



Abigaël

# Sustainable Development Report 2016/2017



## MEASURING AND PLANNING

p 08

« However beautiful the strategy,  
you should occasionally look at the results. »  
*Winston Churchill*

## RAISING STAFF AWARENESS AND INVOLVEMENT p 12

« Everyone wants to save the planet,  
but no-one wants to take the trash out. »  
*Jean Yanne*

## SATISFYING CUSTOMERS

p 20

« Ask not what your customers can do for you,  
but what you can do for your customers. »  
*Faith Popcorn*

## PRODUCING BETTER

p 24

« The little we can do, the very little we can do,  
should be done. »  
*Théodore Monod*

## DEVELOPING THE POTENTIAL OF MEN AND WOMEN p 30

« If you are planning for a year, plant rice; if you are planning for twenty years,  
plant a tree; if you are planning for centuries, develop people. »  
*Chinese proverb*

## SHARING OUR VALUES

p 38

« When two forces unite,  
their efficiency doubles. »  
*Isaac Newton*

# Editorial



## Arc is kicking off a great year in 2018, with significantly improved financial results and major brand anniversaries.

2017 was a great year for Arc; we kept our factories saturated around the world, delivered solid performance and launched innovative new products. 2018 is going to be a really exciting year for the company. This year, we will launch tremendous innovations. Arc will demonstrate its ability continually to reinvent itself to deliver great value for its customers around the world and to be deserving of its position as world leader.

Arc now benefits from the full impact of its strategic plan for sustainable growth and measures taken in the previous year, such as continuous production improvements, product innovations and new designs and collections throughout all Arc's brands.

Since its inception, the company's mission has been to bring beauty and design to its consumers at affordable prices while respecting

Man and the Environment.

Safety remains the Group's priority for both employees and guests. This core value is embedded in our daily operations. Many preventive actions are carried out every day and have reduced the risks related to the working environment on each site.

Reducing environmental impacts is one of the company's priorities and initiatives are multiplying throughout the Group. Whether on the improvement of atmospheric emissions, the management of energy or more generally on environmental management systems, actions are under way or will unfold in the months to come.

Production sites around the world are involved in the life of their territory by participating actively in sports, cultural or solidarity operations in partnership with associations and civil society.

Like anything else, making sustainability and human values central to our mission works only when we set ourselves goals and measure our progress towards these goals quantitatively. Without goals and KPIs, it's hard to see whether or not we are making progress. In 2018, we will develop clear mission, ownership, and goals to support our shift to focus the business on sustainability and human values. For our 2019 report, good or bad, our current metrics will be visible, and we will start the endless path of finding ways to improve.

In this report you will be able to learn the Group's good practices, which are already the pride of our employees.

Tim Gollin  
President & CEO Arc Group

# LOCATIONS AROUND THE WORLD



-  Production sites
-  Distribution subsidiaries
-  Offices

# 2017 PROFILE Arc

The Arc Group employs 10 565 people worldwide, including, 5 265 in France. The Group, whose head office is located in Arques in the French Pas-de-Calais region, achieved gross sales of €882.8 M (unaudited) in 2017. Armed with its know-how in glassware, it developed globally and currently markets its complete tableware ranges to more than 160 countries.

The Group covers the Consumer Goods and Food Service markets through a portfolio of brands – Luminarc, Arcoroc, Cristal d’Arques Paris, Eclat and Chef&Sommelier. For over 40 years, the Group has also been serving professional customers – industrial groups, wholesalers, manufacturers of semi-finished and finished

products, service providers –with a wide range of tailor-made solutions to meet their specific needs (industry, advertising, premiums, loyalty). The Arc Group is present in five continents with its production sites (France, United States, China, United Arab Emirates, Russia) distribution subsidiaries (United States, Spain, Australia, Mexico, Brazil, Japan, South Africa, China, Malaysia, Russia, Italy, Ireland) and sales offices.

The Group has adopted a strategy of sustainable development in order to balance economic requirements, social responsibility and respect for the environment, and joined the U.N.’s Global Compact in 2003.

## ARC AT A GLANCE

Designing, producing and distributing Tableware items And professional grade glassware

## 200 YEARS OF HISTORY



**10 565**  
EMPLOYEES

**938.8 M€\***

**2017 GROSS CONSOLIDATED TURNOVER**

\* Unaudited figure

Luminarc®  
Arcoroc®  
Arcopal™  
Chef&Sommelier®  
Eclat®  
Cristal d’Arques® Paris

**6**  
BRANDS

**3**  
BUSINESS LINES

CONSUMER GOODS  
FOOD SERVICE  
B2B

**1 860 M**

OF SOLD GLASS PIECES IN 2017



PRODUCTS DISTRIBUTED IN MORE THAN

**160**  
COUNTRIES

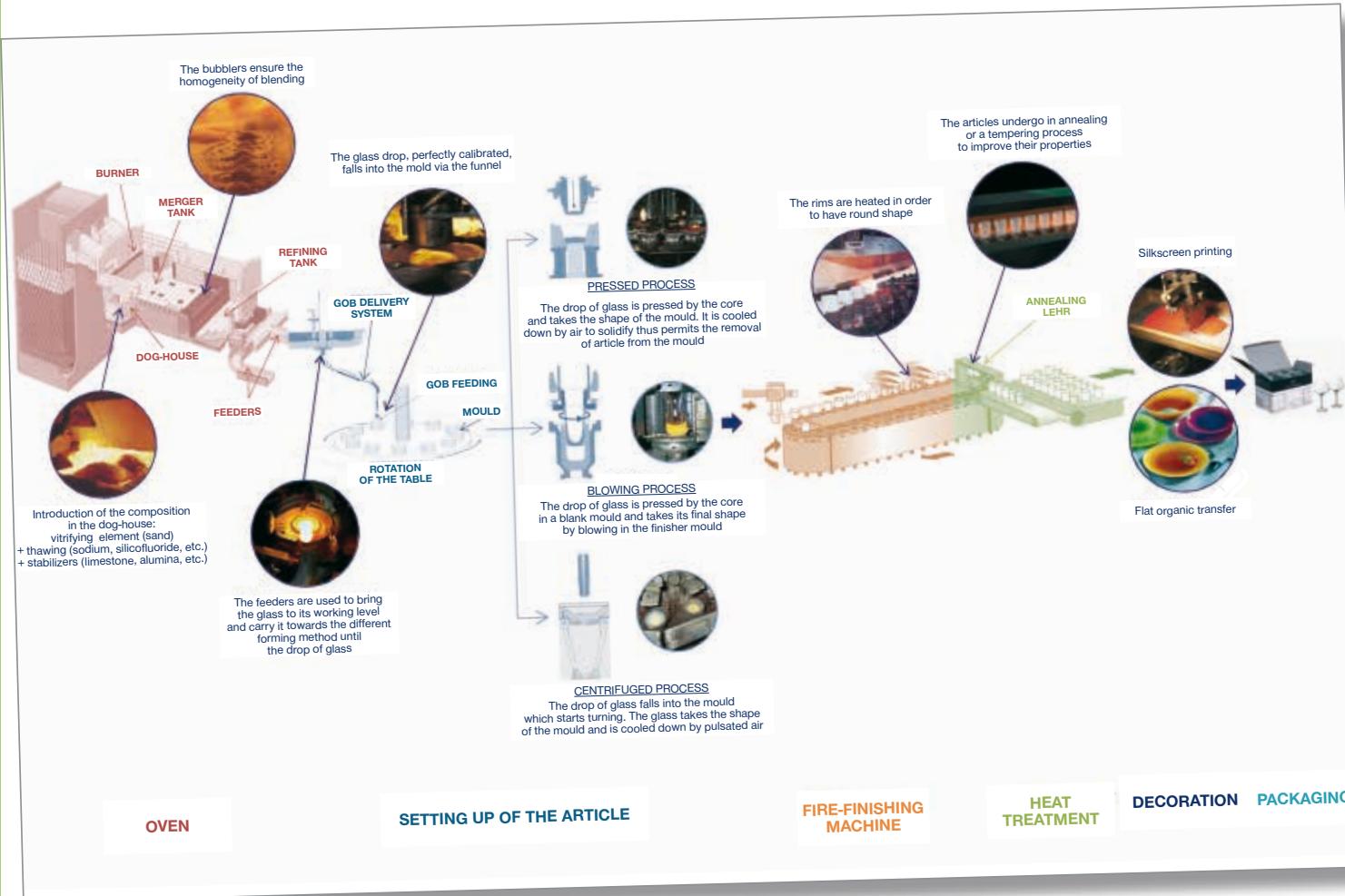
FRANCE  
USA  
CHINA  
UAE  
RUSSIA

**5**  
PRODUCTION SITES AROUND THE WORLD

# THE GLASS PROCESS

From earth and fire: Glass is composed of 70% sand, 20% soda and 10% lime. The material is 100 % recyclable and possesses superior properties such as: good insulation, non-flammable, transparent, hard, delicate and pure.

The Arc Group produces white glass, opal, glass ceramic as well as Kwarx, Zenix, Diamax and crystalline.



# BRANDS

With almost 20,000 references marketed, the Arc Group offers a comprehensive portfolio of concepts for tableware, storage and decoration, aimed at both the general public and at professionals in the hotel and restaurant sectors. The Group also produces tailored products for companies.

## Brands for the general public



**Luminarc®** is the world's leading tableware brand. It includes stylish and innovative products for wine and creative cuisine, intended for daily use. Various ranges are designed according to the habits, customs and tastes of local consumers.



**Cristal d'Arques®**. Since 1968, Cristal d'Arques Paris has been a byword for French elegance and affordable beauty. Whilst remaining true to its values, the brand will henceforth incorporate a spirit of relaxed chic; inspired by the Art deco movement and by a Parisian lifestyle. Building on its deep knowledge and experience, Cristal d'Arques Paris is spontaneously transforming itself through a new and up-to-the minute interpretation of what luxury means. Everyday chic...



**Arcopal™** is born in 1958.

Since 1968, Cristal d'Arques Paris has been a byword for French elegance and affordable beauty. Whilst remaining true to its values, the brand will henceforth incorporate a spirit of relaxed chic; inspired by the Art deco movement and by a Parisian lifestyle. Building on its deep knowledge and experience, Cristal d'Arques Paris is spontaneously transforming itself through a new and up-to-the minute interpretation of what luxury means. Everyday chic...



