

An Oerlikon  
Company

# 2019 KNOWLEDGE, TECHNOLOGY & SERVICE

Sustainability Report





# One team, One vision.

2019 has been another very challenging year in our industry and the overall transportation sector, following the 2018 downturn in the automotive market. Uncertainty on the global direction of the car industry has further slowed down the launch of new models, affecting the moulding companies and consequently the hot runner utilization. In this very uncertain market German car companies continued to follow unclear directions on the future of internal combustion cars, the push of the Volkswagen Group towards electrification with the launch of 2 models and 4 more planned launches in 2020 is only matched by Daimler with one electric car but none by BMW. The first signs of decreasing GDP in Germany are a consequence of the slowdown of the car industry. Moreover 2020 is starting with the very negative worldwide Covid-19 pandemic which is affecting us all.

French carmakers PSA and Renault continued to release new models and our strong commercial activity allowed us to gain market share with them compensating for the German downturn.

Duties and tariffs have added further uncertainty on where to manufacture new cars. As a consequence, 2019 has seen a further decrease in the number of new cars launches with a drop of almost 10% versus 2018, and this directly affected our market.

Despite all the above, HRS and the INglass Group were able to grow also in 2019, taking away market share from our main competitors and further establishing the company as a strong market leader in the hot runner supply to the automotive industry.

Strong determination, aggressive commercial activity and industrial cost optimization have made this possible. These key elements together with passion, product, teamship and partnership with the main customers have led the INglass group to grow in a year in which every other company struggled.

With a CAGR (2016-2019) equal to approximately 10%, the ambitious strategy undertaken by the company is confirmed: to establish itself as a worldwide leader and strengthen its position in a highly competitive sector and at the same time consolidating its economic and financial parameters.

In 2019 the company pushed even further the "One Team" project, aligning all the subsidiaries to common goals in performance, profit and individual targets: everybody in all the group companies is fighting for a common target in

sales, profitability and financial position.

The One Team project is spread all over the company functions: same design and manufacturing product standards in the three plants, same service tools and sales management. During 2019 the company fully integrated the global CRM for sales and service: reporting of the OEMs, Tier1s and Mould Makers' visits and services are all shared and categorized tracking most of the ongoing Car Programs. One Team is a global project aimed to enhance and unify all the management teams in the HQ and all the subsidiaries, it is based on constant exchange of information, sharing of all the international projects, cross fertilization of resources and on a team decision making process.

In all geographical areas, while maintaining a local management of resources, in order to best serve the customers in the specific area, every manager is working to bring the best to other markets.

During 2019 the shifting to China of tool manufacturing has continued, due to the constant search by Tier 1s of better pricing; our international team has continued to align to this trend and in all the European and North American territories we are pushing to serve our direct and indirect customers with the best offers from our Chinese factory when required to do so.

2019 has consequently seen an even further increase of our Chinese output, the price pressure is continuing, and the future will see more and more international projects made in China.

INGlass after sales service has always been a strong asset, during 2019 we have implemented a new Service CRM that allows our operators to quickly communicate and intervene and at the same time to keep track of all our services at all the worldwide end users' plants. This system is integrated with a complete analysis of our product issues allowing a 360° loop to increase product quality and performance.

Due to the dynamics of the car industry we are also increasingly looking at other sectors: during 2019 we pushed even harder on our international project aimed at competing in the domestic appliances, houseware, logistic and transportation markets. INglass already has the technical knowledge to cover these sectors, we are building the commercial structure and the clients' confidence in our products: during 2019 we recorded a 30% increase in the number of drops manufactured for these sectors.

In 2019 we also launched new products and technologies aimed to complete our offer and increase competitiveness:

we introduced the Hyflow, the Flex Flow Actuators on Manifold and the Small Nozzles Series.

As we did in previous years, we invested in our professional team: attention to people and to professional growth is at the centre of all company processes. The core principles of excellence, constant improvement and flexibility are incentivized through training, and reallocation of professionals in different territories and tasks.

At the end of 2019, due to major changes in the dynamics of our industry and to fully concentrate on the hot runner business, we decided to split the mould division from the company, creating a newco Inevo, that in January we sold to a third party.

Our glocal approach also continued to bear results: global processes and procedures, global training, global product and standards, with a local approach to customers and solutions.

