



TRAKYA CAM SANAYİİ A.Ş.  
2016 SUSTAINABILITY REPORT



**BEING A PIONEER IN THE GLOBAL MARKET**

- DYNAMIC STRUCTURE
- OPERATIONAL EXCELLENCE
- DIGITALIZATION
- INNOVATION

**GLOBAL PRESENCE**

- FINANCIAL STABILITY
- SUSTAINABLE ENERGY
- SUSTAINABLE ENVIRONMENT
- SOCIAL RESPONSIBILITY

**ONE GLOBAL FAMILY**

- EMPLOYEE HEALTH AND SAFETY
- RESPECTING DIFFERENCES
- PROVIDING DECENT WORK

## About the Report

Trakya Cam Sanayii A.Ş. (hereinafter referred to as "Şişecam Flat Glass" or "the Company") presents its stakeholders with its sustainability performance for the period between January 1<sup>st</sup> and December 31<sup>st</sup> 2016 in this third Sustainability Report prepared in accordance to the "core" option of GRI G4 Sustainability Reporting Guidelines.

The economic data included in the report involve all legal enterprises of Şişecam Flat Glass in Turkey and overseas in order to be in line with the consolidated data provided in the financial reporting of the Company. All social and environmental indicators involve Şişecam Flat Glass's Turkey operations. Şişecam Flat Glass aims to expand the scope of its sustainability reporting to its overseas operations in the forthcoming reporting periods.

Stakeholder feedbacks are vital for us in terms of improving both our operations and our reporting process. All views and suggestions received from our stakeholders are carefully reviewed and used to improve our operations.

We invite our stakeholders to forward any opinions about the report, suggestions or complaints to:

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In order to ensure the sustainability of the value we create for our stakeholders, we resolutely continue the evaluation of our processes from a sustainability perspective and the integration of prioritized components in our business strategies.

## Message from the Chairman

**I am glad to present you with our third Sustainability Report, which we, as Şişecam Group, prepared in line the principles of transparency and accountability. The Report was prepared based on the internationally acclaimed sustainability reporting guidelines (GRI G4) of the Global Reporting Initiative as part of the requirements of a responsible business understanding.**

2030 Sustainable Development Agenda is a universal call to action to end poverty, protect our planet and ensure the peace and prosperity of all people through 17 Global Goals. As a global, reputable, financially stable company with a transparent understanding of governance, Şişecam Group adopts the United Nations Sustainable Development Goals (SDG) in accordance with its sustainable growth model, while supporting and adding value to goals of gender equality (SDG5), clean water (SDG6), clean energy (SDG7), innovation (SDG9), responsible production (SDG12), and climate action (SDG13).

Our pathway to become one of the top three in the Global Market, is through mainstreaming, evaluating and prioritizing our business strategy in line with sustainability principles while adding value we create for our stakeholders. Being listed on the Istanbul Stock Exchange Sustainability Index in the 2016-2017 period is regarded as an important indicator of our high performance in this scope.

Our Group, which successfully maintains its activities while sustaining its competitive advantages, produced 4.6 million tons of glass, increased consolidated net sales by 14% reaching to TRY 8.4 billion, domestic sales by 46% and international sales by 54% as of 2016 yearend. In the soda production, being the top producer globally, 2.3 million tons of soda and 3.8 million tons of industrial raw material was produced in the year of 2016.

Pursuing its investments with a view to reinforce both its operations and its market positions, our Group made TL 1.2 billion worth of investment as of yearend. In line with our value creating sustainable growth strategy were also reflected on our financial results in 2016. EBITDA volume was TL 2.1 billion, while our EBITDA margin was 25.2% with a 1.4-point increase. Our Group shares performed well above the averages of BIST Holding, BIST 100 and BIST 30 indexes gaining 34% in nominal value, while the share of corporate foreign investors among our publicly traded shares reached a high level of 46.5%.

As a Group operating in energy intense industries, the efficient use of energy, access to effectively continuous energy supply, and the continuous review of energy related risk and opportunities plays an important role for our sustainable operations.

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On this basis, the energy consumption of our operations, which are managed according to the international energy management standards, is systematically monitored and energy efficiency projects are implemented to ensure a continuous energy consumption reduction. A total of 590,700 GJ of energy saving was achieved and 25,800 tCO<sub>2</sub> of GHG emission was prevented by means of the energy efficiency projects we carried out in the reporting period.

As part of renewable energy solutions, Şişecam installed 6 MW solar power panel for its flat glass plant in Mersin which is one of the seventh largest roof type solar power generators in the world.

Another development achieved by our Group in 2016 was the establishment of Şişecam Çevre Sistemleri A.Ş. (Şişecam Environmental Systems Inc.) in cooperation with the European Bank for Reconstruction and Development. This strong cooperation, which is a first in the world and aims to accelerate the modernization of the leading glass recollection and recovery companies of Turkey, seeks to provide know-how transfer support for the companies besides long-running financing opportunities on easy terms. Şişecam Çevre Sistemleri A.Ş., which aims to increase the rate of recycled glass from 19% to 45% within five years, pioneers the establishment of a sustainable glass recycling infrastructure, regarding both the mitigation of greenhouse gas emissions and contributing to the national economy by means of the energy savings achieved being also an important contributor of its social responsibilities.

A significant component of our global competitive power is value added innovative products and the research studies lead by Research and Technological Development Unit. Şişecam Research and Technology Development Center is ranked 8<sup>th</sup> among 127 R&D Centers according to the 2016 R&D Performance Index rating prepared by the Turkish Ministry of Science, Industry and Technology. As part of the studies in the reporting period, participation and applications to internationally and nationally supported projects were ensured, four patent registrations were realized and 29 patent applications were filed.

Şişecam Group internalizes integrated industry technologies and adopts information technology in all its processes and business models to conform to the age of innovation and virtual realities. In this regard, leading culture was adopted

to accelerate digital technologies in business processes; all the digital assets of our Group is being managed with a holistic and strategic approach through the Digital Transformation Project. Our digital assets were renewed with design and contents focused on user experience in parallel with current trends alongside our restructured brand architecture.

We continued promoting the transition to a recycling society by generating social behavioral change through one of the most comprehensive sustainability and social responsibility projects of Turkey, the "Glass and Glass Again" Project which we have been carrying out since 2011. Since the start of the project, trainings regarding recycling were provided to a total of 233,000 primary school students, 17,400 glass banks were donated and 740,000 tons of glass packaging waste was recycled.

Besides the social responsibility projects, we continued actualizing significant studies with the responsibility of sustaining our cultural heritage in the field of glass with Serçe Harbor Glass Wreck Documentary, Antique Glass Works Collection and History-Culture-Glass themed product portfolio.

Şişecam Group also maintained its pioneering position in the field of education, starting the first Glass Science and Technology Master's Program of Turkey with university cooperation in order to meet the qualified human resource need of the glass sector. We believe this program, which is exemplary in terms of Industry-University partnership, will make valuable contributions to the sustainability of human resource competence in the glass industry.

We are a global family among the most prominent industrial institutions of the world with our nearly 22,000 employees in 13 countries. We continue our practices aiming to create a safe working environment while respecting differences, respecting our employees to ensure their happiness, productivity and efficiency, which we regard as the most important component to sustain the global value we create.

On the occasion of this Report, let me take this opportunity to extend my thanks and pay my respects to all our shareholders who have greatly contributed to achievements and sustainability of the value we create as a global company in today's highly competitive business world.



**Prof. Dr. Ahmet Kirman**  
Chairman

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Sustainability is a philosophy that is established in our corporate strategy and reflected in all our operations. At Şişecam Flat Glass, we believe sustainability has a significant role in our success.

## Message from Flat Glass President

**I am glad to present you with our third sustainability report, which is prepared in accordance with the GRI G4 Sustainability Reporting Guidelines of the Global Reporting Initiative.**

2016 was a year of important economic, social and political fluctuations all around the world as well as in Turkey. Şişecam Flat Glass achieved a successful performance in 2016, thanks to its flexible management approach against varying market conditions, its efforts focused on operational excellence and its rich product portfolio. Our Company strengthened its position in the domestic and international market and stood out with its competitive advantages against challenging market conditions.

Our Company adapted to the changing conditions of the industries it does business with through its growing production infrastructure, customer-oriented approach, versatile selling capability, and value-added products, and it retained its strong position in the industry for all product groups in 2016 as well. Şişecam Flat Glass continued to create value for all its stakeholders by increasing its total sales by 42% in TRY as of the 2016 year end.

Şişecam Flat Glass continued to expand its production area and market share with its new investments abroad while maintaining its leadership in Turkish market. Within this scope, the Company acquired the assets of Italy-based Sangalli Vetro Porto Nogaro S.p.a and incorporated a 220.000 tonnes/year capacity float line and a 4 million square-meter laminated line. It has started test production following the installation of an athermic coated windshield glass line in the Automotive Glass Plant in Bulgaria. With these capacity increases, Şişecam Flat Glass has become a leader in Europe in terms of production capacity. A flat glass line with cold repair completed has been activated at our Mersin Plant and a laminated line with 3 million m<sup>2</sup> annual production capacity has been activated at our Polatlı Plant. We have started to work on the investment for the second domestic vacuum coating line, which we have decided to activate in the second half of 2018. Through the aforementioned line, we plan to produce Temperable Solar Control Low-E Glass with high selectivity. We thus plan to increase our production capacity for thermal and solar control glass and expand our product range.

Sustainability is a philosophy that is established in our corporate strategy and reflected in all our operations. At Şişecam Flat Glass, we believe sustainability has a significant role in our success. Our sustainability approach has been shaped by the responsibility brought to us by our corporate prestige and background. As an enterprise operating in an energy intensive industry, we

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carefully monitor risks and opportunities generated by climate change. We blend the deep-rooted historical heritage of Şişecam Group with dynamic R&TD activities, and develop innovative and environmentally friendly products that meet customer needs for all markets and product groups in which we operate. In 2016, approximately 33 million TRY was allocated for research and development activities. In support of our innovative point of view, in the reporting period, operations for new products were accelerated, three patents were registered and applications were filed for seven patents.

In 2016, the Company introduced three new products that have heat and solar control features for the architectural glass market. One of them is the high-performance “Şişecam Temperable Solar Control Low-E Glass” product, which provides heat insulation and solar control. It will be used in Istanbul’s third airport project. The other two are solar control glass with varying performances that are used as parapet glass to provide visual integrity on facades, columns and beams areas.

The composition of ultra-clear glass for architectural use was developed according to the demand of the energy glass industry, and test production was carried out at Yenişehir Plant. Our ultra-clear product suitable for solar and architectural use will be introduced in 2017.

In 2016, the Company continued its efforts in developing “Şişecam Temperable Lacquered Glass”, which ensures the safety of the painted glass commonly used for decorative purposes against the impact that may occur at usage areas. This product has been planned to be launched in 2017 with increased color options that vary in line with customer demands.

At Trakya Plant, the Company performed the test production of “greenish gray privacy” glass, the second color option in the “privacy” glass product group for the automotive industry. This product helps decrease cooling expenses by providing heat and solar control in vehicles.

The Company continued its efforts to develop athermic and athermic+heated coated products within the vacuum coating line for energy saving of vehicles in 2016. This coated product with high selectivity is planned to be used in the production of laminated automotive windshield glass heated by the coating.

Lead-free brazing has been started to be applied to the back heated automotive glass in the mass productions of our customers.

An aligning process was begun in 2016 for the development of technical integration and value creating, and favorable results were obtained in some areas with the participation of Şişecam Automotive, Research and Technological Development Department and Richard Fritz. The Company aims to increase its share in the European automotive glass market by enriching its portfolio with new products with high value-add in 2017.

We aim to produce more value-added products through analyzing all our operations in terms of efficiency and through using less resources. The

Lean Six Sigma approach adopted to this end is based on the main strategy of continuous development. We focused on simplification of operational processes by carrying out a total of 14 Six-Sigma projects at 4 plants in 2016. Based on international standards, we meticulously manage our high priority areas in the field of sustainability, such as combating climate change, providing a safe and peaceful working environment for employees and strengthening our industrial collaborations.

We work with high quality, occupational health and safety and environmental standards that are beyond the national legal requirements in all countries we operate. We continuously make investments and deliver consciousness-raising efforts in order to attain our goal of zero accidents.

Our contribution to the regions we do business is reinforced by our local supplier practices. As of 2016, we have more than 5,000 active suppliers and we have achieved a local supply ratio of 40%.

We continue our efforts to expand our quality culture to the entire value chain. In the locations in which we operate, While production is based on European standards, we also consider local regulations and customer demands above the standards in the locations we operate. For standardizing production and quality criteria across our factories, we conduct process, product and quality audits at all plants year-round. Again, audits were made to ensure that Isicam Authorized Manufacturers meet the requirements of European standards and produce in line with our company’s quality requirements year-round.

Believing that choosing the right product benefits all of our industry stakeholders, we support relevant cooperations and deliver product information efforts through various channels. We provided information to 1,700 industry representatives related to 2,500 projects during 1,200 meetings with architectural, construction and facade companies to introduce our new products and promote their use in projects in 2016.

We launched Isicam Systems Kumbara Card Club on July 1, 2016 all around Turkey with the aim of increasing demand for Isicam branded products by PVC joinery firms and ensuring that the energy saving Isicam S and K Series is preferred in the market. With Isicam Systems Kumbara Card Club, the first in the industry, PVC joinery firms can collect credits as they use Isicam products. It is being actively used by 3,500 firms.

The Şişecam Flat Glass Showroom was opened at the Tuzla Campus in order to exhibit our products to the customers and industry representatives from the architecture, automotive, home appliances and solar energy sectors.

Based on our priority of customer satisfaction, we implemented the “Customer Relations Management (CRM)” system in 2016 to better manage our customer relations and to use processes and technology strategically and efficiently.

Digitalization retained its prominent position among our corporate strategies in 2016 as well. Associated with Şişecam Group Digital Transformation

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Strategy, Şişecam Group has started to manage all digital assets within the Group with an integral and strategical approach. To this end, the Şişecam Flat Glass web site was updated with a more user-friendly design that is organized by business fields such as architecture, automotive, home appliances and solar energy. In addition, it was made available in the languages of Turkish, English, Bulgarian and Russian. ISO/IEC 27001:2013 Information Security Management System has been established and certified, being an indicative of our emphasis on information security of our Company and stakeholders.

“Performance Calculator”, providing fast and easy access to the performance values of our products, is available in Turkish and English on the Şişecam Flat Glass corporate web site to help industry professionals select the appropriate glass for their projects. In 2016, Russian and Bulgarian versions of the Calculator were made available as well. “Isıcam Selection Wizard” was made available for the use of end users and decision makers in order to have an active role in glass selection. This tool enables users to choose the most appropriate Isıcam product for their needs and location by answering a few simple questions concerning their expectations about the glass.

We carefully track the environmental impact of all our operations and deliver efficiency efforts to minimize their impact. Şişecam’s performance concerning its Turkey and Bulgaria operations is available in Şişecam Group Carbon Disclosure Project (CDP) responses. Şişecam Group was among the 50 companies attending the platform from Turkey in 2016. Our total domestic energy consumption in 2016 was measured to be 13.000.000 GJ.

Within the scope of the project carried out across the entire Group for the recovery of thermal energy, investment efforts for the “Organic Rankine Cycle (ORC) Waste Heat Recovery (WHR)” were completed and the system

was launched at our Mersin Plant in 2016. Approximately 250.000 GJ energy is saved annually thanks to the power generated through the waste heat resulting from waste flue gas. Our project was given third prize at ener.CON 2017 conference, organized for the sixth time in 2017 with the participation of leading energy managers, experts, consultants, and industry representatives from Europe. Also, the same project called “Power Generation from Waste Heat Project” was given the “ICCI Energy Award”, known as the Oscars of the energy industry.

