing environment of the Czech economy. The growing turnovers of companies speak volumes for it. New investments to technologies and to development of our workers are an obligation and promise to future. Naturally, not every company is successful in the same extent, however, in spite of that we can say with pride, that all sectors of production and processing of glass, ceramics and china strengthened in comparison with the last year. And it is mainly thanks to you.

I wish you have a nice reading.



Ing. Petr Mazzolini

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



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Association of the Glass and Ceramic Industry of the Czech Republic

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INTRODUCTION

The Annual Report gives in its introduction part an overview on the position of the glass and ceramic industry within the processing industry of the Czech Republic, its structure and development in the period from 2010 till 2015. A survey of export and import according to individual production branches creates a part of this Report. Further on, an evaluation of the activities of the Association of the Glass and Ceramic Industry of the Czech Republic in the past period is given, as well.

Data processed in the Annual Report are based on data of the Czech Statistical Office (valid at the date of June 30, 2016). These data are completed with information gained from annual reports of the Association members.

Classification and terminology of the processing industry used in the Chapter “Position of the glass and ceramic industry in the Czech Republic” are taken from the Czech Statistical Office.

Time development lines compared in the Chapter “Development of the glass and ceramic industry” are given for the period from 2010 till 2015.

The glass and ceramic industry is in the submitted Annual Report mostly investigated and described separately, i.e. in seven so-called groups. These groups are created by related glass and ceramic production activities as far as technology and marketing. This methodology corresponds to a method of the statistical statement in the Czech Republic.

- ◆ **Flat glass** (unfinished and finished flat glass)
- ◆ **Container glass** (bottles, preserve glass jars, other glass containers)
- ◆ **Glass fibres** (reinforcing/textile fibres, insulating glass fibres)
- ◆ **Other glass** (special glasses - laboratory and laboratory apparatus glass, tubing, glass TV components, technical spheres, glass industrial apparatuses, protective welding glass, optical glass, glass blocks, fashion jewellery glass, etc.) **and lighting glass**
- ◆ **Utility glass** (drinking glass, glass for household, decorative glass, art glass, etc.)
- ◆ **Household china and ceramics** (china ware for household and decorative china, ceramic ware for household, decorative ceramics)
- ◆ **Technical ceramics and sanitary ware** (insulators, laboratory china, ceramic products for sanitary purposes, products for technical purposes)

The development in the rest groups created by the production of machinery, equipment and services for the glass and ceramic industry, is not investigated in the Annual Report as the whole. From the point of view of the statistical statement the activities connected with this group are investigated in a number of other subsections of the processing industry, and so it is not possible to process and compare them, especially numerical data, reliably.



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 flat, container, technical, utility and lighting glass, glass and mineral fibres, household china, household ceramics and sanitary ware, trade companies, suppliers of machinery, machine and technological equipments and services, specialized schools, research institutes and publishers of specialized journals. Also the Czech Glass Society is a member of the Association. A separate part of this chapter is devoted to the Czech Glass Society.

The Association had 43 members at the date of December 31, 2015. Sklostroj Turnov CZ, s.r.o. finished its membership in the Association in 2015.

The activities of the Association are focused, especially on the promotion, assertion and defence of interests and demands in relation to the bodies of the state administration, on organizing a mutual cooperation of members in 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 solution of specialized education problems.

Activities of the Association in 2015

The Association collaborated on national level on fulfilling the policy statement of the Confederation of Industry of the Czech Republic (Confederation of Industry) and with the Czech Glass Society on the promotion of interests directly connected with 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 and in the framework of its possibilities also on the promotion of interests of other associated branches and with other professional groups.

The plan suggestion for 2015 followed the activities in 2014. The activities in 2015 were divided to 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 a number of projects in 2015: Specialized practice for young people up to 30 years, National System for Qualification (NSK2), Year of Industry and Technical Education, Regions at Centre Stage. Further on, the Association became a partner of the Trade Union of Employees of Glass and Ceramic Industry and China (Trade Union) regarding the request for support of a common project "Education and collaboration among social partners".

Support of competitiveness of the glass and ceramic industry

The aim was to support competitiveness of glass and ceramic industry products on inland and also on international markets. Within the membership in the GAE and also on national level, the Association collaborated actively against changes and against elimination of the glass and ceramic industry from the list of sectors endangered by carbon leakage within years 2015 and 2019 and after 2020. (Definition: Carbon leakage is a term describing a situation, which can

appear when tradesmen, due to high expenses on climate protection, transfer their production to other countries with free access to greenhouse gases and emissions.)

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. The members of the executive board of the Association met with **Czech Members of the European Parliament (MEP)** in the beginning of the year and inform them on actual situation, occasions and dangers for the glass and ceramic industry in the Czech Republic and European Union.

The Association elaborated **suggestions to a support of fairs** (New Marketing Models of Fair Participation (NOVUMM)) based on the call to professional organizations from the CzechTrade agency within Operational Programme enterprise and Innovations for Competitiveness (OPPIK) for a period from 2016 till 2018). The Association assisted to the member companies at **elaborating of projects for drawing from grants** from programmes called by ministries of the Czech Republic, or from other sources.

Collective negotiations of higher degree

The Collective agreement of higher degree to the period from 2015 to 2016 was **overall extended to other employers** with prevailing activities in the sector marked by codes of economic activities (CZ-NACE) 231 (production of glass and glass products), 2341 (production of ceramic and china products, mostly for household) and 2342 (sanitary ware).

In 2015 the negotiation between the Association and the Trade Union on the Amendment No. 1 to the **Collective agreement of higher degree to the period from 2015 to 2016** proceeded.

THE ASSOCIATION COLLABORATED WITH THE CONFEDERATION OF INDUSTRY AND THE BOHEMIAN-MORAVIAN CONFEDERATION OF TRADE UNIONS (CMKOS) ON A PROJECT CALLED REGIONS AT CENTRE STAGE AND IT PARTICIPATED IN WORKS CONNECTED WITH THE PROJECT WITHIN THE ACTIVITY OF THE KA NO. 1 – PROPAGATION OF SOCIAL DIALOGUE ON REGIONAL LEVEL. SOME OF PREDICTED THEMES: FIXED-TERM EMPLOYMENT AND ITS CHAINING, WAGE COMPENSATION AT TEMPORARY SICK LEAVE, NIGHT-SHIFT BONUS, EXTRA PAYMENT FOR SATURDAY OR SUNDAY WORK AND FOR WORKING ENVIRONMENT, MINIMUM WAGE, PROBLEM OF INCREASING OF RETIREMENT AGE, NATIONAL SYSTEM OF PROFESSIONS AND NATIONAL SYSTEM OF QUALIFICATIONS, MOTIVATION OF FUTURE GRADUATES, JOB SPECIFICATIONS, SOCIAL DIALOGUE BARRIERS, LEGAL PROBLEMS WITHIN COLLECTIVE NEGOTIATIONS.

Further on, the Association in cooperation with the GAE followed the situation regarding the **respirable crystalline quartz** within the agreement on health safety of workers through a correct handling and correct use of crystalline quartz. The Association became involved through the Confederation of Industry in the solution of the problems of **deferred period, development of minimum wage** and further problems connected with the social dialogue.

The Association also became a partner with the Trade Union in the framework of the request applied for the Ministry of Labour and Social Affairs to the support of a common project **“Education and collaboration among social partners”**. The presented project is aimed to an increase of knowledge of the social dialogue participants and strengthening the collaboration between employers and employees with a help of their specialized education and realizations of round tables.

Education (apprenticeship, secondary and university)

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

In the area of education, it continuously solved problems regarding professional education system for the glass, jewellery and ceramic industry. It was necessary to interest also employers.

The Association took an active part in the project the Year of Industry and Technical Education, with a goal to increase the interest of public in the industry and technical branches as a modern part of economy of the 21st century. The other goal was to contribute to the promotion of conception and system changes in the area of education, to encourage the interest of schools and companies for cooperation, and show good examples from practice.

Environment

In cooperation with the Confederation of Industry and within a systematic dialogue with the Ministry of Environment and the Ministry of Industry and Trade, the Association promoted the solution of the problem of **waste glass for recycling** to the law on wastes and to the law on products with finished lifetime, especially the requirement of reverse taking of waste flat glass. In the framework of this problem it also collaborated with the Ministry of Industry and Trade on preparation the action plan for a support of an increase of independence of the Czech Republic in raw materials sources by substitution of primary sources by secondary raw materials.

The Association supported on national level the suggestion of European association of flat glass producers Glass for Europe to the development of **energy evaluation of windows** by energy labels.

In collaboration with the Confederation of Industry and its members the Association promoted the interests of industry in preparation **legal regulations regarding the environment**.

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

Based on the attitude of the European Domestic Glass (EDG) the Association took part in the support of reintroduction the exception for utilization of lead in the production of crystal glass for lighting and other electric applications **(RoHS 2)**.

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

Services and information

An information bulletin giving reports and news on activities of the Association, its members and on actual problems regarding the glass and ceramic industry was published. The members of the Association receive regularly the bulletin of the GAE and other information coming from the secretary of the GAE. The Information bulletin was published every two weeks. In 2015 a new graphic design of bulletin was made.

The Association collaborated with the Czech Statistical Office for gaining information and giving information to state authorities and further institutions.

The Association informs its members and public on actual events in the glass and ceramic industry through its actualized web site and information portal www.skloakeramika.cz, oriented to the support of the glass and ceramic industry in the Czech Republic.

A specialized commission of the Association awarded the marking Czech Product, guaranteed by the Association of the Glass and Ceramic Industry of the Czech Republic to products of the member company Blažek Glass s.r.o.

In collaboration with the Trade Union the Association organized a seminary oriented to the problem of Safety and Protection of Health in Work for its members.

Promotion of the Association and its members

The Association continued in **medial promotion** of the glass and ceramic industry. The aim was always to introduce public with the production and the level of the branch and to contribute to gain new qualified workers to companies and young people to schools of all levels of education. Journal articles were published with a contribution of the Association in various newspapers and journals, e. g. Hospodářské noviny, Svět průmyslu, Prosperita, and Spektrum.

There were published **press reports** dealing in particular with the development of the glass and ceramic industry in the given period, actual problems and their solution, promotion of young graduates of schools, etc. In Sklář a keramik journal an evaluation of 2014 in the glass and ceramic industry was published.

Based on an initiative of members the representatives of the Association nominated three member companies managers from the glass and ceramic industry to the competition **Manager of the Year**. Mr Zdeněk Frelich from AGC Flat Glass Czech a.s., Mr Miroslav Vrátný from FOR G, s.r.o. and Mr Jan Brázda from Knauf Insulation s.r.o. became finalists.

A meeting of Czech MEP with the representatives of the Association, with the aim to draw **MEPs'** attention to actual problems and situation in the glass and ceramic industry both on national, and European level, was organized.

The **2nd Meeting of glassmakers and ceramists**, the aim of which is to renew and develop relations among representatives of glass and ceramic industry in the Czech Republic was organized. Presentation of the Membership of Honour in the Association, with accent on technical education was a part of this meeting. This appreciation gained the representatives of universities – Prof. Josef Matoušek from the University of Chemistry and Technology, Prague and Doc. Vladimír Klebsa from the Technical University, Liberec for a contribution to the glass and ceramic industry.

The Association took part on elaboration (with regard to contents) of the survey **Panorama zpracovatelského průmyslu ČR 2014** (Panorama of the manufacturing industry of the Czech Republic 2014) published by the Ministry of Industry and Trade.

The **Annual Report - Glass and Ceramic Industry of the Czech Republic - 2014** was published. Based on the Annual Report the actual situation of the glass and ceramic industry was presented on the 2nd Meeting of glassmakers and ceramists in Poděbrady and on the Sklářské svítání (Glass dawn) in Jablonec nad Nisou.

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 present form it exists after 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 IN 2015

At the date of December 31, 2015 the CGS had 223 individual members and 31 members of art section, i.e. 254 members; 2 subsidiaries (VETROPACK MORAVIA GLASS, a.s., KAVALIERGLASS, a.s.) with 40 members, and 18 collective members.

The highest priority of the CGS was to organize the **23rd International Congress on Glass ICG** in 2013. In 2014 there were organized two dominant events - the 8th International Conference on Borate and Phosphate Glasses and the Czech and Slovak Conference on Glass.

The CGS is an active member of the ICG and ESG and it closely cooperates with the Deutsche Glastechnische Gesellschaft (DGG).

An important activity of the CGS in the international field is the participation in Technical Committees of the **International Commission on Glass (ICG)**: 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.

In 2015 the fourth year of a discuss meeting Sklářské svítání (Glass dawn) was organized in the Museum of Glass and Jewellery in Jablonec nad Nisou, sponsored by the Confederation of Industry. The aim of these discuss meetings was to inform public, that the glass industry has already overcome a hard period of economic recession.

The CGS is a publisher of Sklář a keramik journal. In 2014 it was 90 years from publishing the first number of the specialized glass journal Sklářské rozhledy, published by the Glass Institute in Hradec Králové. The other anniversary is 60 years from the change of the original journal name to Sklář a keramik and 20 years from the change of the publisher to the CGS.

The CGS is a supporter of scientific journal Ceramics – Silikáty.

The CGS listens to young glassmakers and also supports the competition for young designers Mistr křišťálu (Master of Crystal). This competition is organized by the Czech glass company PRECIOSA in collaboration with the Museum of Glass and Jewellery in Jablonec nad Nisou and with a support of the CGS, and it was the 8th year in 2015. Also the Glass Club continues in its activities.

The CGS is an official partner of the Centre of the Glass Art project in the František Glassworks. The CGS supported the 14th International Conference of Glass Machinery and the seminary Metals in Glass Technologies in 2015.



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.

The number of companies in the Czech Republic with more than 20 employees at the date of June 30, 2016:

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 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 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 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 European group of producing, development and trade subjects of the AGC Automotive Europe Ltd. group. Its activities are concentrated in Belgium, 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. Hořovice - production of glass for private cars; Pilkington Czech, spol. s r.o. Noviny pod Ralskem - production of glass for the building industry; 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; WMA-Glass, s.r.o. Chrástava - 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 Manufacturing 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. SKLÁRNÝ 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 to 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 (ROTAFLEX SUPER® trade mark) 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., 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.

KAVALIERRGLASS, a.s. Sázava nad Sázavou is a producer of household cooking glass.

Other glass

Products included into this group of the glass industry are often (especially in 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 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 semiproducts and lighting glass are included.

A dominant Czech producer of technical and laboratory glass, tubing and apparatus glass made of borosilicate glass is KAVALIERRGLASS, 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.

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

Frits and glazes are made in MEFRIT spol. s r.o. Mělník and Glazura, spol. s r.o. Roudnice.

Production of fashion jewellery semiproducts is a subject of activities of many companies mostly in the north part of the Czech Republic in Jablonec region (Preciosa, a.s., LIGLASS, 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 are, e.g. Preciosa, a.s., LIGLASS, 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 in a great extent on the building industry boom in Europe.

The producers of technical china are Elektroporcelán, a.s. Louny with the assortment of insulators for the energy industry, 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, slabs) with SIBRAL trade mark 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 trade mark), 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 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 the 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, SKLÁŘSKÉ STROJE ZNOJMO, s.r.o. delivers various glass machinery equipments, and TRIMA, s.r.o. Turnov delivers machinery and equipment for the production and processing of glass fibres.

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 in 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 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 extremely high content of SiO₂ 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. Provoďín 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 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.