**Eclat®**. ECLAT Cristal d'Arques Paris is the new brand of the Group Arc. It joins in a current lifestyle for consumers who look for elegant, quality products with moderate prices. With the pledge of the brand Cristal d'Arques Paris established in 1968, ECLAT benefits at the same time from the know-how of the group and of its French-style creations. The iconic, timeless or contemporary collections of ECLAT guarantee glittering and spontaneous moments.

## Professional brands



**Arcoroc®** is today the second-ranking tableware brand that offers a range of strong and functional design products meeting the needs of professionals in the hotel and restaurant sectors, institutional and catering. Arcoroc is today the second-leading tableware brand for the professional sector. It is extremely present in Scandinavia (where it has a 70% glass market share), in France (60%) and in Spain (50%).



**Chef&Sommelier®** created in 2007, includes complete and innovative collections of crockery, glassware and cutlery. This brand is aimed at professionals in the hotel and restaurant sectors, but also at retailers and wine enthusiasts. It has successfully developed products with iconic shapes such as Open Up. This brand achieves 65% of its turnover internationally.

Sustainable development is an area which can seem difficult to quantify. Evaluation methods have to be put in place in order to measure progress. In some areas a quantitative approach is appropriate, whilst others may be better suited to a qualitative or audit-based approach. These different internal and external measures give us the ability to measure the progress of our actions and to prioritize our projects as a function of the results recorded.

## MEASURING AND PLANNING



Florine



### New name and new logo

This change in the Group's visual identity represents more than just redesigned graphics; it comes at a time when the Group is going through a period of profound transformation and aiming to reconquer many markets around the world. Simple, pure, elegant and

joyful, Arc's new visual identity reflects the Group's core mission: to make French design affordable to everyone, all over the world, through high-quality, innovative products. The new visual identity plays with colours, shapes and transparency using interweaving graphics.

It has gradually been deployed throughout the Arc Group, and is present on 5 continents where it blends perfectly with the new premises and communication tools used in the different sites.

### **IKEA® Lean Audit**

Ikea has implemented a Lean Management approach with its ISOS benchmark system, which has become a genuine shared tool for driving improvement between IKEA and ARC. The ISOS

benchmark system was used for the first time on the Arques site in November 2016. As the company's main supplier of glassware, with more than 266,000 pallets delivered to 16 countries in

2016, Arc France was assessed during an audit at the JPRU on the following criteria: Quality, Manufacturing, Logistics and Purchasing.



## Official visits to Arc France and Arc Middle East

Official visits not only underline the importance of the production sites in the areas in which they are based, but also highlight support for their development and corporate strategy.

These visits give important personalities the opportunity to go around the production sites, meet employees and pass on certain messages concerning the company, or general government policy.



Emmanuel MACRON on visit in Arc France

For the first time, in order to commemorate “Ramadan”, Arc Middle East celebrated this special occasion by inviting various personalities, including H. H. Sheik Saud Bin Saqr Al Qasimi, the leader of the Emirate of Ras-Al-Khaimah and a member of the UAE Supreme Council, and several shareholders and local partners. Other personalities and officials from government departments such as the RAK Municipal Council and the Ministry of Economy also attended the event.

The event included a visit of the site and an official ceremony. Once again, this was an opportunity to re-assert the good relationship between the Ras-Al-Khaimah plant and the government.

In June 2016, Emmanuel MACRON (who was at the time the French Minister of Economy, Industry and Digital Affairs) visited us at Arc France, along with elected representatives from the region, Kirill Dmitriev (President of the Russian investment fund RDIF) and Laurent Vigier (President of the investment fund CDC IC).

After visiting Furnace H and meeting several Arc employees, the Minister re-asserted his support for the company and its new Russian and French investors. These investments will enable the Group to modernise and expand.

In November 2016, Arc France received a visit from the President of France, François Hollande. After visiting the factory, he gave a speech highlighting his initiatives to help revitalise industrial production facilities. He also stressed the mutual benefits of

the Group’s innovative and constructive labour-relations dialogue, which had contributed to the success of the site and the 5,000 jobs it represents, with a production increase of approximately 20% in 2016 compared with 2015 and the recruitment of apprentices and young people.

A third official visit took place in May 2017. This time, Bruno Le Maire, the French Minister of the Economy, came to the Arc site to re-assert his support. In the company of Tristan Borne, the Managing Director for France, and several elected regional representatives and journalists, the Minister met with employees and the trade unions.

This is a reminder of the importance of the Arc Group in the region, and its place in French industry and heritage.



Ramadan celebration in AME

## Eco-designed products



An eco-design policy has been in place for several years and two official assessments have been carried out by AFNOR (French standards authority). These have made it possible to better appreciate the actions already in place and those still to be deployed, as well as areas of improvement. In 2015, a team of employees took part in a MOOC. This gave them the opportunity to learn about eco-design and above all to measure the benefits and results of the actions undertaken in order to promote them. At the same time, a Research & Development project (called MOTION) addressed the issue of Life Cycle Analysis (LCA). This was conducted on glass moulds with a view to then applying the principle to the glass items produced on site.

Indeed, in 2016 and 2017, a major study was launched on different product categories such as soda-lime glass tumblers, opal glass plates and glass storage boxes. The initial purpose of this study was to collect a large amount of precise data about the production, distribution and use of the items in question.

A Life Cycle Analysis is:

- **multi-stage;** it takes into account all the different stages of a product’s life, from the raw materials through to the steps required for the product’s production and distribution, right through to its use and end of life.
- **multi-criteria;** this means that the results

are defined according to different yet complementary criteria such as CO2 emissions, eutrophication (excessive nutrients) of water, impact on the climate and human health. Once the data was collected, a model was created with CD2E, our partner specialised in this field. The aim of this model was to allocate energy and material consumption and emissions for each item, at each stage of its life cycle.

Using dedicated software, the specialists were able to work on the model and analyse the life cycle of the products. At the same time, similar items - such as melamine plates and polypropylene storage boxes - were analysed using data from worldwide databases, along the same basis.

The results have dual benefits:

- They provide a precise analysis of the

environmental impacts of the items produced by Arc France. The results can be exploited by R&D or production teams to reduce the most significant impacts, and they can also be used as a basis of comparison for improving future processes in terms of energy or raw materials, for example.

• They make it possible to compare the environmental impact of items with similar functions, such as an opal-glass plate and a melamine plate or soda-lime glass and plastic tumbler. This will enable us to advise our environmentally-committed customers in their choice of tableware.

This study was beneficial for the marketing and sales teams as well as the technical teams. Now, we must analyse and fine-tune all the results obtained and use them as a tool to support design, innovation, and decision-making.



The Arc Group has always paid particular attention to respecting people and the environment. This translates into tangible initiatives concerning our products and production facilities. At the same time, for our staff, this also means adopting best practices and environmentally-friendly behavior.

## RAISING STAFF AWARENESS AND INVOLVEMENT



### Mobility, an issue that affects the environment and quality of life

 Air quality has become not only an environmental issue but also a public health issue. Public authorities have addressed this issue by asking companies to draw up travel plans, in order to improve mobility.

Arc France conducted this study using a questionnaire about the mobility habits of its employees and by analysing access to the Arques site, internal and external transport flows and a review of the internal situation. A meeting with local communities helped identify solutions being developed in the region as an alternative to personal vehicles.

An action plan has been established and will

be deployed in the coming years, providing solutions to improve carpooling and soft mobility, in conjunction with the local authorities.

Awareness-raising actions are being conducted in parallel. With this in mind, an operation was organised in September as part of **European Mobility Week**. It enabled employees to discover soft, economic mobility solutions that are beneficial for everyone. Partners came to the site to present their solutions. Décathlon (French sportswear retailer) introduced employees to their range of electric bikes and organised a walk around the city so they could familiarise

themselves with this healthy transport mode that everyone can adopt. The Conurbation Council (CAPSO) presented the Mouvéo bus lines and prices, as well as the carpooling sites in the region.



### Bus network

 Like many industrial sites that are not always easy to reach for employees who have no vehicle or who work shifts, the OSZ factory in Russia has organised its own

bus transport network for the employees. This system operates 24h/24 in order to meet the needs of staff and facilitate their daily lives. The network is being monitored in order to adjust the

number of journeys made and meet the needs of employees who live in different areas of Gus Khrustalnyi and who wish to benefit from this service.

## No more waste!

National and European-wide events such as the Sustainable Development Week, the French Week against Food Waste and the European Week for Waste Reduction provide platforms for internal awareness-raising actions.

 In June 2017, during the European Sustainable Development Week, Arc France organised several events addressing the subject of “Better”. How to eat better, use resources better, recycle better, etc. This was the starting point for a partnership with AUDO-TRI, a local association dedicated to social insertion and recycling, which installed two used-clothing recovery points. In 2017, more than 6m3 were collected: a quarter is resold directly in stores, two thirds are reused as raw materials and less than 10% is discarded. This shows how a service that benefits the employees may also benefit the environment.



PAPREC stand, waste recycling

Waste Reduction came to Arc France. It was an opportunity for our service providers and partners, such as Elior, Paprec and D Multiple, to raise our employees’ awareness about our joint actions to reduce waste and improve recycling rates. A quiz was organised so that employees could come and discover the services that each partner was presenting. They could win prizes offered by the organisers: purchase vouchers, visits to a waste sorting centre or a wooden picnic table.

These events reminded staff about simple gestures to combat wastage and reduce waste, so they would adopt the right attitude and behaviour at home and at work.



AUDO-TRI container



AUDO-TRI stand, clothing bank



Info NRJ stand (Energy information)

## «Green Living»

 In the United Arab Emirates, the environment is becoming an increasingly important concern.

The Human Resources Department organised an event called “Green Living” to raise awareness about environmental issues among employees. The employees at AME were encouraged to explore their creative talents and take part in a competition on the theme of “best waste.” Creativity, presentation, value and quality were the criteria used to select the winning team.

An existing mould that was no longer used was given a second life by becoming the mould for another item. This avoided generating waste but also reduced the use of raw materials.