We have decided to invest in an electric power generation plant which will contain solar panels with 6MW capacity on an 80.000 m<sup>2</sup> roof top at our Mersin Plant, aiming to be the largest solar energy plant installed on a roof in Turkey. We are planning to start electric power generation in 2017.

We carry out activities to decrease the environmental impact from our products as well as our operations at our plants. In addition to our traditional mirror production, all our lines were redesigned for ecological mirror production in 2016 through removing copper from production processes and through restricting lead usage.

Investments intended for the development of the employees continued at an increased rate in the reporting period as well. The Global Leadership Model ATLAS program, launched within Şişecam Group, aims to increase the knowledge of Şişecam Flat Glass managers as well as all Şişecam managers and to raise future leaders.

I extend my gratitude to all our stakeholders, in particular our employees, investors, business partners and customers, who significantly contributed to our success.



**Dr. Reha Akçakaya**  
Şişecam Flat Glass Group President

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# About Şişecam Flat Glass

Operating in the field of flat glass within Şişecam Group, Şişecam Flat Glass ranks 5<sup>th</sup> in the world and 1<sup>st</sup> in Europe in its own industry in terms of production capacity.

Şişecam Flat Glass is operating in four core business fields: architectural glass, automotive and encapsulated glass, solar glass and home appliances glass. As the plant has taken over in 1981, the Company has become the first organization to produce modern float technology in Eastern Europe, the Balkans, Middle East and North Africa bloc. Şişecam Flat Glass has pioneered many practices in its industry since then and assumed a leading role in the development of the flat glass industry both in Turkey and in the region.

Şişecam Flat Glass set up Trakya Glass Bulgaria EAD plant in Bulgaria in 2006. In 2009, it took a strategic step with the decision of actualizing its flat glass operations in Egypt and Russia in partnership with Saint-Gobain — one of the world’s largest players in the sector — and commissioned its automobile glass plant in Bulgaria in 2010, as well as laminated and coated glass facilities in 2013.

In 2013, the company acquired %50 shares of the HNG Float Glass limited (HNG) company in India, and further continued its expansion in Europe by acquiring Richard Fritz holding company. also invested in two new factories in Russia and Romania to produce automotive glass. Lastly, in 2016, it acquired the assets of Italian based flat glass producer Sangalli Vetro Porto Nogaro S.p.a and started its production in Italy with a float line and a laminated line having a capacity of 220.000 ton/year.

The Company also continued its domestic investments and currently provides products for the construction, automotive, energy and household-appliances industries through its plants, partnerships and expanding product range in 10 different countries with its 12 float lines.

## ŞİŞECAM VALUES



We derive strength from our traditions and support each other.



We thrive and develop together.



We display fair and transparent management approach.



We care for our environment.



We respect differences.

## ŞİŞECAM GROUP MISSION

To be a company that adds value to life with its high-quality products offering comfort and respects people, nature, and the law

## ŞİŞECAM FLAT GLASS VISION

Becoming a rapidly growing global flat glass company by offering strong brands and innovative solutions



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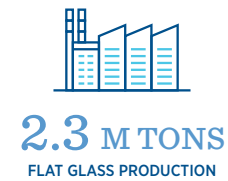
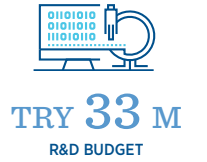
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**2016 PERFORMANCE**



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**FLAT GLASS BRANDS**

Şişecam Clear Float Glass
Şişecam Ultra Clear Float Glass
Şişecam Tinted Float Glass
Şişecam Tentesol
Şişecam Tentesol Titanium
Şişecam High Reflective Glass
Isicam Systems C, S and K Series
Şişecam Low-E Glass
Şişecam Laminated Low-E Glass
Şişecam Acoustic Laminated Low-E Glass
Şişecam Temperable Low-E Glass
Şişecam Solar Control Low-E Glass
Şişecam Temperable Solar Control Low-E Glass
Şişecam Temperable Solar Control Glass
Şişecam Laminated Glass
Şişecam Ultra Clear Laminated Glass
Şişecam Acoustic Laminated Glass
Flotal
Flotal Ultra Clear

**FLAT GLASS BRANDS**

Flotal E
Şişecam Lacquered Glass
Şişecam Ultra Clear Lacquered Glass
Şişecam Patterned Glass
Şişecam Mirrored Patterned Glass
Şişecam Wired Glass
Şişecam Picture Frame Glass
<b>AUTOMOTIVE GLASS</b>
Şişecam Laminated Glass
Şişecam Tempered Glass
Şişecam Encapsulated Glass
Şişecam Sliding Glass
Şişecam Double Glazing Glass
<b>SOLAR GLASS</b>
Şişecam Glass for Photovoltaics
Şişecam Glass for Solar Thermal Collector
<b>HOME APPLIANCE GLASS</b>
Şişecam Glass for Ovens
Şişecam Glass for Refrigerators

**CORPORATE MEMBERSHIPS**

Glass for Europe
ICG International Glass Commission
Association of Automotive Parts and Components Manufacturers
White Goods Suppliers Association
Turkish Exporters Assembly
Foreign Economic Relations Board
Association of Turkish Construction Material Producers (IMSAD)
Association of Thermal Insulation, Waterproofing, Sound Insulation and Fireproofing Material Producers, Suppliers and Applicators (IZODER)
Turkish Foundation for Quality
Istanbul Chamber of Commerce
Istanbul Chamber of Industry
Türktrade
Association of Personnel Management
Uludağ Exporters Association
Turkish Solar Energy Industry Association
Central Anatolian Exporters' Association

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# Our Sustainability Approach

**Our sustainability approach is based on generating added value for financial continuity, reducing our environmental impact, and creating lasting values for our stakeholders.**

In this regard, our sustainability approach processes involve ensuring sustainability of the value we generate for all our stakeholders, evaluating all our business processes from sustainability perspective and improving relevant processes and minimizing the environmental impact we generate doing all these. We adopt a strong management approach by ensuring sustainability is represented at a high level and considering our sustainability approach together with our vision, business strategies and objectives.

## Sustainability Management

Sustainability is managed within Corporate Development and Sustainability Presidency in order to develop efficient and effective decision-making skills in line with the vision and strategies of the Şişecam Group and to govern the long-established structure of our Group more efficiently in the competitive landscape of our day. Contributing to and following up the strategies and policies of the Group in line with sustainability principles and drawing the roadmap for and implementing sustainability solutions in the fields of energy, environment, human resources, procurement, processes, production, capacity building and international relations, while designing and implementing procedures and standards for the central administration of quality systems are included within the scope of the sustainability function.

We present a powerful management approach by evaluating our sustainability approach along with vision, business strategies and targets while we ensure a high-level representation of sustainability management.

Şişecam Sustainability Committee, established in 2015, consists of the Chief Corporate Development and Sustainability Officer, Production Vice-Presidents of Groups, Sustainability Director, Human Resources President, Corporate Communication Director and Industrial Relations Director. The working groups in the scope of the Committee are responsible for conducting activities regarding Environment, Energy, Occupational Health and Safety, Innovation and Social Responsibility.

Risks and opportunities related to sustainability topics are determined mainly by Sustainability Directorate and submitted for the evaluation of Sustainability Committee. Chief Corporate Development and Sustainability Officer, also a member of the Şişecam Executive Board, submits the topics for consideration of the Executive Board in its monthly meetings and ensures necessary decisions are made if required. Similar procedure is followed by Chairman of the Executive Board (CEO) in the monthly Board of Directors meetings.

Şişecam Flat Glass's prioritized sustainability issues were revised and renewed in 2015 with the participation of Sustainability Working Groups. During this work, the feedbacks received from our stakeholders, as well as developments in our fields of operation and the results of relevant benchmarking studies were evaluated and our system of prioritized issues was defined. As a result of the review performed in 2016, it is decided to retain the system of issues defined in 2015.

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**OUR SUSTAINABILITY PRIORITIES**



***Becoming One of the Top 3  
 Players in Global Market***

- R & D\*
- Innovative products\*
- Business ethics\*
- Business continuity\*
- Customer satisfaction\*
- Marketing communication\*
- Risk management\*
- Working conditions in the supply chain
- Product information\*
- Product responsibility and safety\*
- Increasing the generated economic value\*
- Legal compliance
- Local procurement\*
- Fight against corruption\*



***Global Presence***

- Waste management\*
- Energy efficient products and environmentally friendly products\*
- Emissions management\*
- Industry cooperations\*
- Energy management\*
- Combating climate change\*
- Efficient use of resources\*
- Water management
- Environmental management in the supply chain
- Contribution to community development
- Biodiversity\*



***One Global Family***

- Fair working conditions
- Employee rights\*
- Employee engagement
- Equality at work
- Occupational health and safety\*
- Talent management\*

*The aspects marked with asterisk (\*) are material within and outside of (throughout various stages of business chain) our organization, while the other aspects are only material within our organization.*

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## Sustainability Approach

Şişecam Flat Glass places emphasis on sustainability priority targets and constantly furthering its performance in relation to these targets. Sustainability performance is evaluated based on key indicators specified, the standards in the relevant scope are followed, activities ensuring compliance are carried out, and views of all stakeholder groups are taken into consideration. In this regard, the targets achieved in the reporting period and targets specified for the next period are as follows:

Strategic Targets	2016 Targets	Target Achievement Status	Accomplished in 2016
Efficient use of energy	Make an investment amounting €8.600.000 for generating power by using the waste heat from the furnace to be put into use after the cold repair at Mersin Plant, thereby generate 5,5 MWhe electricity	Completed	Investment efforts for the "Organic Rankine Cycle (ORC) Waste Heat Recovery (WHR)" were completed and the system launched in 2016 within the scope of the project carried out across the entire Group for recovery of thermal energy. Approximately 250.000 GJ energy is saved yearly thanks to the power generated through the waste heat resulting from the waste flue gas. Our project was granted 2 international awards.
Increase efficiency of resource and investment	Continue efforts to minimize losses by increasing production efficiency	In process	Specified production KPI targets were achieved.
	Continue 6 Sigma project efforts for efficient use of resources	In process	Şişecam Flat Glass Group focused on simplification of operational processes through a total of 14 Six Sigma projects at 4 plants in 2016.
Become a solution partner for customers	Aiming at improving quality at glass processing, provide personnel training and certification to fulfill the need for qualified resources to do proper processing; in this regard, prepare national professional competencies, prepare for training activities, conduct "Skilled Workforce for Glass Industry Project" to start exam and certification work	In process	At the end of June, Vocational Qualifications Authority (VQA) decided to assign the task of establishing national professional standards for the occupations in the glass processing industry. Draft standards were specified in the workshops organized to establish national professional standards. Draft standards were revised based on the comments received from the public institutions and industry representatives and submitted to the VQA industry committee. Efforts for establishing national professional competencies continue.
Improve employee productivity	Continue projects from previous period to improve growing organization of the company, increase competency of the staff; in the new period, carry out project efforts regarding integration of foreign human resources practices, career and talent management, awareness raising platforms for the white-blue collar workers, remuneration systems and expat management	In process	We analysed employee engagement surveys, determined high impact areas and organised "Employee Engagement Action Development Workshops" to develop action plans for these areas. For sustainable success, we started "Talent Management System", Success Factors Career Management Module is integrated in Bulgaria operations. We organized briefings for all employees on market position of our company. We started Leadership School, Marketing School, Sales School, Glass School and HR Certificate Programmes.
Ensure continuity in compliance with the quality standards and fulfillment of customer expectations	Continue efforts to include the Head Office activities in the scope of current ISO 9001 Quality Management System of the plants	Completed	Head Office activities were included in the scope of ISO 9001 Quality Management System of Trakya and Mersin plants.
	Increase light transparency value up to 1% based on customer expectations	Completed	
Improve brand and product awareness in Turkey	Continue product specific supports and activities to improve social awareness, put mobile applications into use for end user, Continue efforts to reach targeted number of members for Kumbara Card System for PVC frame manufacturers.	In process	Continued activities on all channels aiming at increasing social awareness. Preliminary work completed for designing and implementing mobile applications that will help end users to reach appropriate solutions regarding their practices.
Provide continuity of R&D activities	Continue development efforts for new product demands, determined based on the developments in the industry and customer expectations. Continue adding performances to the product family, add new products of off-line coated solar control glass, which was not included in the product range before, to the product portfolio	In process	Developed and introduced functional and innovative products for the industries of architecture, energy and automotive by allocating a budget amounting TRY 33 million for research and development costs in 2016.
Increase logistic performance	Start transporting jumbo andlehr end-size glass to customers following the test transportations, increase this type of shipping to expand overseas	Completed	Bulk shipments were made for jumbo size glass via river and sea transport. Lehr end-size bare glass was shipped to customers in Europe and USA.

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**Sustainability Approach in 2017**

Our targets	2017 targets
Ensure quality and continuity in production	Carry out a total of 19 Six -Sigma projects at 4 factories of Şişecam Flat Glass Group in 2017
Decrease product cost	Set up a solar energy power generation investment at Mersin Plant
Ensure excellence for customer service quality	Aiming at improving quality at glass processing, provide personnel training and certification to fulfil the need for qualified resources to do proper processing; in this regard, prepare national professional competencies, prepare for training activities, carry out "Skilled Workforce for Glass Industry Project" to start exam and certification work
Increase product and brand awareness in Turkish market and target markets	Continue product specific supports and activities to improve social awareness, put mobile applications into use for end users, Continue efforts to reach targeted number of members for Kumbara Card System
Improve operational and systemic processes	Complete preparations to migrate to ISO 9001 Quality Management System and ISO 14001 Environment Management System 2015 versions
	-Thanks to RFID Supported Warehouse Management System, manage and control all operational processes in a fully systematic way, with the introduction of the system, decrease inefficient movements at flat glass warehouses, minimize labor need and increase loading capacity. - Thanks to Loading System with Preliminary Preparation, decrease loading time with the stillage prepared doing preliminary preparations on specified areas in the warehouse before the vehicle arrives at the plant, decrease waiting time of the vehicles on the loading ramp by doing primary preparations for domestic machine-size shipments, thus increase loading capacity and customer satisfaction On this scope, 1500 removable machine-size trestles will be supplied in 2017.
	- Development efforts carried out for light trailers to be used for domestic machine lehr end-size shipments. Thanks to lightened trailers performing ring transport to specific destinations, glass transport capacity was increased by 12%. In addition, mentioned trailers were improved to decrease fixing time, thus waiting time of the vehicles on the loading ramp was decreased. Increasing the ratio of domestic transports via lightened trailers is targeted.
Have the product range and technological knowhow to steer the market	Continue developing new products based on customer demand and expectations

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## Stakeholder Engagement

Şişecam Flat Glass believes regular and open communication with the stakeholders is an important guiding light for reaching corporate targets. Therefore, we maintain our dialogue with our stakeholders on different platforms and at varying frequencies as required by the communication type. All our stakeholders can communicate us through all communication channels indicated on the corporate web site. In consideration of our mutual interactions, our priority stakeholder groups are employees, suppliers, customers, and public institutions.