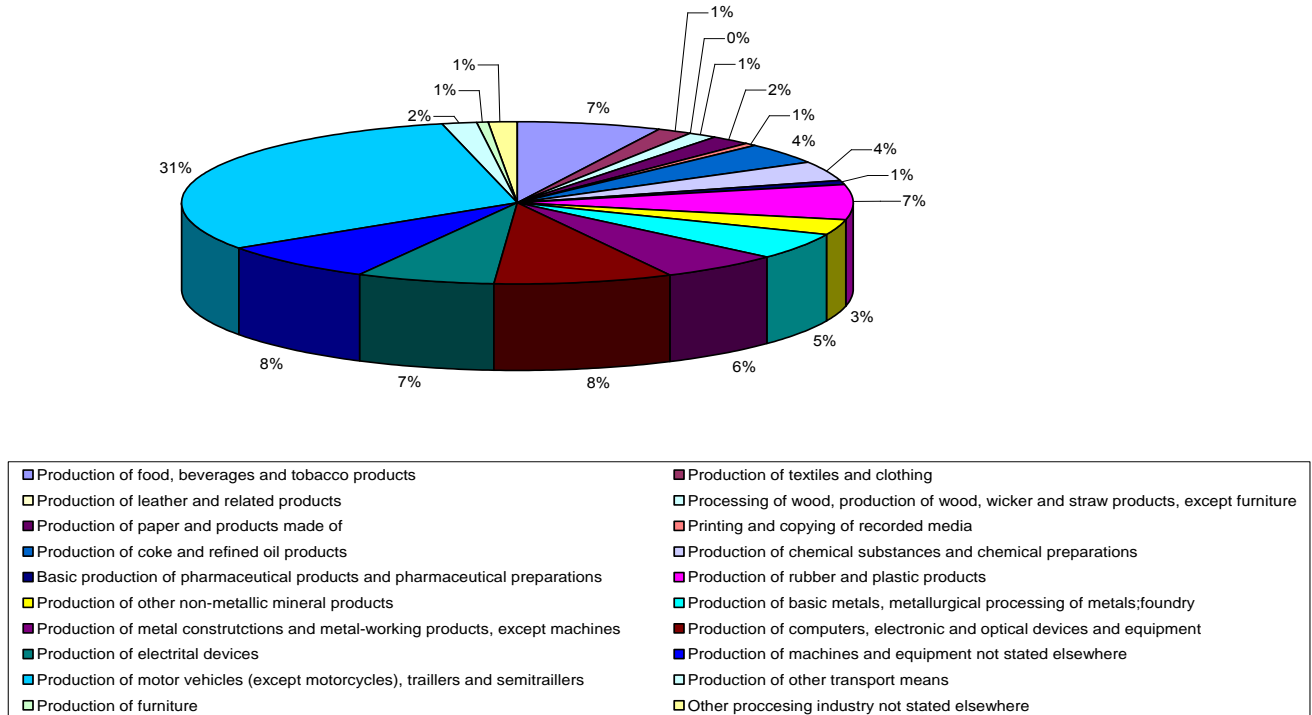
In the following tables the revenues without the value added tax (VAT) from sale of own products and services of industrial character (hereinafter revenues) and revenues without the VAT from the direct export (hereinafter direct export) of individual subcategories of the processing industry. Revenues and direct export are given in 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 3366.08 bill. CZK in 2015 (in 2014 it was 3188.55 bill. CZK). In comparison with the previous year the revenues of the processing industry increased by 5.57 %. The revenues in amount of 100.85 bill. CZK in the category Production of other non-metallic mineral products mean an increase by 7.75 % in comparison with 2014. The Production of other non-metallic mineral products shared on revenues of the processing industry with 3.2 % in 2015.

Revenues of the processing industry in 2015

	Tržby (mld. Kč)	Podíl (%)
Production of food, beverages and tobacco products	238,42	7,1
Production of textiles and clothing	47,07	1,4
Production of leather and related products	3,71	0,1
Processing of wood, production of wood, wicker and straw products, except furniture	46,11	1,4
Production of paper and products made of	62,20	1,8
Printing and copying of recorded media	18,69	0,6
Production of coke and refined oil products	142,38	4,2
Production of chemical substances and chemical preparations	134,58	4,0
Basic production of pharmaceutical products and pharmaceutical preparations	28,76	0,9
Production of rubber and plastic products	229,55	6,8
Production of other non-metallic mineral products	108,67	3,2
Production of basic metals, metallurgical processing of metals;foundry	170,97	5,1
Production of metal constructions and metal-working products, except machines	202,81	6,0
Production of computers, electronic and optical devices and equipment	286,07	8,5
Production of electrital devices	223,91	6,7
Production of machines and equipment not stated elsewhere	263,18	7,8
Production of motor vehicles (except motorcycles), traillers and semitraillers	1035,69	30,8
Production of other transport means	57,77	1,7
Production of furniture	19,83	0,6
Other proccesing industry not stated elsewhere	45,72	1,4
Processing industry	3 366,08	100,0

Structure of revenues of the processing industry in 2015

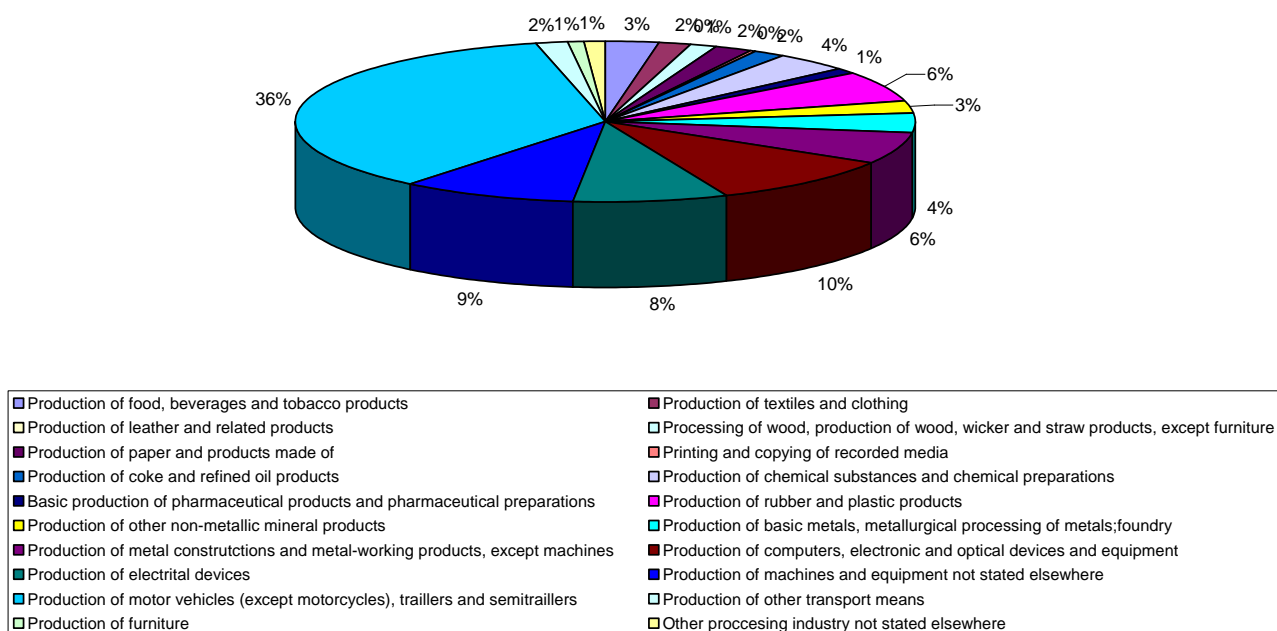


The direct export of the processing industry was 2172.56 bill. CZK, i.e. by 6.74 % more than in 2014 (2035.40 bill. CZK).

Direct export of the processing industry in 2015

	Vývoz (mld. Kč)	Podíl (%)
Production of food, beverages and tobacco products	59,64	2,7
Production of textiles and clothing	34,62	1,6
Production of leather and related products	3,27	0,2
Processing of wood, production of wood, wicker and straw products, except furniture	29,52	1,4
Production of paper and products made of	39,03	1,8
Printing and copying of recorded media	7,28	0,3
Production of coke and refined oil products	36,52	1,7
Production of chemical substances and chemical preparations	86,54	4,0
Basic production of pharmaceutical products and pharmaceutical preparations	22,98	1,1
Production of rubber and plastic products	132,88	6,1
Production of other non-metallic mineral products	55,19	2,5
Production of basic metals, metallurgical processing of metals;foundry	82,16	3,8
Production of metal constructions and metal-working products, except machines	141,19	6,5
Production of computers, electronic and optical devices and equipment	219,16	10,1
Production of electrital devices	170,53	7,8
Production of machines and equipment not stated elsewhere	199,36	9,2
Production of motor vehicles (except motorcycles), trailers and semitrailers	773,34	35,6
Production of other transport means	39,97	1,8
Production of furniture	12,91	0,6
Other proccesing industry not stated elsewhere	26,48	1,2
Processing industry	2 172,56	100,0

Structure of direct export of the processing industry in 2015



In the following table the individual processing industry subcategories are arranged according to the level of the inter-year change of revenues reached within years 2015 and 2014. These inter-year changes are used here as indicators of growth dynamism of individual branches.

Dynamism of sale according to the individual processing industry subcategories

	Tržby 2014 (mld. Kč)	Tržby 2015 (mld. Kč)	Index 15/14 (%)
Výroba usnı a souvisejıcıkı vırobků	3,77	3,71	98,5
Ostatnı zpracovatelskı průmysl j.n.	39,22	45,72	116,6
Výroba počítačů, elektronickıch a optickıch přístrojů a zařízení	280,09	286,07	102,1
Výroba ostatnıch dopravnıch prostředků	53,64	57,77	107,7
Výroba kovovıch konstrukcí a kovodělnıch vırobků, kromě strojů a zařízení	189,79	202,81	106,9
Zpracování dřeva, výroba dřevěných, proutěných a slaměných vırobků mimo nábytku	45,74	46,11	100,8
Výroba strojů a zařízení j.n.	254,72	263,18	103,3
Výroba elektrickıch zařízení	210,92	223,91	106,2
Výroba papıru a vırobků z papıru	57,04	62,20	109,0
Výroba textilií a oděvů	47,06	47,07	100,0
Zpracovatelskı průmysl	0,00	0,00	#DIV/0!
Výroba potravinářskıch vırobků, nápojů a tabákovıch vırobků	237,99	238,42	100,2
Výroba ostatnıch nekovovıch minerálních vırobků	100,85	108,67	107,7
Výroba pryžovıch a plastovıch vırobků	217,67	229,55	105,5
Základnı výroba farmaceutickıch vırobků a farmaceutickıch přípravků	27,49	28,76	104,6
Výroba nábytku	18,34	19,83	108,1
Výroba motorovıch vozidel (kromě motocyklů), přívěsů a návěsů	924,80	1035,69	112,0
Výroba chemickıch látek a chemickıch přípravků	153,58	134,58	87,6
Výroba základnıch kovů, hutnı zpracování kovů; slévárenství	176,29	170,97	97,0
Výroba koksu a rafinovanıch ropnıch produktů	131,25	142,38	108,5
Tisk a rozmnožování nahanıch nosičů	18,30	18,69	102,1

The most significant growth was in the category Production motor vehicles (except motorcycles), trailers and semitrailers, followed by the Production of metal constructions and metal-working products, except machines and equipment and the Production of electrical devices.

The revenues of the category Production of other non-metallic mineral products, to which also the industry of glass and ceramics belongs, increased by 7.76 % in comparison with 2014 what means a significant improvement.

Glass and ceramic industry

In the following chapter “Development of the glass and ceramic industry in the period from 2010 till 2015”, 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, is studied and described in more details, i.e. in group division. 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 2015

	Tržby	Přímý vývoz
Průmysl skla a keramiky		
Ukazatelé v mld. Kč (běžné ceny)	44,36	34,31
Podíl v ost. nekovových minerálních výrobcích (%)	0,41	0,62
Podíl ve zpracovatelském průmyslu (%)	1,32	1,58
Výroba ostatních nekovových minerálních výrobků		
Ukazatelé v mld. Kč (běžné ceny)	108,67	55,19
Podíl ve zpracovatelském průmyslu (%)	3,23	2,54
Zpracovatelský průmysl		
Ukazatelé v mld. Kč (běžné ceny)	3 366,08	2 172,56

The revenues of the glass and ceramic industry in 2015 in comparison with 2014 increased by 2.90 bill. CZK, i.e. by 7 %, from which the direct export increased by 1.27 bill. CZK, i.e. by 3.84 %.



Development of the glass and ceramic industry in the period from 2010 till 2015

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 2015 and in the period from 2010 till 2015 are recorded. In the context of 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 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 2010 till 2015 is given for understanding wide relations.

MAIN MACROECONOMIC INDICES IN THE CZECH REPUBLIC IN THE PERIOD FROM 2010 TILL 2015

(SOURCE: CZECH STATISTICAL OFFICE, JULY 2016)

		2010	2011	2012	2013	2014	2015
Gross domestic product	growth in %, actually	2,3	2,0	-0,9	-0,5	2,7	4,5
Average inflation rate	growth in %, actually	1,5	1,9	3,3	1,4	0,4	0,3
General unemployment rate	average in %	7,3	6,7	7,0	7,0	6,1	5,0
Average real wage growth	in %	0,7	0,6	-0,8	-1,5	2,5	2,4
Balance of trade	bill. CZK	124,5	191,4	310,8	350,8	154,1	155,2
CZK / EUR	average per year	25,29	24,59	25,14	25,97	27,53	27,28
CZK / USD	average per year	19,11	17,69	19,58	19,56	20,75	24,60

In 2015 the economic growth continued healthy base of the last year and its 2 % rate increased more than twice to 4.3 %, what is the best result in last eight years. The decisive role had the prevailing optimism which was obvious in the whole economy. Positive conditions were amplified also with some single stimuli, especially low price of oil and expansive fiscal policy connected with an effort to exhaust remaining available sources from European Union funds.

The branches in competition of the Ministry of Industry and Trade contributed fundamentally to the good condition of inland economy. Industry creating roughly one third of its output keeps a cardinal role for a long time. In 2015 the industrial production increased in comparison with previous year by 4.4 % and in spite of high comparing base it continued, in fact, results of the previous year.

The foreign trade exceeded up to now records with reached volumes, the growth dynamics, however, decelerated in comparison with 2014 (in particular due to high comparative base). According to the cross-border statistics the export increased by 7.2 %, import by 8 % and balance of trade finished with surplus 433 bill. CZK, i.e. by 4 bill. CZK higher in comparison with previous year.

The growth rate of revenues accelerated on inland market, because the better financial situation of households supported by growing employment and low inflation, increased the consumers' readiness to spent money. Retail revenues, including motoring segment and sale of fuel (in fixed prices) increased by 7.6 % in comparison with previous year, what was the most since 2007.

(Source: Czech Statistical Office, Vývoj ekonomiky České republiky v roce 2015, July 2016)

The industry of glass and ceramics which is included in the subcategory Production of other mineral products, belongs to the competence of the Ministry of Industry and Trade, which expects continuous growth of industrial production also in next years.

Low price of oil and accelerated drawing money from European Union funds in connection with deregulated monetary and fiscal policy helped to the growth of gross domestic product in 2015 by 4.3 %; in the previous year it increased by 2 %. The economy was the most successful in the last eight years, and also in comparison with Europe the development of the Czech economy was exceptional. In comparison with the European Union (+ 1.8 %) the output of economy increased with more than twofold rate, the growth was almost threefold in comparison with eurozone (+ 1.5 %). As far as dynamics of the gross domestic product from the European Union countries only Malta surpassed the Czech Republic, according to data known up to now. Especially, the home demand and mainly investments (creation of fixed capital) contributed to the growth of economy. From the point of view of offer, the processing industry and services participated uniformly. The growth of economy improved the situation on labour market. The employment in conception of national accounts was higher by 1.2 % in comparison with previous year, in absolute amount it reached, together with 2008, the highest level in the history of the independent Czech Republic. The number of free labour positions grew during summer above 100 thousand. The general unemployment rate decreased during the whole year and in December 2015 it was on the lowest level (4.6 %) since November 2008. Structural unbalance between demand for employees and offer of labour from the side of applicants transferred into the lack of qualified workers and led to the accelerating growth of average wages. In the first three quarters of the last year the gross domestic product increased step by step by 2.4 %, 1 % and 0.7 % in an inter-quarter comparison, and therefore, the economy slowed down. In the last quarter it stagnated, because the gross domestic product did not change in comparison with the

3rd quarter. The surplus of foreign trade with goods and services reached in conception of national accounts 288.6 bill. CZK nominally. In comparison with 2014 the surplus increased only by 2.1 bill CZK, i.e. it was the slowest growth. Surprisingly, it was the trade with services (+ 21.3 bill. CZK) which shared on its growth, the surplus of trade with goods was lower by 19.2 bill. As far as individual quarters, the surpluses in the foreign trade were in the first three quarters even in comparison with the last year (- 9.1 bill. CZK), the last quarter improved the whole year result (+ 11.3 bill.). In the processing industry the value added in the first three quarters continued in acceleration up to 8.9 %, in the end of the year it grew by 6.6 % (in comparison with high last year base). The total employment in 2015 was, like in 2014, almost by 2 % higher. However, rate of growth of time usage doubled up to 4 %; the time usage in the 4th quarter was even by 8.2 % hours higher in comparison with previous year).

(Source: Czech Statistical Office, Vývoj ekonomiky České republiky v roce 2015, March 2016)

Data and analyses given below were gathered and processed for the glass and ceramic industry as the area of the Czech processing industry corresponding to the characteristic orientation of companies associated in the Association. The selected method of the industrial development description comes out from investigation of data arranged in individual branches of the glass and ceramic industry. For the analysis of 2015 available statistical data of companies with more than 50 employees relevant to 30 June 2016, have been used and they were added with qualified estimations.

Price indices for the group of products of the glass and ceramic industry

Inter-year price indices

REPR*		2010	2011	2012	2013	2014	2015
CG 23	Other non-metallic mineral products	97,3	99,6	100,2	99,6	99,8	100,2
CG 231	Glass and glass products	97,9	101,5	99,4	99,7	98,7	99,2
CG 232	Refractory products	97,7	101,2	102,1	101,1	100,1	99,5
CG 234	Other china and ceramic products**						

* The Czech Statistical Office has not published price indices for CG 234

The total average price index of the Other non-metallic mineral products has not changed in comparison with previous year.