Prize delivery to the winners

## International exchange programme in China



Photo of group : employees and students

 The Nanjing site in China received a group of students for 2 weeks as part of a Young Persons Exchange scheme organised by the municipal government of the city. The young students were able to visit our factory, learn and exchange ideas. The students were given a good insight into the industrial world, and a good understanding of the culture and values of AGC.

These exchanges are important for both the students and the companies, who have the

opportunity to share their vision and plan for future recruitments. This type of scheme is in place on several Group sites. For example, the Arques site has partnerships with schools at various study levels as well as with Engineering Schools such as the Ecole des Mines de Douai.

## Major causes supported

Informing and raising employees' awareness about their health and the health of their families is one of the company's values. As such, prevention schemes and screening for breast cancer and prostate cancer are causes that the Group actively supports, in France and in the United States.



For the 24<sup>th</sup> edition of the campaign against breast cancer in France, the Arques site teamed up with Audomarose, a local association involved in the fight against breast cancer. For the second year in a row, Arc France organised the sale of tableware items for the benefit of the association. In 2017, the company



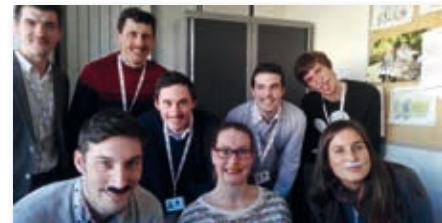
Modifier par The check is handed to Audomarose

- supported by its Verr'Elles women's network mobilised the employees for a major walk. Some forty employees completed an 8-kilometre

walk in a very friendly, fun atmosphere. The purpose of these operations is twofold. Firstly, to provide financial support: a total of €1700 was donated to this cause thanks to the efforts of the employees and the additional contribution made by the company. The second goal is to raise awareness among employees and their families/friends about the need for prevention and screening schemes, in a friendly atmosphere based on solidarity and generosity.



## Movember Challenge



Arc France Movember team

The Movember Foundation is an association that tackles men's health on a global scale. It notably fights against prostate and testicular cancer,

and combats mental illnesses and suicide. The aim of the Movember Foundation is to raise funds in a committed but off-the-wall way.

The goal is to shave yourself clean on the first day and to let your moustache grow throughout the month of November in order to show support for the cause. The moustache competition is now well known around the world. It was launched at DGMC in the United States in 2015. Some 16 men let their moustaches grow in 2017.

In 2016, Arc France joined DGMC to support this



Jury Movember DGMC

initiative, with many employees motivated to get involved in this new type of challenge. The Arc France efforts raised €659 for the benefit of the association. The site in Millville raised 1,400 USD with its No Shave November challenge.

## Pink Days



In the United States, the "Pink Days" mobilise the population in the fight against breast cancer. Various challenges were organised during the Pink Days in order to collect funds in a relaxed and fun environment. In 2017 these operations made it possible to donate 2,400 USD to breast-cancer associations.

Diva night is an event for women over 40 years old. It gives them access to annual breast-cancer screening in a more relaxed atmosphere. The "Mammogram Bus" parked up in the car-park of DGMC for a day in October and offered free breast X-rays to women who so wished. A total of 17 women took advantage of the service in 2017.



Mammography bus

## DGMC health programme



The site in Millville in the United States, in addition to its actions in support of the fight against breast or prostate cancer, has put in place a free health-care programme throughout the year, in order to promote access to health care for its staff.

Regular initiatives are carried out, such as screening for high-blood pressure, campaigns to get people to stop smoking, and presentations about the harm caused by drugs or alcohol. In September, during the Health Week, the company proposed vaccination against

influenza, and information about dental hygiene and eye-care.

These health-care programmes are important for employees and give them easy access to free treatment.

## Access to treatment and screening at AME



In the United Arab Emirates, access to health care is facilitated by AME's agreements with the local clinic and through specific periodic initiatives. In November, the company provided free diabetes screening for more than 500 of its employees. Screening is the first step to receiving suitable care, along with an adapted diet.

Solidarity is also strong, and some 50 AME employees took part in a blood-donor operation organised by the Saif Hospital in collaboration with the Jazeera Shifa medical clinic.



Screening for diabetes in AME

## Biodiversity



 It is not always easy to protect or promote biodiversity on an industrial site. And yet biodiversity exists and needs to be taken care of. Above all, the issue of biodiversity is an excellent way of raising employees' awareness about the environment. Over the last few years, bees have become fabulous ambassadors for the environment.

Therefore, in June 2016, five beehives were installed on the batch site at Arc France. Their arrival is part of a project aimed at protecting biodiversity. The project will be deployed over the coming months on the Arques site, particularly around the batch site. From April to September, workshops were available to employees during the lunch hour enabling them to discover the world of bees (bees, pollination, honey, the profession of bee-keeping,...). Dressed in a protective jacket and gloves, the employees get up close to the hives. Since 2016, more than 70 people have participated in the various workshops. A total of 30kg of honey was harvested in the spring and summer of 2017 and put in jars. The honey was made from a mixture of flowers and



*"Big discovery today for me. Change the ideas, exchange and laughter between colleagues, learn. A great moment of relaxation" V.P.*

Employees dressed in their pea jacket

distributed among the workshop participants, or given as a prize during contests. A few customers even received a jar when they visited the site. For this biodiversity project, Arc France and its partner "Le Rucher de Ruby" (Ruby's apiary) were awarded the "Marais Audomarois Biosphere Reserve" award. An initial awards ceremony took place at Arc, attended by local officials, members of the Biosphere Reserve and journalists; a more official ceremony then took place at UNESCO in Paris, with other "Biosphere Reserve" award winners from around France. This award will give impetus to the biodiversity circuit project: explanatory panels and observatories will be installed along the circuit according to the following themes: discovering

fauna, flora and their habitats; how to reconcile an industrial activity and the protection of biodiversity; how to lay out and manage green spaces and nature parks; listening to and observing animals around the pond; bees and their hives.



Biosphere Reserve award

employees got actively involved and became gardeners for a few hours. Thanks to this initiative, a hundred trees were

planted on the site, where there is a great need for shaded areas and nature.

## World Environment Day

 On 5 June 2017, the AME site celebrated World Environment Day by organising a tree-planting day. The

## Arc photo competition



In May 2017, the Sustainable Development Department launched a photo competition aimed at all the Group's employees.

The photos had to be based on one of the following themes:

- Reconciling our products with nature
- Capturing an example of biodiversity or a remarkable natural area on one of the Group's sites
- Staff in their work environment or an initiative with local associations

The Jury selected one winner by geographical area and a "Jury's favourite".



Photo: "Jury's favourite", by Ron Covey, DGMC

Sport is beneficial for the morale and physical health of employees. As such, employees are regularly encouraged to do sport and sports activities are organised on the work sites in partnership with the local authorities. These include volleyball, basketball, cricket, etc.

## Volleyball match at OSZ



 In Russia, volleyball is very popular due to the success of the national team. In 2016, a local tournament sponsored by the Russian site was organised by the municipal council, involving several companies in the area. After several matches, the OSZ team came second in this friendly competition. Due to its success, the initiative was renewed in 2017.

The OSZ volleyball team finished first this time! This is a great way to motivate other employees to play this sport a bit more.



In blue, the OSZ basket team

## Cricket at Arc Middle East

 Sporting traditions and preferences are different in each country and therefore on each site. With this in mind, the site in Ras-Al-Khaimah played host to a cricket tournament. Sponsored by AME in collaboration with the Arabian Healthcare Group, the event brought together 15 of the city's companies, divided into 24 teams. A total of 31 matches were played with all the teams giving their utmost. The competition was fierce but the "Luminarc®" team coached by Akhtar came out on top and was declared 2016 Champion!

It is the 7th time in 12 competitions that the AME



AME cricket team

Bringing beauty within the grasp of everyone is firmly in the DNA of the Arc Group. Thus every day our expert glassmakers design and manufacture products which inspire and delight our customers all over the world. The Arc Group brings all its technical know-how to bear in order to conceive the most responsible products which safeguard the health of consumers and make their lives easier.

## SATISFYING CUSTOMERS



Arc makes products that are original, innovative, simple and affordable. The Group uses its know-how to make products that all families can afford, celebrating tableware in every shape and form. Customers and consumers are increasingly aware of and interested in the impact their purchases have on the local community and the environment. The Arc Group shares these values which respect both people and the planet.

While remaining true to their core values, the brands have changed how they look: new logo, new design, new collections.



The new collections have a contemporary style, and are designed with a new distribution channel in mind. The brand's positioning is based on casual chic, Parisian style. The crystalline glass ensures long-term brilliance, total transparency, perfect acoustics, and resistance to shocks.



Chef&Sommelier, these items are carefully designed to provide a unique tasting experience, whether for wine tasting, to enhance special dishes, or for "baristas" (Italian-style coffee barmen) serving hot drinks.

**Luminarc** designs collections of glasses and tableware that fit with the times; they are innovative and fun, combining functionality and originality for dressing bright and colourful tables: simple, trendy and smart.



is reviving the brand by bringing back emblematic models, while at the same time adding new collections. Arcopal also announces the return of its mascot "Archibald the elephant", which symbolises the durability of these day-to-day products.

**ARCOROC**, combining professionalism and a passion for collective catering.

At Arcoroc, the brand's Zenix products will be extended across different ranges, notably with speciality plates. Products specifically aimed at catering in the health-care sector will be developed in opal glass.

Arcoroc now produces products aimed at beer drinkers with the introduction of its "Brewer" range, especially designed for beer tasting.

### Krysta, a new material



Arc has succeeded in overcoming its latest challenge; the company has developed an elegant, fine, extremely transparent material that withstands impacts and daily washes. "Krysta" is the next generation of crystalline glass, combining aesthetic excellence and high resistance.



The R&D department and the production teams have developed an exclusive material: crystalline glass. For a thickness of 1mm, the edge is 30% more resistant than similar products on the market; equally, a stem made of Krysta, with a diameter of approximately 6mm, is twice as strong as normal glass. With an extremely high transparency index, Krysta is one of the most transparent crystalline materials on the market, while also boasting the pure and clear acoustics of crystal. After a long period of development and tests, this crystalline glass is now produced in France and the United States.