### KEY STAKEHOLDER GROUPS AND ENGAGEMENT PLATFORMS

INTERNAL STAKEHOLDERS			
Stakeholder Group	Engagement Platforms	Frequency of Stakeholder Engagement	Evaluation of Engagement in the Reporting Period
Senior Management	• Executive Board Meetings	At least once a month	Meets regularly to evaluate various sustainability issues and opportunities with the attendance of all relevant departments.
Employees	• Employee Satisfaction Survey • Suggestion and Idea Platforms • Employee Interviews • Seniority Incentive Award • Recognition and Reward System	Varies depending on the type of engagement	The most important asset of Şişecam is its employees. Şişecam companies are leading companies in their industries with regards to training and supporting their human resource.
Shareholders, analysts and investors	• General Assembly Meetings • Meetings with analysts and investors • Phone calls/teleconferences and email communication with investors • Periodically published informative reports (e.g. Annual Reports, CDP reports, earning and interim reports) • Social media • Investor feedbacks	Varies depending on the type of engagement	The Company, which is in constant communication with its shareholders and investors, fulfilled all requirements of Turkish legal regulations during the reporting period.

With the aim of fulfilling expectations of its stakeholders regarding its sustainability performance, Şişecam Flat Glass provides information, exchange views and make proactive observations via different engagement channels such as strategical collaborations, one-to-one interviews, conferences, seminars, workshops, target group studies, surveys and similar platforms.

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**KEY STAKEHOLDER GROUPS AND ENGAGEMENT PLATFORMS**

EXTERNAL STAKEHOLDERS			
Stakeholder Group	Engagement Platforms	Frequency of Stakeholder Engagement	Evaluation of Engagement in the Reporting Period
Customers	Şişecam Flat Glass engages with its customers on the level of its business lines. Feedback obtained from the customers is of great importance to improve business processes and increase customer satisfaction. Customer feedback is collected one for one during customer visits, customer meetings, phone calls with the customers and recorded to the CRM system. Also, feedback is collected and measured via customer satisfaction surveys. The customers can contact Şişecam Flat Glass on a 7/24 basis via email or by following company's social media accounts. Also, customers can provide feedback during fairs, conferences and activities.	Continuous interaction with e-mail, social media and phone, planned/unplanned visits and meetings as required	Şişecam Flat Glass is in constant communication with its customers as routine part of its business activities. There are several channels for customers to provide feedback regarding the environmental and social performance of the Company.
Public authorities/ Other institutions influencing various regulations	<ul style="list-style-type: none"> <li>• Regular reporting</li> <li>• Meetings, forums and conferences</li> <li>• Press releases</li> <li>• One to one meetings</li> <li>• Fairs</li> </ul>	Continuous within the general course of regular business (e.g. communication by email, phone, or in person) or as required specifically	Şişecam Flat Glass places great emphasis on fully complying with laws and regulations in all its operations.
Suppliers	As required, engagement methods with suppliers include; <ul style="list-style-type: none"> <li>• Daily workflow</li> <li>• Meetings</li> <li>• Email communication</li> </ul>	Continuous within the general course of regular business (e.g. communication by email, phone, or in person) or as required specifically	Supplier relations are handled via periodical interviews and evaluations.
Non governmental organizations	Strategical collaborations, joint events, routine meetings, to contribute to the development of the industry, are organized with Non- governmental Organizations.	At least once a month	Nongovernmental organizations are supported through joint projects conducted in social, economic and environmental issues.
Media	National and international media channels are regularly used in order to raise awareness about our Enterprise and products and communicate with industry representatives and final consumers. With annual Media Planning, we provide media coverage on trade magazines via special content and advertisements. Press statements are prepared on the activities being performed and these are disclosed to the press, media coverage is provided with press conferences, press interviews, and press releases.	At least once a month	Şişecam Flat Glass maintains regular communication with national and international media in order to raise awareness about the Enterprise and products and deal with queries.
Community	Şişecam Flat Glass organizes promotional events (at shopping centers, streets, etc.) to raise social consciousness and awareness about the benefits provided by its environmentalist and energy saving products. Visual and Print Media, Press channels are used efficiently, industry-specific collaborations, university educations, versatile activities are carried out before different target groups.	Varies depending on the type of engagement	All activities are announced on the media.

The expectations of our stakeholders regarding our sustainability priorities for the reporting period and the responses developed by Şişecam Flat Glass are as follows:

CRITICAL CONCERN	STAKEHOLDER GROUP RAISING THE CONCERN	INFORMATION SOURCE REGARDING THE ACTION TAKEN
Reporting on Our Environmental Impact and Performance	Customers, employees, investors	Publishing Sustainability Reports in GRI G4 Standards
Reporting on Financial Performance	Shareholders	Comprehensive Annual Reports
Increasing Employee Motivation	Employees	Sustainability Reporting





# ***Being a Pioneer in the Global Market***



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**Şişecam Group took the first steps for becoming a global player with its visionary point of view set forth during its foundation. The Group targeted world market since 1960's and acted with the vision of "World is our market".**

Following the expansion of investments between years 1990-2000, orientation towards foreign markets and world class production, regional leadership attained in 2000 and afterwards and increased market share in the regions, Şişecam Group set its new target to be among the top 3 players in the Global Market. Şişecam Flat Glass within Şişecam Group is Europe's largest and world's 5<sup>th</sup> largest flat glass manufacturer.

We ensure the sustainability of our success by combining strong corporate management practices with modern systems. We attain operational efficiency by integrating the expectations of our stakeholders at the regions we operate into our decision-making processes. Additionally, we strive on a global scale to further our performance in economical, social, and environmental dimensions.

Operational excellence is the focus of our business processes. Our sustainable growth approach is based on managing our business processes more efficiently with a flexible and solution focused structure to maintain high levels of productivity. In addition to this approach, digitalization and innovation, major requirements for business world and competitiveness today, are other management approaches that our objective of being among Top 3 Globally is based on. Our emphasis on research and technological development grows day by day with the awareness of importance of developing environmentally friendly and energy saving products in the global competition.

**Dynamic Structure**

In Şişecam Group, we reinforce our strong corporate governance principles with sustainable practices and systems, efficiently manage our processes with our practices within the context of risk management. We conduct our operations in light of our Code of Conduct, collect the expectations of our stakeholders through various communication channels and include them in our decision making processes. In this way, we constantly observe the economic, social and environmental sustainability of all Group operations and strive to enhance our performance.

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## Transparent And Integrated Management

At Şişecam Flat Glass, transparency and accountability principles are the basis of our corporate governance practices which are shared annually with our stakeholders through the “Corporate Governance Rating Report”. Şişecam Flat Glass prepares the “Corporate Governance Rating Report” within the context of relevant Capital Markets Board regulations. This report is accessible through the investor relations section of our corporate web site.

The Board of Directors, formed in conformity with the Corporate Governance Principles, is composed of nine members, 2 of whom are independent. The Board involves a Corporate Governance Committee, an Audit Committee, and a Committee for the Early Determination of Risks.

## Risk Management and Internal Audit

At Şişecam Flat Glass, an enterprise of Şişecam Group, risk management and internal audit activities are structured under the Parent Company. The activities are conducted under the Parent Company Board of Directors in coordination with CEOs who is responsible to manage the core operational areas of the Group. The results of the regular and planned meetings held by the “Committee for the Early Determination of Risk”, “Audit Committee”, and “Corporate Governance Committee” are reported to the Boards of Directors in accordance with the regulations.

The objective of the “Committee for the Early Determination of Risk” is early determination and management of internal and external risks that might endanger corporate operations and the revision of risk management systems.

At Şişecam Group, risk management activities are pursued based on corporate risk management principles and approached from a holistic and proactive perspective. The risk management function was designated to also focus on micro and local risks; the technological support required for efficient risk management was provided within the framework of the integrated risk management platform named “MicroScope”.

The purpose of the internal auditing activities maintained meticulously in our Group for many years is to support the healthy development of the Group companies and the achievement of unity and coalescence in practice, while ensuring that operations are conducted in compliance with internal and external regulations and that corrective measures are implemented in a timely manner. In line with this purpose, audit works are conducted regularly within the bodies of the Group companies operating domestically and abroad.

Internal audit activities are carried out in accordance with the periodic audit programs approved by the Board of Directors. Audit programs are formed by making use of results obtained from risk management activities, in other words “risk-based audit” practices are implemented.

## Business Ethics

Şişecam Group’s Code of Conduct is effective at Şişecam Flat Glass. The Code of Conduct is the most important guide for Şişecam’s responsible business manners. Şişecam Group Code of Conduct is characterized as a guideline directing the relations of all Group employees with customers, suppliers, shareholders, and other stakeholders. An “Ethics Board” was established with the purpose of ensuring the compliance of the Group operations with the Code of Conduct, evaluating practices inconsistent with the Code of Conduct, generalizing the culture of ethics across the Group, and enhancing the level of awareness and consciousness in this regard. The Ethics Board works under the Corporate Management Committee

Şişecam Group Code of Conduct defines the responsibilities of managers and all employees and sets forth principles regarding the use of the Group resources and information, conflicts of interest, and relations with other organizations. The Code of Conduct explains in detail that Group regulations, procedures, and instructions and the Code of Conduct will be precisely applicable regarding all roles in the Group and it clearly states the sanctions to be imposed in cases of disorderly conduct.

The corporate governance structure of the Company is structured to allow all stakeholders, primarily employees convey their concerns regarding the processes that are legally or ethically inappropriate to the management. Employees can communicate processes that are incompatible with the legislation and ethically inappropriate to the Audit Committee and the Internal Audit Unit. An ethics report line was formed for stakeholders to allow them convey processes deemed to be conflicting with laws or the company’s ethical values to the Audit Committee. Related complaints can also be emailed to etik@sisecam.com.

In 2016, “Şişecam Constitution”, which is a single collection of Şişecam Group mission, vision and values that serves as a guide for all Şişecam employees, was translated into different languages and moved to the corporate intranet portal, the common internal communication platform, for providing access to all employees. Also, e-training program was prepared in the subject of ethical principles and Global Leadership Model.

## Fight against Corruption

The “Anti-Bribery and Corruption Policy” aims at presenting Şişecam Group’s commitments to fight against bribery and corruption and its approach on this direction clearly and transparently, as well as protecting the corporate image. This policy, which is an integral part of the Group’s Code of Conduct, is intended to provide the necessary information for the prevention of bribery and corruption in all Group operations and define the responsibilities and rules on this respect.

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## Operational Excellence

**Operational excellence is the focus of our business processes. Our sustainable growth approach is based on managing our business processes more efficiently with a flexible and solution focused structure to maintain high levels of productivity. Main components of our operational excellence approach involve designing products fulfilling the expectations of the stakeholders, acting in conscious of the responsibility we bear on the entire value chain without sacrificing quality, and generalizing the generated value across the entire value chain.**

In line with its vision of being a global flat glass company offering innovative solutions to the industry, product responsibility and operational excellence approach of Şişecam Flat Glass is based on adopting highest quality and safety standards for its products and providing all its stakeholders with correct and up-to-date information about the products.

## Product Safety and Product Responsibility

As Şişecam Flat Glass is a global company exporting to many countries in the world and operating in 10 different countries, its compliance with international standards is of critical importance. The Company applies internationally accepted standards to manage its environmental, social and economic impacts.

Within the framework of European Union technical legislative alignment, the products bear CE marking showing technical conformity to ensure free movement of goods. CE marking shows the products meet the EU health, safety and environmental requirements. .

Positioning people in the heart of everything it does, Şişecam adopts improving comfort and life quality of people as a business principle.

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**Product safety and product responsibility management systems**

	ISO 9001	ISO 14001	ISO 50001	OHSAS 18001	ISO/IEC 27001	Other
Trakya Cam Sanayii A.Ş. Trakya Plant	✓	✓	✓	✓	✓	
Trakya Yenişehir Cam Sanayii A.Ş.	✓	✓	✓	✓	In certification process	
Trakya Cam Sanayii A.Ş. Mersin Plant	✓	✓	✓	✓	✓	
Şişecam Otomotiv Lüleburgaz Plant	✓	✓	✓	✓	✓	ISO/TS 16949
Trakya Cam Sanayii A.Ş. Management and Sales Center	✓				✓	
Trakya Polatlı Cam Sanayii A.Ş.	✓	✓	✓	✓	In certification process	

ISO 9001: 2008 Quality Management System • ISO 14001:2004 Environmental Management System - ISO 50001:2011 Energy Management System - OHSAS 18001: 2008 Occupational Health and Safety - Management System - ISO/TS 16949: 2009 Automotive Quality Management System - • ISO/IEC 27001: 2013 Information Security Management System

**Our products with “TSE Certificate of Product Conformity”**

**Our products with CE marking**

**International automotive glass product regulation approvals**

Şişecam Clear Float Glass	Şişecam Solar Control Low-E Glass	Şişecam Glass for Photovoltaics (Low Iron Tempered Patterned Glass)	Flat Glass (Float)	ECE R43 (European Union)
Şişecam Tinted Float Glass	Şişecam Low-E Glass	Şişecam Glass for Solar Thermal Collector (Tempered Patterned Glass)	Patterned and Wired Glass	DOT (USA)
Şişecam Ultra Clear Flat Glass	Şişecam Temperable Solar Control Low-E Glass	Şişecam Tempered Clear Float Glass	Coated Glass	CCC (China)
Şişecam Patterned Glass	Şişecam Temperable Low-E Glass	Flotal	Laminated Glass	INMETRO (Brazil)
Şişecam Tentesol Titanium	Şişecam Laminated Glass	Flotal E	Mirror	Taiwan (Taiwan)
Şişecam Tentesol	Şişecam Glass for Solar Thermal Collector (Low Iron Tempered Patterned Glass)	Şişecam Wired Glass		

Our following range of products for architectural use bear CE marking:

- Flat Glass (Float)
- Patterned and Wired Glass
- Coated Glass
- Laminated Glass
- Mirror

Performance Declaration documents of our CE marked products are accessible at our corporate web site. We have started our efforts to add 2-d barcode on the product labels. The implementation aims to provide access to the performance declarations of the products through scanning the 2-d barcodes to be added on the product labels by mobile communication devices. With the introduction of product labels bearing 2-d barcodes, we aim to make it easier for the users to access product performances.

Şişecam Flat Glass products have the TSE Certificate of Product Conformity showing the product's conformity to the relevant TSE standard. The laboratories, that were set up on the production sites to perform products tests at international standards, guarantee product quality.

Product, process and quality audits are performed by the Quality Environmental and Technical Standards Department on all basic glass production facilities of the Company. Audit reports are evaluated in order to deliver efforts to generalize good practices across all fields of activity and eliminate deficiencies of the processes.

**Quality Sustainability for Isicam Products**

Audit activities are carried out all year round in order to ensure quality sustainability of Isicam products and conformity of the production made by the Isicam Authorized Manufacturers to our company's quality procedures. Audits in this scope continued in 2016 as well.

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## Customer Satisfaction

For Şişecam Flat Glass, customer satisfaction is among the uncompromising business priorities. Customer feedback is an important indicator for ensuring product quality. Corrective and preventive actions are taken systemically for all customer requests and customers are constantly informed.

**We are aware of the importance of customer feedback for increasing customer satisfaction**

### Customer Relations Management with CRM System

Şişecam Flat Glass implemented “Customer Relations Management (CRM)” system that helps to manage relations with its customers and sub-customers as well as to use technology strategically and efficiently. CRM system focuses on tracking and managing customer relations . It serves as a database providing numerous opportunities for communicating with decision makers such as architects, contractors, PVC frame manufacturers that the Company does not have direct sales. Using this system, the Company aims to steer the market by offering appropriate products and services through better understanding the needs of the customers, thus establishing sustainable relations with mutual benefits.