Cumulative price indices

REPR		2010	2011	2012	2013	2014	2015
CG 23	Other non-metallic mineral products	97,3	96,9	97,1	96,7	96,5	97,1
CG 231	Glass and glass products	97,9	99,3	98,8	98,4	97,1	88,4
CG 232	Refractory products	97,7	98,9	101	102,1	102,2	108
CG 234	Other china and ceramic products*						

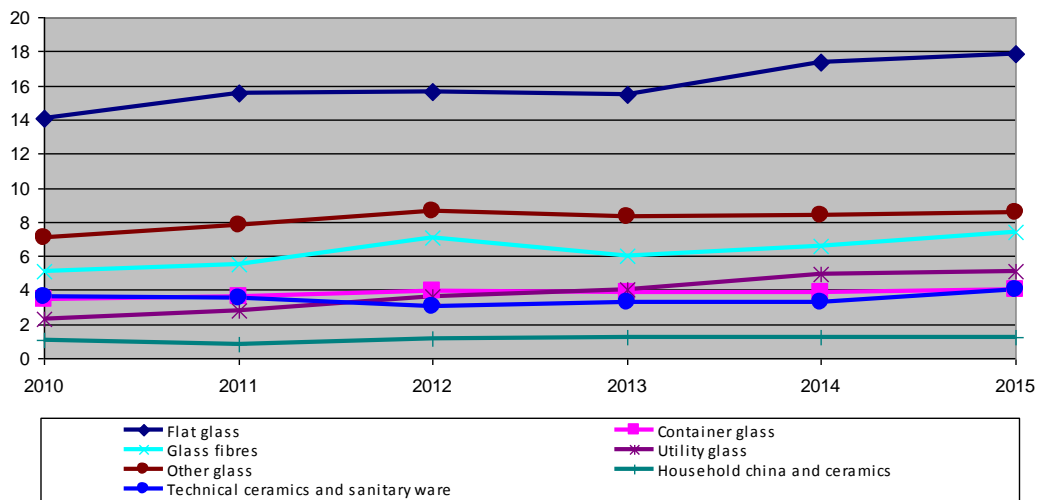
* The Czech Statistical Office has not published price indices for CG 234.

Revenues for sale of own products and services

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

	2010	2011	2012	2013	2014	2015	index 15/14 (%)
Flat glass	14,09	15,56	15,64	15,46	17,34	17,87	103,1
Container glass	3,42	3,61	3,96	3,90	3,90	4,07	104,4
Glass fibres	5,11	5,52	7,06	6,02	6,56	7,4	112,7
Utility glass	2,34	2,77	3,66	4,03	4,92	5,1	103,7
Other glass	7,05	7,86	8,63	8,28	8,36	8,52	101,9
Glass, total	32,01	35,32	38,95	37,69	41,08	42,96	104,6
Household china and ceramics	1,06	0,84	1,19	1,22	1,25	1,25	100,3
Technical ceramics and sanitary ware	3,65	3,55	3,07	3,31	3,32	4,03	121,5
Ceramics, total	4,71	4,39	4,26	4,53	4,56	5,28	115,7
Glass and ceramics, total	36,72	39,71	43,21	42,22	45,65	48,25	105,7

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



In 2015 the revenues for sales of own products and services (hereinafter revenues) reached in investigated branches 48.25 bill. CZK, i.e. by 5.69 % (2.60 bill. CZK) more than in 2014.

The revenues of the glass industry reached 42.96 bill. CZK, what is by 4.58 % (1.88 bill. CZK) more than in 2014. The revenues increased in all glass industry branches. The share of flat glass was 42.0 %, other glass 20.0 %, glass fibres and products made of 17.0 %, container glass 9.0 %, and utility glass 12.0 %.

The revenues of investigated branches of china and ceramics reached 5.28 bill. CZK, what is by 15.7 % (0.72 bill. CZK) more than in 2014. The share of household china and ceramics was 24 %, the share of technical ceramics and sanitary ware was 76 %.

The development of revenues in 2015 in individual branches was the following.

The revenues for flat glass in 2015 were 17.87 bill. CZK. In comparison with 2014 it increased by 3.1 %. The flat glass production is dependent on the development of the building and automotive industry.

The output of Czech building industry improved after several years of decline, according to statistical data. The building production in 2015 increased by 7.1 % in comparison with previous year. The inter-year growths in 2015 took place both in engineering and building construction. The engineering construction showed better results, with inter-year growth by 17.1 %. Production of building construction had the inter-year growth by 3.4 %. The building production in 2015 decreased in comparison with the prosperity year 2008 by 14.9 %. The growth both started, and finished flats appeared for the first time since 2007.

In 2015 construction of 26,378 flats was started, what means the growth by 8.3 % in comparison with 2014. It is already the second year which showed the growth. In spite of this, it means decline by almost 40 % (17.5 ths. of flats) in comparison with the peak in 2007.

(Source: Czech Statistical Office, České stavebnictví v číslech - 2015, 31. 8. 2016)

The automotive industry remains the most important branch of Czech economy and similarly like inland economy, it achieved exceptional growth in 2015. While the world production of motor vehicles increased only by 1.1 % (to 90.8 mill. cars), inland production of cars increased by 4.2 % (to 1.3 mill. cars).

(Source: Automotive Industry Association)

The development of flat glass in 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 amount of 4.07 bill. CZK in 2015, i.e. they increased in comparison with 2014 by 4.2 % (0.17 bill. CZK). The revenues for glass fibres and products made of increased by 12.7 % (0.83 bill. CZK) in comparison with the previous year. The growth of the

building industry in the Czech Republic and the growth of export of this assortment to foreign countries, especially to the European Union and Russia, projected positively to the revenues.

Since 2010 the revenues for utility glass have been increasing permanently. In comparison with 2014 the revenues of utility glass increased by 3.8 % (0.18 bill. CZK). The export is decisive for the amount of revenues. In this branch there is a very hard competition and Czech companies face it by a high quality, design and originality of products. It is possible to say that companies and their products in the world since 2010 have been strengthening their position.

The revenues for other glass increased in comparison with 2014 by 2.0 % (0.17 bill. CZK). This group includes a wide assortment of products (technical and laboratory glass, glass tiles and bricks, glass semiproducts for fashion jewellery, etc.). The revenues development of individual assortment groups is very unbalanced.

The revenues for household china and ceramics had no inter-year increase. The china producers succeeded to conclude necessary amount of trade contracts thanks to a consistent trade policy, however, they were affected by an unstable situation in countries of the former Soviet Union.

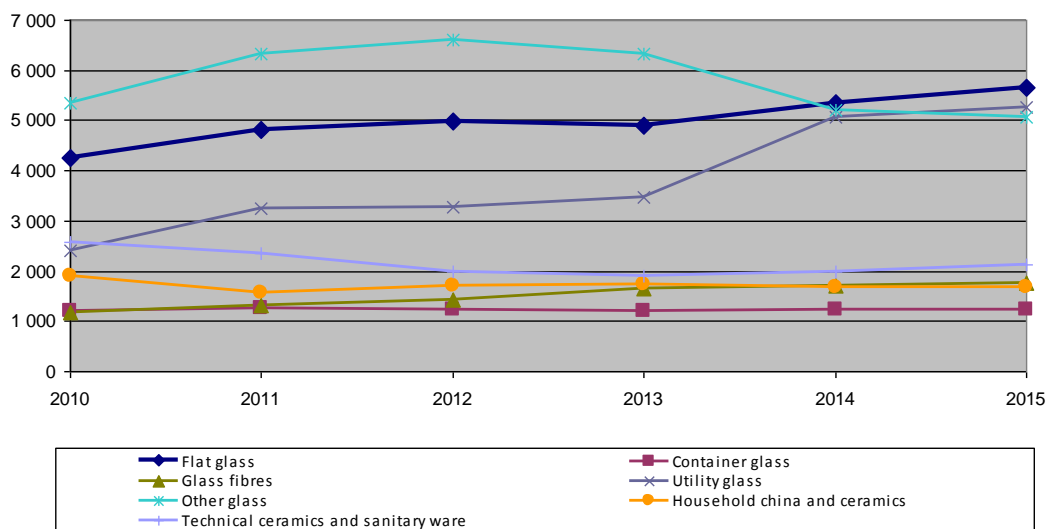
The revenues for technical ceramics and sanitary ware increased by 21.5 % (0.71 bill. CZK), from which the revenues for sanitary ware and technical ceramics increased by 9.5 % (0.31 bill. CZK).

Workers

Average accounting number of workers (persons)

	2010	2011	2012	2013	2014	2015	index 15/14 (%)
Flat glass	4 256	4 817	4 975	4 911	5 338	5 660	106,0
Container glass	1 202	1 247	1 221	1 208	1 219	1 223	100,3
Glass fibres	1 188	1 319	1 432	1 656	1 698	1 763	103,8
Utility glass	2 402	3 254	3 276	3 472	5 079	5 264	103,6
Other glass	5 361	6 340	6 598	6 320	5 198	5 070	97,5
Glass, total	14 409	16 977	17 502	17 567	18 532	18 980	102,4
Household china and ceramics	1 900	1 571	1 702	1 725	1 676	1 680	100,2
Technical ceramics and sanitary ware	2 576	2 351	1 988	1 915	2 000	2 138	106,9
Ceramics, total	4 476	3 922	3 690	3 640	3 676	3 818	103,9
Glass and ceramics, total	18 885	20 899	21 192	21 207	22 208	22 798	102,7

Development of average accounting number of workers (persons)



Total workers number in the glass and ceramic industry shown in 2015 in comparison with 2014 increased by 2.7 %, from which the glass industry showed a growth by 2.4 % (by 448 persons) and the ceramic industry increased by 3.9 % (142 persons). The inter-year development of workers number differs in individual branches.

The workers number increase in flat glass production is dependent on an increased demand of the automotive industry and the building industry. The workers number increased by 322 persons.

The workers number in container glass stayed almost on the same level (increase by 0.3 %) and in the production of glass fibres and products made of the workers number increased by 3.8 %.

The increase of demand for the assortment of utility glass projected to the workers number increase in utility glass production (by 3.6 %).

The workers number decreased by 2.46 % and a decline continued from the last year in other glass production. The decrease of workers number is influenced by permanent decline of demand for glass semiproducts for fashion jewellery and reduction the assortment with prevailing share of manual work.

The workers number in household china and ceramics production is stable and without any significant change from the last year.

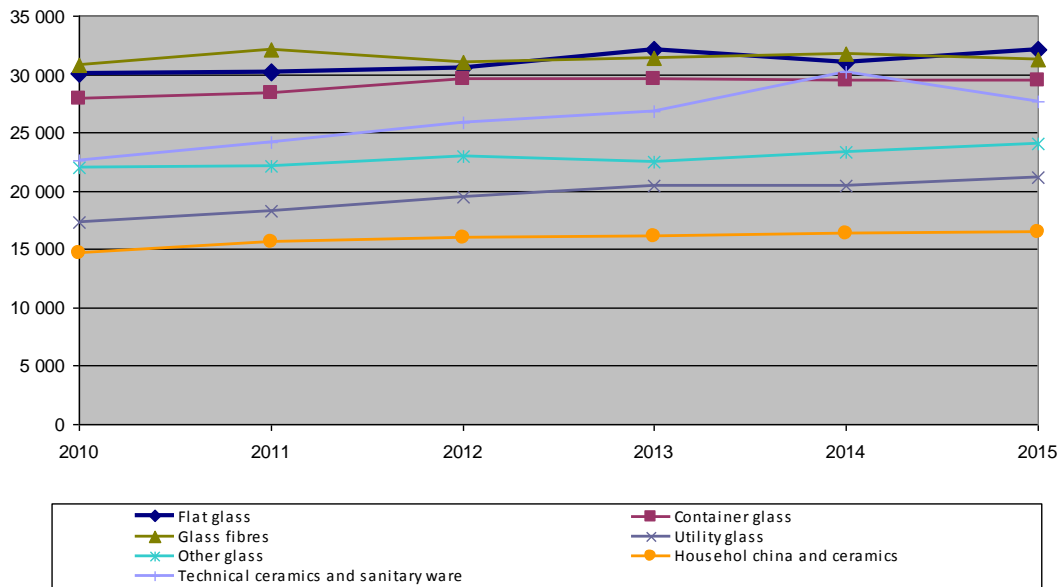
The workers number in technical ceramics and sanitary ware increased by 6.9 %, from which the workers number in sanitary ware increased a little and it decreased in technical ceramics production.

Average month-wages

Average month-wages (CZK)

	2010	2011	2012	2013	2014	2015	index 15/14 (%)
Flat glass	30 113	30 214	30 537	32 164	31 056	32 093	103,3
Container glass	27 896	28 332	29 561	29 645	29 418	29 431	100,0
Glass fibres	30 783	32 104	31 033	31 355	31 702	31 216	98,5
Utility glass	17 300	18 333	19 499	20 498	20 442	21 207	103,7
Other glass	21 979	22 175	22 971	22 527	23 354	23 997	102,8
Househol china and ceramics	14 698	15 680	16 018	16 066	16 365	16 440	100,5
Technical ceramics and sanitary ware	22 566	24 207	25 910	26 802	30 230	27 721	91,7
Glass and ceramics, total	23 495	24 160	24 857	25 382	25 382	26 042	102,6

Development of average month-wages (CZK)



The development of average month-wages within 2014 and 2015 documents the economic situation of glass and ceramic industry companies.

The average wages increased in the most of production branches. More significant decline in technical ceramics and sanitary ware is given by lower wage in the production of ceramic insulators. In sanitary ware production, where average wages reach 30,178 CZK, is a different situation.

More and more noticeable tendency in differentiation of wages in mass and practically full-automatized production continues. It means production of flat glass and its processing (32,093

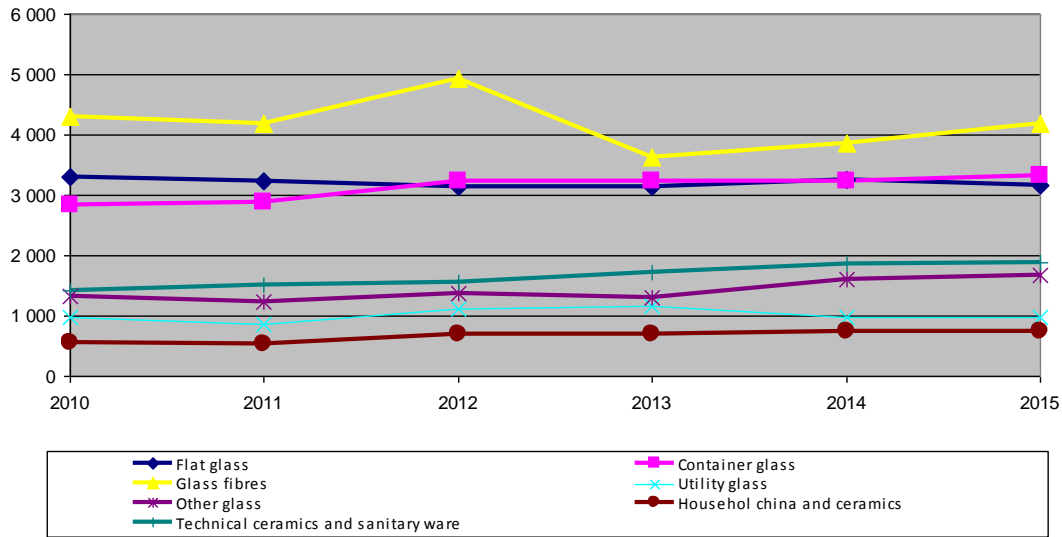
CZK), glass fibres and products made of and container glass. Further on, it applies to branches with more often changes (shorter production series) in the regime of automatized production lines and also a certain share of manual production. Significantly above the average wage in the Czech Republic (26,467 CZK; *Source: Czech Statistical Office*) there are average wages reached in the branches of glass fibres and products made of, flat glass and container glass. The average wage reached in the technical ceramics and sanitary ware (27,721 CZK) is higher than the average wage in the Czech Republic, and the average wage in the sanitary ware is 30,178 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 semiproducts 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.

Productivity of labour

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

	2010	2011	2012	2013	2014	2015	index 15/14 (%)
Flat glass	3 312	3 231	3 145	3 148	3 249	3 158	97,2
Container glass	2 845	2 895	3 242	3 223	3 226	3 324	103,0
Glass fibres	4 304	4 183	4 931	3 634	3 866	4 195	108,5
Utility glass	974	852	1 117	1 160	967	970	100,3
Other glass	1 315	1 240	1 380	1 310	1 608	1 681	104,5
Househol china and ceramics	555	536	701	708	743	743	100,0
Technical ceramics and sanitary ware	1 417	1 511	1 547	1 730	1 860	1 886	101,4
Glass and ceramics, total	1 945	1 900	2 040	1 991	2 074	2 103	101,4

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 more complex index of the productivity of labour from sales. The productivity of labour of the glass and ceramic industry as the whole increased by 1.4 % in comparison with previous year.

The productivity of labour in flat glass decreased by 2.8 %, in container glass it increased by 3 %. In comparison with 2014 the productivity of labour in glass fibres and products made of increased (by 8.5 %). The productivity of labour stagnated in household china and ceramics. The productivity of labour increased by 0.3 % in utility glass. The productivity of labour in comparison with previous year increased by 1.4 % in technical ceramics and sanitary ware.