## Presence on social networks: A major presence to create the link with our communities

Today the company and its brands have a strong presence on social media. Subscribers can keep up to date via Facebook, Twitter, Instagram and LinkedIn. We share Group news and events, but also, and more importantly, marketing updates, cookery and tasting tips, interior design hints and analysis of the latest design trends affecting our brands. The goal is to connect with our customers and fans and to facilitate discussion with them. Regular competitions give them the chance to win prizes, whilst partnerships with social media influencers have shown that the revival of our brands is widely appreciated ! Furthermore Luminarc already has more than 380 000 followers on Facebook around the world!

**Get signed up!**



Post FB Luminarc



**Luminarc**  
**Arcopal**  
**Cristal d'Arques Paris**  
**Chef&Sommelier**



**Luminarc**  
**Cristal d'Arques Paris**  
**Chef&Sommelier**  
**Arcoroc**



Post instagram Chef&Sommelier

## Audit and food certification

There are various different standards and audits used to certify products intended for the food industry. These ensure that the products sold are compliant and can be used directly by the food producer.

Any factors that may impact the product in any way (from the raw materials to the manufacturing) are studied by the auditors

to ensure the processes and procedures are correctly controlled and managed (logistics, maintenance, management involvement, etc.). Furnace D has been certified for several years now and the Decoration Autonomous Unit also obtained Hygiene Management System certification in December 2017. EN 15593



Autonomous unit D

## Everyone knows Arc tableware, but not so much our washing-machine windows.

With more than 11 million items produced (essentially at Arc France but also at AGN in China), the Group produces 23% of the world's annual output of washing-machine windows! In France, two production lines are permanently devoted to this product, for customers such as Bosch or Samsung. Moreover, their technological requirements enable us to continually move forward in the field of glassware, due to the specific dimensions of the windows, the trans-

parency of the glass or the moulding expertise required. Designing a mould for a window that weighs nearly 2kg and meets strict technological requirements is much more technically-challenging than designing a mould for a stemmed glass... This therefore drives us to constantly push back our limits!



## Arc's environmental approach supports its customers



Installation of 5 hives  
Beekeeping workshops  
Biodiversity pathway



Within the framework of its Sustainability policy, the supplier have set up 5 hives on its site in France. A monthly workshop of awareness allows the employees to discover or to rediscover bees. Workshops of "harvest of the honey" or still of "wintering" are also proposed to the coworkers to deepen their knowledge.

By a few months a pathway of biodiversity will take place a few steps away from hives and around a pond. An observatory, information boards on the flora and fauna of this environment will allow to know better the local biodiversity and so to respect it.

Information provided to a Scandinavian customer concerning biodiversity.

Many customers are sensitive to sustainable development and expect their suppliers to make commitments towards the environment, biodiversity, and working conditions. The Sustainable Development Department is at their service to answer all their questions, through questionnaires, audits or customer visits, or in a more personalised way depending on the requests. Arc's commitments and actions therefore support the customers' own communication, whether in-house or aimed directly at consumers.

The Sustainable Development Report gives an overall vision of the Group's actions and sometimes a specific topic needs to be developed or expanded upon to support a customer's approach in this field.

In a manufacturing company, the production phase is crucial in terms of product quality, costs, deadlines and environmental impacts. With this in mind, innovation is a key focus in order constantly to improve the processes and products. Effectively managing production and its impacts is essential since this makes it possible to manufacture increasingly environmentally-friendly products that also safeguard the well-being of the people who make them.

## PRODUCING BETTER



## Energy Management

Energy is probably one of the main societal issues of our time. Like many countries, organisations or even individuals, businesses must be committed to improving how they use energy to make their products, and contribute to developing technologies that will reduce consumption and promote more economical and sustainable energy sources.

### Energy efficiency



 As long as glass cannot be manufactured cold, energy will represent a significant share of production costs and be one of the industry's main environmental impacts.

At the start of 2016, on the French site, an energy project called Arc SOLWATT was launched with a view to:

- reducing energy costs
  - implementing the energy management system
1. Energy management tools (indicators, objectives...)
  2. A change of culture in terms of our energy

consumption  
The project will ultimately enable the Arques site to improve energy efficiency, reduce its environmental impacts and reduce its carbon footprint.

As preparation, in 2016, a general audit of the site was conducted. This resulted in a plan to improve energy consumption, through technical, behavioural and organisational changes. The second phase was oriented towards implementing the energy management system. Consequently, at the beginning of 2017, Arc France was able to put in place

its energy policy and commissioned a team of external auditors to perform an overall audit of the energy management system for the whole site. The auditors appreciated the professionalism of the operational teams in the field. The implementation of the energy management policy is on the right track and will be consolidated in the months to come, thanks to the commitment of all the operational and support teams.



### Lighting

 At DGMC in the United States, energy is also a key issue. The site has addressed the issue of lighting by changing the bulbs in the workshops and the manufacturing units. This has led to an 80%

decrease in energy consumption for this budget line, while maintaining equivalent lighting conditions. In addition, the bulbs last 10 times longer and provide instant light. In France, the JPRU and D autonomous units

have also adopted this practice, while also recycling the old bulbs.



## Green electricity

Improving energy consumption is essential and one of the focuses is also to consume energy differently. Since 2016, the JPRU autonomous unit on the Arques site decided to

reduce its environmental impact by purchasing green electricity, equivalent to the electrical consumption of the P furnace. This was an important and symbolic action aimed at

improving the environmental footprint of opal glass, which already emits less CO2 than soda-lime glass.

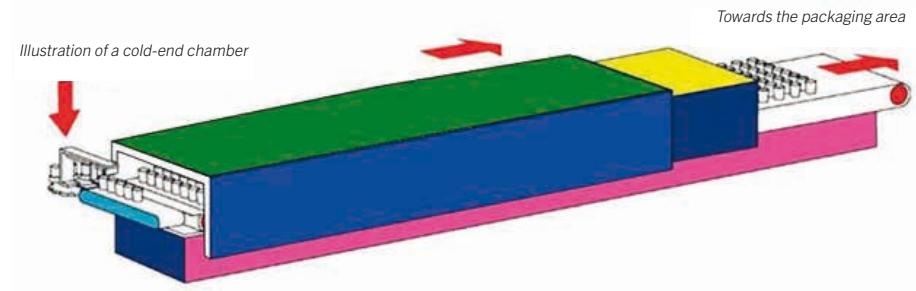
## Cold-end chamber under video surveillance



The cold-end chamber is part of a tunnel furnace in which items that have just been made can pass through in order to cool down slowly to remove stress in the glass. In March 2016, the R&D department was commissioned by Arc Middle East to find a mobile thermal camera that could be used at very high temperatures. The objective was to obtain a greater number of real-time temperature measurements concerning the glass items and handling equipment, such as the

conveyor and basket. After a few trials in France, the camera was sent to Ras-Al-Khaimah, where it helped improve analyses of production-line breakdowns. It also helped optimise the energy

consumption of the burners and the conveyor by recording the settings and controlling the temperature of the refractory surface in the furnace control system.



## Resource Management Standardised packaging

A project launched in 2016 aimed to standardise packaging and thereby improve stock management, and ultimately reduce cardboard consumption.

This collaborative project involving different

units of the Group enabled the experts involved to meet on the Chinese site to address the issues and propose possible solutions.

Guidelines were defined for packaging and packaging tests, and for the layout of the

packaging lines.

The development phase was launched in 2017 and will continue over the next few years.

## Multi-manufacturing: when flexibility goes hand in hand with environmental protection



Industrially produced glass goes through several technical processes, according to the product models desired. The forming machines are rotating systems equipped with several identical moulds (from 10 to 18 depending on the processes and the items). In the conventional process, the same amount of molten glass is placed into the moulds, which are strictly identical. In this case, only one type of item is manufactured during the entire manufacturing order, which can last for a few hours or several days. The items are then either packed directly, or packed later with other items to form a dinnerware set (6 flat plates, 6 bowls and 6 dessert plates, for example).

The Research & Development Department, with the support of the Production Department, has

been working on a multi-manufacturing project, aimed at producing from 2 to 6 different items at the same time on the same machine. This means having several different moulds on the same machine, adjusting the weight of the glass drop and the working speed of the machines. This technical feat improves flexibility making it possible to perform smaller production runs and to pack a set of several items at the end of the line directly.

There are benefits throughout the value chain and for the environment.

- First of all, when launching new products, this makes it possible to start with smaller quantities and test the product. Industrialisation tests can be carried out at the same time as the production, thereby eliminating waste or

production losses.

- The moulds used for manufacturing items represent a significant financial investment and require the use of a lot of metal. For small production runs, this reduces the number of moulds needed. In 2016, the company used 18 tonnes less metal to manufacture its moulds. Even though the moulds are recycled at the end of their lives, the best kind of waste is no waste!

- Finally, the Logistics Department also benefits, since this reduces intermediate transport and packaging, and the handling operations for repackaging.

## Improvement of water discharges in China



The AGC site in China is improving its monitoring of the quality of wastewater and reprocessed water. A continuous measurement and control system has been installed. It measures several parameters such as dissolved organic carbon (DOC), the Ph

level and the output rate. Thus, the quality of the discharged water and the effectiveness of the physico-chemical treatment are monitored in real time. The treatments can be adapted if necessary and potential problems with the process or treatment system are detected more

quickly. This monitoring highlights the extent to which environmental impacts are being taken into account in all the Group's sites and also by governments around the world.

## Air quality

 In the mould workshops, the manufacture... moulds. The blocks of metal are shaped using machining tools and the finishing is carried out by polishing, so the mould is ready to receive the drop of glass and form its shape. The dust generated by these operations must be extracted and treated, to protect the employees who work in the workshops and the environment. AGN in China has installed a new dust collector in order to reduce the concentrations of dust in the ambient air by almost 40%. Better for the employees and

better for the environment. In the United States, the DGMC site installed a similar system in 2016.

## Waste management

 In terms of the environment, the focus in 2016 was primarily on energy and waste on the Arques site. The 73% recycling rate in 2015 highlighted the importance of waste management. In two years, the rate increased by 11 points to reach 84 % (not including the internal recycling of the cullet which would increase this figure). The organisational change in 2015, with the creation of autonomous units, also altered the responsibilities and jobs of all staff. Autonomy and performance now need to be monitored at unit level, and not just at site level. Indeed, seeking solutions to reduce and recycle waste requires closer monitoring of the processes in the field. Each HSE department worked with the operational environment and purchasing support departments in order to clearly define its expectations and future organisational structure for managing waste.