### Product information

People’s increased needs for nature and sun light has expanded the glass areas on architectural facades and increased the interior glass usage. Transformation of facades to glass shells makes appropriate glass selection more important than ever.

Buildings where appropriate glass is selected, provide

- Reduced heating and cooling costs,
- Reduced power consumption thanks to the maximum benefit from natural light,
- Reduced physical and psychological inconvenience caused by noise,
- Prevention of possible injury risks in cases of glass breaking,
- Security against attack and theft attempts

Şişecam Flat Glass provides glass consultancy services to offer glass solutions that meet the requirements of the projects.

## Glass Consultancy

With its experienced team, Şişecam Flat Glass offers glass consultancy to project decision makers such as architects, facade consultants, investors and contractors on their projects and develops solution offers according to project requirements.

Business partnership is provided for projects by meeting decision makers one-on-one in all project processes up to the final glass selection phase. Within this scope, Şişecam Flat Glass makes specific static, and performance calculations, thermal breakage analysis, prepares glass specifications suggestions in line with the calculations, finds proper glass solutions according to project needs and provides requested sample and mock-up support for the projects. In addition to consultancy support, product training is provided through one-to-one visits to the industry professionals.

In 2016, architecture, construction and facade firms were visited within the framework of glass consultancy services. Within this scope, 1700 industry representatives were provided with information about 2500 projects in 1200 visits.

Within the context of informing our customers about our products through various channels, we provide product related information according to varying needs of solution partners involving architects, facade consultants, investors, project management firms, real estate investment companies, contractors, facade companies and authorized manufacturers. Efforts are carried out to provide detail information about the products on the product booklets, catalogues and brochures. Also, product information is provided through mobile applications, renewed web site and social media accounts. Sharing live broadcasts of corporate events on social media allows us to announce those events to a larger network of stakeholders.

### Product information studies

Products Training Programs	Technical Support	Trainings for Development
Architectural glass product training was provided to marketing and sales teams of our customers to help them understand the needs of their customers and select proper glass products. In 2016, 29 Isicam Authorized Manufacturers were visited and 100 people attended the training events. Provided customers, university students and sector representatives with information about the production processes of the products on the technical visits made to the plants. In 2016, 5 technical visits were organized.	Within the scope of the “Glass Consultancy Service”, customers are provided with information they need on technical areas. In 2016, 1,200 interviews were conducted; 1,700 sector representatives were informed regarding 2,500 projects.	With the cooperation of Şişecam Academy and Bosphorus University, training programs were provided to business partners on the theme of “Sustainable Growth in the Industry”. These training programs aim to add value to the ongoing activities of business partners, help them prepare for the future and enable more efficient business manners. In 2016, Finance and Supply Chain Management training programs were delivered.

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**Isicam Systems Kumbara Card Club**

Glass plays critical role for the buildings to become more energy efficient. In this regard, “Isicam Systems Kumbara Card Club” has been launched in 2016 with the aim of increasing the use of Isicam S and Isicam K products by PVC frame manufacturers. With the Kumbara Card Club, a first in the sector, PVC frame manufacturers can collect bonus points as they use Isicam products and convert accumulated bonus points to gifts. Kumbara Card Club is actively used by 3,500 companies.

**Şişecam Flat Glass Showroom**

Şişecam Flat Glass Showroom, where wide range of products shaping life are promoted, enables to examine automotive glass, home appliances glass and solar glass as well as architectural glass, revealing brand’s leading role in the world of glass.

The showrom features a structure where the products can be experienced and is opened to visits for the customers and industry representatives at Tuzla Campus.

People’s increased need for nature and sun light has expanded the glass areas on architectural facades and increased the interior glass usage. Transformation of facades to glass shells makes appropriate glass selection more important than ever.

**Benefits of appropriate glass selection**

Şişecam Flat Glass embraces it as a principle to conduct human-oriented activities; improving the comfort and life quality of people with environmentally friendly and energy efficient glass products.

**Heat Insulation and Solar Control**

Low-E heat insulation coated glass allows for reducing heating costs of the buildings.  
 Solar Low-E heat and solar control coated glass provides efficient energy saving by reducing costs of lighting energy and heating as well as minimizing cooling loads in energy efficient buildings.

**Sound Insulation**

Acoustic Laminated Glass serves as a noise barrier by absorbing the sound. Thus, it prevents outdoor noise from entering living space and harmful impact on the people.

**Safety and Security**

Expanding glass surface areas highlight safety and security needs. Especially, the practice of integrating laminated glass into these facades becomes widespread, as this type of glass retains integrity and prevents possible accidents, loss of life and property when broken.

**Isicam Brands are Renewed**

Şişecam Flat Glass had diversified and developed its product portfolio with new products developed in line with consumer expectations that change with regards to changing living conditions thanks to its intense R&D studies.

Isicam presents a totality of systems which provides solutions to differing needs of glass with its additional specifications in addition to its main functions of heat insulation and solar control.

In order to raise the awareness of end consumers of Isicam’s superiority in function, specification and technology, the necessity to separate its brand name has occurred.

As a result of the studies conducted, it was decided to renew the name of our “Isicam” brand, which is among the most valuable brands of our company and country, with “Isicam Systems”.

In the new brand architecture, Isicam Systems consist of three main series that can be customized according to diverse needs of living spaces. These include Isicam Systems C Series, Isicam Systems S Series and Isicam Systems K Series.

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## Productivity

Global competition increases the importance of productivity day by day. In this regard, as Şişecam Group, we strive to implement practices that increase productivity in our way of doing business and processes and convert this body of practices into a work culture.

“Simple Transformation Program”, a cultural and managerial change program, has been launched in 2016 with the slogan “people first” in order to shorten total flow time by removing waste sources that do not bear any value for our customers from all our processes. The Program is designated and improved according to the initiatives for Developing Lean Management Processes and Lean Management Culture, that are found on Şişecam Group Strategy Map.

Lean Transformation requires constant improvement approach for all processes towards balanced targets that are aligned with perspectives of human, quality, delivery pace and cost. Target oriented actions are reviewed during weekly-monthly management cockpit meetings and followed by their influence on development.

Continuous development is the basis of Lean 6 Sigma approach adopted at Şişecam Flat Glass. Şişecam Flat Glass Group focused on simplification of its operational processes with a total of 14 Six -Sigma projects at 4 plants in 2016.

**Our targets: Zero occupational accident; correct, zero stop just on time and at first time...**

**How? 5S, kaizen, continous flow with withdrawal principle, autonomous team structure, fight against waste...**

**Results: Reduction in costs and stocks, pace and flexibility, improvement in cash flow rate...**

## Supply Chain Management

We believe adoption of our sustainability understanding and Group values by our suppliers will improve both our Group and our supply chain. We evaluate the social, economic, and environmental performance of our suppliers in the light of our sustainability approach by means of the audits we conduct and expect them to carry this performance further.

**Şişecam Flat Glass has more than 5000 active suppliers as of 2016. We prefer local suppliers as much as possible for product and service procurement and contribute to local economy. Local supply rate was 40% in 2016.**

While determining potential suppliers, we use social criteria such as management system certificates of the suppliers and demographic structure of their employees as well as their financial information and investment volume.

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## Digitalization

**As Şişecam Group, we internalize technology in all our processes and implement business manners that meet today's requirements. This way, we take strong steps in line with continuous development approach as well as allow for integration of industry and information technology. In the reporting period, we have started many projects across the Group.**

Prioritizing creating value in the Group, Information Technologies determined its strategic focus areas and continued to carry out its 2016 operations in line with the expectations and requirements of the Business Units and realize its portfolio in accordance with the strategies of Şişecam and Information Technologies. An extensive work has been started in the reporting period with the aim of specifying Technology Strategy of Şişecam Group. Şişecam Technology Strategy Roadmap was generated after reviewing international technological trends and innovations, and expectations and requirements of the Groups. Following this work, Technology Strategies "Smart, Digital, Productive" for Şişecam Group and "IT 2.0" for IT were generated and shared

with the senior management, and Information Technologies 2017-2021 Strategies were presented with these outputs.

With "Smart Şişecam" approach, the Company aims to collect and analyze quality data, of which ownership is identified, in the desired patterns, report those efficiently, and make anticipatory predictions and modelling. The work of Group Strategic Performance Indicators performed in this scope allows for monitoring Group Financial KPI performances via single cockpit. Through Generalizing Business Intelligence Applications, detail reports were provided to Business Units over a visual interface.

"Digital Şişecam" approach aims at a Şişecam where sales, supply, production, shipping, finance and quality processes are digitalized real time and conducted with Industry 4.0 vision. Within the scope of this practice, the Company aims at a very comprehensive roadmap from driverless forklifts to smart robots, from increased reality applications to preventive maintenance, from internet of things to product simulations. In 2016, efforts has been started in this scope with the support of top management and projects and processes selected according to resources and priorities were moved to digital environment.

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With “Productive Şişecam” approach, the Company aims at a value focused productivity where needs of business units are assessed more closely, services are offered continuously, infrastructures and applications with simple processes are consolidated, required information is accessible via user friendly, flexible and easy to use interfaces. Within this scope, various projects were put into production environment in 2016. Also, efforts continue to develop projects in terms of innovation.

With “BT 2.0” strategy, the Company aims at generalizing the “possible” culture and an Information Technologies 2.0 strategy that is more agile, more flexible with Bi-Modal IT approach, establishes closer relations with the stakeholders, measures business unit satisfaction and user experience carefully, puts emphasis on continuous service and business continuity with mobile solutions, provides cyber security, performs Technology and IT communication over IT Communication Program implemented to share technology and IT performance with the business units, makes IT’s contribution to the Group visible, creates value to business units. Within this scope, various projects were actualized in 2016; and, within the context of 2017 - 2021 Road Map, BT 2.0 transition will continue to be felt effectively.

### **Şişecam Group Digital Transformation Project**

All digital assets within Şişecam Group have been started to be managed with an integral and strategical approach.

Şişecam Flat Glass web site is renewed and made available in Turkish, English, Bulgarian and Russian to present company’s vision, brand value, targets, products and use areas of the products with a more understandable design to the customers in the business fields of architecture, automotive, home appliances and solar energy.

Within the project scope, current digital assets were reviewed one by one and positive aspects and development areas were determined. Within the scope of this work, number of digital assets owned by Şişecam Flat Glass were reduced from 20 to 4 in 2016.

4 digital assets were redesigned as below;

- By providing collective identity integrity and language unity in line with the corporate identity work,

- Target audience focused,
- Compatible with mobile platforms through using current software technologies and user experience design.

Digital Assets of Şişecam Flat Glass

- sisecamduzcam.com
- isicam.com.tr
- flotal.com
- fritz-group.com

### **Performance Calculator**

Professionals (architects, façade consultants, investors and contractors) need performance values of our products to be able to select the right glass for their projects. It is very important to easily and rapidly access those performance values. Within this scope, performance calculator, available in Turkish and English on Şişecam Flat Glass corporate web site, was translated into Russian and Bulgarian in 2016, aiming to generalize its usage in Russian and Bulgarian markets.

### **Mobile Applications**

#### **“Isicam Selection Wizard”**

Isicam Selection Wizard has been implemented to generalize proper use of energy saving products such as Isicam S and Isicam K and help consumers be directed to the right products according to their needs. Available online as well as on Android and iOS platforms, this application enables users to choose the most appropriate Isicam product for their needs and climatic zone which they reside by answering a few simple questions regarding their expectations from glass.

By using the saving calculation module, the users can see the impact of energy saving Isicam products to their budget as well as the environment. The application was downloaded 10.000 times in 2016.

### **Social Media**

Şişecam Flat Glass actively uses social media channels such as Facebook and Twitter. As of the end of 2016, it has 24.852 followers on Facebook and 507 followers on Twitter.

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### **Transparent Journal**

Transparent Journal, prepared by Şişecam Flat Glass and XII Magazine, features artistic productions and innovative uses of glass, latest developments in the glass technology and industry as well as projects highlighted by the glass use in their architecture. Journal is updated monthly and delivered digitally to an average of 14.593 recorded users.

### **Camekân Magazine**

Şişecam Flat Glass has started to publish the Camekân Magazine to maintain its communication with its stakeholders on the highest level. In the Camekân Magazine, corporate events, new products, interviews with the architects and industrial news are shared with the customers.

### **Information Security**

Şişecam Flat Glass attaches foremost importance to information security to protect its corporate reliability and brand image. In 2016, we have started and completed to a great extent, efforts for the integration of ISO/IEC 27001 Information Security Management System with the objectives of reducing information security risks, ensuring confidentiality, integrity and accessibility of information, enhancing the employees' level of awareness and consciousness regarding information security and ensuring continuity of all our business operations with minimum interruption.

In 2016, Management and Sales Center, Trakya Plant and Mersin Plant, Şişecam Otomotiv A.Ş. Management and Sales Center, Lüleburgaz Plant obtained ISO/IEC 27001 Information Security Management System Certificates. Efforts in this scope continue at Yenişehir and Polatlı Plants.

Some of the tasks completed in 2016 regarding information security:

- Şişecam Group Information Technologies Security policy and procedures were updated and published on Camport, Şişecam Group's intranet page.
- A policy for sign-on passwords of computers has been implemented to enhance the security of computer systems.
- Within the scope of the efforts for Şişecam Information Security Management System which was established in accordance with ISO/IEC 27001: 2013 standards, printing out with password practice has been started.

- If the access rights on the systems are not reviewed regularly, user accounts non-compliant with their job descriptions and unauthorized operations may occur on the systems. In 2016, some accesses were revoked to decrease this risk.
- To protect the critical information contained in the notebooks that were classified to have high risk levels by the Information Security Management System Administrators, disk encryption was applied; thus, a measure was taken to correct the information on these notebooks in case they are lost/stolen.
- IT Business Continuity Process Document and Business Continuity Plans were generated. Business continuity drills were carried out for some critical services such as internet, e-mail, Domain, SAP.
- Screen password is made mandatory for all smart phones connecting to the corporate e-mail system.
- With the Mobile Device Management System, screen saving password is enabled on corporate smart phones.
- With the aim of establishing a disaster recovery center to ensure continuity of critical systems, feasibility and analysis studies are being conducted and appropriate technologies are being reviewed.

### **Customer Data Privacy**

Şişecam Flat Glass attaches foremost importance to the topics of customer data privacy and security and takes necessary measures to ensure data privacy and security. Within this scope;

- In the concessionaire sales agreement made with the customers, common privacy and information protection subjects are guaranteed. Information about the customers are not disclosed to third parties in no circumstance.
- Within the scope of the contract made with every employee hired, texts are signed to not to disclose company information to third parties.
- Employees are provided with mandatory trainings aimed at raising consciousness about the importance of user consciousness on information security.
- In the internal file sharing areas, accessing and changing folders is based on authority restrictions and authorities are defined individually for the employees.

In 2016, no cases occurred and no complaints were received regarding any violation of customer privacy.

- ABOUT THE REPORT
- MESSAGE FROM THE CHAIRMAN
- MESSAGE FROM FLAT GLASS PRESIDENT
- ABOUT ŞİŞECAM FLAT GLASS
- 2016 PERFORMANCE
- OUR SUSTAINABILITY APPROACH

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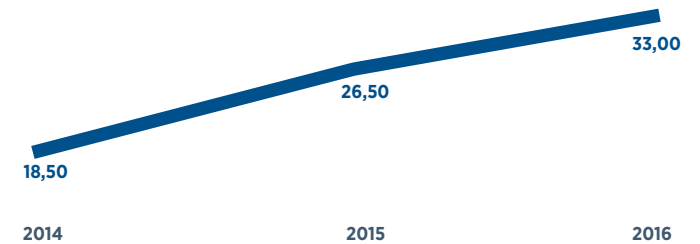
## Innovation

Şişecam Corporate Research and Technological Development (ReTeDev) activities are planned with the target of global competitiveness through environmentally friendly, innovative products and production technologies. Şişecam corporate ReTeDev activities are carried out under the leadership of Şişecam Science and Technology Center together with the manufacturing companies. Şişecam Science and Technology Center is the largest and most competent glass science and technology laboratory in Turkey and one of the few in this field in Europe.