Product quality, cutting edge technology, service and customer partnership are the winning elements for INglass. During 2019 we also continued our strong commercial approach combined with continuous cost optimization: price pressure and commercial programs were more than sustained by industrial and product improvements.

As a result, in a market which saw the average price drop down, thanks to our product cost optimization, our industrial margin has improved, and this has allowed the company to reach another positive year in our financial statements.

The automotive industry is facing the same challenges in 2020, amplified by less cars in development, even more price pressure and the uncertain worldwide Covid-19 pandemic; in this challenging environment INglass is ready to play a major role in 2020 and for the years to come: the desire to face new challenges is what has always distinguished us, the courage to change is part of our DNA and during the coming years this will allow us to compete and win.

  
Maurizio Bazzo  
President

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# Report structure & group parameters

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The scope of our 2019 Sustainability Report includes the entire Group of companies reporting to the Italian HQ and those that fall within the Group Consolidated Results. All figures, therefore, refer to production plants in Italy, China and the USA and to the technical-commercial branches worldwide.

PARAMETER 1: in order to align the reported data with the Consolidated Financial Statement the Economic section in Chapter 2 and all sales data by area and division are considered according to the subsidiary actual percentage held by INglass.

Starting from 2019, Inglass Group adopted IFRS principles over our Consolidated Financial statement. For this reason, we rebuilt the number 2018 reported in this document.

PARAMETER 2: all other report indicators referring to the entire company (production plants and technical commercial branches) are not weighted by the percentage held, since we believe the statistical data relative to personnel, customers and any environmental impact must be considered in its entirety. The Group will take into consideration the entire impact of its activities, acting in effect as a single body and not as the sum of its individual entities. We represent that, with the exception of the SCC branches in Spain, SCCA in Portugal and HRS in Thailand (held by INglass SpA at 50%, 50% and 49%) and the production plant in Michigan, USA (49% held by Simest SpA), all other sites are wholly owned by the parent company INglass SpA (with the percentage held varying from 100% to 99%, depending on the case).

The data reported in this document refers to the turnover from the years 2017, 2018 and 2019.

## PARAMETER 1 OF THE REPORT

### Economic Sustainability 2019

Weighted data for the % withheld

#### INGlass SPA

HRSflow Hot Runner Systems NA Inc. Canada	INGlass USA Inc. Usa	INGlass Tooling & Hot Runner Manufacturing Co.,Ltd China	Sistemas De Canal Caliente Iberica S.L. Spain	HRSflow do Brasil comércio de sistemas de câmara quente importação e exportação LTDA Brazil
HRS GmbH Vertrieb Deutschland Germany	INGlass HRS South Africa (Pty) Ltd. South Africa	SCC Assistencia Tecnica Unipessoal Lda. Portugal	INGlass HRS MAKINE KALIP YEDEK PARÇA VE SERVIS SAN. TIC. LTD. Turkey	HRS Hong Kong Limited Hong Kong
HRS JAPAN CO. LTD Japan	HRS FLOW INDIA Private Limited India	HRS FRANCE SARL France	HRS Flow (Thailand) Co. Ltd, Thailand	HRS FLOW MEXICO Mexico

## PARAMETER 2 OF THE REPORT

### Social and Environmental Sustainability 2019

Overall data

#### INGlass SPA

HRSflow Hot Runner Systems NA Inc. Canada	INGlass USA Inc. Usa	INGlass Tooling & Hot Runner Manufacturing Co.,Ltd China	Sistemas De Canal Caliente Iberica S.L. Spain	HRSflow do Brasil comércio de sistemas de câmara quente importação e exportação LTDA Brazil
HRS GmbH Vertrieb Deutschland Germany	INGlass HRS South Africa (Pty) Ltd. South Africa	SCC Assistencia Tecnica Unipessoal Lda. Portugal	INGlass HRS MAKINE KALIP YEDEK PARÇA VE SERVIS SAN. TIC. LTD. Turkey	HRS Hong Kong Limited Hong Kong
HRS JAPAN CO. LTD Japan	HRS FLOW INDIA Private Limited India	HRS FRANCE SARL France	HRS Flow (Thailand) Co. Ltd, Thailand	HRS FLOW MEXICO Mexico