Mobile waste reception center Paprec and Arc France

The structures and sign-posting were updated, procedures written, and areas of improvement identified for each autonomous unit. This long-term work continued through 2017 with the implementation of a new service, new operating methods and new indicators. The foundations are in place to continue to improve waste sorting and recycling.

The OSZ site has also worked on improving its waste management, notably by improving identification signage on containers within the factory. As such, sorting is now much easier for employees, who will be able to make further progress through recycling.



Identification of wastes in OSZ

## Lean Management

The Group's priorities are also quality, costs and deadlines, in order to better serve customers by improving working conditions and safety for the

staff. These are the pillars on which the balanced development of our company is built. To achieve this, our continuous improvement

policy has resulted in a set of methods and tools that Arc uses in its different autonomous units and other departments.

 At Arc France, Lean workshops are regularly organised over intensive periods lasting several days. The continuous Improvement managers and project managers in each department share information about the subject of the workshop and the tools used. In order to move forward together, staff can enrol and participate. So, they are actively involved in the issue and can transfer the methods and actions locally.

On the subject of sharing, the Arc Lean Support Department at Arc France has set up a shared inter-subsidiary network, where members of the continuous improvement teams can submit their best practices or consult those of others, in order to put them in place in their own units.

The continuous improvement teams work with the operational teams on a daily basis to provide best practices and improvements to processes or working conditions within their autonomous unit. Below are a few examples:

The adaptation or installation of specific machines to reduce the repetitiveness of the work on "Pure Box" items in the packaging unit. Modifications to valves in the HL unit to facilitate certain measurement readings and analyses. Creation of a prototype to reduce the risk of burns, on the initiative of operators. This initiative was welcomed by the STN Management.

The use of day-to-day methods or tools to improve working conditions, such as a wide-angle or thermal camera to facilitate the work of operators and the preventive maintenance teams in the HL and JPRU units. The adaptation of paint guns to reduce the consumption of paint used for decorations by 35%.



Workshop before Lean project



Workshop after Lean project

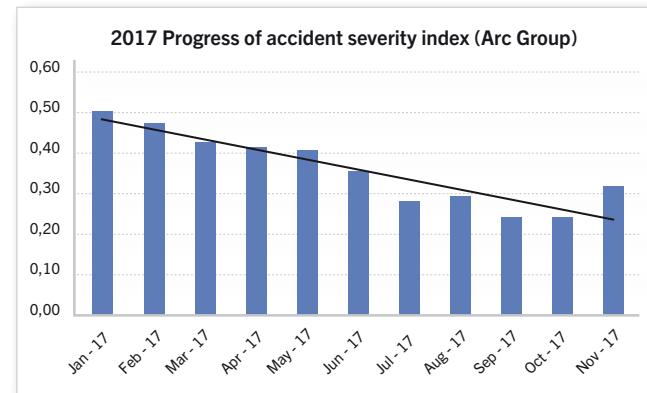
The expertise and commitment of our staff are valuable assets for the Group. Protecting their health and safety, providing a pleasant working environment and developing their skills are priorities for the company. This key management objective must be shared by all the staff so as to form part of the company's culture.

## DEVELOPING THE POTENTIAL OF MEN AND WOMEN



## Safety

Across the group, on all the key safety metrics, 2017 marked a year of progress over 2016. For example, by October of 2017 the accident severity index (TG) which measures the number of days lost to accidents and occupational health problems compared to the total number of hours worked had reached its lowest level for four years.



2017 also marked a new emphasis in our safety management on systematically identifying and eliminating potential hazards to employee safety. Each month in 2017 over 300 preventive and corrective actions were carried out across the Group to ensure safer working conditions for our teams.

As part of the on-going effort to improve and standardise our safety management system across the whole Group, new Safety committees were created both in DGMC and in Arc France. These provide an opportunity for employees to voice their safety-related concerns, as well as for senior management to review progress and decide actions. Furthermore, all the monthly senior management review meetings now start with a 'safety first' reminder to foster commitment to a 'safety first' culture.

Another safety milestone at the beginning of 2017 was the release of the first Group-wide standard for

fire safety. Based on the APSAD standard required by our insurers, this covers areas including fire prevention and protection, as well as monitoring and emergency responses. It is now being implemented in all our plants around the world.

One area of concern in all of our industrial activity is the occupational health impact of the level of noise generated by our machines and processes. In AGC in August of 2017 a comprehensive survey of noise levels across all areas of the factory was undertaken. Some of the mitigation measures now being undertaken include the construction of noise – isolation cabins in the hot end areas (see below) and the construction of separation walls to screen areas from high noise levels. In 2018 we will be looking to find ways to reduce further noise levels 'at source' through the design and specification of our machines and equipment.

The year 2017 marked a milestone for the OSZ factory in Guz, Russia. By the end of the year

the whole factory (over 1000 employees) had achieved over 600 days without a lost-time accident. Some of the key elements in achieving this success included a comprehensive system of safety cross-audits between departments – often



Noise-isolation cabin in AGC

the eye of the outsider is better able to spot risks and hazards which otherwise go unnoticed. New and comprehensive systems were deployed for ensuring employee safety through LOTO (lock out / tag out) disciplines and through thorough Job Hazard Assessment (JHA) procedures. The safety team from OSZ have also visited AME, DGMC and AGC to share their practices and help improve our

safety performance across the Group.

In August, to celebrate these good results, employees' families were invited to visit the factory (see below) – a good and above all a safe visit was enjoyed by all the participants



OSZ families day



## Ergonomics and working conditions



*“Adapt the machine to the person and not the person to the machine,”*

Karine, ergonomist at Arc France. Here is a brief definition of ergonomics. Taking employees' safety, comfort of movement and postures into consideration when designing or adjusting work tools is essential for protecting human health and safety but also for improving the efficiency of the production facilities.

Prevention is a central component of

ergonomics, and this means training and raising the awareness of employees so that they can then take action in their daily working environment. The teams of the Operational Excellence Department are the ergonomics ambassadors in the autonomous units. PRAP training (Prevention of Risks linked to Physical Activity) is the starting point for every employee involved in a physical activity. In 2016, 10 new in-house PRAP trainers were certified at Arc

France. They can now provide 2-day training courses to employees in their sector, so that they can be actively involved in prevention, by understanding how to analyse their workstations and making suggestions for improvements.

The training is based on the 9 principles of general risk prevention:

1 Avoiding risks	2 Assessing risks which cannot be avoided	3 Combating risks at source
4 Adapting the work to the person	5 Taking technical developments into account	6 Replacing what is dangerous with something that is not (or less) dangerous
7 Planning prevention	8 Giving priority to collective protection measures	9 Giving appropriate instructions to workers

PRAP courses train employees in risk prevention and enable each individual to play an active role and suggest improvements. An ergonomist is present on the French site. She helps precisely identify the riskiest situations, and works with the HSE managers to propose more ergonomic

solutions in terms of layout or protection. However, many improvements are put in place at Group level by all the employees on a voluntary basis. Below are a few examples:

The JPRU plant has provided more suitable safety shoes for employees working in specific

conditions, such as wet, hot or machine environments. The HL decided to purchase safety caps for all its staff: while lighter than helmets, they are reinforced and protect the wearer from knocks to the head; they also have a visor.

## Automation and ergonomics

Making up tableware sets requires several operations in order to create packages comprising several types of items. In China and France, the packaging workshops have installed a new robot capable of packaging products of

different shapes and sizes in the same box. This innovation makes it possible to replace the most strenuous work, and improve working conditions and load-carrying operations.

## Polishing tables



The quality of the products depends on the quality of the moulds. The preparation and maintenance phases are essential and the moulding teams require great expertise to carry out these operations. However, these workstations that involve arduous tasks are now equipped with a vibrating polishing table. This reduces the arduous nature of the work and

also improves productivity and responsiveness. Most of the moulds can now be polished in approximately 30 minutes, which enables the teams at DGMC to polish complete sets of moulds six times faster than previously. The soft polishing action of this vibrating table also increases the life-span of the moulds. Better for the employees and also better for the environment!

## Things get hot!



Near the glass fusion furnaces, heat is omnipresent, and particularly in the summer season, when the climate can be very hot. The human body is greatly affected by heat; it can make people less vigilant and less responsive. In Nanjing, China, the factory has therefore implemented prevention measures which involve distributing cool drinks with vitamins, and installing fans in the areas that do not have air conditioning. These measures have improved working conditions for employees, and reduced

the fatigue induced by excessive heat. In the United Arab Emirates, heat is part of every-day life. Air conditioning is used to enable people to bear the extreme temperatures. In order to improve the effectiveness of the systems in place, a special insulated door has been installed in one of the workshops. In this way, the cooled air is kept inside the area and the temperatures are more bearable.



## Let there be light!



The Logistics Department at Arc France has renovated several warehouses. The floors have been levelled out, the signs renewed, and metal structural panels have been replaced to let natural light into the warehouse. The working environment has been improved for the employees who work in these warehouses, while the reduced need for artificial lighting contributes to protecting the planet.



The newly renovated Z10 warehouse

## Acknowledging the employees' skills



When the Logistics Autonomous Unit (AU) decided to highlight its activities and its employees' expertise in the "Magie Verrière" (Glass Magic) training module,

it called on Olivier's video-filming talents; he produced and edited a series of clips to illustrate the different stages of the logistics processes, how the production units are supplied with

cardboard and semi-finished products and the preparation of shipments.

## Training

### Replacing employees arriving at retirement



Arc France is faced with the problem of an inverted age pyramid and many staff will be retiring in the next few years. Today, the company is ensuring its expertise is safeguarded through the transmission of knowledge.

The industry in general suffers from a slightly "dusty, old-fashioned" image and, unfortunately, the diversity of the professions and career development prospects are not sufficient to attract young people.

As part of its AIF project (French: Attirer Intégrer et Fidéliser [Attract, Integrate and Retain]), the Arques site, in conjunction with all its partners, is actively promoting its industrial professions, hosting company tours, giving

presentations, and contributing to local training and employment support systems in order to raise awareness about what these professions are truly like.