### Innovative Products

Şişecam Flat Glass continuously conducts research and development activities to meet the changing and growing needs of the market and contributes to the reduction in our current deficit as well as national economy with the new value-added products developed and introduced to the market.

R & D EXPENDITURES BY YEARS (TRY MILLION)



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### **Coated Glass**

New high performance “Şişecam Temperable Solar Control Low-E Glass” providing heat insulation and solar control has been developed and introduced for use in the Istanbul New Airport Project and architectural glass market.

Two new “Şişecam Temperable Solar Control Glass” products providing efficient solar control has been developed and introduced for use at offices, shopping malls, museums, skylights and tropical climate regions.

### **Mirrored Patterned Glass**

“Şişecam Mirrored Patterned Glass” has been produced for decorative glass purposes.

### **Temperable Lacquered Glass**

The Company has continued its development activities for the “Şişecam Temperable Lacquered Glass” which ensures the safety of painted glass, extensively used for decorative purposes, against possible impacts at the usage areas. The mentioned product is planned to be introduced to the market in 2017 and color options will be increased upon customer request.

### **Hydrophobic Glass**

Samples of hydrophobic glass were prepared and they are ready for the test stage. Electrochromic (changing color with flow) glass samples were produced as front door glass and exhibited at Innovation Fair. Within the scope of technology development efforts, the related product will be offered to automotive customers.

Şişecam Flat Glass continuously conducts research and development activities to meet the changing and growing needs of the market and contributes to the reduction in our countries’ budget deficit and national economy with the new value-added products developed and introduced to the market.

In the reporting period, 3 patents were registered and 7 patent applications were submitted by Şişecam Flat Glass.



# *Global Presence*



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**Şişecam Group is a company on an international scale with its 44 production facilities in 13 countries and sales to nearly 150 countries. With each glass form we produce, we touch the lives of millions every day. We spring to life through people's touch.**

Sustainable profitability is of high importance to increasingly continue the value we created with our products. Therefore, as Şişecam Group, we aim to continue carrying out investor relations and corporate management practices on international standards and increasing shareholder value constantly with the vision and responsibility of being a global company. Within this scope, we communicate with our investors in a transparent, proactive, rapid and equal manner and we organize activities to promote our Group for the related stakeholder groups.

As a global player, we act with the awareness of the responsibility we bear regarding the common problems of the world. As we operate in an energy intensive industry, we pay special attention to climate change and efficient use of natural resources. With the awareness of the environmental impact arising from our processes, we manage our operations by implementing practices to reduce this impact and carrying out projects on this regard. Within this scope, we use national and international environmental management standards and carry on our operations in full compliance with the legal requirements.

As a requirement of our corporate citizenship approach, we carry out social responsibility projects on many areas to add value to the community life in the geographies we activate globally and we strive to expand the value we create.

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# Financial Stability

**The main reason of being for Şişecam Flat Glass is to create lasting value for our country and all our stakeholders with the approach of financial stability and sustainable profitability. Our Company increased its profitability on all products groups in 2016.**

The turnover increased by 51% on TRY basis thanks to the value-added products and the customer oriented approach regarding architectural glass products.

By providing service with the advantages of high capacity, rich product portfolio and expansive distribution network in the international markets, the share of value-added product sales increased and turnover was increased nearly 1,6 times compared to 2015.

Financial Indicators	2015		2016	
	(M TL)	(M USD)	(M TL)	(M USD)
Total Assets	5.627	1.935	6.879	1.955
Shareholder's Equity	3.139	1.080	3.587	1.019
Sales	2.118	779	3.016	1.000
EBIT	216	79	721	239
EBITDA	392	144	976	323
Net Profit	169	62	575	191
Net Financial Debt	722	248	789	224

Financial Ratios	2015	2016
Current Assets / Short Term Liabilities	2.74	2.02
Equity / Total Assets	%56	%52
Net Financial Debt / Shareholder's Equity	%23	%22
Net Financial Debt / Total Assets	%13	%11
Gross Income / Sales Revenue	%27	%29
EBITDA / Sales Revenue	%19	%32
EBIT / Sales Revenue	%10	%24
Net Financial Debt / EBITDA	%1.84	0.81

**NET SALES REVENUE**  
(TRY MILLION)



**INTERNATIONAL SALES**  
(TRY MILLION)



**TOTAL ASSETS**  
(TRY MILLION)



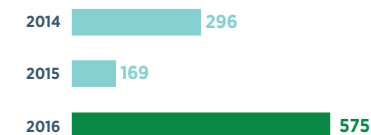
**SHAREHOLDER'S EQUITY**  
(TRY MILLION)



**INVESTMENTS**  
(TRY MILLION)



**NET PROFIT**  
(TRY MILLION)



**EBITDA**  
(TRY MILLION)



**ARCHITECTURAL GLASS PRODUCTION**  
(THOUSAND TONNES)





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## Sustainable Energy

**As Şişecam Flat Glass, we operate in an energy intensive industry. Therefore, it is very important for Şişecam Flat Glass as well as Şişecam Group to use energy efficiently and review risks and opportunities constantly with regards to energy and manage operations accordingly.**

At Şişecam Flat Glass, as across all Şişecam Group, energy efficiency and renewable energy alternatives are identified to enable sustainable use of energy in our operations.

### Energy and Emission Management

Regarding the climate change as one of our priority sustainability issues, we take various steps to continuously monitor and reduce our energy consumption and greenhouse gas emissions arising from our operations

Our main energy source is natural gas which is used in glass furnaces. We also use electricity and LPG for other operations at our facilities.



### Sustainable Energy Measurement and Tracking System

By means of the on line energy monitoring system (SEOIS), which was established in line with our global targets, main energy consumption items at 16 facilities instantaneously monitored and facilities can be compared based on the energy consumption at Headquarters. With the instant measurements, a significant database is generated in relation to energy consumption which allows on line system failures and/or low performance monitoring and requesting immediate remediation to ensure optimum performance and productivity.

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In 2016, our total energy consumption was realized as 12.602.581 GJ. In the same year, all emissions of Şişecam Flat Glass were below the legal limits specified in the Industrial Air Pollution Control Regulation.

**ORC Waste Heat Recovery**

Şişecam Group has started a project for the recovery of thermal energy on its enterprises that have high potential of waste heat. "Organic Rankine Cycle (ORC) Waste Heat Recovery (WHR)" technology was deemed suitable and implemented at Trakya Glass Mersin Plant which has glass melting process. ORC waste heat recovery facility was completed and engaged in 2016.

ORC technology is a favorable alternative to renewable energy sources as it is easier to operate compared to traditional steam turbines and as it can provide production even at lower flue temperatures. Thanks to generating electricity through the waste heat obtained from the waste flue gas, nearly 250.000 GJ saving is achieved annually. In case the ORC WHR facility generates energy at maximum capacity, 16.500 Tons CO<sub>2</sub> decrease will be provided and our Plant will work at the values close to the Green Plant description.

**Lighting Energy Saving at Yenişehir Plant**

Ctp based roof panels of the plant were replaced with corrugated polycarbonate transparent panels. Thus, benefit from the sunlight was optimized and the need for consuming energy for lighting in the daytime was eliminated.

With transition to LED ceiling lighting in the product warehouse area, work have been started to install sensor and automation system that will enable lighting only the area in use. Following the completion of the work, 50% reduction is foreseen in the electricity consumption used for lighting the warehouse. With the project, annual electricity consumption for lighting is targeted to fall from 172. 8 MWh to 86.4 MWh. The project will also enable detail tracking of the energy consumed for lighting.

**Energy Saving at Şişecam Automotive**

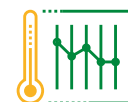
Through the replacement of TF5 existing fans and engines at Şişecam Automotive, electricity consumption was reduced, energy was saved. The project provided 132.7050 kWh saving.

As a result of replacing mercury vapor armature with LED armature, 1.012.628 kwh lighting energy was saved in 2016.

**Energy Efficiency at Mersin Plant**

With the compressor automation project at Trakya Glass Mersin Plant, 1.961.535 kwh electricity saving was provided. The furnace efficiency work at the same plant provided 1.567.000 kwh electricity saving.

With the saving projects carried out in 2016, a total of 181.004 GJ energy saving was achieved, 11,124 tons tCO<sub>2</sub> emissions was prevented.



**Combating Climate Change**

Şişecam's Glass Plants in Turkey, contributed to combat climate change by reducing its specific energy by five times more than the 2016 target, which was 1%. Therefore, specific greenhouse gas emissions are reduced by 5%. Additionally, we are also collaborate with Ministries and actively contributing in infrastructure projects in Turkey in order to manage and mitigate production sourced greenhouse gas emissions.

At Şişecam Flat Glass, we review our production activities in terms of energy efficiency, we diversify our products that provide energy efficiency and have reduced environmental impact. Within the context of combating climate change, we have achieved significant gains in relation to enhancing energy efficiency and reducing energy consumption and resulting greenhouse gas emissions at all our facilities in Turkey and abroad. We continue our studies for increasing these gains without slowing down.

We collaborate with public institutions in infrastructure projects aimed at the management and mitigation of production sourced GHG emissions in our country. Şişecam Group responds annually to the CDP Climate Change program since 2011, and the CDP Supply Chain program since 2012. In this regard, the Group reports on issues such as the climate change strategy of the Group, its risk management and managerial approach, energy, carbon emissions and climate change targets, and carbon emissions amount generated by operations. The performance of Şişecam in its Turkey and Bulgaria operations are included in Şişecam CDP responses. With a disclosure score of 91 out of 100, Şişecam has once again proven its success in understanding and managing climate change related issues. In 2016, Şişecam was among the 50 companies joining the Platform from Turkey.

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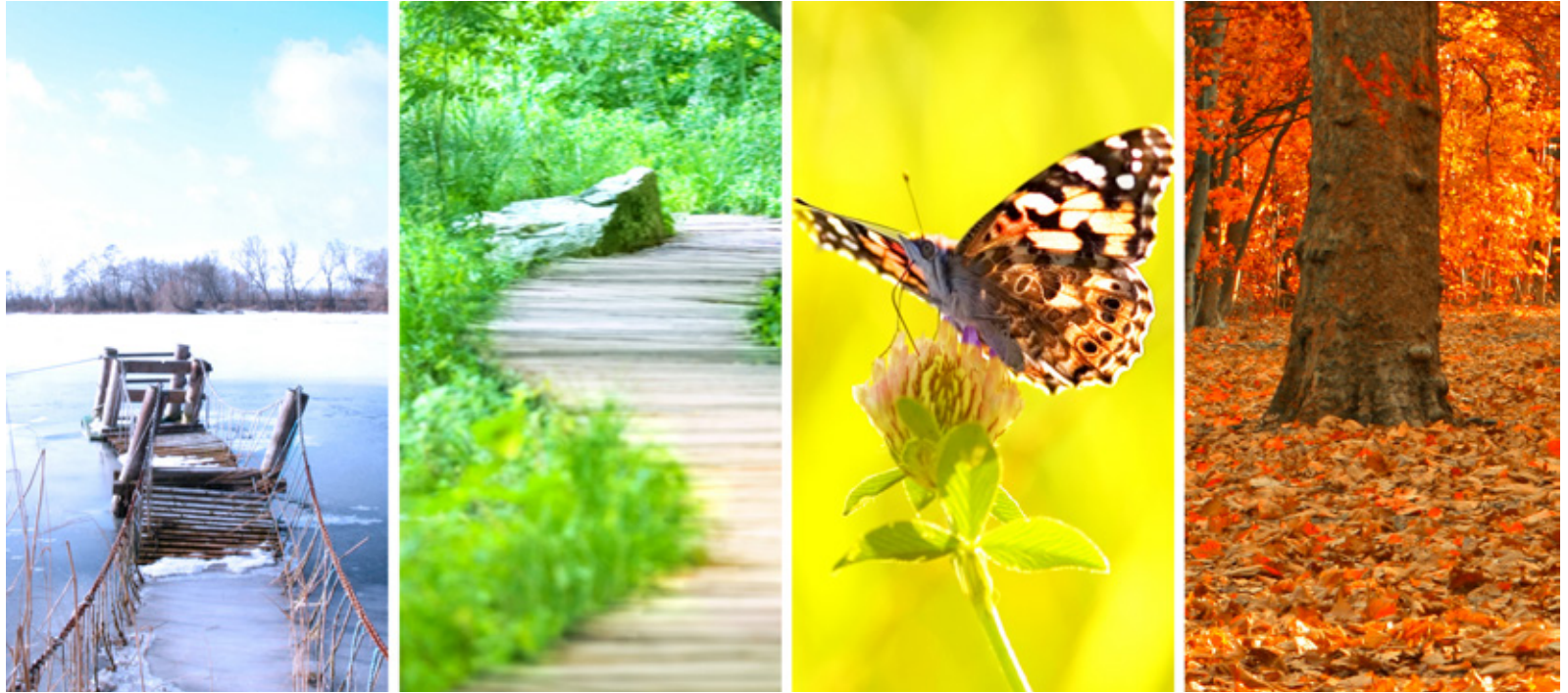
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## Sustainable Environment

**Şişecam Flat Glass aims to leave a more habitable world to future generations and strives to minimize the environmental impact arising from its operations.**

In line with this, we focus on efficient use of natural resources, reduce waste at its source, apply efficient water management practices and design products with reduced environmental impact. While providing continuous improvement of our environmental sustainability performance in line with our main strategic approach, we significantly reduce our operational costs.

We have integrated our environmental sustainability approach to all stages of our business processes. We carry out our environmental protection activities within the Environmental Management System that is implemented in all our operations in Turkey and in this scope, we benefit from the international standards such as ISO 9001 Quality Management System, ISO 14001 Environmental Management System and ISO 50001 Energy Management System. Using the system running with a multilayer structure extending from Şişecam top management to subcontractor level, we carry

out efficient communication, audit and reporting practices and guarantee our environmental performance with our corrective and preventive action plans.

### EFFICIENT USE OF RESOURCES

Rapid shortening of natural resources is continuously increasing the importance of efficient use of resources. Şişecam Flat Glass implements many projects to ensure efficient use of all resources, mainly water and reduce waste.

Şişecam Trakya Plant and Auto Glass Plant are located in the Organized Industrial Zone and wastewater is discharged fulfilling the required standards. Discharge standards will be reviewed in 2017 within the Ergene Basin Protection Action plan. The wastewater resulting from Mersin Plant operations is discharged as specified by the Organized Industrial Zone and no water resource is impacted. The water used at Yenişehir Plant is discharged to the Organized Industrial Zone channel and analyzed by the authorities monthly. No incompliance is found by any parameters. Polatlı

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Plant is also located in the Organized Industrial Zone and its water need is supplied from underground water resources. No situation is found to threaten the health of local people in Polatlı district, the closest settlement to the Plant, as it supplies its water resource from Haymana district. In 2016, 2.5 million m<sup>3</sup> water was consumed and 361.859 m<sup>3</sup> water was recovered at Flat Glass operations.