Export

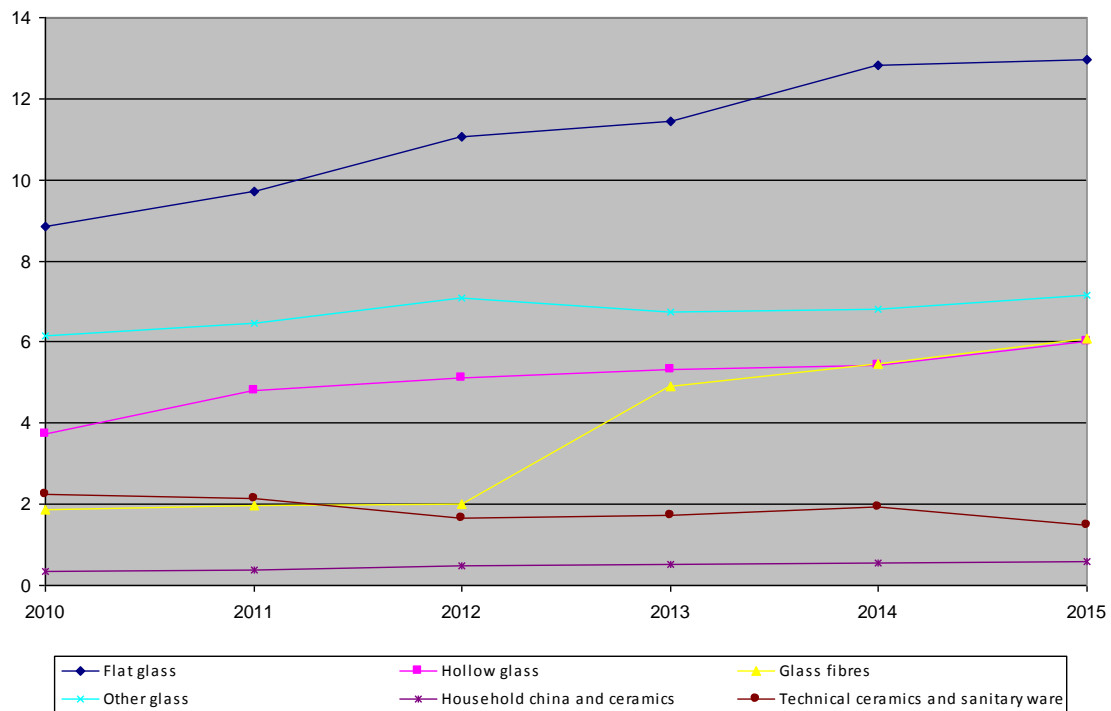
THE EXPORT IS STATED FURTHER ON IN REVENUES FROM DIRECT EXPORT IN CURRENT PRICES (HEREINAFTER DIRECT EXPORT) AND TOTAL EXPORT (I.E. DIRECT EXPORT, INDIRECT EXPORT).

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 HOLLOW GLASS TO ABOVE MENTIONED PRODUCTION BRANCHES.

DIRECT EXPORT (BILL. CZK)

	2010	2011	2012	2013	2014	2015	index 15/14 (%)
Flat glass	8,86	9,70	11,07	11,44	12,83	12,96	101,0
Hollow glass	3,75	4,82	5,11	5,32	5,42	6,01	110,9
Glass fibres	1,88	1,97	1,99	4,92	5,47	6,07	111,0
Other glass	6,14	6,48	7,10	6,74	6,81	7,17	105,3
Glass total	20,63	22,97	25,27	28,42	30,53	32,21	105,5
Household china and ceramics	0,36	0,37	0,47	0,51	0,55	0,59	107,3
Technical ceramics and sanitary ware	2,26	2,13	1,65	1,74	1,92	1,50	78,1
Ceramics, total	2,62	2,50	2,12	2,25	2,47	2,10	85,0
Glass and ceramics	23,25	25,47	27,39	30,67	33,00	34,30	103,9

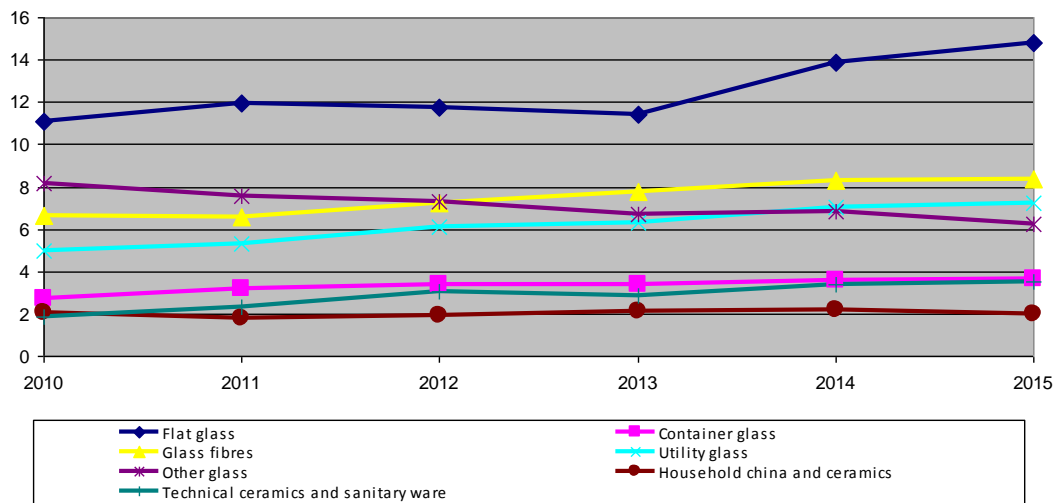
Development of direct export (bill. CZK)



EXPORT (BILL. CZK)

	2010	2011	2012	2013	2014	2015	index 15/14 (%)
Flat glass	11,112	11,923	11,757	11,450	13,866	14,778	106,6
Container glass	2,701	3,214	3,393	3,391	3,613	3,667	101,5
Glass fibres	6,665	6,568	7,240	7,786	8,266	8,374	101,3
Utility glass	5,010	5,291	6,112	6,298	7,065	7,240	102,5
Other glass	8,187	7,577	7,292	6,730	6,851	6,266	91,5
Glass, total	33,675	34,573	35,794	35,655	39,661	40,325	101,7
Household china and ceramics	2,065	1,789	1,921	2,137	2,209	2,019	91,4
Technical ceramics and sanitary ware	1,883	2,306	3,067	2,882	3,364	3,501	104,1
Ceramics, total	3,948	4,095	4,988	5,019	5,573	5,520	99,0
Glass and ceramics, total	37,623	38,668	40,782	40,674	45,234	45,845	101,4

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 70.0 % of 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. In comparison with 2014, the direct export in 2015 increased by 4.0 %. The total export increased by 1.4 %. The direct export of investigated branches in 2015 was 34.30 bill. CZK, total export was 45.85 bill. CZK.

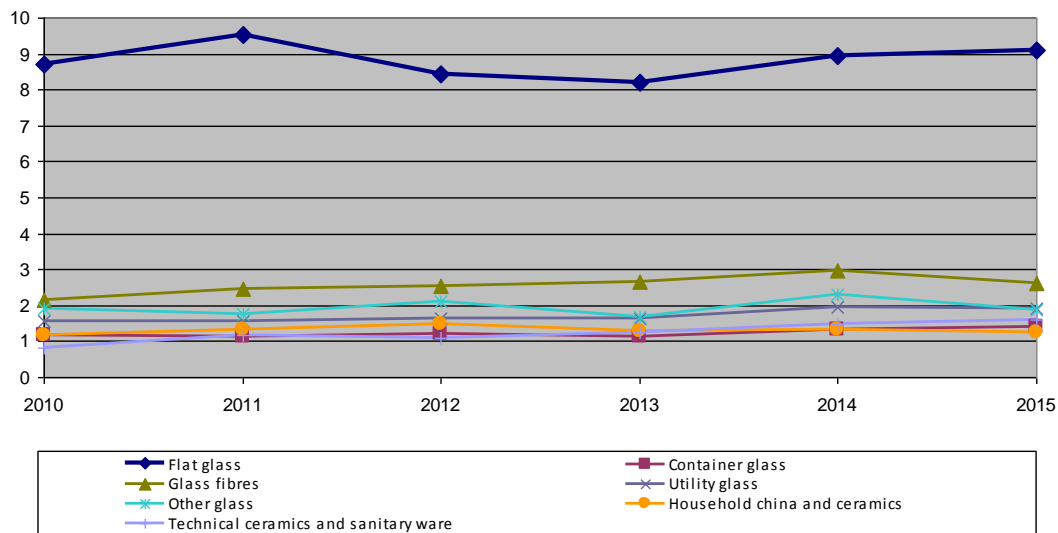
The export development in 2015 in individual branches is given in more details in Chapter 5, which analyses the export and import.

Import

Import (bill. CZK)

	2010	2011	2012	2013	2014	2015	index 15/14 (%)
Flat glass	8,697	9,521	8,433	8,212	8,937	9,111	101,9
Container glass	1,184	1,125	1,203	1,129	1,334	1,397	104,7
Glass fibres	2,133	2,448	2,520	2,646	2,960	2,617	88,4
Utility glass	1,553	1,552	1,651	1,624	1,953	1,897	97,1
Other glass	1,905	1,747	2,123	1,693	2,295	1,875	81,7
Glass, total	15,472	16,393	15,930	15,304	17,479	16,897	96,7
Household china and ceramics	1,166	1,323	1,474	1,270	1,33	1,232	92,6
Technical ceramics and sanitary ware	0,801	1,163	1,076	1,245	1,47	1,615	109,9
Ceramics, total	1,967	2,486	2,550	2,515	2,800	2,847	101,7
Glass and ceramics, total	17,439	18,879	18,480	17,819	20,279	19,744	97,4

Import development (bill. CZK)



The total import of the glass and ceramic industry products has been decreasing since 2011. An increase appeared in 2014. In 2015 the inter-year decrease was by 2.6 % (2.03 bill. CZK).

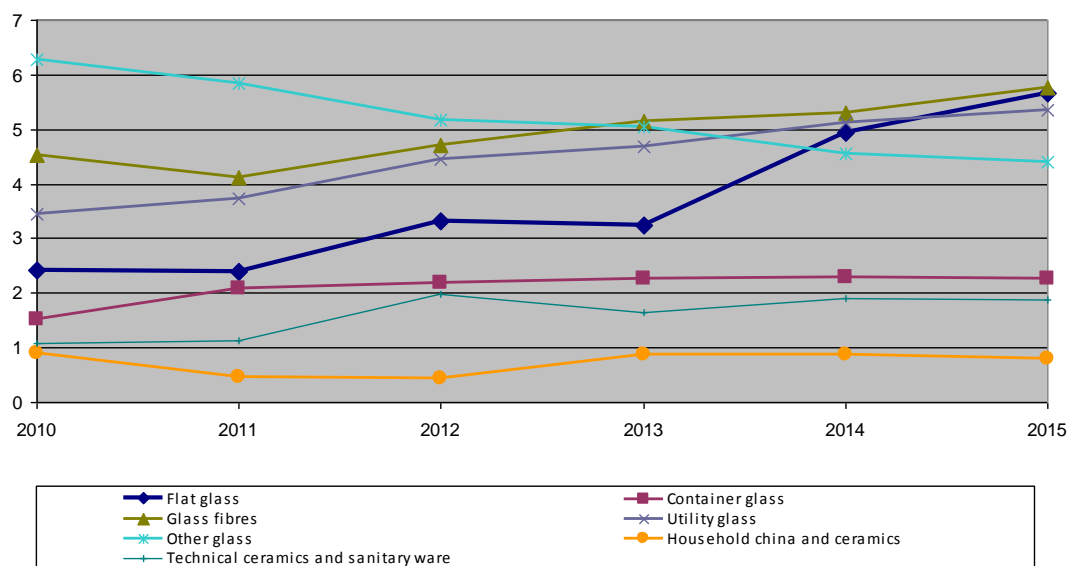
The import development in individual production branches in 2015 is given in more details in Chapter 5.

Balance of foreign trade

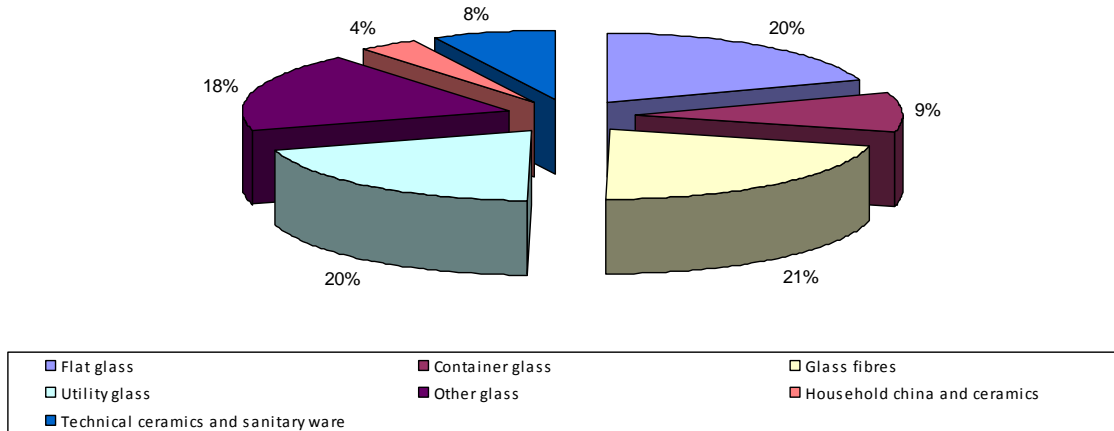
Balance of foreign trade (bill. CZK)

	2010	2011	2012	2013	2014	2015	index 15/14 (%)
Flat glass	2,415	2,402	3,324	3,238	4,929	5,667	115,0
Container glass	1,517	2,089	2,190	2,262	2,279	2,27	99,6
Glass fibres	4,532	4,120	4,720	5,140	5,306	5,757	108,5
Utility glass	3,457	3,739	4,461	4,674	5,112	5,343	104,5
Other glass	6,282	5,830	5,169	5,037	4,556	4,391	96,4
Glass, total	18,203	18,180	19,864	20,351	22,182	23,428	105,6
Household china and ceramics	0,899	0,466	0,447	0,867	0,879	0,787	89,5
Technical ceramics and sanitary ware	1,082	1,143	1,991	1,637	1,894	1,886	99,6
Ceramics, total	1,981	1,609	2,438	2,504	2,773	2,673	96,4
Glass and ceramics, total	20,184	19,789	22,302	22,855	24,955	26,101	104,6

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 2010 till 2015 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 significantly important export orientation of this industry. The balance of foreign trade was 26.101 bill. CZK in 2015, it increased by 4.6 % in comparison with 2014.

Effective home demand

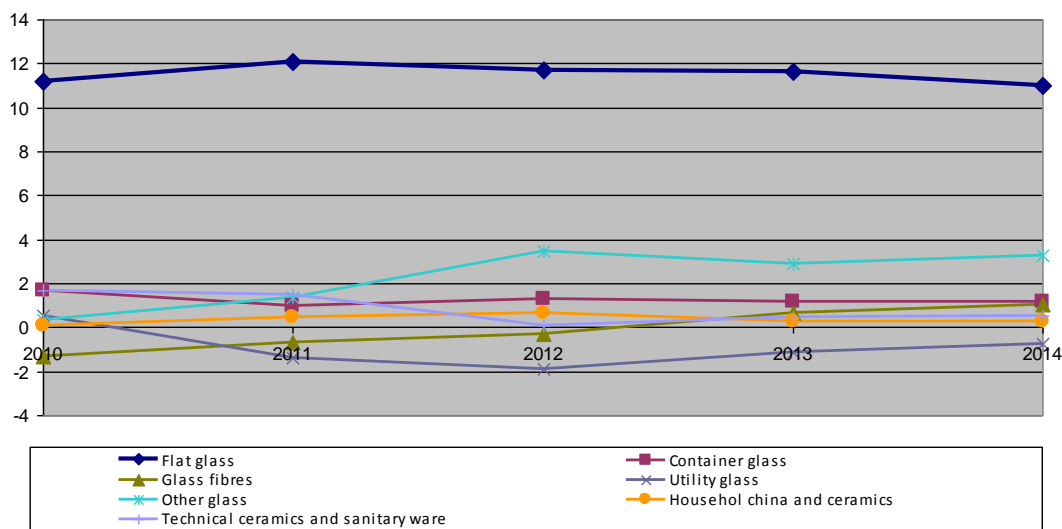
The effective home demand index is defined by the formula:

(The revenues from industrial activities + Import – Export)

Effective home demand (bill. CZK)

	2010	2011	2012	2013	2014	2015
Flat glass	11,22	12,11	11,72	11,67	11,01	11,47
Container glass	1,68	0,96	1,32	1,19	1,18	1,18
Glass fibres	-1,30	-0,69	-0,30	0,64	1,02	1,85
Utility glass	0,56	-1,40	-1,92	-1,10	-0,75	0,13
Other glass	0,31	1,38	3,44	2,92	3,25	2,36
Househol china and ceramics	0,07	0,49	0,64	0,25	0,26	0,36
Technical ceramics and sanitary ware	1,70	1,47	0,07	0,47	0,52	0,75

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.