At the same time, a programme has been set up to meet the expectations of the wide variety of profiles by offering a diverse range of career paths, the objective being to give everyone an opportunity, with training used as a key tool to achieve the operational objectives.

Traditional recruitment operations are supplemented by simulation-based recruitment. This scheme has been developed by public organisations and approaches recruitment in a different way, by not taking experience and qualifications into account.

### First-aid training



AIME, in the United Arab Emirates, has built an excellent safety culture. In order to maintain this positive momentum, a total of 60 employees were trained in first aid. During a 1-day course, a professional taught them the first-

aid gestures and actions required to deal with a dangerous situation, while protecting themselves, and helping others. Blending theory and practice, these courses are essential in professional life, where they enable employees to carry out the

The exercises reproduce the workstation concerned by the recruitment and place the candidates in a simulated work situation in order to demonstrate their ability to do the job. The idea is to detect a young person's capabilities as regards the target profession, without taking into account their CV. The recruitment interview that follows is aimed at checking the candidate's motivation and soft skills.

The training given by the in-house trainers provides trade-specific skills. The preferred teaching method alternates practical and theoretical phases, and the apprenticeship managers and tutors play a key role in developing the skills of the young trainees.

appropriate actions while waiting for the rescue teams. They are also important in private life, where being able to assist a family member or friend could save their life.

## Meeting young people

It is essential that we promote this industrial sector to young people in order to enable them to discover the diversity of professions in the industry, particularly on the Arques site, which combines both manufacturing activities and the Group's research and development department. Partnerships with universities, high schools or middle schools are important to promote a better understanding of the industry and encourage young people to take an interest and see a future for themselves in the sector. In parallel, there are also opportunities to meet students during specific events.



Stand Arc au CCI Industry Days

The Group took part in an inaugural event devoted to industry, organised by the Chamber of Commerce and Industry, entitled the CCI Industry Days. This enabled:

- employees from the R&D Department to demonstrate the Group's innovations in real life situations.
- members of the Verr'Elles network to promote the role of women in industry to the students present
- the Human Resources Department to inform young people about the hundreds of job offers available

The event was a genuine success and should be repeated, in order to raise awareness about the company and the jobs and career opportunities available.

The Universciences programme at the City of Sciences and Industry in Paris provided another opportunity. This programme aims to give the general public a greater insight into science. An Arc France



Arc Stand at The "Cité des Sciences et de l'Industrie", Paris

delegation, made up of motivated employees from various departments and members of the Verr'Elles network, participated in this 3-day event in the main hall of this major Parisian venue. It provided an opportunity to promote the rewarding profession of glass-making and the various industrial processes to a diverse audience: high school science students, families with children of different ages who were delighted to discover how their favourite glasses are made. A truly wonderful experience which was highly rewarding for everyone, on a professional and human level.

## Online training



In China, the spoken working language is English, and this is also the working language across the Group. Language training is therefore essential for employees. At AGN, online courses have been put in place for 37 employees in order to help them perfect their English; three of them were awarded the title of "Best Student" due to their excellent performance. This is another string to their bow to help them move upwards in the company.

## Validation of Acquired Experience



In addition, employees can also have the value of their experience and skills acknowledged through a CQPI (Inter-branch Certificate of Professional Qualification). The certificate is validated after an assessment of the person's professional experience and expertise in specific professional areas (logistics, industry, etc.). In 2017, a total of 7 people obtained their

diplomas and several colleagues will be following the process in the months to come.

In a context of transformation (organisation, technological developments, etc.), the Arc Group provides training programmes aimed at each sector of the company: R&D, sales, production, logistics, finance, purchasing.

## Well-being

### A healthy, pleasant meal break

In Russia, employees whose homes are a long way from OSZ often take their meal break inside the factory. A company catering

service helps create a friendly, community area within the workplace. OSZ recently changed its catering provider. Today, the new caterer provides employees with more balanced, filling

meals, which is particularly important for shift workers whose biological rhythm is disrupted.

### In the United Arab Emirates,

many employees come from other countries, such as Nepal, India or Pakistan. With this in mind, AIME provides accommodation for employees on its site. They live there for a large part of the year. To enable them to occupy their free time in a pleasant, friendly way, Arc

has built a recreation hall with various leisure facilities. Employees can play billiards, table-tennis, table football, chess and carrom. This

hall supplements the sports equipment already in place and gives the site a more pleasant, welcoming atmosphere.



« Recreation Hall », AIME



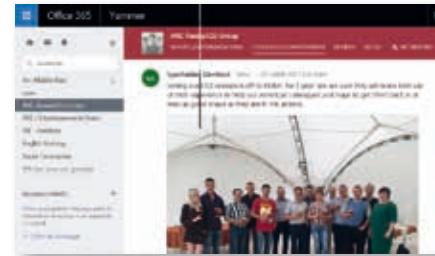
### Changeover Challenge

The inter-subsidiary challenge to reduce the time needed for manufacturing changeovers was won by the teams at AIME.

Each team won an evening out karting. All the team members, along with Nicholas Hodler, the Site Director, Tim Gollin, the Executive President of the Group, took part in a kart race in a spirit

of fun and fair-play. A friendly casual dinner rounded off the evening.

## Social and internal networks



Today, digital technologies and social networks are a key part of professional and private communication. The company has gradually initiated its digital transformation and the staff are getting used to the new communication tools.

Outside the marketing and sales aspects, two new internal social networks were launched in 2016.

Yammer is a corporate social network, and every Arc Group employee has access to it through a personal account. This informal tool for sharing and communicating enables employees to learn about technical subjects such as flexibility and productivity, and also to share documents and presentations, best practices, news - such as the success of Ambiente 2017 (Tableware Trade Fair) in Frankfurt - or press articles. This tool has made it possible for all employees from every site around the world to communicate with each other.

Arc University is an online corporate training system. It provides training modules concerning basic information about different fields such

as corporate history and values, quality, safety, and the autonomous units (or mini companies). It also provides profession-specific courses, which are prepared in conjunction with in-house experts or via the CrossKnowledge support package.

The online university is open to nearly 1,500 Arc Group subscribers, it is at this beginning of 2018 about 2 800 employees who have access there. The modules are essentially available in French and English, with some in Chinese and Russian.

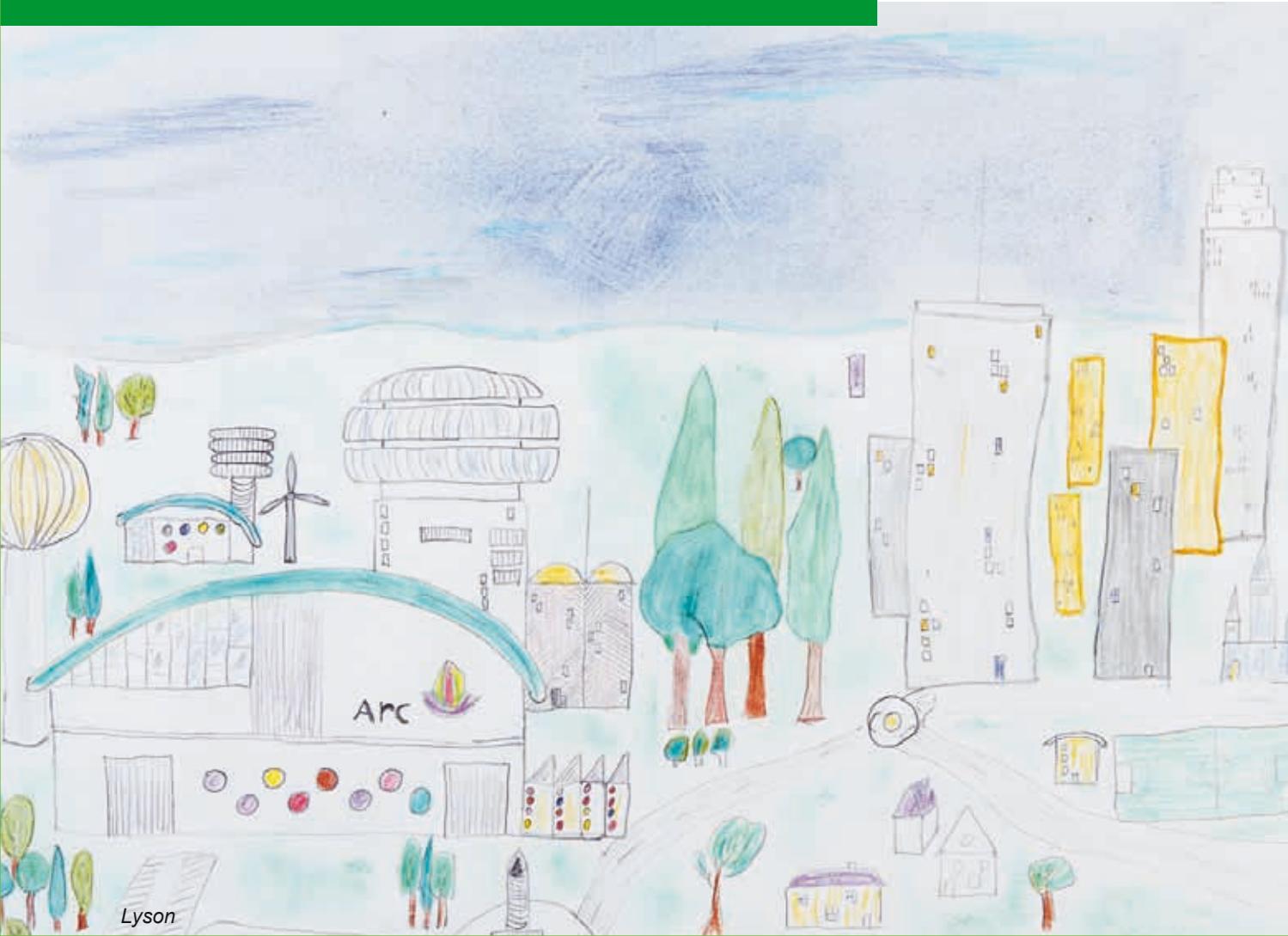
The aim is to provide online training courses that can be viewed and reviewed by the majority of staff, to share documents or exchange ideas via the blog. The courses are not set in stone and can be updated as time goes by. It is possible to

combine an online course with a face-to-face course, to do homework assignments that will be corrected by an in-house trainer, or to advise employees about pre-requisites before starting a course. Each profile can be customised and the number of connections or regular course attendance enables employees to accumulate points in the Leaderboard, which congratulates “the steady learners”, “perseverance” and the “top of the class”.