### Transition to ecological mirror production

Şişecam Flat Glass transitioned to ecological mirror production from traditional mirror production in 2016. Thus, copper use was discontinued as a raw material used in production phases and lead content was restricted. By this means, use of hazardous chemicals in the production was brought under control, our awareness to people and environment was enhanced.

Another phase of resource responsibility is recycled material use. Flat Glass developed various projects to improve its performance in this area. As a result of these projects, 259.136 tons recycled/recovered material was used in 2016.

#### **RFID Supported Warehouse Management System (WMS)**

With Radio Frequency Identification (RFID) Supported Warehouse Management System, all areas and products in the plant warehouses are marked with RFID chips and all physical product movements are recorded automatically. By this means, entire process is automated, all physical

movements related to the products are managed automatically by the system without any manual operation.

The project aims to make in-store operations more efficient, improve stock visibility and loading/unloading capacity. Also, forklift movements are expected to decrease by 30%. The project was engaged in Polatlı Plant in 2016 and is planned to be engaged in all Flat Glass Plants in 2017.

#### **Process Wastewater Recovery Project**

Underground water resources are shortening rapidly in Trakya Region. Therefore, many water recycle and recovery projects are realized in Şişecam Flat Glass. With the project started in 2016, process wastewater will be treated and reused in the process. To this end, wastewater treatment facility will be installed in the plant. This effort aims to protect environment and nature through efficient use of underground resources and reduce costs through generating less process wastewater. The project will help to recover process wastewater by 50 %, reducing 30.000m<sup>3</sup> water consumption to 15.000m<sup>3</sup> monthly.

#### **Trakya Mersin Production Line Water Cooling System**

In the closed-loop water cooling systems, water consumption reduces by 98% as there is no water loss compared to traditional tower cooling open loop systems. As water treatment chemicals consumption is also reduced thanks to this system, resource consumption and operating costs are saved as well. 224.000 m<sup>3</sup> of water saving is targeted with the introduction of closed loop convectional (Fin fan) cooling system to be used for cooling water-cooled equipment in Mersin TR4 production line in 2016.

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## Environmentally Friendly and Energy Efficient Products

### **We contribute to sustainable buildings by improving energy performance of the buildings.**

In our country, 30% of energy consumption occurs in the buildings and nearly 30% of heat losses in the buildings is caused by uninsulated windows. In Turkey where 70% of energy is imported, making the buildings energy efficient is of foremost importance.

In 1974, Şişecam Flat Glass launched its double glass products under the brand name "Isicam" which provide 50% heat insulation compared to single glass, paving the way for the development of the industry by leading the replacement of single glass with double glass in the market.

Isicam Systems is the brand for insulating glass unit, which is formed by Isicam Authorized Producers as they assemble glass plates, manufactured with advanced technology in Şişecam Flat Glass factories, under factory conditions. Isicam Authorized Producers meet the criteria for facility sufficiency and implementation addressed in Şişecam Flat Glass' franchise agreements and are audited regularly.

Objective of achieving better insulation level with Isicam Systems led Şişecam Flat Glass to develop high performance insulating glass products "Isicam S" and "Isicam K", made of Low-E/Solar Low-E coated glass that will provide more efficient insulation, thereby, more energy saving through glass.

#### **Heat Insulation**

"Isicam S" reduces heat losses by 50% compared to regular double-glass thanks to the Şişecam Low-E Glass it contains, thereby ensuring saving in fuel costs, delays humidification compared to regular double-glass.

#### **Heat Insulation and Solar Control**

"Isicam K", in addition to the heat insulation quality of "Isicam S", also blocks solar heat gain by 40% during summer thanks to the Solar Low-E Coated Glass it contains, ensuring savings in electricity costs arising from air conditioner use.

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### **Temperable Coated Glass**

Since 2013, Şişecam Flat Glass has improved the high performance temperable coated glass products, that ensure energy saving through their heat and solar control feature and fulfil safety needs at the same time with their temperable property, with different performances and introduced under the names “Şişecam Temperable Solar Control Low-E Glass” and “Şişecam Temperable Low-E Glass”.

Preferred in residences, offices, hotels, shopping malls, airports, commercial buildings, skylights, and winter gardens, “Temperable Solar Control Low-E Glass” or “Temperable Low-E Glass” offers users comfortable living areas, while it also meets safety needs thanks to its temperable property.

Temperable Low-E Glass provides savings from heating expenses in winter by reducing heat loss by 50% compared to ordinary insulating glass unit. Temperable Solar Control Low-E Glass, in addition to heat insulation, provides savings on cooling expenses in summer by reducing solar heat gain by 40-65% compared to ordinary insulating glass unit.

“Şişecam Temperable Solar Control Glass 20” and “Şişecam Temperable Solar Control Glass 30”, are developed for offices, shopping malls, museums and skylights that require efficient solar control. The products transmits the daylight in controlled manner, thereby saving energy and reducing cooling expenses.

### **Flotal E**

Industrial development and increased production come with environmental issues while generated waste harms both nature and people’s health. To leave more livable world to future generations, to say hello to a happy and healthy life, ecological mirror Flotal E was introduced by Şişecam Flat Glass in 2016.

Produced without copper and lead in paint, Flotal E does not contain environmentally hazardous substances and provides perfectly clear vision with high reflection rate. Thanks to Flotal E’s copperless and restricted lead content, less solid/gas waste is generated during its production. Highly resistant to corrosion and moisture, Flotal E ecological mirror adds depth, spaciousness and aesthetics to the spaces it is used.

### **Acoustic Laminated Glass**

Nowadays, rapid urbanization comes with noise pollution. The noise must be under specific limits to prevent the negative impact it has on people.

Şişecam Acoustic Laminated Glass, is an important building material that reduces the passing of environmental noise inside with other materials constituting the outer shell of the building. Specially designed, Şişecam Acoustic Laminated Glass is produced by merging two glass plates with a binding layer having sound insulation feature under heat and pressure.

### **Athermic Glass**

The Company continued its work to develop athermic windshield glass and athermic heated windshield glass for the automotive market. In test productions, windshield glass conforming with the customer specifications in terms of color and performance was obtained, development work continues.

### **Greenish Gray Privacy Glass**

Test production performed at Trakya Plant for “greenish gray privacy glass”, the second color option of privacy glass group intended for use by Şişecam Automotive that ensures heat and solar control in vehicles, thereby significantly helping reduce air-conditioner loads.

## **Şişecam Headquarters Sustainable Green Building**

Şişecam Headquarters, where energy efficient and environmentally friendly products of Şişecam Flat Glass come together on its facade and interiors, was candidate for LEED GOLD Certificate as a sample of green architecture approach.

Şişecam Flat Glass’s different and inspiring products were used indoor and outdoor areas like facade glass, roof lighting, meeting room, glass wall, glass floor, improving employee comfort.

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**Unleaded Solder**

Unleaded solder practice has been started for the rear heated auto glass products in serial production of Renault and BMW companies. Alignment process has been started in 2016 with the participation of Şişecam Automotive, ATGB and Richard Fritz to improve technical integration among the groups and positive outcomes generating value add on many areas were attained.

**Award**

Şişecam Temperable Solar Control Low-E Glass", developed for Istanbul New Airport Project, received the "Best Façade Material Award" in 6<sup>th</sup> Roof and Façade Materials Awards ceremony.

**Istanbul New Airport**

Şişecam Flat Glass products with varying performances that provide solutions for the needs of efficient energy use, noise control, aesthetic, safety and security are preferred by the project for Istanbul New Airport, being among the mega projects of the world.

New superior "Şişecam Temperable Solar Control Low- E Glass", designed for use on the facades of Istanbul New Airport project, provides a glass combination providing 51% light permeability, thereby ensuring the optimum light permeability needed in the project. In addition, it allows for transparent design through its low reflection feature.

Şişecam Temperable Solar Control Low- E Glass, preferred for the large surface roof lights, where solar control is most needed in the project, provides efficient solar control by allowing only 26% of the solar energy intake, thereby saving cooling expenses during summer and reduces heat losses by 50% compared to regular double glass, thereby saving heating expenses during winter.

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## Social Responsibility

**As Şişecam Flat Glass, we support projects that improve welfare of all our stakeholders including sectoral stakeholders and local people at our operating areas.**

Ensuring selection of appropriate glass in the industry and raising awareness of our customers on glass is one of our important social responsibility areas. In this regard, we raised awareness and contributed to industrial knowhow by meeting different stakeholder groups at many events and projects in 2016.

### **Sectoral Events**

In the seminars “Reflections from Glass”, “Architects Discuss Noise” which were organized for industry representatives to inspire designing with glass, local and foreign speakers provided information to the participants through their presentations on designing with glass.

In collaboration with Association of Architects in Private Practice (SMD), “Glass from an Architect’s Perspective” events were organized addressing architects. At these events where themes of “Saving and Beyond”, “Noise

and Beyond” were discussed, subject matter expert architects shared their experience and provided information to the industry.

Attended Turkish Furniture Manufacturers (MOSDER) event addressing furniture designers and I’m Design, Mimarşiv Forum Interior events addressing interior architects.

Joined “Glass Performance Days” conference organized Istanbul Glass Fair and promoted our new products.

### **Glass Group with Istanbul Chamber of Commerce**

In the event organized under the leadership of Istanbul Chamber of Commerce Glass And Glass Products Professional Committee and Şişecam Flat Glass on the theme “Glass in Energy Efficiency”, construction industry professionals and glass industry representatives discussed the importance of appropriate glass for a sustainable future.



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## Events for End Users

### *Isıcam K Beach Event*

Adopted turning personal saving to social saving as a mission, Şişecam Flat Glass, promoted “Isıcam K” product and “Isıcam Selection Wizard” application with the beach events took place in Çeşme, İzmir, informing every segment of society about the importance of saving.

In the events, Isıcam mobile teams told participants about Isıcam K’s capability to provide 40% more efficient solar energy control compared to regular double glass and “Isıcam Selection Wizard” mobile application was installed in the mobile phones of nearly 1,000 end users.

### *Shopping Center Event with “Isıcam K”*

With Şişecam Flat Glass and Egepen collaboration, Isıcam K Test Tunnel event was organized at İzmir Forum Bornova Shopping Center. In the event, 800 people visiting the stand experienced efficient solar control feature of Isıcam K as live.

The visitors showed interest in Isıcam K’s feature to help reduce heating costs during winter by providing 50% more efficient heat control compared to regular double glass as well as save air-conditioning costs in summer by decreasing solar energy gain by 40%.

### *Acoustic Laminated Glass Event*

In order to increase recognition and usage of our noise control glass, an event with silent house theme was organized for raising awareness of the end users. Thus, products offering solutions that fit different requirements were experienced one-on-one by the end users, contributing to raising awareness of the end users.

### *Laminated Glass “Blogger” Event*

Blogger Event was organized to improve consciousness and awareness of mothers regarding safety and security glass products within the scope of Security Communication Plan.

This event aimed to highlight the potential risks for children arising from glass found in windows and inner spaces and raise awareness on the possibility to eliminate these risks through safety and security glass products.

### *University Training Programs - We train future architects and engineers*

To contribute to applying right glass solutions for the requirements of buildings, Şişecam Flat Glass frequently meets students from faculties of architecture and engineering who will shape the building industry in the future and provides about architectural glass applications ensuring energy saving, safety and security, noise control.

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In 2016, training was provided to 800 students from METU Faculty of Architecture, İzmir Economy University Faculty of Architecture, İTÜ Faculty of Architecture and Civil Engineering, Yıldız Technical University Faculty of Architecture, Sakarya University Faculty of Civil Engineering, Başkent University Faculty of Architecture, Gedik University Faculty of Interior Architecture, Tunceli University Faculty of Civil Engineering. In addition to trainings, factory visits were organized to provide students with information regarding production processes and products.

***Skilled Workforce for Glass Industry Project -All Our Efforts is to Create Skilled Workforce for the Industry***

“Skilled Workforce for Glass Industry Project”, the most comprehensive vocational project of the glass industry, continued in 2016 as well. Occupational mapping workshop, the first stage of the project, was performed with the participation of Isicam Authorized Manufacturers and specified the scope, level and sub-specialization of the occupations in the glass processing sector.

Collaboration protocol was signed with the Vocational Qualifications Authority (VQA) to establish national standards of the specified occupations. To create the draft occupational standards, workshops were performed for each occupational group with the participation of foreman and experts, .

Prepared draft national occupational standards were shared with the authorities from industrial glass sector. The suggestions were evaluated in VQA Glass Cement and Soil industry committee meeting and submitted to the VQA Board of Directors for approval.

***Cooperations with the public institutions***

Various projects are carried out to provide consultancy to public institutions regarding regulations in their glass selections. The Company contributed to the studies to make coated glass use obligatory for new buildings and took part in the regulation studies of Ministries such as “Protecting Buildings Against Noise”, “Protecting Buildings Against Fire”. Glass section of General Technical Specifications of Construction was revised and submitted to the Ministry of Environment and Urbanization Technique Board.

***Our contributions to our operational geography***

With the sponsorship provided to Çayırova Sports Club, we aim to attract young people into sports, train them in the branches of rowing, canoeing and sailing, and help them compete in the contests.

**Award**

The event organized at İstinye Park Shopping Center with the theme “Silent House” to allow the end users to experience sound insulation feature of acoustic laminated glass was awarded with 1<sup>st</sup> prize in “ACE OF MICE Best Shopping Center Event” category.

**Green Catalog – We Contribute to Sustainable Buildings with Appropriate Glass Solutions in Green Buildings**

Glass selection in green buildings is one of the most important criteria to ensure energy efficiency in the buildings. Appropriate glass selection reduces heating and cooling charges of the buildings, thus, ensures efficient energy saving. With its energy efficient and environmentally friendly glass products developed, Şişecam Flat Glass offers solution alternatives to the architects who wants to design green buildings. Şişecam Flat Glass products help gain points from green building certifications like LEED, BREEAM with their environmentally friendly, sustainable, energy saving features. “Green Catalog – Appropriate Glass Solutions in Green Buildings” booklet was published in 2016 with the aim of raising the awareness of our business partners and making it easier for them to select the appropriate glass.

We have contributed to social welfare in Targovishte district where our Bulgaria plant is located with various social responsibility activities. We sponsored the Targovishte Fair organized by the Targovishte Municipality, purchased 3 elevators for Targovishte Public Hospital, supported Aszod Varosert Association, provided relief to Hitrino Municipality to help the victims of the train accident happened in Hitrino, and sponsored the new year celebrations of Yelabuga Municipality.



# ***One Global Family***



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**As Şişecam Group, we are one global family that is among the world's leading industrial enterprises with 21,715 employees in 13 countries. Our employees are the key players and enable of our global value and oursustainable successTo maintain and empower employees, we are dedicated to continually increase and improve working environment, which allows social cohesion, respect for diversity, facilitate inclusivity and foster productivity, competence and satisfaction. Hence, we strive to become a preferred workplace by incorporating the most competent, successful and productive professionals.**

Global value created together with the employees is based on equality of opportunity. With the consciousness that differences, different point of views enrich us, we focus on our successes and we are against any kind of discrimination. We involve our employees in our decision-making processes by establishing different platforms for listening their opinions. We support innovation culture and implement encouraging practices in this regard.

We ensure that competencies are enriched with training opportunities. We consider occupational health and safety as an integral part of our business manner and regard it as a major responsibility to provide a workplace where employees work safely.