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# COMPANY IDENTITY



# 1.1 / In Brief



INglass S.p.A.  
San Polo di Piave  
1987

**Company type** SPA – Joint Stock Company

**Registered capital** 2.750.000,00 € fully paid up

**Directors**

Chairman & Executive Director: Mr. Maurizio Bazzo  
CEO: Mr. Antonio Bortuzzo  
Executive Director: Mr. Ruben Vidotto  
Director: Mr. Ruggero Morandini  
Director: Mr. Andrea Peruch  
Director: Mr. Filippo Zuppichin

**Controlling authorities**

**BOARD OF STATUTORY AUDITORS**

Chairman of Statutory Auditors: Mr. Graziani Michele  
Standing Auditors: Ms. Petrin Francesca, Ms. Biscaro Antonietta  
Substitute Auditors: Ms. Filippin Laura and Ms. Serafin Michela

**AUDITING COMPANY**

Ernst & Young

**Accounting principles** IFRS

**Total number of employees** 1141

**Registered trademarks**



Registered in Italy, European Union, USA, Japan, South Korea and China



Registered in Italy, European Union, USA, Canada, Brazil and China



Registered in Italy, European Union, USA, China

All registered trademarks are the exclusive property of INglass Spa, INglass Tooling & Hot Runner Manufacturing Co. Ltd and subsidiaries

**Value proposition and product lines**

INglass has been operating in the injection sector of thermoplastic materials for more than 30 years. The HRSflow division designs and manufactures hot runner systems for the production of medium and large sized components in all sectors. It has a leading position in the automotive industry, but provides hot runners for all industry sectors such as: autonomous & electric vehicles, domestic appliances, houseware, logistics & environmental, mobility and technical applications.

INglass moreover offers consulting and engineering services to support customers from the early planning stages until mould testing as well as customer service throughout the entire life cycle of the product. The value proposition is to be: Partners of our Customers through knowledge, technology, service.

- **KNOWLEDGE:** injection process expert
- **TECHNOLOGY:** technology pioneers
- **SERVICE:** always available

The product lines include:

**HOT RUNNER SYSTEMS:**

- Hot runner systems for large applications in the automotive sector, autonomous & electric vehicles, domestic appliances, houseware, logistics & environmental, mobility and technical applications

**CONTROL UNITS**

- Control units that regulate and monitor the moulding process parameters

**RHEOLOGICAL ANALYSIS**

- Tests carried out to study the behaviour of the material to be injected by evaluating parameters such as pressure, strain and temperature

**Certification**

ISO9001



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# 1.2 / Mission & Vision

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## **MISSION**

Increase the value of the company by offering innovation and advanced technologies to our partners, thus allowing them to differentiate themselves in the market. INglass aims to be a reliable supplier by guaranteeing efficiency and continuity in the molding process thanks to providing quality products and the know-how to support our customers. The distinctive features of our company mission are:

## **INNOVATION**

The experience gained in applications with a high level of complexity and continuous investment in research and development, allows us to provide technically advanced solutions for the molding process by improving efficiency and optimizing the functional requirements of the molded products. Some of the company's patented technologies (FAIL Safe, HP gate and FLEXflow) have made significant improvements in the world of injection molding.

## **HUMAN RESOURCES**

The people who work in the INglass group have always represented the most important resource for the pursuit of company objectives. Attention to the team and to professional growth is at the centre of all company processes. The core principles of responsibility, ethics, excellence, continuous improvement and flexibility are constantly reinforced through continuous training aimed at allowing the company's professionals to reach their full potential.

## **GLOCAL APPROACH**

In order to properly respond to the needs of international partners, the company utilizes a global network in order to ensure a widespread presence on all continents, including commercial branches as well as engineering and product development centres.

The methodologies adopted in our technological approach are consistent worldwide and are integrated with a highly localized service strategy in order to meet the needs of the territory.

## **EXCELLENCE IN PERFORMANCE**

Through leadership in innovation, enrichment of human resources and a glocal approach, the company aims to achieve the best possible results in the interest of its stakeholders and shareholders.

Continuous employment growth, return on investment in each relevant territory and the contribution to an increase

in the industrial culture, have always characterized the company.

## **VISION**

The Company has a very clear and stated goal: to be, and be recognized by all its partners as, the worldwide leader in high quality products, efficient customer service and technological innovation.

All activities carried on by the Company are aimed at the pursuit of this goal. Since 2010 INglass has invested in all the tools that can support the reach of this objective: Business Intelligence, Industry 4.0 tools, organizational structure, excellent professionals, training, lean approach to business, automated production.