Sharing, solidarity and regional investment have always been core company values. These are the anchoring points that stabilize the company during periods of change and mobilize employees around local projects.

## SHARING OUR VALUES



Businesses obviously have economic objectives, but their societal role is increasingly appreciated by employees, who seek meaning and value in their work, and the regions in which they are located. Win/win partnerships with public authorities or associations are essential for a company's balance and that of its employees.

### Win-win partnerships at Arc France

 ESATs (disability-friendly enterprises) help people with disabilities find work and develop their professional skills. These enterprises provide many services to businesses who want to play an active civic role and have a clear policy in favour of disability; these services include sewing, the upkeep of green spaces and packaging.

At Arques, the packaging unit has worked with different structures in the region for several years. In 2016, a total of 48 million products were packaged by ESATs. The items and all the necessary materials are sent to the workshops of the associations concerned. Specific support is sometimes needed from Arc's specialists. The ESAT workshops regularly work on packaging, i.e.

forming the boxes, labelling, sealing. Employees from the packaging unit organise these operations and almost 200 disabled people work for Arc France in 12 ESATs. Opportunities on the Arc site are being explored for some of these partners, so they can perform their missions in an adapted workshop on the company premises.

### A special partnership



The IME (Medico-educative Institute) takes in young disabled persons. Its goal is to help these young people improve how they approach their daily life and to find general and vocational

training schemes. The Hazebrouck centre is located just a few kilometres from the Arques factory and asked the company for support when creating its training restaurant. The restaurant acts as a learning workshop for the young people, but like any restaurant it also welcomes diners. Arc France provided the dinnerware for the kitchen and restaurant service. In order to better understand how industry operates and how the dinnerware used in their restaurant is made, the young people were given a tour of the factory. This was a rewarding moment for all those involved.

The partnership has continued and the company donated decorated glasses for the festive end-of-year celebrations. The students made flower arrangements to go in the pretty "made in Arques" containers.



Drawing is a universal means of communications. It allows people to share messages and emotions or just have fun expressing themselves. In 2016, Arc unearthed several expert or amateur artists.

## Plastic arts at Arc Middle East

 The sustainable and environmentally-friendly nature of glass inspired Ahamad Mahamood, from the New Product Development Department at AME, to create artistic works blending drawing and Arc products. This creative and ingenious employee created works based on landscapes, with some paintings incorporating an electronic system reproducing the twitter of a bird. Congratulations to this artist

“made in Arc”!  
In the painting below several items are visible: the Ambiente dessert plate serves as a green hill, the multi-purpose bowl forms a bird’s nest, the New Morning mug captures the waterfall, the Evolutions cup is used as a flower pot, the Amsterdam is used for buds, the Tivoli mug as a tree trunk, the Calice saucer as the sun and another saucer as a flower.



## Budding artists at Arques

In June 2016, Arc France teamed up with the City of Arques to organise a drawing competition for the children and grandchildren of employees of Arc France, as well as pupils from the city’s schools.

The competition was open to children from 3 to 18 years old. It was divided into 3 age categories and 2 themes: “Bees and their hives” for the youngest and “Your city and your factory of tomorrow” for the others.

The employees and the schools participated actively and 60 drawings were received. A joint jury, made up of representatives from the City Hall and Arc France, selected the 12

winning drawings. The young artists were given their prizes by Caroline Saudemont, Mayor of Arques, and Timothée Durand, Business Development Director, at an official ceremony at the Arques City Hall. The drawings were then circulated to all of the employees and exhibited in the company. The pictures were used by the City Hall for certain communication campaigns, such as their greetings card, and by Arc to illustrate this Sustainable Development Report and even to decorate the beehives of Arc France.



## Family Day in Ras-Al-Khaimah



 The factory in the United Arab Emirates has a specific characteristic: many employees live on the site, either alone or with their families. Consequently, there are many events and activities that bring the employees together to promote the well-being of all the people on site. The Family Day

is an event where all employees are invited with their families to take part in various fun activities on site: shows, games for children, etc. The day is great fun and builds wonderful memories!

## Diversity and Gender Equality

On the initiative of female staff at Arc France, a women’s network named Verr’Elles was officially created at the start of 2017.

The network is supported by the Human Resources Department. It contributes to monitoring developments in the company in terms of diversity and professional equality.

One of the network’s first actions was to establish a training programme for women with the aim of improving their confidence and self-assertion. A hundred female employees have benefited from these high-quality training courses. They came out more confident and motivated as regards their work.

Verr’Elles organised a conference on the topic of gender and performance in June 2017 at Arques. After an introduction by Tristan Borne, the Managing Director for France, the experts invited for the conference exchanged ideas and demonstrated the benefits of promoting diversity within the company, and proposed

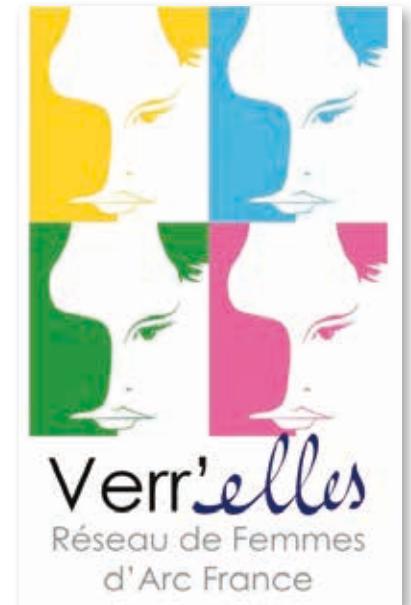
ways of increasing the proportion of women in the company. The conference attracted an audience of about 100 people, composed of Arc employees and people from outside the company. The (diverse) audience left the conference convinced of the importance of fostering equality and combating prejudices. The event was a great success and it will help to change the attitude of even the most sceptical.

Other actions have been organised, such as network lunches to get to know each other and share ideas, mentoring schemes to help new recruits quickly feel at home in the company, and debates with female students to reassure them as regards their choice of studies.

The 2018 programme of the Verr’Elles network is currently being established, but it will continue to drive the company forward as regards the subject of gender equality, and help employees gain a better understanding of the issues in

order to support female staff in building their careers and confidence.

Verr’Elles is present on social networks and has a Twitter account: “Verrelles”.



## The magic of glass at Arques



The glass industry is a magical industry. Glass is formed using base raw materials, such as sand, melted to very high temperatures. Through this transformation it becomes a noble, bright, transparent material, that is both resistant and fragile. With this in mind, the Arques site has a workshop area

devoted to industrial tourism. Visitors can find out how an everyday object such as a glass is manufactured. This workshop, generally used for industrial tourism, hosted the 1st open-day on the Arques site. On Saturday 30 April 2016, some 740 people were welcomed to the site and had the opportunity to admire the newly refurbished

Furnace L; the art of glass-making weaved its magic. Many company volunteers looked after the visitors and explained the processes. The event was greatly appreciated by both visitors and staff.



## 1<sup>st</sup> edition of the Glass-makers' Fair

The first Glass-makers' Fair organised by the city of Arques took place at the end of August 2017.

The 35 exhibitors impressed visitors with their unique and original creations. More than 2,000 people came to see how glass could be worked in several different ways: flame-worked spun or blown glass, stained glass, fusion, molten glass, etc.

Arc had a stand at the fair and the company's different brands exhibited their latest innovations. The company was also represented through the "Association of glass-and crystal makers", made up of former Arc employees. For the fair, they created a fantastic presentation highlighting the history of the company through its various models, and the development of the site and tools over the years. The visitors were delighted to be able to consult the company's archives and plunge into the company's history. Some visitors had the opportunity to meet up with former colleagues and share memorable

anecdotes. The next edition is already being prepared.



Glass-makers' Fair in Arques

## A member of the global compact

Arc was quick to understand the importance of sustainable development and was one of the first French companies to sign the United Nations Global Compact in 2003. This voluntary initiative was driven by Philippe Durand, then Chairman and CEO of the Group and shareholder. The Group's values were and remain similar to those of the Global Compact's principles. As such, the company's employees fully understood and integrated the Group's membership.

In the years that followed, actions for improvement were identified and implemented, and a first sustainable development report was published in 2005. Since that time, a report has been published each year and posted as Communication on Progress (CoP) on the Global Compact website.

The 10 principles of the Global Compact are divided into 4 main themes:



### - Labor conditions

- **Principle 3** : Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining
- **Principle 4** : Businesses should contribute to the elimination of all forms of forced and compulsory labor
- **Principle 5** : Businesses should contribute to the effective abolition of child labor
- **Principle 6** : Businesses should contribute to the elimination of discrimination in respect of employment and occupation



### - Environment

- **Principle 7** : Businesses should support a precautionary approach to environmental challenges
- **Principle 8** : Businesses should take initiatives to promote greater environmental responsibility
- **Principle 9** : Businesses should encourage the development and diffusion of environmentally friendly technologies



### - Human rights

- **Principle 1** : Businesses should support and respect the protection of internationally proclaimed human rights
- **Principle 2** : Businesses should make sure that they are not complicit in human rights abuses



### - Anti-corruption

- **Principle 10** : Businesses should work against corruption in all its forms, including extortion and bribery
- The principles are universal and apply to all our activities and sites. The United Nations Global Compact is recognized around the world and by all our customers, for whom it is a guarantee of good social and environmental practices. These ten principles are illustrated through the different initiatives presented in this report. In order to make reading the report simpler, the table below shows the links between best practices and the principles of the Global Compact.