### Şişecam Constitution

Şişecam Constitution can be characterized as a guide gathering Group mission, vision and values under a single roof. Prepared in Turkish and English, "Şişecam Constitution" was translated into the languages of the countries we operate globally and made available to all employees via "Campport", Şişecam Group's intranet portal.

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## Employee Health and Safety

Occupational health and safety is one of the indispensable business priorities of Şişecam Group. Şişecam Flat Glass considers a healthy and safe workplace as a precondition of efficient performance, strives to minimize occupational health and safety risks while designing processes. Detail risk analysis is performed with the aim of removing occupational health and safety risks, measures that will eliminate risks are taken. In order to generate accident free workplaces, investments are made in new technologies and training programs are organized to raise consciousness of the employees.

At Şişecam, Occupational Health and Safety (OHS) is managed by the Şişecam Industrial Relations Directorate in coordination with Human Resources Directorates of Companies and Group Industrial Relations Directorate. Audits ensure all operations are carried out in healthy and safe working environments and managed in accordance with the national and international standards.

At Şişecam Group, OHS management meets OHSAS 18001 Standard requirements. Occupational Accidents Analysis and Corrective Preventive Action Monitoring System allows tracking OHS performance across the Group. All production facilities are subject to OHS reviews by the management throughout the year and the results are shared with Human Resources, Risk Management and Internal Audit departments. All facilities of Şişecam Flat Glass has OHS Committees. Committee meetings are made every month in each of the 5 plants and once in 3 months in Şişecam Headquarters. Within the scope of the analysis regarding the root causes of the accidents, "Occupational Accidents Evaluation Committee" was established and constitutes of Occupational Safety Experts employed at Group's workplaces.

At Flat Glass, a total of 39.888 hours occupational health and safety training was provided to 2.539 people in 2016.

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As a result of the information efforts, training and practices, frequency rate of occupational accidents at Şişecam Flat Glass reduced by 40% compared to the previous year.

As a result of the evaluations made by Industrial Relations Directorate, Trakya Polatlı Cam Sanayi A.Ş. received Honor Award whereas Trakya Plant received Thanks Award for their activities regarding Occupational Health and Safety in 2016. Among the applications made for “Best Practice in Occupational Health and Safety” award in 2016, Trakya Plant received Preventive Action prize whereas Şişecam Otomotiv A.Ş. Lüleburgaz Plant received Corrective Action prize.

**Projects for employee health and safety**

In order to eliminate the smell caused by the IBC's used for storing acetic acid, an acetic acid resistant fixed tank system was installed in Trakya Plant shearing lines. Tank filling and outlet line, suction line passing through the chemical tank were installed for both lines. Thus, inhaling of this chemical was prevented and environmental impact was reduced.

Trakya Plant cullet system was covered to provide dust and noise insulation, thereby cullet dust and noise spreading on the workplace was minimized.

At Flat Glass, a total of 39.888 hours occupational health and safety training was provided to 2.539 people in 2016. As a result of the briefing activities, trainings and projects, accident frequency rate at Şişecam Flat Glass reduced by 40% compared to the previous year.



**OHS Ambassadors**

In the reporting period, OHS Ambassadors effort has been started to raise consciousness regarding occupational health and safety in all units at the plants and ensure employees comply with the rules in a habitual manner at times of operation.



**Occupational Health and Safety Week Activities**

Regional activities organized in the Occupational Health and Safety week since 2013 were organized in 2016 as well to involve all enterprises in Turkey and abroad. In the painting contest that children of blue collar employees joined with paintings having the theme “Occupational Health and Safety When My Mom/Dad is Working at the Plant”, 6 children in Turkey and 6 children abroad were rewarded.

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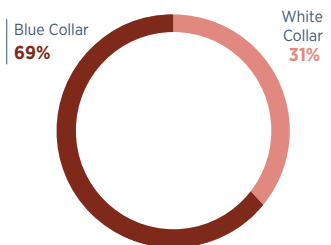
## Respecting Differences

Şişecam Flat Glass, as all enterprises within Şişecam, adopts a fair and transparent management approach that respects diversity. In the light of these principles, equal opportunities are provided to employees in all human resources processes. The human resources processes do not use as criteria any factors that might cause discrimination such as race, religion, language, gender, physical disability. Differences among employee are considered as a

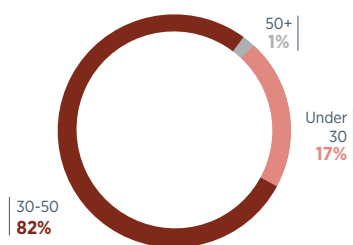
richness that diversify corporate culture and help us to become an innovative enterprise.

Şişecam Flat Glass supports women's employment in business life and the participation of female employees in management. As of 2016, 15% of senior executives are women and the share of women executives in all executives is 16 %.

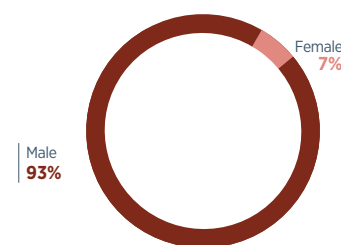
**EMPLOYEES BY CATEGORY**



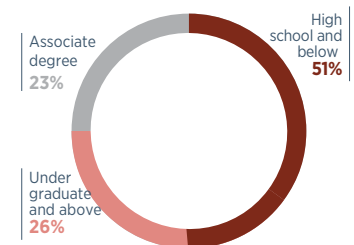
**EMPLOYEES BY AGE**



**EMPLOYEES BY GENDER**



**EMPLOYEES BY EDUCATION LEVEL**



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## Providing Decent Work

Knowing that our employees are among the primary determinants of the success we achieve, we strive to offer them a working environment that respects human and employees, oversees employee satisfaction, helps to improve competencies and encourages employee participation. In this regard, we oversee fundamental rights and freedoms, designate training programs to support professional and individual development of our employees, encourage their participation with effective and transparent communication channel to company's decision-making processes.

### EMPLOYEE RIGHTS

Şişecam Flat Glass strives to provide a work environment with innovation culture that is participatory and respects all national and international rights of the employees.

#### *Flexible Benefits Program*

Flexible Benefits Program, which has been started in 2015, provides the employees with the opportunity to prefer among different vested benefit packages offered by Şişecam.

#### *Recognition, Appreciation and Rewarding System*

Şişecam Appreciation and Rewarding System is the program that is used to reward the behaviors, efforts, and successes of our employees that help the corporation achieve its objectives.

In 2016, 103 employees were rewarded within the scope of the instant rewarding system.

Within the scope of the rewarding system, a total of 20 reward applications were evaluated in the category of stars of the year within Flat Glass Group and the following projects ranked among the top three: RFID Aided Warehouse Management System, Liquid PVB Application to Eliminate Water Ingress and Corrosion of Heated Windshield Electrical Circuit, Customer Loyalty Program for Isicam Brand.

#### *Union Rights*

Şişecam collaborates with labor unions in order to maintain labor peace and establish occupational health and safety as an active culture with our "People First" philosophy.



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All the blue-collar employees are covered by the collective labor agreement made with Kristal-İş Trade Union unionization rate is 69% on all employees.

**Flexible Working Practice**

Flexible Working Project has been implemented to contribute to the work-life balance of our employees, enhance their motivation and support the sustainability of their success. With the project, employees can flexibly plan their working hours, thereby regulating their work and life balance in a more health way.

**Employee Engagement**

At Şişecam Group we actualize various practices and projects in order to create a participatory corporate culture whereby our employees can share their ideas and suggestions, be informed about developments in our company, and communicate with each.

**Employee Commitment**

Beginning from 2013, an employee commitment survey is carried out across Şişecam Group biyearly by an independent company with principle of confidentiality. 2015 survey results showed 1,4% increase as against the previous survey and commitment of the employees working at Şişecam Flat Glass was realized as 55%. The results of the employee commitment survey are guiding in analyzing employee demands and preparing necessary projects.

“Employee Commitment Action Development Workshops” were organized in 2016 whereby managers and employees representing diverse groups and units from all regions evaluated survey results. During these workshops, realized with a total of 388 participants in 14 sessions, development aspects of Şişecam Group were reviewed, improvement areas as well as successful practices were examined carefully, priority actions for improving employee commitment were specified through consolidating results from diverse representative groups.

**Idea Plant**

Idea Plant is a platform designed for our employees to convey their suggestions. In 2016, 171 suggestions were evaluated in Flat Glass Group within the scope of Idea Plant and 44 suggestions were rewarded and a total of TRY 2.212.487.00 of saving was achieved.

**Camport**

Camport is the corporate intranet system used across Şişecam Group.

**“ŞİMDİ!” Social Activity Club**

Şişecam Social Activity Club was established for the employees to make the time they spend at the workplace enjoyable and increase employee happiness by creating a sharing environment. Within the context of “Şimdi!”, a wide range of activities and projects, such as travels, theatre plays, office parties, sports tournaments, aid campaigns and discount opportunities are realized.



**“Şişecam is Moving” Internal Communication Project**

In the reporting period, “Şişecam is Moving” internal communication project was launched to carry out moving of Şişecam Headquarters to its new campus focusing on employee happiness and efficiency. Within the project scope, Şişecam aimed to ensure an efficient communication with the employees during this moving process, direct employees with timely and correctly information, prevent informal communication and disinformation and minimize the potential decreases in commitment, motivation and performance that might happen during this process.

Through the project, information about the new campus was provided through different methods and channels in a sustainable manner. “Workplaces Evaluation Survey” was performed to obtain the expectations of the employees from the new headquarters building and campus. Bulletins containing the properties of the new campus and the information the employees might need during moving and afterwards were prepared and provided to employees as 2 or 3 bulletins weekly, thereby ensuring continuous flow of information. sisecamtasiniyor@sisecam.com address was created for the employees to submit their questions and comments. “Ask Me” team was formed to respond employee questions and organize periodical tours in the Headquarters and served in the building for 3 days.

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## EMPLOYEE DEVELOPMENT

We develop training programs for all our employees which will enable them to do their job better and contribute to their individual development. In 2016, a total of 60,548 person\*hour training was provided and number of hours per employee was realized as 23.1.

### **Şişecam Academy**

Şişecam Academy, where training programs at Şişecam Group are organized through various schools, aims to provide employees with talents and skills that will enable Şişecam Group to reach its strategical targets. In 2016, Sales and Marketing School, Supply Chain Management School, Glass School, and Leadership School programs were organized within the body of Şişecam Academy.

### **Leadership School**

Leadership School project aims for the development of the leadership competences of the managerial staff of Şişecam Group. Through “Şişecam Global Leadership Model”, training activities are carried out to develop leadership competences specially defined for our Group.

### **Global Leadership Model**

Global Leadership Model ATLAS, designed to help maintain our leading position in the world glass industry, aims to enhance knowhow of Şişecam executives, raise the leaders of the future and direct all Group enterprises to the same targets.

### **Digitalization - Gamification**

In 2016, alternative training methods were introduced at Şişecam Academy, thereby employees were enabled to access information in a more rapid, efficient and practical way.

Within this scope, firstly, “Information Security Authority Agent 4141 on Duty” simulation was used in 2016 within the “ISO/IEC 27001 Information Security Management System” as the first step in raising consciousness of the employees. This application is an information security consciousness raising simulation developed for protecting information assets at the office environment and raising consciousness of the employees on this regard.

### **Şişecam Group Talent Management System**

Implemented as of December 2016, Şişecam Group Talent Management System is designed to attract the talent required for sustainable corporate success to Şişecam Group, to provide talents within the Group with the opportunity to bring out their potentials, thereby retaining them, and to raise the leaders of the future.

Within the Talent Management process, candidates with high levels of performance and potential by the criteria specified by the managers and the objective measurement results are identified as “talents” for the Group. The Group aims to support development of the employees who enter the talent pool.

In December 2016, the first assessment process was carried out within the Group and potential levels were determined for all employees in the scope. In 2017, the Group aims to form “Şişecam Group Talent Pool” based on performance assessment results, qualifications evaluation process, evaluations of the talent committees and results of the additional research methods.

### **Orientation Project**

The orientation e-module and electronic handbook for employees are used to ensure that recently recruited employees at Şişecam Group adapt to their new positions more easily by closely acquainting themselves with our corporate culture, field of activity, organizational structure, and practices.

### **Employer Brand**

Şişecam employees organize events, such as case studies, interview simulations, technical visits and career meetings with managers, on college campuses every year in order to enhance brand image. Students are evaluated by managers as part of case studies and those deemed successful are provided with internship opportunities. Interview simulations aim for students to gain experience.

### **Long Term Internship Programs**

In the program employment priority provided to successful students. In this way, interns joining the team are trained about corporate culture and evaluated by their managers with regard to their performance. In 2016, seven students took the opportunity of attending long-term internship within our Group.

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# Performance Data

## Economic Performance Indicators

	2014	2015	2016
Architectural glass production (thousand ton)	1,950	2,022	2,305
Net sales revenue (TRY Million)	2,019	2,118	3,016
Gross profit (TRY Million)	566	565	888
Operating income (TRY Million)	230	165	303
Net profit (TRY Million)	296	169	575
Total Assets (TRY Million)	4,384	5,627	6,879
Wages and benefits paid to the employees (TRY Million)	244	284	372
Dividend paid (TRY Million)	37	46	104
Tax paid (TRY Million)	61	60	68
Social donations (TRY Thousand)	82	115	442

## Environmental Performance Indicators

	2014	2015	2016
Net production (ton)	1,583,316	1,442,066	1,502,738
Total recycled/recovered raw material amount consumed	304,528	236,876	259,136
Total energy consumption (GJ)	12,595,600	10,911,500	12,602,580
Natural gas	11,344,600	9,794,520	11,372,471 GJ
Diesel fuel	7,000	6,218	3.268 kg
LPG	200	1,157	0
Electricity	1,243,800	1,109,627	1,226.695 GJ
<b>Total water withdrawal on resource basis (m³)</b>			
Underground	1,664,193	1,855,951	1,761,677
Municipality	4,921	0	0
OIZ domestic water (well water supplied over OIZ)	36,237	38,962	64,462
Soda Sanayii water pipeline	726,392	502,862	593,057

	2014	2015	2016
OIZ garden irrigation water (well water supplied over OIZ)	19,757	23,464	52,175
Total water consumption (m³)	2,451,000	2,421,000	2,471,371
Recovered or reused water (m³)	175,940	81,200	361,859
Total Emissions (ton)	1,080,400	947,010	1,085,002
Total Scope1 Gross Emissions (ton)	914,600	799,090	921,467
Total Scope2 Gross Emissions (ton)	165,800	147,920	163,535
Total Wastewater Discharge by Target Environment (m³)			
Natural Receiving Environment	359,845	378,361	872,840
Sewer	393,538	338,439	697,515
<b>Total Hazardous Waste by Disposal Method (ton)</b>			
Recovery	527	912	2,981
Total	98,316	2,541	3,896
<b>Total Hazardous Waste by Disposal Method (ton)</b>			
Recovery	1,489	17,639	8,074
Recovered packaging released previous year (ton)	252	533	586
Specify packaging waste recovery rate (%)	44	48	52
Total Environmental Investment Expenditures (TRY)	665,321	731,932	905,824
Total Environmental Management Expenditures (TRY)	578,866	893,903	1,724,887

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**Social Performance Indicators**