Moreover, INglass has started various customer loyalty programs aimed at technology, product, service, terms and conditions partnerships. Applications and solutions co-development have been implemented with all the most relevant Tier1s and Oems, to allow them the use of new technologies and plastic parts cost savings.

# 1.3 / Driving Values

*"People are our greatest assets for realizing our inspiration"*

## **COMMON SENSE, our compass**

At INglass, our employees make rational assessments and decisions and act on the basis of experience in order to obtain positive results and minimize negative outcomes. Each person is required to be responsible for their own choices, to listen to the reasoning of others and to find a meeting point in order to act with balance and wisdom.

## **IMPROVEMENT, our commitment**

For INglass, improvement means developing continuously on a daily basis, and in a way so that the same mistakes are never repeated. We carry out our work with passion, dedication and professional pride, which are essential ingredients to develop and improve our company. The success of INglass is the result of the commitment of employees, who are actively involved in supporting projects while always focusing on the end result and remaining fully conscious of their work.

## **EXCELLENCE, our passion**

The concept of excellence for INglass means taking pride in doing something, doing it well, and improving it. Each person is asked to work professionally and skillfully, to care about the details, to study each action in depth, and exude a critical sensibility to achieve perfection for the task being carried out. We also focus on searching for innovative solutions and the development of specific skills, aimed at fulfilling future requests.

## **FLEXIBILITY, our strength**

Flexibility means meeting market demands for INglass. This is carried out professionally and efficiently by working independently and adapting to current situations while moving in the same direction for the same objectives. This is translated into the ability to listen to customers and fulfil specific requirements of each project through a positive and prompt approach



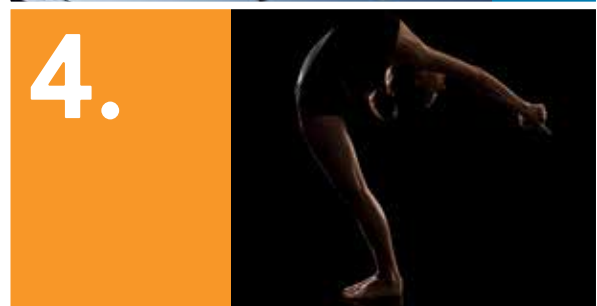
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2.



3.



4.

### **1.COMMON SENSE, OUR COMPASS**

It is common sense to take a method and try it. If it fails, admit it frankly and try another. But above all, try something  
*Franklin Delano Roosevelt*

### **2.IMPROVEMENT,, OUR COMMITMENT**

Change does not always mean improving, but to improve we must change  
*Winston Churchill*

### **3.EXCELLENCE, OUR PASSION**

Strive for perfection in everything. Take the best that exists and make it better. If it doesn't exist, create it  
*Henry Royce*

### **4.FLEXIBILITY, OUR STRENGTH**

Logic will get you from A to B; imagination will get you everywhere,  
*Albert Einstein*

# 1.4 / Our history

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## > 1987 / The beginning

Maurizio Bazzo established the Company, focusing on rotational multicolor and multicomponent molds for automotive lighting lenses.

## > 2000 / Acquisition of A.S.

Acquisition of A.S. (Special Equipment), acknowledged company in the hot runner field with an experience of more than 20 years.

## > 2001 / HRSflow is born

HRSflow hot runner system division is established to design and fabricate hot runner systems for injection moulding. A.S.'s many years of experience in hot runners and the company experience in lighting moulds enable us to offer a line of hot runners to cover all the needs of the automotive industry. The company immediately started going global.

## > 2004 / The plastic glazing division is born

During 2004 the company specialised in injection compression moulding for the manufacture of large transparent polycarbonate surfaces for the automotive industry (a technology known internationally as Plastic Glazing). This marked a change of direction in the production of large transparent surfaces for automobiles with polycarbonate destined to replace glass and it led to the creation of the INglass plastic glazing division.

## > 2006 / The company changes its name into INglass

The INglass division achieved such high visibility on the market, thanks to the high market profile of this technology, that the company decided INglass had to become the new company name.

## > 2009 / A stable base in Asia

The factory at Hangzhou, China, near Shanghai, is inaugurated. The new production site has a total area of 12,200 square metres, of which 9,600 are devoted to production. The China factory makes and designs hot runner systems for the Asian market, employing the model, technologies and quality standards of the Italian HQ.