Conclusions

In 2015 there was succeeded to keep the growth of revenues from previous years and keep the growth after decline in 2013. The main reason was the increase of demand for products intended to the building industry and automotive industry in the Czech Republic and success of producers in sales on new markets. The revenues for sale of the own products and services in comparison with 2014 increased (by 5.7 %). And, as a result of this, the productivity of labour from sales increased by 1.4 %. The revenues for the direct export increased by 4.0 %. The total export increased by 1.4 %, as well. Both values reached the values of the fault year 2008. The balance of foreign trade increased by 4.6 %.

The results in 2016 and the development in 2017 will be dependent on the development of economy of the Czech Republic and on the development on foreign markets.

In the summary of prediction of the Ministry of Finance from July 2016 there is stated:

The Czech economy is henceforth in a good condition. As expected, the inter-year growth of economy in the 1st quarter of 2016 admittedly slow down after subsiding of the single influence of European dotation, but this deceleration was less intensive than estimated in the previous prediction. **Real gross domestic product increased by 2.7 %** in comparison with the same period of the last year, the inter-quarterly growth was 0.4 %.

On the other side the **balance of foreign trade** had a positive influence on the growth of gross domestic product. On one side the growth of export decreased significantly, on the other side the same change of dynamics was in import. Beside a deceleration of the import growth the development of investments with great import difficulties, projected.

The economic prosperity reflects in dynamic development of all important indices on the **labour market**. The inter-year growth of employment by 2.0 % in the first quarter of 2016 was the highest since the end of 2007.

The above mentioned positive estimations are projected also to the improvement of expected labour market and to suggestions of growth of wages and salaries. This prediction supposes also positive development of balance of foreign trade.

Prediction of the development of main macroeconomic indices

		2015	2016	2017
Gross domestic product	Growth in %, fixed prices	4,5	2,2	2,4
Average Inflation rate	%	0,3	0,5	1,2
Unemployment rate (VŠPS)*	Average in %	5,1	4,1	4,0
Volume of Wages and salaries	Growth in %, current prices	4,4	5,3	4,9
CZK / EUR	Average per year	27,3	27	26,9

(Source: Ministry of Finance, July 2016)

For a favourable development of the glass and ceramic industry the above mentioned facts are good news, however, it cannot be overestimated. 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, 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.

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 face up to such uncertainty and unpredictability of development on markets like in last years. 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 strengthen as much as possible.



EXPORT AND IMPORT DEVELOPMENT ACCORDING TO PRODUCTION BRANCHES IN THE PERIOD FROM 2010 TILL 2015

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

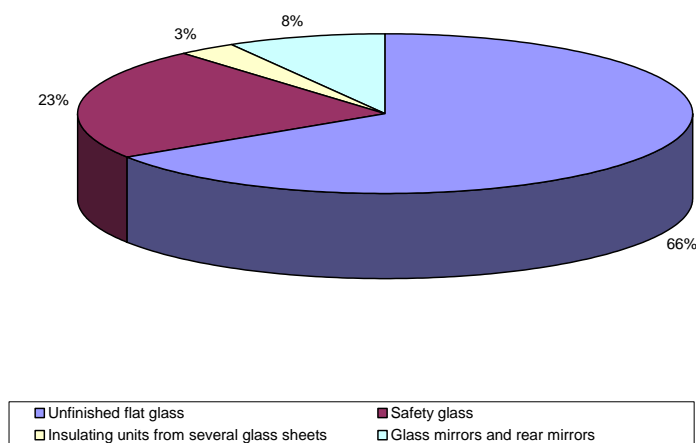
The export of flat glass in 2015 reached an amount of 14,778.3 mill. CZK. In comparison with 2014 the export increased by 6.6 % (912.7 mill. CZK).

Export of flat glass according to the assortment

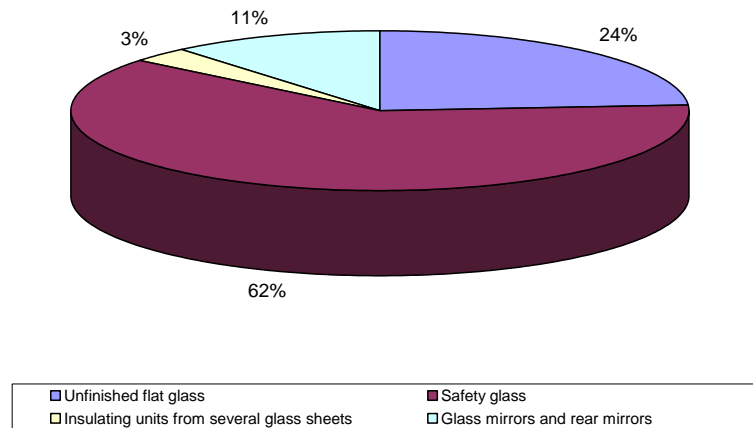
	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Unfinished flat glass	268 406,5	3 263,5	29,4	287 196,5	3 625,1	30,4	286 672,4	3 545,5	30,2
Safety glass	90 966,1	6 071,2	54,6	94 186,0	6 558,1	55,0	88 121,5	6 400,1	54,4
Insulating units from several glass sheets	10 377,2	361,4	3,3	7 997,2	326,9	2,7	8 033,6	321,6	2,7
Glass mirrors and rear mirrors	37 508,1	1 415,9	12,7	39 496,3	1 413,2	11,9	35 635,8	1 490,0	12,7
Totally	407 257,9	11 112,0	100,0	428 876,0	11 923,3	100,0	418 463,3	11 757,2	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Unfinished flat glass	274 751,1	3 103,5	27,1	294 228,3	3 228,5	23,3	315 500,0	3 522,0	23,8
Safety glass	101 128,6	6 694,0	58,5	109 563,2	8 743,2	63,1	110 371,1	9 144,3	61,9
Insulating units from several glass sheets	8 717,7	318,0	2,8	13 727,3	474,6	3,4	14 039,3	479,7	3,2
Glass mirrors and rear mirrors	30 233,5	1 334,1	11,7	32 984,8	1 419,3	10,2	40 159,6	1 632,3	11,0
Totally	414 830,9	11 449,6	100,0	450 503,6	13 865,6	100,0	480 070,0	14 778,3	100,0

Structure of export of flat glass according to the assortment in 2015 (t)



Structure of export of flat glass according to the assortment in 2015 (CZK)



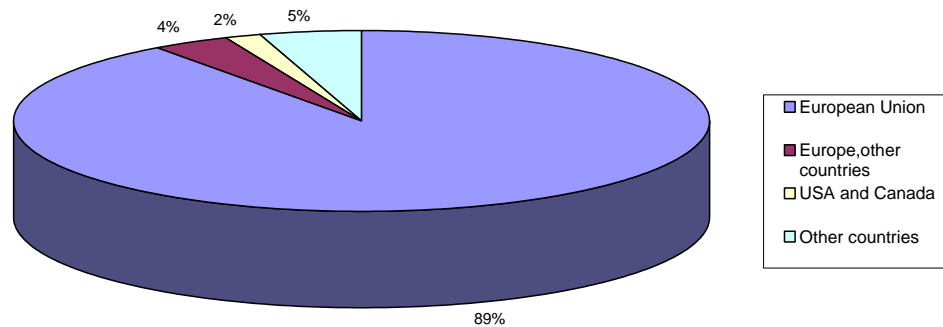
The greatest share of export in weight units had the unfinished flat glass in 2015 with 65.7 % (68.5 % was created by float glass), followed by the safety glass export with 23.0 %. As far as the export in CZK, the situation was contrary. The greatest share had the export of safety glass with 61.9 %. The share of the unfinished flat glass export was 23.8 %.

Export of flat glass according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	377 649,3	10 172,7	91,5	394 528,8	10 785,7	90,5	387 173,4	10 491,8	89,2
Europe, other countries	22 175,7	557,0	5,0	27 111,3	801,8	6,7	24 073,2	783,0	6,7
USA and Canada	1 344,3	41,3	0,4	1 988,8	40,8	0,3	2 306,9	56,5	0,5
Other countries	6 086,6	341,0	3,1	5 247,1	295,0	2,5	4 909,8	425,9	3,6
Totally	407 255,9	11 112,0	100,0	428 876,0	11 923,3	100,0	418 463,3	11 757,2	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	379 311,4	9 967,2	87,1	401 568,6	12 449,3	89,8	444 096,7	13 289,0	89,9
Europe, other countries	20 395,2	800,4	7,0	17 517,6	749,0	5,4	19 012,2	561,8	3,8
USA and Canada	1 341,1	51,9	0,5	2 647,5	128,2	0,9	3 066,2	243,9	1,7
Other countries	13 783,2	630,1	5,5	28 769,9	539,1	3,9	13 895,0	683,6	4,6
Totally	414 830,9	11 449,6	100,0	450 503,6	13 865,6	100,0	480 070,1	14 778,3	100,0

Structure of export of flat glass according to territories in 2015 (CZK)



A substantial part of flat glass export was directed to the European Union countries. In 2015 the share on export was 89.9 %. The greatest customers were Germany, Austria, Poland, Belgium, France, Hungary and Slovakia. The greatest customers out of the European Union were Serbia, Bosnia and Herzegovina and Russia.

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

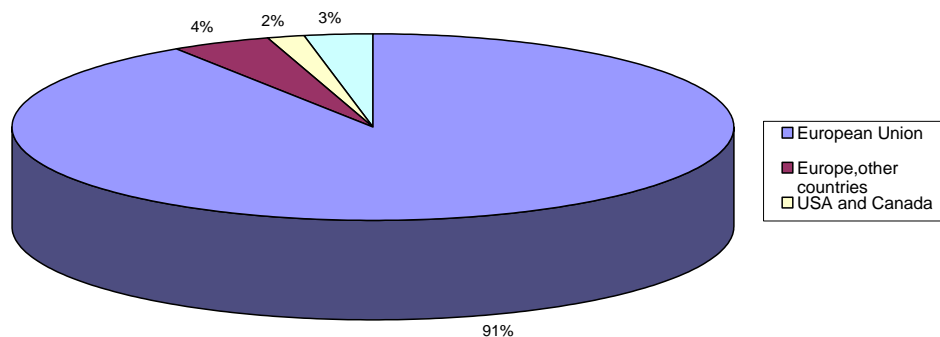
Container glass export in 2015 was 3867.4 mill. CZK. In comparison with 2014 the export slightly increased.

Export of container glass according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	258 449,2	2 358,9	87,3	288 752,6	2 797,0	87,0	293 835,3	2 992,9	88,2
Europe,other countries	27 600,9	300,1	11,1	31 980,9	354,7	11,0	28 423,2	335,2	9,9
USA and Canada	725,5	14,3	0,5	1 253,8	24,3	0,8	1 848,2	36,2	1,1
Other countries	1 307,3	27,7	1,0	1 856,3	38,3	1,2	1 334,1	28,4	0,8
Totally	288 082,9	2 701,0	100,0	323 843,6	3 214,3	100,0	325 440,8	3 392,7	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	280 335,3	2 993,9	88,3	286 545,4	3 244,0	89,8	313 740,1	3 514,7	90,9
Europe,other countries	23 225,2	286,4	8,4	17 468,5	236,0	6,5	11 019,4	168,1	4,3
USA and Canada	1 430,8	30,8	0,9	3 809,5	85,0	2,4	2 865,4	61,4	1,6
Other countries	4 302,6	80,0	2,4	2 129,6	48,0	1,3	5 748,5	123,1	3,2
Totally	309 293,9	3 391,1	100,0	309 953,0	3 612,9	100,0	333 373,4	3 867,4	100,0

Structure of export of container glass according to territories in 2015 (CZK)



The export is determined by the character of use of a substantial part of container glass assortment. It is not economical to deliver bottles and preserve jars to long distances. In 2015 90.9 % of export was intended to the European Union countries. The greatest customers were Germany, Poland, Slovakia, Austria, Italy, Hungary and the Netherlands. The 4.3 % of export was directed to other European countries. From these countries the greatest customers were Switzerland and Russia.

Glass fibres and products made of

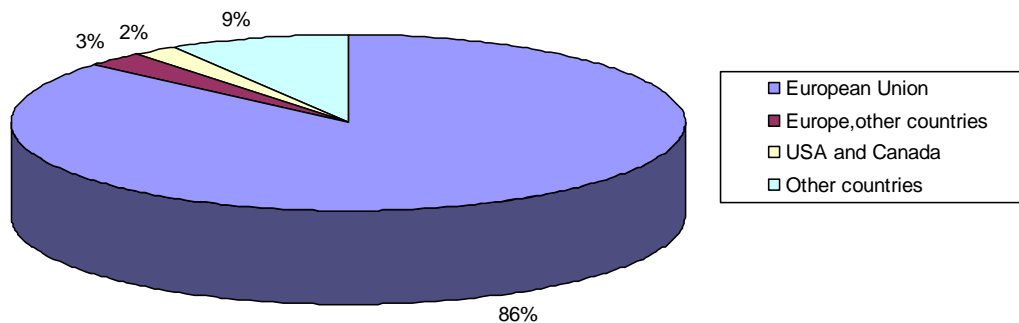
The export of glass fibres and products made of in 2015 was 8374.5 mill. CZK. In comparison with 2014 it increased by 1.31 % (8266.3 mill. CZK).

Export of glass fibres and products made of according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	152 659,9	6 065,9	91,0	142 284,1	5 953,7	89,4	144 169,5	6 530,9	90,2
Europe, other countries	6 681,7	240,5	3,6	5 358,6	234,4	3,5	8 275,7	279,5	3,9
USA and Canada	1 816,1	88,9	1,3	1 247,0	68,3	1,0	1 228,2	74,8	1,0
Other countries	5 281,3	269,9	4,0	5 265,7	401,3	6,0	6 112,4	354,4	4,9
Totally	166 439,0	6 665,2	100,0	154 155,4	6 657,7	100,0	159 785,8	7 239,6	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	134 110,3	6 785,8	87,1	131 985,5	6 544,6	79,2	143 555,7	7 240,3	86,5
Europe, other countries	8 404,4	252,0	3,2	4 546,7	231,7	2,8	4 392,0	233,0	2,8
USA and Canada	1 163,9	75,2	1,0	1 870,1	5,3	0,1	3 405,5	169,0	2,0
Other countries	15 697,0	673,5	8,6	14 273,1	1 484,7	18,0	13 728,4	732,2	8,7
Totally	159 375,6	7 786,5	100,0	152 675,4	8 266,3	100,0	165 081,5	8 374,5	100,0

Structure of export of glass fibres and products made of according to territories in 2015 (CZK)



A substantial part of export (86.5 %) was realized in the European Union countries. The greatest customers in 2015 were Germany, Poland, France, Italy, Austria, Great Britain and Slovakia. As far as countries out of the European Union it was Bosnia and Herzegovina and Serbia.

Utility glass

The export of utility glass belongs to the traditional export branches of the Czech processing industry. In 2015 the export was in amount of 7240.3 mill. CZK. In comparison with 2014 it

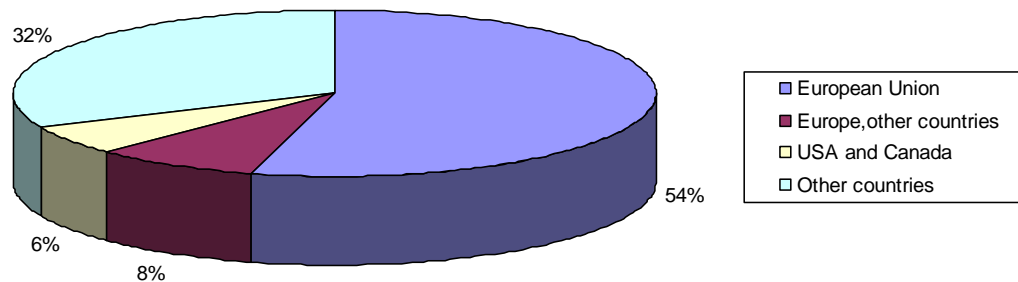
increased by 2.49 % (7,064.5 mill. CZK). Also in 2015 the demand for utility glass products increased.

Export of utility glass according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	33 857,1	2 095,9	41,8	42 794,7	2 389,7	45,2	41 483,4	2 878,3	47,1
Europe,other countries	8 869,6	776,7	15,5	9 435,6	840,2	15,9	9 670,8	928,1	15,2
USA and Canada	2 275,8	454,1	9,1	2 902,3	394,3	7,5	2 702,0	443,2	7,3
Other countries	10 671,6	1 683,7	33,6	12 126,0	1 666,7	31,5	12 403,4	1 862,8	30,5
Totally	55 674,1	5 010,4	100,0	67 258,6	5 290,9	100,0	66 259,6	6 112,4	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	46 550,5	3 044,2	48,3	53 136,5	3 651,4	51,7	52 136,3	3 913,3	54,0
Europe,other countries	9 418,2	978,2	15,5	8 921,2	962,5	13,6	5 985,7	611,1	8,4
USA and Canada	2 485,6	420,3	6,7	2 898,4	489,7	6,9	2 485,6	420,3	5,8
Other countries	12 470,9	1 855,5	29,5	13 749,4	1 961,0	27,8	16 806,3	2 295,6	31,7
Totally	70 925,2	6 298,2	100,0	78 705,5	7 064,5	100,0	77 413,9	7 240,3	100,0

Structure of export of utility glass according to territories in 2015 (CZK)



It is possible to say that the utility glass assortment is exported to the whole world. The share of export in 2015 to the European countries was 54.0 %. The greatest customers were Germany, Russia, France, Slovakia, Austria, Italy, Hungary, Poland and Ukraine. The share on export directed to the Other countries (export to 80 countries) and to the USA and Canada was in amount of 37.5 %. The greatest customers were the USA, Japan, Azerbaijan, Egypt, Iran, the United Arab Emirates, China, Brazil and Kazakhstan.