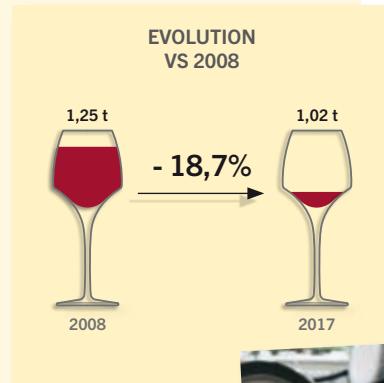
# Correspondence table

CATEGORIES	PRINCIPLES	POLICIES AND BEST PRACTICES	REFERENCES
<b>Human rights</b>	1. Business should support and respect the protection of internationally proclaimed human rights	- Internal regulations and HR policy - Ethical code	ID ID
	2. Business should make sure that they are not complicit in human rights abuses	- Internal regulations and HR policy - High-risk a tour "high-risk" Regular audits of 'high risk' suppliers - Ethical Code	ID ID ID
<b>International Labour Standard</b>	3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	- Internal regulations and HR policy - Verr'Elles network : Diversity and Equality	ID Page 41
	4. Businesses should contribute to the elimination of all forms of forced and compulsory labor	- Safety policy and approach - Improvement of the working conditions: ergonomics, well-being and health	ID Pages 32, 33 et 36
	5. Businesses should contribute to the effective abolition of child labor	- HR policy	ID
	6. Businesses should contribute to the elimination of discrimination in respect of employment and occupation	- International Exchanges in China - Engineer school exchange in France - Partnership with ESAT France - Verr'Elles network : Diversity and equality	Page 15 Page 35 Page 39 Page 41

CATEGORIES	PRINCIPLES	POLICIES AND BEST PRACTICES	REFERENCES
<b>Environment</b>	7. Businesses should support a precautionary approach to environmental challenges	- Energy efficiency - Lighting - Green electricity - Resources efficiency - Aqueous discharges - Air quality - Environment day	Page 25 Page 25 Page 26 Page 26 Page 27 Page 28 Page 18
	8. Businesses should take initiatives to promote greater environmental responsibility	- Biodiversity route - Sustainable week and wastes reduction : activities and awareness raising initiatives - Waste management - Green living - Mobility	Page 18 Page 14  Page 28 Page 15 Page 13
	9. Businesses should encourage the development and diffusion of environmentally friendly technologies	- Eco-conception - Multi-manufacturing	Page 11 Page 27
<b>Lutte contre la corruption</b>	10. Businesses should work against corruption in all its forms, including extortion and bribery	- Ethical Code and purchases confidentiality - Ethical Code Group	ID ID

ID : internal documents

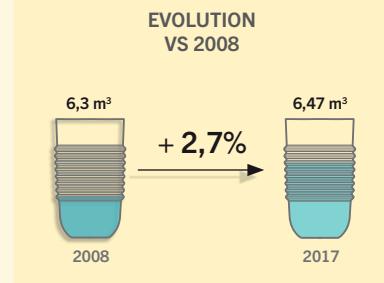
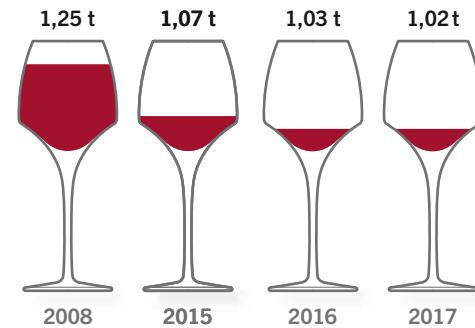
# Environmental indicators



## CO<sub>2</sub> emissions

Metric tons of CO<sub>2</sub> emitted per metric ton of 1<sup>st</sup> choice glass produced (for the Group)

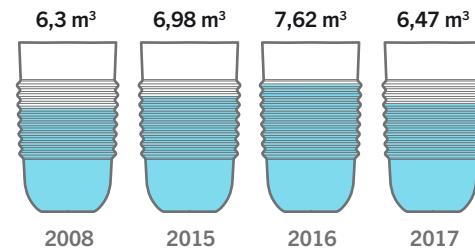
CO<sub>2</sub> emissions continue gradually to decline. The reduction is almost 17% since 2008. Actions to improve energy efficiency are bearing fruit.



## Water consumption

m<sup>3</sup> of water per metric ton of 1<sup>st</sup> choice glass produced (for the Group)

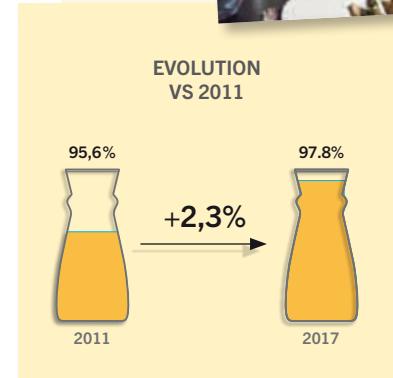
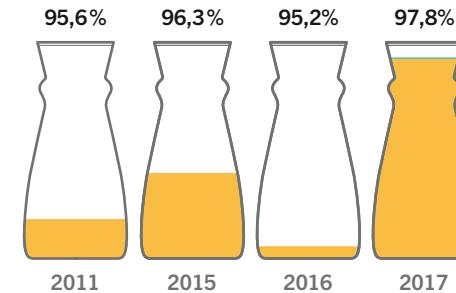
Water consumption is directly linked to the activity of furnaces. When the industrial process is not fully loaded, the associated water consumption deteriorates, which has the case in the past year.



## Recycled wastes

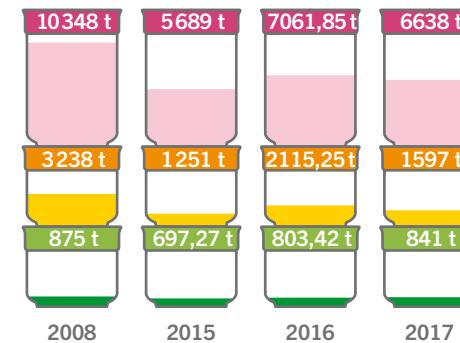
including production wastes (for the Group)

This represents the proportion of waste generated by the company that has been recycled. In this proportion are included the production waste, cullet, and other recyclables, such as cardboard for example. This share is important and is improving, particularly with the actions of cullet recycling. The few % points gained this year have been achieved as a result of advanced research on the recycling stream.

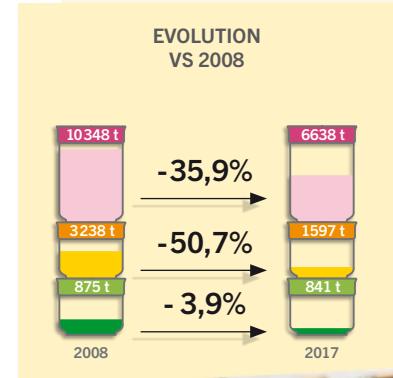


## Production of recycled wastes

Metric tons (for the Group)



In 2017 the reductions in waste generation (vs 2008) are more than 51% for metals, 36% for paper and 4% for plastic. This significant reduction is a reflection of a general awareness of the collection, sorting and reprocessing of waste. Over the same period glass production in metric tons increased by some 25% across the whole group.

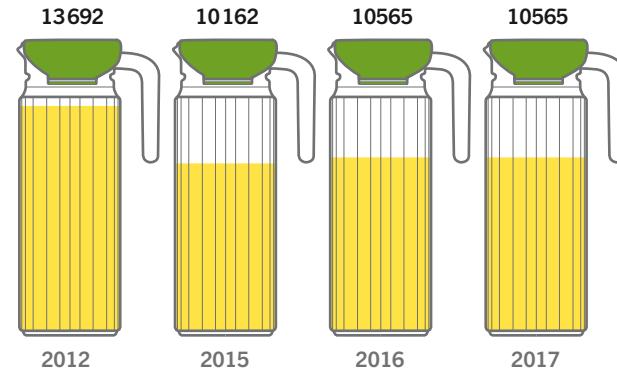


# Social indicators



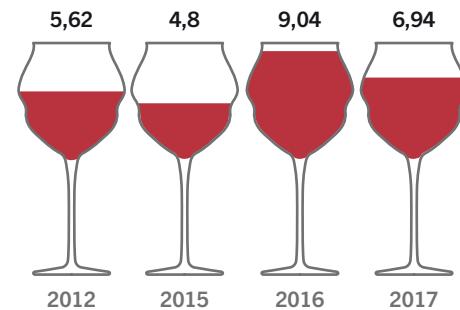
## Employees of the group

Distribution of the staff of the Group



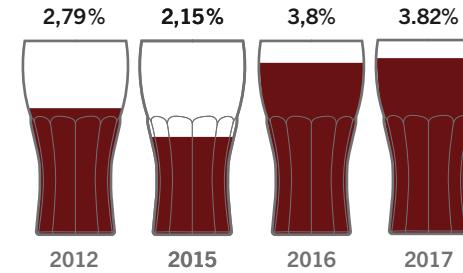
## Safety

Frequency rate of the Group  
number of accidents with lost time x 1 000 000/  
number of working hours

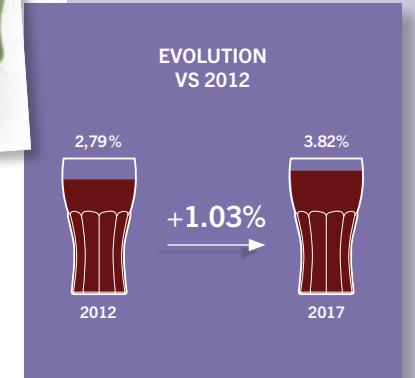


## Training

Investment in training  
% of payroll (Arc France)

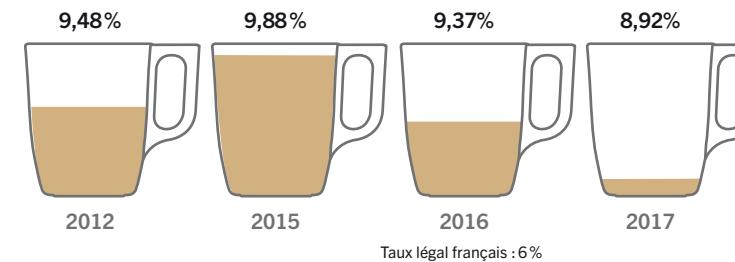


the rate of training is stable in 2017.



## Inclusion

Employment of people with disabilities (Arc France)



Ageing of the overall population of employees at Arc France explains a slight increase in the number of people declaring an impairment and also includes associations that help and employ disabled workers.



# Notes





[www.arc-intl.com](http://www.arc-intl.com)

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