## > 2010 / Creation of the Multitech division

INglass diversified its product range, introducing the Multitech line. This line is dedicated to moulding smaller, high volume production components belonging to non-automotive sectors, mainly medical/ packaging/closures, which now represent 60% of the international plastic market.

## > 2014 / Acquisition of ERMO

INglass purchased the publicly trading French company ERMO to implement our presence in non-automotive markets, since this company has vast experience in high-precision multi-cavity moulds. The whole moulds division starts to be named ERMO, including lighting molds and multi cavity moulds for small and low weight applications

## > 2015 / Third production plant in Michigan

In the first half of 2015 the company completed the construction of its third production plant in Michigan (USA), in order to serve the North and South American Market. The American plant designs and manufactures hot runner systems employing the same quality standards as Italy HQ ensuring a uniform quality all over the world.

## > 2017 / Dismissal of ERMO

The historic business of molds and hot runner systems for the automotive industry allowed the company to redirect its focus to other market segments such as housewares, domestic appliances, technical applications, and logistics & environmental. Hence the decision to dismiss the French ERMO company and to discontinue the Multitech multiple-cavity line, in order to specialize even more in the medium and large components industry. Nevertheless, INglass preserved the lighting mold division.

## > 2019 / Focus on Hot runner business unit

In 2019 INglass decided to focus on the HRSflow hot runner business, a market that requires continuous innovation and investments in order to satisfy the increasingly demanding needs of the injection moulding industry. Hence the decision to dismiss in January 2020 the lighting mold division, named INEVO.



### CORPORATE STRUCTURE

The Italian Headquarters is organized by divisions according to main product lines. Each division has its own Head Manager, with a managerial and technical background and approach, and a team of multiple staff functions. They give support and coordinate the corresponding Departments at the company's Chinese and American plants and at the technical-commercial branches Worldwide.

### BRANCH OFFICES FOR TECHNICAL, SALES AND AFTER-SALES ASSISTANCE

- HRS Hot Runner Systems NA Inc. / CANADA
- HRSflow do Brasil comércio de sistemas de câmara quente importação e exportação LTDA / BRAZIL
- HRS Hong Kong Limited / HONG KONG
- HRS GmbH Vertrieb Deutschland / GERMANY
- Sistemas De Canal Caliente Iberica S.L. / SPAIN
- SCC Assistencia Tecnica Unipessoal Lda. / PORTUGAL
- INglass HRS MAKINE KALIP YEDEK PARÇA VE SERVIS SAN. TIC. LTD. / TURKEY
- INglass HRS South Africa (Pty) Ltd. / SOUTH AFRICA
- HRS Japan CO. LTD / JAPAN
- HRS FLOW India Private Limited / INDIA
- HRS Flow (Thailand) Co. Ltd / THAILANDIA
- HRS FRANCE SARL / FRANCE
- HRS FLOW MEXICO / MEXICO

## PRODUCTION PLANTS



# 1.5 / Company structure

2019 was a year marked by an impressive pace of innovation in the electric, autonomous, and connected vehicle. At the same time it was a year of transition, characterized by uncertainty about the future of car models and the Countries' ability to adapt their infrastructure to this new trend. Due to the dynamics of the car industry the Company has launched an international project aimed at competing in all the other sectors in addition to Automotive:

domestic appliances, houseware, logistic and transportation sectors. The Company expanded the sales professionals in US, Spain and Brazil to be able to gain fast knowledge of these industries, we created a specific business unit focused on non-auto applications and implemented other targeted actions to increase the HRSflow brand awareness in these sectors.



## HOT RUNNER SYSTEMS DIVISION



### AUTOMOTIVE



EXTERIOR



LIGHTING



INTERIOR



UNDERHOOD

### OTHER SECTORS



DOMESTIC  
APPLIANCES



TECHNICAL  
APPLICATIONS



MOBILITY



HOUSEWARE



LOGISTICS &  
ENVIRONMENTAL



AUTONOMOUS &  
ELECTRIC VEHICLES

# 1.6 / Hot runner market

The INglass group was established in 1987 to design and manufacture molds for the automotive lighting sector. In 2001, after several years in business, the company launched and developed the HRSflow division solely focused on hot runner systems.