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 semiproducts and production of lighting glass, is incorporated.

The other glass export in 2015 reached amount of 6264.6 mill. CZK, what is by 8.56 % less than in 2014 (6851.0 mill. CZK).

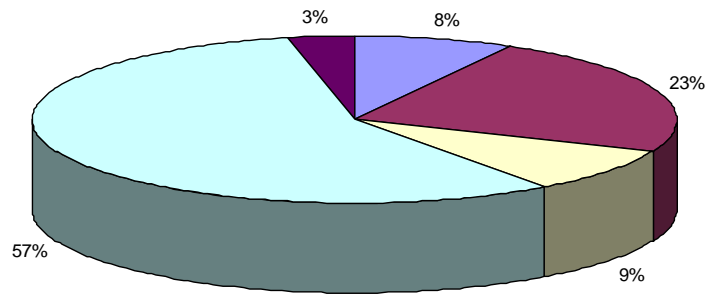
In 2015 lighting glass which is not stated in codes for the export and import of glass (Products for electrical lighting devices, made of glass, except reflectors and facet glass etc. glass decorations for electrical chandeliers, approx. 300 mill. CZK) was not included to the export.

Export of other glass according to assortment

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Technical glass	7 174,8	633,0	7,7	7 041,0	616,1	8,1	4 674,7	498,1	6,8
Glass tiles, plates and blocks	64 350,6	1 422,3	17,4	68 584,5	1 405,7	18,6	70 446,9	1 348,1	18,5
Laboratory glass	3 680,3	435,9	5,3	4 070,9	522,1	6,9	3 800,2	541,6	7,4
Glass semiproducts for fashion jewellery	4 508,1	4 974,5	60,8	4 640,8	4 581,1	60,5	4 936,5	4 462,0	61,2
Other glass	12 034,1	721,5	8,8	13 726,2	452,3	6,0	22 212,4	441,9	6,1
Totally	91 747,9	8 187,2	100,0	98 063,4	7 577,3	100,0	106 070,7	7 291,7	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Technical glass	3 813,5	405,6	6,0	3 936,5	464,2	6,8	4 176,8	500,0	8,0
Glass tiles, plates and blocks	71 226,7	1 422,2	21,1	58 463,5	1 497,5	21,9	57 652,5	1 444,9	23,1
Laboratory glass	3 012,4	442,3	6,6	3 095,1	508,9	7,4	3 140,2	556,9	8,9
Glass semiproducts for fashion jewellery	5 075,4	4 293,7	63,8	4 889,6	4 168,8	60,8	4 606,9	3 546,1	56,6
Other glass	10 235,6	166,5	2,5	16 434,0	211,6	3,1	15 331,6	216,7	3,5
Totally	93 363,6	6 730,3	100,0	86 818,7	6 851,0	100,0	84 908,0	6 264,6	100,0

Structure of other glass export according to assortment in 2015 (CZK)



■ Technical glass
 ■ Glass tiles, plates and blocks
 ■ Laboratory glass
 ■ Glass semiproducts for fashion jewellery
 ■ Other glass

The greatest share with 56.6 % has the export of fashion jewellery and glass fashion jewellery semiproducts. 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. In comparison with 2014 the share of glass tiles, plates and bricks (23.1 %) increased, on the contrary the share of glass fashion jewellery semiproducts decreased (56.6 %).

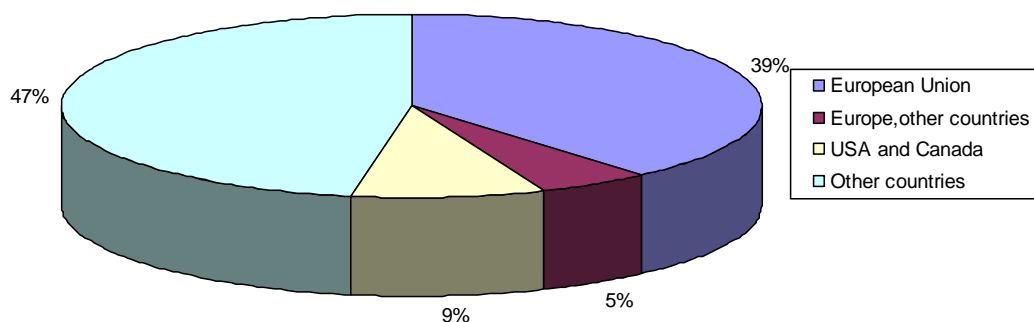
In the following table the export of other glass according to territories is given.

Export of other glass according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	54 630,7	2 738,0	33,4	53 911,4	2 781,4	34,0	59 141,6	2	35,2
Europe,other countries	3 783,1	259,5	3,2	3 646,0	244,1	3,0	5 792,3	312,5	4,3
USA and Canada	5 213,1	701,7	8,6	6 584,4	466,9	5,7	7 504,3	475,2	6,5
Other countries	28 121,0	4 488,0	54,8	33 921,6	4 084,9	49,9	33 632,5	3	54,0
Totally	91 747,9	8 187,2	100,0	98 063,4	8 187,2	92,6	106 070,7	7 291,7	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	50 455,9	2 415,2	35,9	53 380,2	2 477,6	36,2	47 097,1	2 409,1	38,7
Europe, other countries	4 600,3	410,0	6,1	5 536,7	455,7	6,7	3 376,6	323,4	5,2
USA and Canada	7 106,4	466,1	6,9	6 314,0	490,5	7,2	5 908,6	554,3	8,9
Other countries	31 201,0	3 439,0	51,1	21 587,9	3 427,1	50,0	28 285,4	2 941,9	47,2
Totally	93 363,6	6 730,3	100,0	86 818,8	6 850,9	100,0	84 667,7	6 228,7	100,0

Structure of export of other glass according to territories in 2015 (CZK)



In contrast with flat, container and fibre glass export, the most of the other glass export (47.2 %) 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 2015 the share of export of glass tiles, plates and blocks assortment (71.6 %), laboratory glass (72.3 %) and technical glass (54.9 %) to the European Union prevailed. On the other side the export of glass semiproducts for fashion jewellery assortment (78.4 %) prevailed to the Other countries, including the USA and Canada.

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 semiproducts for fashion jewellery, were the United Arab Emirates, China, Hongkong, the USA, Japan and India.

Household china and ceramics

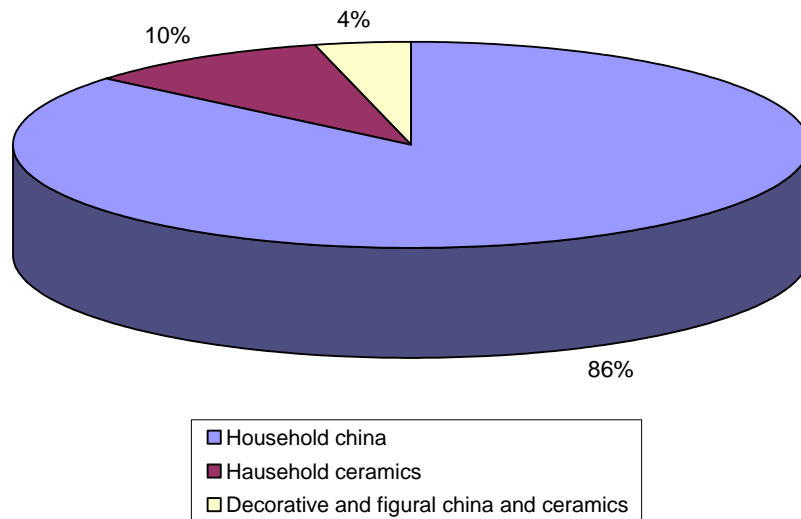
The household china export similarly as the utility glass export belongs to the traditional export branches of the Czech processing industry. In 2015 the export was 2019.2 mill. CZK. In comparison with 2014 the export decreased by 8.6 %.

Export of household china and ceramics according to the assortment

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Household china	20 826,3	1 899,5	92,0	13 466,4	1 551,6	86,7	14 549,7	1 713,0	89,1
Household ceramics	1 387,6	107,2	5,2	1 514,4	188,2	10,5	1 377,1	127,1	6,6
Decorative and figural china and ceramics	391,4	58,7	2,8	316,7	49,5	2,8	381,0	81,7	4,3
Totally	22 605,3	2 065,4	100,0	15 297,5	1 789,3	100,0	16 307,8	1 921,8	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Household china	17 763,6	1 890,4	88,5	15 730,9	1 909,7	86,4	14 470,7	1 739,7	86,2
Household ceramics	1 637,8	154,3	7,2	1 967,2	225,0	10,2	1 799,5	202,2	10,0
Decorative and figural china and ceramics	369,7	91,9	4,3	323,7	74,5	3,4	303,3	77,3	3,8
Totally	19 771,1	2 136,6	100,0	18 021,8	2 209,2	100,0	16 573,5	2 019,2	100,0

Structure of export of household china and ceramics according to the assortment in 2015 (CZK)



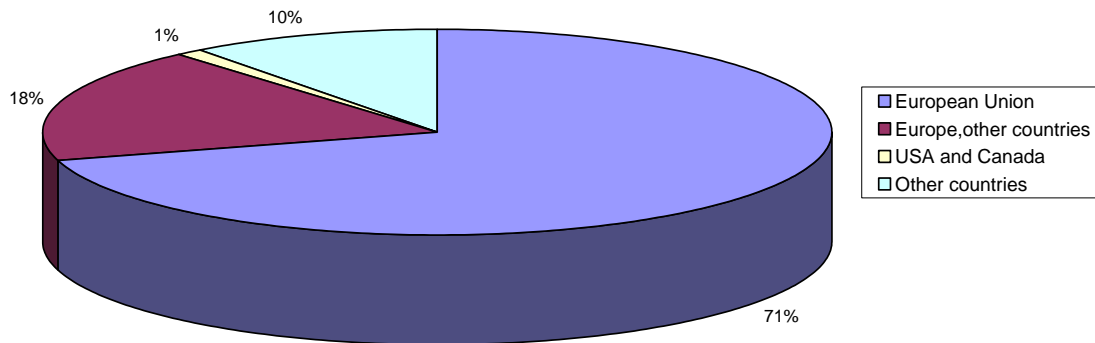
The share of household china in the branch household china and ceramics is 86.2 %.

Export of household china and ceramics according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	17 812,2	887,4	43,0	10 668,7	898,1	50,2	12 040,1	1 079,8	56,2
Europe,other countries	3 406,7	438,6	21,2	3 298,7	457,7	25,6	3 052,5	496,9	25,9
USA and Canada	628,1	462,5	22,4	491,5	134,7	7,5	384,2	101,7	5,3
Other countries	758,3	276,9	13,4	838,6	298,8	16,7	831,8	243,4	12,7
Totally	22 605,3	2 065,4	100,0	15 297,5	1 789,3	100,0	16 308,6	1 921,8	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	15 499,8	1 277,8	59,8	14 201,3	1 353,2	61,3	13 662,1	1 426,9	70,7
Europe,other countries	3 054,4	539,0	25,2	2 473,0	492,2	22,3	1 569,4	363,7	18,0
USA and Canada	114,8	27,0	1,3	120,0	24,3	1,1	134,8	22,1	1,1
Other countries	1 102,1	292,8	13,7	1 227,5	339,6	15,4	1 207,2	206,5	10,2
Totally	19 771,1	2 136,6	100,0	18 021,8	2 209,3	100,0	16 573,5	2 019,2	100,0

Structure of export of household china and ceramics according to territories in 2015 (CZK)



As follows from the above given table and graph, there is a visible export growth to all investigated territories till 2013, and the following decrease to values similar to 2012.

The greatest customers in the European Union countries were Germany, Slovakia, France, Romania and Sweden. In the other European countries, it was Russia (71.0 % of export volume) 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 in 2015 were the USA, Azerbaijan and Korea.

The household china export has been very strongly influenced by substantially cheaper ware from the Far East like the export of utility glass and glass semiproducts for fashion jewellery.

Technical ceramics and sanitary ware

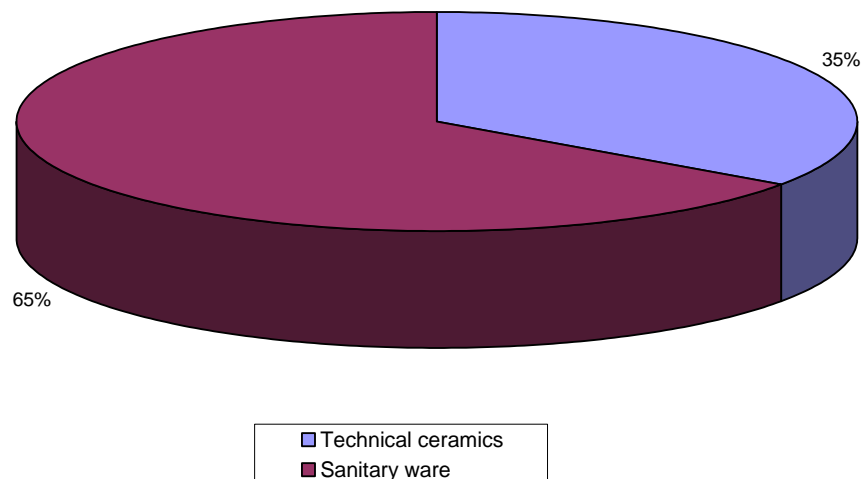
The technical ceramics and sanitary ware export was 3501.3 mill. CZK in 2015. In comparison with 2014 the export increased by 4.09 %.

Export of technical ceramics and sanitary ware according to the assortment

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Technical ceramics	1 766,6	467,0	24,8	4 439,2	631,9	27,4	4 598,7	1 165,0	38,0
Sanitary ware	24 839,3	1 416,1	75,2	28 581,0	1 674,0	72,6	32 584,5	1 902,3	62,0
Totally	26 605,9	1 883,1	100,0	33 020,2	2 305,9	100,0	37 183,2	3 067,3	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Technical ceramics	7 524,0	1 014,5	35,2	6 582,5	1 251,5	37,2	4 751,1	1 215,3	34,7
Sanitary ware	31 904,4	1 868,4	64,8	33 045,4	2 112,2	62,8	35 532,6	2 286,0	65,3
Totally	39 428,4	2 882,9	100,0	39 627,9	3 363,7	100,0	40 283,7	3 501,3	100,0

Structure of export of technical ceramics and sanitary ware according to the assortment in 2015 (CZK)



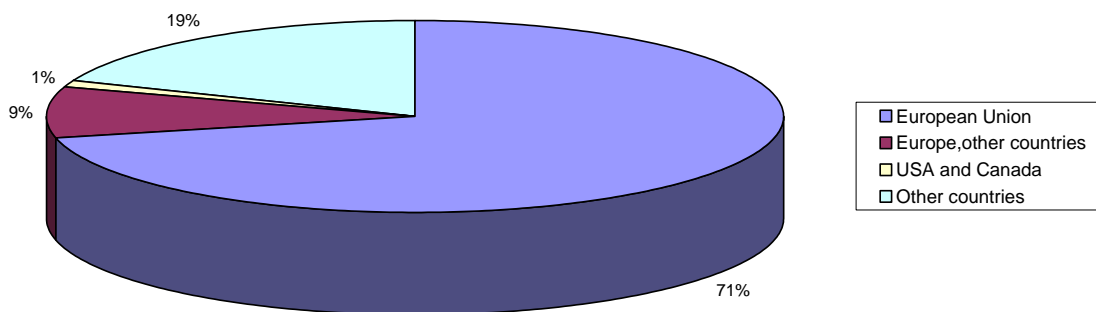
In 2015 the sanitary ware shared with 65.3 % and the technical ceramics with 34.7 % on export.