	2014	2015	2016
<b>Total Workforce (Number)</b>			
<i>Direct Employees</i>	2,492	2,519	2,620
Female	188	194	182
Male	2,304	2,325	2,438
<b>Total Employees by Contract Type (Number)</b>	2,492	2,519	2,620
<i>Permanent</i>	2,488	2,517	2,616
Female	188	193	181
Male	2,300	2,324	2,435
<i>Temporary</i>	4	2	4
Female	0	1	1
Male	4	1	3
<b>Total Employees by Category (Number)</b>	2,492	2,519	2,620
<i>Blue Collar</i>	1,730	1,708	1,808
Female	21	20	20
Male	1,709	1,688	1,788
<i>White Collar</i>	762	811	812
Female	167	174	162
Male	595	637	650
<b>Total Employees by Employment Type (Number)</b>	2,492	2,519	2,620
<i>Full time</i>	2,492	2,519	2,620
Female	188	194	182
Male	2,304	2,325	2,438
<b>Total Employees by Education Level (Number)</b>	2,492	2,519	2,620
<i>Total White Collars</i>	762	811	812
High school and below	132	135	125
Associate degree	88	106	112
Undergraduate and above	542	570	575
<i>Total Blue Collars</i>	1,730	1,708	1,808
High school and below	1,163	1,161	1,207
Associate degree	549	528	578
Undergraduate and above	18	19	23
<b>Total Employees by Age (Number)</b>	2,492	2,519	2,620
Below 30	441	443	435
30 - 50	2,004	2,046	2,145

	2014	2015	2016
50+	47	30	40
<b>Top Management Structure (Number)</b>			
<i>By Gender</i>	13	13	13
Female	3	2	2
Male	10	11	11
<i>By Age</i>	13	13	13
Below 30	0	0	0
30 - 50	10	10	9
50+	3	3	4
<i>By Nationality</i>	13	13	13
Turkish Citizen	13	13	13
Expat	0	0	0
<b>Mid-level Management Structure (Number)</b>			
<i>By Gender</i>	64	65	67
Female	13	12	11
Male	51	53	56
<i>By Age</i>	64	65	67
Below 30	1	1	0
30 - 50	50	55	55
50+	13	9	12
<b>New Hires (Number)</b>			
<i>By Gender</i>	229	180	236
Female	48	31	11
Male	181	149	225
<i>By Age</i>	229	180	236
Below 30	150	66	157
30 - 50	75	113	77
50+	4	1	2
<b>Employees Recently Left (Number)</b>			
<i>By Gender</i>	110	152	138
Female	12	26	22
Male	98	126	116
<i>By Age</i>	110	152	138
Below 30	20	32	21

ABOUT THE REPORT

MESSAGE FROM THE CHAIRMAN

MESSAGE FROM FLAT GLASS PRESIDENT

ABOUT ŞİŞECAM FLAT GLASS

2016 PERFORMANCE

OUR SUSTAINABILITY APPROACH

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	2014	2015	2016
30 - 50	70	95	99
50+	20	25	18
Employees on Parental Leave	4	10	14
Employees Returned to Work after Parental Leave	1	3	9
Employees Returned to Work After Parental Leave and Still Employed for 12 Months After Their Return		3	3
Workforce Working Under Collective Agreement (Number)	1,730	1,679	1,808
<b>Employee Training - Participant Number (person)</b>	2,408	3,106	1,993
Blue Collar	1,350	1,954	1,167
White Collar	1,058	1,152	826
Female	264	214	165
Male	2,144	2,892	1,828
<b>Employee Training - Total Hours (person*hour)</b>	55,986	71,221	60,548
Blue Collar	28,430	43,173	30,356
White Collar	27,556	28,048	30,192
Female	5,751	5,059	5,663
Male	50,235	66,162	54,885
<b>Injury Rate</b>			
Direct Employees	15	21	13
Contractor Company Employees	17	24	12

	2014	2015	2016
<b>Occupational Disease Rate (ODR)</b>			
Direct Employees	0	0	0
Contractor Company Employees	0	0	0
<b>Absence Rate (%)</b>			
Blue Collar	6	6	5
White Collar	2	5	5
Lost Days Rate (LDR)	190	272	305
<b>OHS Training Provided to Employees - Total Hours (person*hour)</b>	2,526	2,436	2,539
Direct Employees	2,473	2,430	2,413
Contractor Company Employees	53	6	126
<b>OHS Training Provided to Employees - Number of Participants</b>	41,459	43,337	39,888
Direct Employees	41,412	43,331	36,605
Contractor Company Employees	47	6	3,283
Number of OHS Committees	6	6	6
Number of Members in OHS Committees	7	7	66
Number of Employee Representatives Working in OHS Committees	6	6	16
Environmental Training Provided to Employees - Number of Participants	395	928	955
Environmental Training Provided to Employees - Total Hours	1,928,00	1,879,00	1,900
Total R&D budget (TRY million)	18.5	26.50	33,00
Number of registered patents	1	3	3

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# GRI Content Index

Indicators	Description
<b>GENERAL DISCLOSURES</b>	
G4-1	Message from the Chairman (pp. 3-4); Message from Flat Glass President (pp. 5-7)
G4-2	Message from the Chairman (pp. 3-4); Message from Flat Glass President (pp. 5-7)
G4-3	About the Report (p.2)
G4-4	About Şişecam Flat Glass (pp. 8-9)
G4-5	Corporate Website: <a href="http://www.duzcam.com.tr/en/">http://www.duzcam.com.tr/en/</a>
G4-6	About Şişecam Flat Glass (pp. 8-9)
G4-7	Corporate Website: <a href="http://www.sisecamduzcam.com/en/investor-relations/corporate-identity-and-management/shareholder-structure">http://www.sisecamduzcam.com/en/investor-relations/corporate-identity-and-management/shareholder-structure</a>
G4-8	About Şişecam Flat Glass (pp. 8-9)
G4-9	Financial Stability (p. 32); One Global Family (p.44-50); Performance Data (p. 51)
G4-10	One Global Family (pp.44-50)
G4-11	Union Rights (p.48); Performance Data (p. 51)
G4-12	Supply Chain Management (p.24)
G4-13	Türkiye Şişe ve Cam Fabrikaları A.Ş. 2016 Annual Report (pp.24-29)
G4-14	Risk Management and Internal Audit (p.19); Business Ethics (pp. 19); Employee Health and Safety (pp. 45-46); Combating Climate Change (p.34)
G4-15	Our Corporate Memberships (p.10)
G4-16	Our Corporate Memberships (p.10)
G4-17	About the Report (p.2)
G4-18	About the Report (p.2); Sustainability Management (p.11)
G4-19	Sustainability Management (p.11)
G4-20	Sustainability Management (p.11)
G4-21	Sustainability Management (p.11)
G4-22	There are no restatements of information provided in previous reports. GRI G4 Content Index (p.54)
G4-23	About the Report (p.2); Sustainability Management (p.11)
G4-24	Stakeholder Engagement (pp.15-16)
G4-25	Stakeholder Engagement (pp.15-16)
G4-26	Stakeholder Engagement (pp.15-16)
G4-27	Stakeholder Engagement (pp.15-16)
G4-28	About the Report (p.2)



Indicators	Description
G4-29	About the Report (p.2)
G4-30	About the Report (p.2)
G4-31	About the Report (p.2)
G4-32	About the Report (p.2); GRI G4 Content Index (p.54)
G4-33	The report was not subjected to external assurance. GRI G4 Content Index (p.54)
G4-34	Transparent and Integrated Management (p. 19)
G4-56	Business Ethics (p.19)

**STANDARD DISCLOSURES**

**Material Aspect: Economic Performance**

G4-DMA	Global Presence (pp.31-42); Financial Stability (p. 32); Supply Chain Management (p.24)
G4-EC1	Global Presence (pp.31-42); Financial Stability (p. 32); Supply Chain Management (p.24); Performance Data (p.51)
G4-EC2	Combating Climate Change (p.34)

**Material Aspect: Market Presence**

G4-DMA	Not material
G4-EC6	Performance Data (p. 51)

**Material Aspect: Indirect Economic Impacts**

G4-DMA	Innovation (p.28); Employee Development (p.50); Social Responsibility (pp.40-41)
G4-EC7	Innovation (p.28); Social Responsibility (pp.40-41)
G4-EC8	Innovation (p.28); Employee Development (p.50); Social Responsibility (pp.40-41)

**Material Aspect: Procurement**

G4-DMA	Supply Chain Management (p.24)
G4-EC9	Supply Chain Management (p.24)

**Material Aspect: Energy**

G4-DMA	Energy and Emission Management (pp. 33-34)
G4-EN3	Energy and Emission Management (pp. 33-34); Performance Data (pp. 51)
G4-EN7	Environmentally-Friendly and Energy Efficient Products (pp. 37-38)

**Material Aspect: Water**

G4-DMA	Efficient Use of Resources (pp. 35-36)
G4-EN8	Performance Data (p. 51)

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Indicators	Description
G4-EN9	There are no water sources significantly affected by withdrawal of water within the scope of Şişecam Flat Glass operations. GRI G4 Content Index (p.55)
G4-EN10	Performance Data (p. 51)
<b>Material Aspect: Emissions</b>	
G4-DMA	Energy and Emission Management (pp. 33-34)
G4-EN15	Energy and Emission Management (pp. 33-34); Performance Data (p. 51)
G4-EN16	Energy and Emission Management (pp. 33-34); Performance Data (p. 51)
<b>Material Aspect: Effluents and Waste</b>	
G4-DMA	Efficient Use of Resources (pp. 35-36)
G4-EN22	Efficient Use of Resources (pp. 35-36); Performance Data (p.51)
G4-EN23	Efficient Use of Resources (pp. 35-36)
G4-EN26	Efficient Use of Resources (pp. 35-36)
<b>Material Aspect: Products and Services</b>	
G4-DMA	Efficient Use of Resources (pp. 35-36)
G4-EN27	Environmentally-Friendly and Energy Efficient Products (pp. 37-38)
G4-EN28	Efficient Use of Resources (pp. 35-36)
<b>Material Aspect: Compliance</b>	
G4-DMA	Sustainable Environment (pp.35-36)
G4-EN29	During the reporting period, no significant fines were paid due to non-compliance with environmental laws and regulations. GRI G4 Content Index (p.55)
<b>Material Aspect: Overall</b>	
G4-DMA	Sustainable Environment (pp.35-36)
G4-EN31	Sustainable Environment (pp.35-36)
<b>Material Aspect: Employment</b>	
G4-DMA	One Global Family (pp.44-50)
G4-LA1	Performance Data (pp. 52-53)
G4-LA3	Performance Data (pp. 52-53)
<b>Material Aspect: Occupational Health and Safety</b>	
G4-DMA	Employee Health and Safety (pp. 45-46)
G4-LA4	Union Rights (p.48)
G4-LA5	Employee Health and Safety (pp. 45-46); Performance Data (p. 52)

Indicators	Description
G4-LA6	Performance Data (p. 52)
G4-LA8	Union Rights (p.48)
<b>Material Aspect: Training and Education</b>	
G4-DMA	Employee Development (p.50)
G4-LA9	Employee Development (p. 50); Performance Data (pp. 52-53)
G4-LA10	Employee Development (p.50)
G4-LA11	At Şişecam Flat Glass, all white collar employees receive a regular performance and career development review. GRI G4 Content Index (p.55)
<b>Material Aspect: Diversity and Equal Opportunity</b>	
G4-DMA	Respecting Differences (p.47)
G4-LA12	Respecting Differences (p.47); Performance Data (pp. 52-53)
<b>Material Aspect: Equal Remuneration for Women and Men</b>	
G4-DMA	Respecting Differences (p.47)
G4-LA13	Respecting Differences (p.47)
<b>Material Aspect: Non-Discrimination</b>	
G4-DMA	Respecting Differences (pp. 51-52)
G4-HR3	No incidents of discrimination has occurred during the reporting period. GRI G4 Content Index (p.55)
<b>Material Aspect: Freedom of Association and Collective Bargaining</b>	
G4-DMA	Union Rights (p.48)
G4-HR4	In all Şişecam Flat Glass operations, the right to exercise freedom of association and collective bargaining is ensured. Business partners are also expected to adopt same principle. During the reporting period, no significant risk or violation is identified regarding the exercise of these rights. GRI G4 Content Index (p.55)
<b>Material Aspect: Child Labor</b>	
G4-DMA	GRI G4 Content Index (p.55)
G4-HR5	Şişecam Flat Glass does not permit child labor within its operations. Business partners are also expected to adopt the same principle. During the reporting period, no significant risk or violation is identified regarding this principle. GRI G4 Content Index (p.55)
<b>Material Aspect: Forced and Compulsory Labor</b>	
G4-DMA	GRI G4 Content Index (p.55)
G4-HR6	Şişecam Flat Glass does not permit forced and compulsory labor within its operations. Business partners are also expected to adopt same principle. During the reporting period, no significant risk or violation is identified regarding this principle. GRI G4 Content Index (p.55)

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Indicators	Description
<b>Material Aspect: Anti-Corruption</b>	
G4-DMA	Fight against Corruption (p.19)
G4-SO3	During the reporting period, all operations were assessed for risks related to corruption. GRI G4 Content Index (p.56)
G4-SO5	No incidents of corruption occurred during the reporting period. GRI G4 Content Index (p.56)
<b>Material Aspect: Anti-competitive Behavior</b>	
G4-DMA	GRI G4 Content Index (p.56)
G4-SO7	During the reporting period, no legal actions were charged against Şişecam Flat Glass regarding anti-competitive behavior and violations of anti-trust and monopoly legislation. GRI G4 Content Index (p.56)
<b>Material Aspect: Compliance</b>	
G4-DMA	Stakeholder Engagement (pp.15-16); Transparent and Integrated Management (p.19)
G4-SO8	During the reporting period, no significant fines were paid due to non-compliance with laws and regulations. GRI G4 Content Index (p.56)
<b>Material Aspect: Customer Health and Safety</b>	
G4-DMA	Product Safety and Product Responsibility (p.20)
G4-PR1	Product Safety and Product Responsibility (p.20)

Indicators	Description
G4-PR2	During the reporting period, there were no incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services within the scope of Şişecam Flat Glass operations. GRI G4 Content Index (p.56)
<b>Material Aspect: Product and Service Labeling</b>	
G4-DMA	Product Safety and Product Responsibility (p.20)
G4-PR3	Product Safety and Product Responsibility (p.20)
G4-PR4	During the reporting period, no incidents of non-compliance with regulations concerning product and service information and labeling have occurred. GRI G4 Content Index (p.56)
<b>Material Aspect: Marketing Communications</b>	
G4-DMA	Product Information (p.22)
G4-PR7	During the reporting period, incidents of non-compliance with regulations concerning marketing communications, including advertising, promotion, and sponsorship have occurred. GRI G4 Content Index (p.56)
<b>Material Aspect: Customer Privacy</b>	
G4-DMA	Customer Data Privacy (p.27)
G4-PR8	Customer Data Privacy (p.27)



ABOUT THE REPORT  
MESSAGE FROM THE CHAIRMAN  
MESSAGE FROM FLAT GLASS PRESIDENT  
ABOUT ŞİŞECAM FLAT GLASS  
2016 PERFORMANCE  
OUR SUSTAINABILITY APPROACH

**BEING A PIONEER IN THE GLOBAL MARKET**

- DYNAMIC STRUCTURE
- OPERATIONAL EXCELLENCE
- DIGITALIZATION
- INNOVATION

**GLOBAL PRESENCE**

- FINANCIAL STABILITY
- SUSTAINABLE ENERGY
- SUSTAINABLE ENVIRONMENT
- SOCIAL RESPONSIBILITY

**ONE GLOBAL FAMILY**

- EMPLOYEE HEALTH AND SAFETY
- RESPECTING DIFFERENCES
- PROVIDING DECENT WORK

**ŞİŞECAM FLAT GLASS**

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