From its inception, in 2001, the HRSflow division has recorded strong growth. The division pursued its way towards international expansion, opening several technical-commercial branches worldwide, as well as a production plant in China in 2009 and another one in the United States in 2015. During the 2009 global crisis the company continued to push the diversification into the hot runner market, expanding into application sectors outside of the automotive industry. The growth in the plastic know-how, in product innovation, supported by proprietary IT tools, have allowed INglass to develop a distribution and technical network with a worldwide footprint. This strategy has brought an accelerated growth in the HRSflow division dedicated to hot runners, which has recorded a 10% (CAGR) between 2015-2019.

Today, company turnover is balanced globally with an historical presence in South Europe, growing market share in DACH, a very strong growth in China and the Far East, and a more relevant presence in North America. The strategy of becoming local in Asia and North America has played a key role in the growth of the hot runner business. INglass' HRSflow division is one of the four worldwide players competing with Synventive, MoldMasters, and Yudo for the leadership in this industry. The local presence of both manufacturing and sales/service have allowed the company to better serve the international end-user plants adopting a global approach: local plants and service, global relation with OEM and end-users.

As INglass we foresee global growth to continue, despite temporary slowdown due to recent worldwide events related to Covid-19 and a general recession in the automotive industry.

The automotive sector has slowed down since the start of 2018 as uncertainty prevailed, while the non-automotive sector is steadily growing. China and the Far East will continue to grow, while North America and Europe shrink. Faced with these challenges, we have focused our efforts on the commercial penetration gaining market share both in automotive and non-automotive markets thanks to our sales

organization, commercial programs, optimization of our manufacturing performance, attentive service and flexibility of our organization.

**AUTOMOTIVE EXTERIOR**



**AUTOMOTIVE INTERIOR**



**UNDERHOOD**



**LIGHTING**



**TECHNICAL APPLICATIONS**



**LOGISTICS & ENVIRONMENTAL**



**DOMESTIC APPLIANCES**



**HOUSEWARE**



**MOBILITY**



**AUTONOMOUS & ELECTRIC VEHICLES**

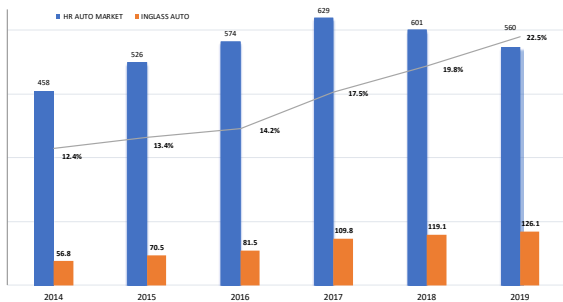


## >>APPLICATION SECTOR: HRSflow HOT RUNNERS

The hot runner system is one of the most critical components of injection molding. It is fully customizable based on specific plastic materials required, the shape of the piece, aesthetic requirements, and the eventual need to produce different colored components. Due to market uncertainty and slowdown of new car models in tooling, the 2019 automotive hot runner global market presented a 10% decrease in comparison to 2018. The geographic distribution of the hot runner market is not strictly linked



to the production of parts, but rather focuses on the area of injection mold production. This forces companies and their salespeople to have a constantly updated global vision of the market. An analysis of the global distribution of the hot runner market shows that the largest market is located in Asia, where more than 55% of sales are concentrated and this share has been constantly increasing. The European market represents about 25% of total sales mainly in large volume systems, while America accounts for 20% of the market. The HRSflow division, compared to the overall market, grew also in 2019, and this allowed HRSflow to become the second worldwide player in the automotive industry.



*(Here attached a graphic with HRSflow automotive sales in comparison with global market giving our market share)*

We forecast for 2020 an even more difficult year in the automotive industry with fewer car tooling launches in all continents. The market uncertainty will continue and increase, car companies will need to save development costs reducing the new car models and increasing the cost pressure on all the supply chain. In addition to the above, in the first quarter of 2020, the overall market has been hard hit by Covid-19, adding further uncertainty to the world economy. Despite this market situation, we plan to grow our market share thanks to our commercial actions and increased competitiveness; we also plan to continue our product optimization and manufacturing cost reduction.