Export of technical ceramics and sanitary ware according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	22 520,0	554,7 ¹	82,6	28 132,9	907,0 ¹	82,7	29 664,8	2 066,1	67,4
Europe,other countries	2 291,2	218,3	11,6	3 106,7	261,4	11,3	3 883,7	310,2	10,1
USA and Canada	49,0	10,2	0,5	33,8	6,5	0,3	113,1	20,2	0,7
Other countries	1 744,7	99,9	5,3	1 746,8	131,0	5,7	3 521,6	670,8	21,9
Totally	26 604,9	883,1¹	100,0	33 020,2	305,9²	100,0	37 183,2	3 067,3	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	31 605,5	983,9 ¹	68,8	31 635,0	248,6 ²	66,8	32 075,2	2 502,1	71,5
Europe,other countries	3 781,8	270,8	9,4	4 542,2	320,8	9,5	4 100,5	299,2	8,5
USA and Canada	119,7	20,7	0,7	212,2	34,6	1,0	244,2	36,1	1,0
Other countries	3 921,4	607,5	21,1	3 238,5	759,7	22,6	3 863,8	663,9	19,0
Totally	39 428,4	882,9²	100,0	39 627,9	363,7³	100,0	40 283,7	3 501,3	100,0

Structure of export of technical ceramics and sanitary ware according to territories in 2015 (CZK)



A substantial part of both assortments was exported to the countries of Europe. Sanitary ware shared on export to the European countries in 2015 with 90.3 % (from which 78.8 % to the European Union), technical ceramics shared on the export with 86.3 % (from which 85.8 % to

the European Union). Germany, Austria and Great Britain 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

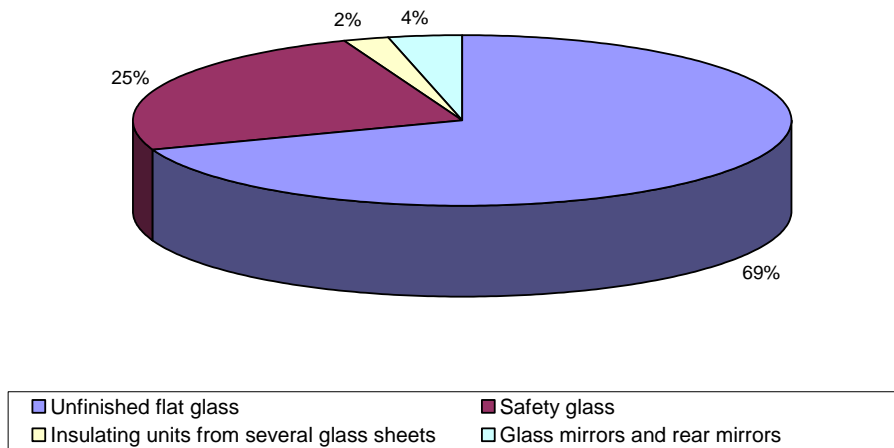
The import of flat glass assortment was in 2015 in amount of 9090.8 mill. CZK. In comparison with 2014 it increased by 1.71 % (938.0 mill. CZK).

Import of flat glass according to the assortment

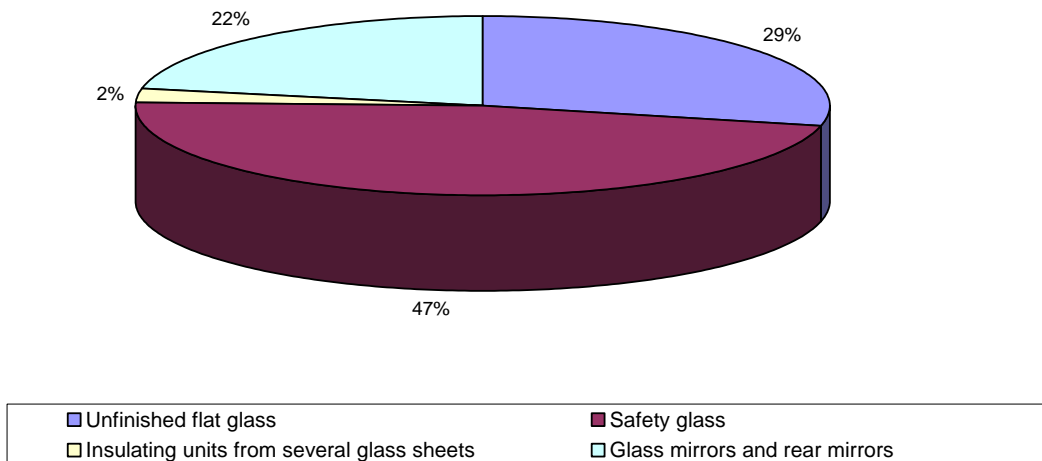
	2010			2011			2012		
	Netto (t)	mil.Kč	Podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Unfinished flat glass	229 192,8	2 952,7 3	33,9	320 056,1	3 543,3 4	37,2	210 393,8	2 925,9 3	34,7
Safety glass	80 260,5	867,6	44,5	91 371,4	030,8	42,3	72 876,8	487,7	41,4
Insulating units from several glass sheets	7 266,3	282,9	3,3	5 990,5	200,4	2,1	8 978,4	266,6	3,2
Glass mirrors and rear mirrors	7 951,6	1 594,3	18,3	8 762,3	1 746,2	18,3	9 544,2	1 753,1	20,8
Totally	324 671,2	8 697,5	100,0	426 180,3	9 520,7	100,0	301 793,2	8 433,3	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Unfinished flat glass	192 847,3	2 639,1 3	32,1	210 097,9	2 877,1 3	32,2	181 369,0	2 613,2 4	28,7
Safety glass	64 210,2	588,2	43,7	62 329,1	887,7	43,5	63 943,7	263,5	46,9
Insulating units from several glass sheets	8 146,9	263,4	3,2	6 977,3	247,5	2,8	6 181,3	217,7	2,4
Glass mirrors and rear mirrors	9 447,0	1 721,6	21,0	9 756,6	1 925,7	21,5	9 301,1	1 996,4	22,0
Totally	274 651,4	8 212,3	100,0	289 160,9	8 938,0	100,0	260 795,1	9 090,8	100,0

Structure of import of flat glass according to the assortment in 2015 (t)



Structure of import of flat glass according to the assortment in 2015 (CZK)



As follows from the above stated table (expressed in CZK), only the import of unfinished flat glass decreased. The share on the flat glass import in mass had the import of unfinished flat glass with 69.5 %, from which float glass shows 93.3 %. The amount of import is given by the processing capacities in the Czech Republic.

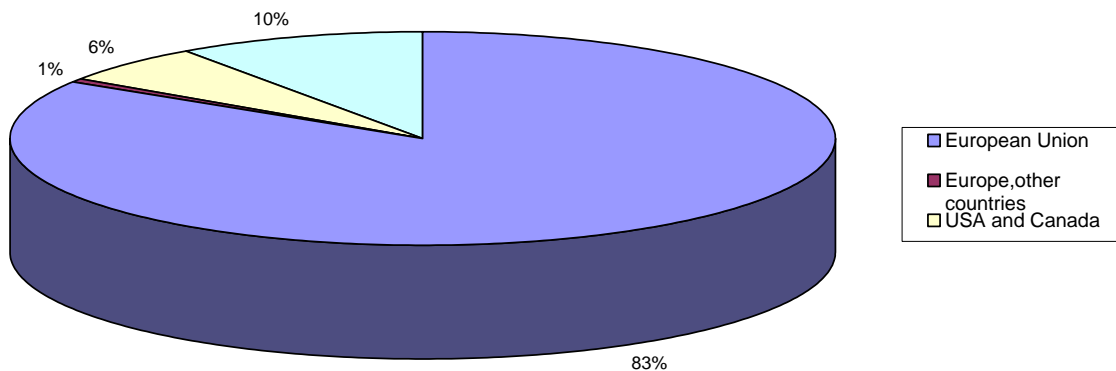
Toughened laminated safety glass shared with 46.9 % (expressed in CZK) on import. It is followed by unfinished flat glass with 28.7 %.

Import of flat glass according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	297 369,5	7 637,2	87,8	395 053,0	8 556,2	89,9	273 871,8	7 215,9	85,6
Europe,other countries	5 697,2	99,6	1,1	362,4	48,1	0,5	318,4	46,5	0,6
USA and Canada	813,4	208,3	2,4	346,2	241,4	2,5	426,3	352,4	4,2
Other countries	20 791,1	752,4	8,7	30 418,7	675,0	7,1	27 176,7	818,5	9,7
Totally	324 671,2	8 697,5	100,0	426 180,3	9 520,7	100,0	301 793,2	8 433,3	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	252 951,3	7 023,5	85,5	264 369,8	7 578,3	84,8	244 007,0	7 627,5	83,9
Europe,other countries	166,6	59,2	0,7	156,9	59,3	0,7	78,1	52,4	0,6
USA and Canada	420,7	352,8	4,3	418,7	400,6	4,5	417,9	531,9	5,9
Other countries	21 112,8	776,8	9,5	24 214,5	899,8	10,1	16 292,1	879,1	9,7
Totally	274 651,4	8 212,3	100,0	289 159,9	8 938,0	100,0	260 795,1	9 090,9	100,0

Structure of import of flat glass according to territories in 2015 (CZK)



In 2015 83.9 % of flat glass (expressed in CZK) was imported to the Czech Republic from the European Union countries. The greatest importers were Belgium, Germany, France and Romania.

Container glass

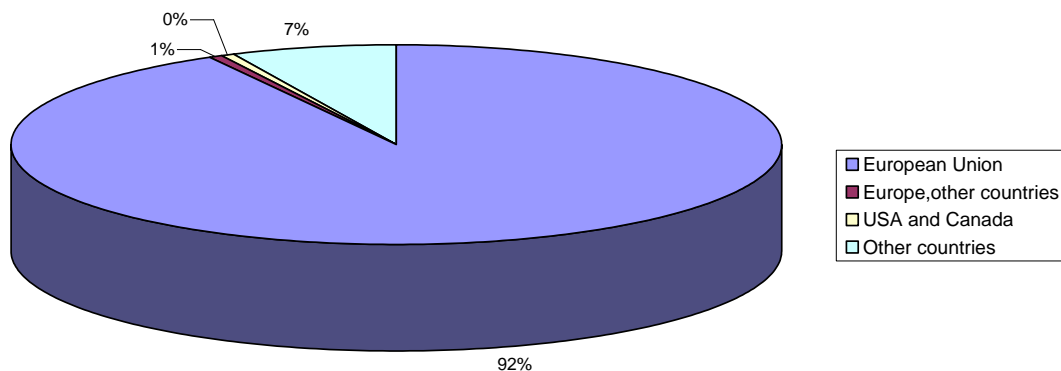
The container glass import in 2015 was in amount of 1397.2 mill. CZK, i.e. it was higher by 4.73 % than in 2014.

Import of container glass according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	108 138,8	1 134,3	95,8	95 964,9	1 080,3	96,0	102 250,1	1 147,7	95,4
Europe,other countries	4 890,7	36,7	3,1	3 256,9	24,7	2,2	4 114,3	35,2	2,9
USA and Canada	58,5	3,2	0,3	1,1	0,8	0,1	4,4	1,7	0,1
Other countries	181,2	9,9	0,8	641,5	19,6	1,7	398,8	18,8	1,6
Totally	113 269,2	1 184,1	100,0	99 864,4	1 125,4	100,0	106 767,6	1 203,4	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	104 663,2	1 097,8	97,3	108 696,8	1 202,4	90,1	113 082,3	1 283,3	91,8
Europe,other countries	1 326,4	12,6	1,1	11 737,9	98,1	7,3	1 099,3	10,2	0,7
USA and Canada	14,5	3,7	0,3	69,4	17,8	1,3	5,8	5,0	0,4
Other countries	393,6	14,6	1,3	508,0	15,9	1,2	9 510,5	98,7	7,1
Totally	106 397,7	1 128,7	100,0	121 012,1	1 334,1	100,0	123 698,0	1 397,2	100,0

Structure of import of container glass according to territories in 2015 (CZK)



The import like the export is determined by the character of use of container glass assortment. In 2015 91.8 % of import was realized from the European Union countries. The greatest importers were Germany, Slovakia and Poland.

Glass fibres and products made of

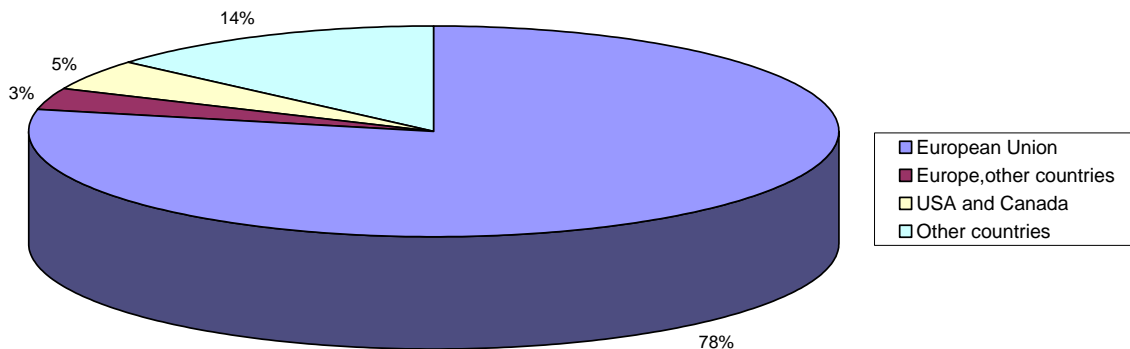
The import of glass fibres and products made of to the Czech Republic was 2617.0 mill. CZK in 2015, what is by 11.56 % less than in 2014.

Import of glass fibres and products made of according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	35 831,1	1 467,3	68,8	44 036,3	1 534,8	62,7	48 275,6	1 832,8	72,7
Europe,other countries	6 513,2	192,6	9,0	1 163,5	53,4	2,2	1 512,2	102,4	4,1
USA and Canada	1 075,7	87,4	4,1	1 405,9	103,6	4,2	546,5	88,4	3,5
Other countries	10 638,4	386,0	18,1	19 906,1	756,5	30,9	13 705,3	496,1	19,7
Totally	54 058,4	2 133,3	100,0	66 511,8	2 448,3	100,0	64 039,6	2 519,7	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	41 449,5	2 054,6	77,7	46 610,1	2 253,6	76,1	41 265,1	2 053,3	78,5
Europe,other countries	1 426,1	94,7	3,6	1 786,6	129,0	4,4	1 862,6	82,1	3,1
USA and Canada	529,0	91,1	3,4	663,3	124,0	4,2	965,6	127,0	4,9
Other countries	9 936,8	405,2	15,3	10 272,2	453,3	15,3	6 504,6	354,6	13,5
Totally	53 341,4	2 645,6	100,0	59 332,2	2 959,9	100,0	50 597,8	2 617,0	100,0

Structure of import of glass fibres and products made of according to territories in 2015 (CZK)



The share of the European Union countries on import was 78.5 %. The greatest importers were Germany, Hungary, Poland, Slovakia, Italy and France. The importers from the other European countries were Russia and Belarus. The share of import of the Other countries, incl. the USA and Canada decreased to 18.4 % in 2015. The greatest importers in 2015 were China, the USA and Taiwan.

Utility glass

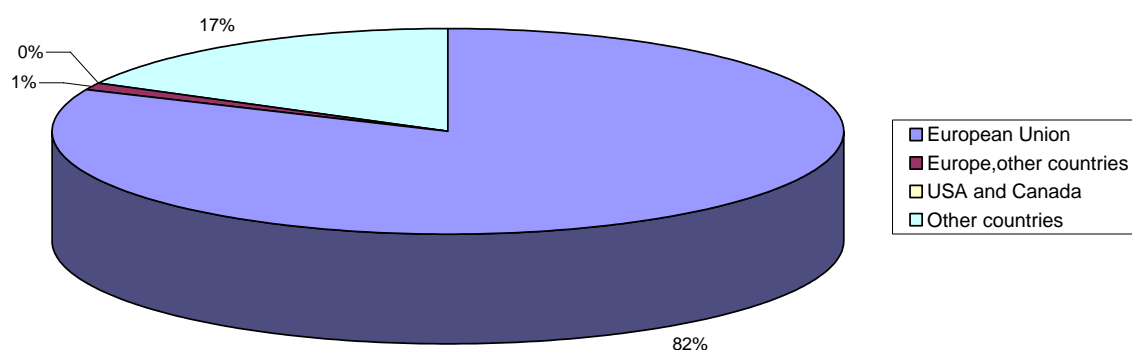
The utility glass import in 2015 was 1896.9 mill. CZK.

Import of utility glass according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	24 038,6	1 071,7	69,0	42 883,0	1 150,7	74,2	39 905,1	1 286,9	78,0
Europe,other countries	1 142,9	28,0	1,8	1 107,6	26,9	1,7	565,3	14,2	0,9
USA and Canada	23,2	2,6	0,2	30,6	3,2	0,2	17,5	3,7	0,2
Other countries	11 656,9	450,4	29,0	10 358,1	370,7	23,9	5 581,2	345,9	21,0
Totally	36 861,6	1 552,7	100,0	54 379,3	1 551,5	100,0	46 069,1	1 650,7	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	32 899,1	1 229,6	75,7	33 839,4	1 572,3	80,5	45 654,0	1 547,5	81,6
Europe,other countries	793,0	26,5	1,6	781,1	24,8	1,3	778,2	23,2	1,2
USA and Canada	15,1	3,3	0,2	11,1	4,7	0,2	70,5	0,5	0,0
Other countries	9 093,1	364,9	22,5	9 446,8	351,1	18,0	6 613,7	325,7	17,2
Totally	42 800,3	1 624,3	100,0	44 078,4	1 953,0	100,0	53 116,4	1 896,9	100,0

Structure of import of utility glass according to territories in 2015 (CZK)



The greatest share of import (81.6 %) was realized from the European Union countries. The greatest importers were Germany, Bulgaria, Poland, Italy, Portugal and France. From the Other countries (17.2 % of total import) the greatest importers in 2015 were China (174.1 mill. CZK) and Turkey (109.5 mill. CZK). Both these countries totally created 89.2 % of import from the Other countries.

Other glass

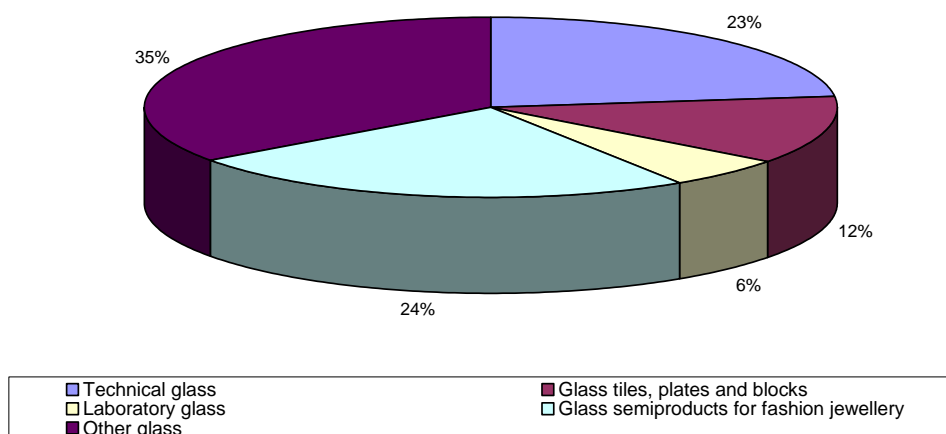
The import of other glass in 2015 was 1848.5 mill. CZK. The inter-year decrease was by 28.4 % (2580.9 mill. CZK).

Import of other glass according to the assortment

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Technical glass	1 917,0	232,7	12,2	2 057,8	245,1	14,0	1 967,6	240,3	11,3
Glass tiles, plates and blocks	8 069,5	284,8	14,9	6 664,2	230,4	13,2	5 550,0	213,4	10,0
Laboratory glass	1 892,6	73,0	3,8	502,1	76,4	4,4	473,2	80,0	3,8
Glass semiproducts for fashion jewellery	2 525,0	464,1	24,4	3 226,2	346,9	19,9	3 313,9	812,3	38,3
Other glass	102 766,8	850,5	44,6	157 324,0	847,9	48,5	136 098,9	777,5	36,6
Totally	117 170,9	1 905,1	100,0	169 774,3	1 746,7	100,0	147 403,6	2 123,5	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Technical glass	2 466,3	259,8	15,3	4 174,3	635,9	24,6	3 726,0	425,5	23,0
Glass tiles, plates and blocks	5 130,4	226,1	13,4	7 117,2	239,9	9,3	4 214,2	225,5	12,2
Laboratory glass	320,0	67,0	4,0	253,1	79,9	3,1	567,8	103,1	5,6
Glass semiproducts for fashion jewellery	2 614,7	555,3	32,8	2 863,7	968,1	37,5	3 088,0	446,6	24,2
Other glass	136 408,7	584,8	34,5	171 069,4	657,1	25,5	171 104,4	647,8	35,0
Totally	146 940,1	1 693,0	100,0	185 477,7	2 580,9	100,0	182 700,4	1 848,5	100,0

Structure of import of other glass according to the assortment in 2015 (CZK)



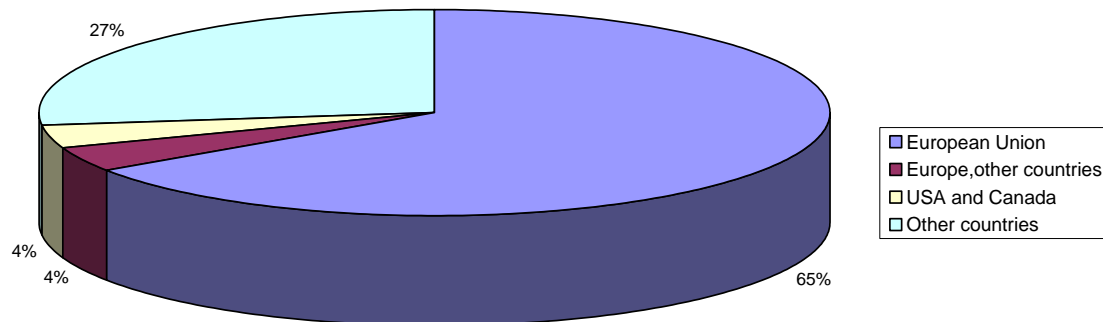
In the following table the other glass import according to territories is given.

Import of other glass according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	106 632,9	1 487,9	78,1	138 606,8	1 221,9	70,0	138 018,4	1 702,8	80,2
Europe,other countries	2 730,4	24,0	1,3	24 218,6	52,7	3,0	6 101,1	37,9	1,8
USA and Canada	3 178,0	28,0	1,5	40,1	40,3	2,3	33,0	36,2	1,7
Other countries	4 629,6	365,2	19,2	6 908,8	431,8	24,7	3 251,1	346,0	16,3
Totally	117 170,9	1 905,1	100,0	169 774,3	1 746,7	100,0	147 403,6	2 122,9	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	127 864,7	1 285,3	75,9	160 150,8	1 557,0	60,3	156 801,3	1 211,6	65,5
Europe,other countries	108,2	58,6	3,5	82,9	69,9	2,7	100,6	73,3	4,0
USA and Canada	341,0	42,8	2,5	345,4	39,9	1,5	182,5	67,8	3,7
Other countries	18 626,2	306,3	18,1	24 888,8	913,9	35,4	24 615,9	495,9	26,8
Totally	146 940,1	1 693,0	100,0	185 467,9	2 580,7	100,0	181 700,3	1 848,6	100,0

Structure of import of other glass according to territories in 2015 (CZK)



In 2015 the import from the European Union countries was 65.5 % and 26.8 % from the Other countries. The import was realized from various countries according to the assortment. In 2015 the greatest importers of technical glass were Germany, France, China, Malaysia and Taiwan, laboratory glass Germany, Italy, the USA, Great Britain, India and China, glass tiles, plates and blocks Belgium, Germany, the USA, Great Britain, India and China, glass semiproducts for fashion jewellery Austria, Germany, France, the USA, China, Hongkong and Japan.

Household china and ceramics

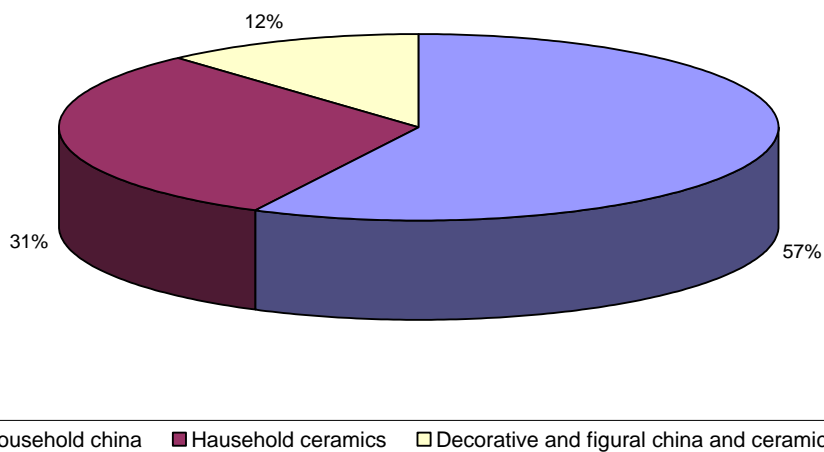
In 2015 the household china and ceramics were imported to the Czech Republic in a value of 1232.3 mill. CZK, i.e. by 7.37 % less than in 2014.

Import of household china and ceramics according to the assortment

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Household china	9 264,1	594,5	51,0	10 625,6	728,7	55,1	9 037,4	790,4	53,6
Household ceramics	10 461,3	405,3	34,8	8 712,4	415,3	31,4	7 820,3	522,5	35,4
Decorative and figural china and ceramics	3 534,0	166,3	14,3	3 249,4	179,2	13,5	2 750,2	161,1	10,9
Totally	23 259,4	1 166,1	100,0	22 587,4	1 323,2	100,0	19 607,9	1 474,0	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Household china	7 974,8	791,6	62,3	10 295,8	790,3	59,4	7 070,9	709,4	57,6
Household ceramics	5 429,8	304,5	24,0	6 805,2	398,5	30,0	5 574,8	377,7	30,6
Decorative and figural china and ceramics	3 095,9	174,1	13,7	2 226,7	141,7	10,6	2 248,5	145,2	11,8
Totally	16 500,5	1 270,2	100,0	19 327,7	1 330,4	100,0	14 894,2	1 232,3	100,0

Structure of import of household china and ceramics according to the assortment in 2015 (CZK)



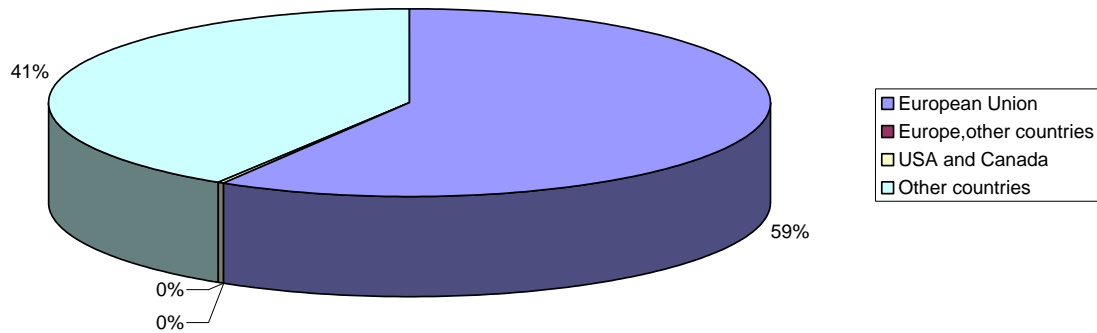
The household china shares with 57.6 %, household ceramics with 30.6 % and decorative and figural china and ceramics with 11.8 % on the import of this group assortment.

Import of household china and ceramics according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	11 219,0	668,0	57,3	10 295,9	669,0	50,6	8 563,9	756,1	51,3
Europe,other countries	274,4	8,7	0,7	211,8	10,8	0,8	142,2	4,3	0,3
USA and Canada	1,2	0,4	0,0	5,3	0,9	0,1	5,8	0,9	0,1
Other countries	11 764,8	489,0	41,9	12 074,4	642,5	48,6	10 896,0	712,7	48,4
Totally	23 259,4	1 166,1	100,0	22 587,4	1 323,2	100,0	19 607,9	1 474,0	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	9 170,7	824,3	64,9	10 678,9	798,7	60,0	7 486,3	722,7	58,7
Europe,other countries	53,6	3,1	0,2	36,8	5,0	0,4	33,7	1,2	0,1
USA and Canada	1,9	0,6	0,0	2,6	0,4	0,0	1,5	0,8	0,1
Other countries	7 274,3	442,2	34,8	8 609,5	526,4	39,6	7 372,6	507,5	41,2
Totally	16 500,5	1 270,2	100,0	19 327,8	1 330,5	100,0	14 894,1	1 232,2	100,0

(Structure of import of household china and ceramics according to territories in 2015 (CZK))



The import from the European Union countries shared on total import with 58.7 %. The greatest importer was Germany, sharing on import from the European Union with 79.0 % (318.9 mill. CZK).

The Other countries shared on import of household china and ceramics with 41.2 %. The greatest importer was China, sharing on import from the Other countries with 68.2 % (158.3 mill. CZK).

Technical ceramics and sanitary ware

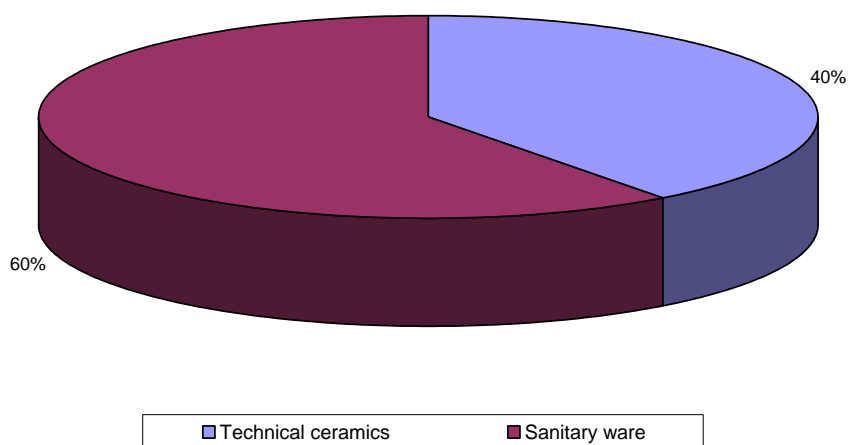
The technical ceramics and sanitary ware import was 1615.1 mill. CZK in 2015. The import of technical ceramics increased in comparison with 2014 by 9.9 % (1469.6 mill. CZK).

Import of technical ceramics and sanitary ware according to the assortment

	2010			2011			2012		
	Netto (t)	mil.Kč	Podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Technical ceramics	749,2	188,2	23,5	4 408,0	463,1	39,8	4 360,6	296,7	27,6
Sanitary ware	12 544,1	613,5	76,5	18 574,2	699,5	60,2	14 559,2	779,4	72,4
Totally	13 293,3	801,7	100,0	22 982,2	1 162,6	100,0	18 919,8	1 076,1	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	Podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
Technical ceramics	3 616,7	339,5	27,3	3 670,6	487,1	33,1	3 838,0	642,0	39,7
Sanitary ware	13 457,2	905,5	72,7	13 981,6	982,5	66,9	14 548,2	973,1	60,3
Totally	17 073,9	1 245,0	100,0	17 652,2	1 469,6	100,0	18 386,2	1 615,1	100,0

Structure of import of technical ceramics and sanitary ware according to the assortment in 2015 (CZK)



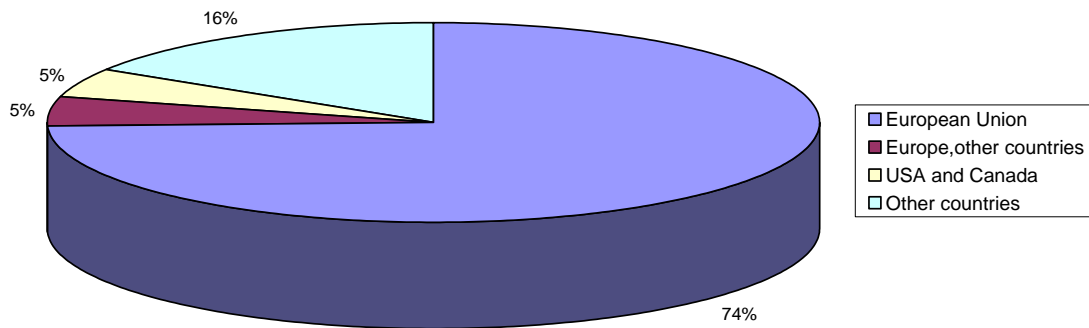
Sanitary ware shared on import in 2015 with 60.3 % and technical ceramics with 39.7 %.

Import of technical ceramics and sanitary ware according to territories

	2010			2011			2012		
	Netto (t)	mil.Kč	Podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	8 124,9	594,5	74,2	16 844,1	905,4	77,9	13 248,2	805,8	74,9
Europe,other countries	1 340,8	53,8	6,7	1 141,4	51,4	4,4	1 179,4	63,9	5,9
USA and Canada	2,5	18,0	2,2	22,2	38,8	3,3	14,2	38,9	3,6
Other countries	3 792,1	135,4	16,9	4 974,5	167,0	14,4	4 478,0	167,5	15,6
Totally	13 260,3	801,7	100,0	22 982,2	1 162,6	100,0	18 919,8	1 076,1	100,0

	2013			2014			2015		
	Netto (t)	mil.Kč	Podíl (%)	Netto (t)	mil.Kč	podíl (%)	Netto (t)	mil.Kč	podíl (%)
European Union	11 663,7	877,6	70,5	11 517,8	1 029,7	70,1	12 247,1	1 202,1	74,4
Europe,other countries	1 179,7	62,4	5,0	1 759,3	116,4	7,9	1 616,1	76,5	4,7
USA and Canada	14,9	8,9	0,7	5,5	80,2	5,5	5,9	75,7	4,7
Other countries	4 215,6	296,1	23,8	4 369,7	243,2	16,5	4 517,0	260,9	16,2
Totally	17 073,9	1 245,0	100,0	17 652,3	1 469,5	100,0	18 386,1	1 615,2	100,0

Structure of import of technical ceramics and sanitary ware according to territories in 2015 (CZK)



In 2015 the import from the European Union countries shared on technical ceramics import with 74.4 %. The greatest importer was Germany. As far as sanitary ware the share of import from the European Union countries was 71.9 %. The greatest importers were Poland, Austria and Germany. From the Other countries the share on total import of sanitary ware of which was 28.1 %, the greatest importers of this assortment were China and Turkey.

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