**>> AUTOMOTIVE**

The global automotive market during 2019 showed further signs of slowing down: new car sales decreased in comparison to 2018 and new car models in tooling recorded a 15% drop versus 2018. The automotive market is undergoing radical shifts, that are creating a tougher business environment. The reasons for this slowdown are related to: duties/tariffs applied or threatened from US to China/Europe, norms and regulations about car pollution that are slowing down internal combustion engine development and pushing still unprofitable electric cars,

constant price pressure applied from OEMs to T1s and from these to Toolmakers. This price pressure is leading production to shift from Europe and North America towards China. The automotive industry strongly requires global support with over 80% of new vehicles being assembled on global platforms. These cars will therefore be produced with identical applications and quality standards on all continents. To meet this demand, T1 mergers are on the rise. Major players are dominating the market in all segments: interior, exterior, lighting and under the hood.

Our answer to this is continuous product innovation, local presence with global coordination, proximity to our customers both physical and economical, excellence of service, and constant product optimization and cost control.

During the first quarter of 2020 the world industry started to face Covid-19, as a consequence overall consumption and car sales decreased substantially, further slowing the industry. As of today INglass was able to cope with this event in all three plants and the major markets: thanks to proper actions our plants were able to keep on going in USA and Italy and to resume full effectiveness in China after a 4 weeks closure. The overall situation is still dramatic, but we forecast that INglass will still be able to report a profitable 2020, further increasing its market share.

**>> NON-AUTOMOTIVE**

Even though the automotive market is the main sector for the HRSflow division, we have implemented our knowledge to compete in new sectors, starting a new challenge for the Group: become a market leader and expand our presence in sectors as houseware, domestic appliances, technical applications, logistics and environment. Our technology is easily adaptable to these new applications, our sales organization is covering all the markets in which these products are manufactured and we are realigning our focus on this new industry with the mid-term goal of reaching a 15-20% share in our production.

**INEVO**

In December 2019, the INglass mold division, based in Italy, has been split from INglass and started to operate under the INEVO brand as a Newco. In January 2020, the INEVO company has been sold to a third party and, as a consequence, deconsolidated from INglass.

INglass has decided to sell this division to completely concentrate on the HRSflow hot runner business, to further develop and consolidate its market share, to become the leader in the automotive sector.

## DISTRIBUTION SYSTEM

Through our current network of sales branches and distributors we serve customers in over 50 countries. We are able to meet high market demand due to a global network that includes Europe, Asia, the Americas, Africa and Oceania with sales branches and highly specialised teams providing engineering studies, design and assistance. Our production plants in three continents help us to achieve the best lead times and to target customised product solutions. Sharing know-how and organisation methods on a global scale, thanks also to an advanced web-based platform, allows us to deliver the best possible support, regardless of the complexity of the project or its geographical location. The decision to have such a vast sales network is dictated by the conditions that have led our END USERS or OEMs (Original Equipment Manufacturers, i.e., the companies that sell the finished product, such as vehicles, furniture, furnishing and electronics, etc.) to globalise their production plants. Hot runners and moulds are assembled at the suppliers' facilities and then the same parts are produced in different countries. Since quality standards are an important value

for TIER-1 end users, suppliers, such as INglass, have had to follow them worldwide regardless of where such producers' sites may be located. This explains the widespread presence of INglass in major markets worldwide. Our sales force mainly has a technical background with in-depth experience of the specific market and other similar markets. This is due to the fact that the product is extremely technical and requires constant close relations between company and customers, starting with the product design stage. In 2016, in line with this strategy of close customer relations and providing fast expert support, we added a local site in Mexico with service technicians and a dedicated warehouse, and also consolidated our USA production site operations. In addition, in 2017 the German branch was moved from Buchschwabach to Frankfurt, a city known for being a major financial centre and an important hub for global traffic. In 2018 the company improved its activity in East Europe with a dedicated team concentrated on developing Slovenian, Croatian, Serbian, Romanian and Hungarian markets. In 2019 INglass further developed its presence in Japan, thanks to the acquisition of the lighting division from Correns Corporation, its former distributor.



# INglass S.p.a. worldwide

## WINDSOR / CANADA



HRS Hot Runner Systems NA Inc.

2002



100% INglass S.p.a.



30 employees

## GRAND RAPIDS / USA



INglass USA Inc.

2014



51% INglass S.p.a. 49% Simest



68 employees

## SANTIAGO DE QUERETARO/MEXICO



HRS FLOW MEXICO, S. DE R.L. DE C.V.,

18 April 2018



100% INglass S.p.a.

6 employees

## SAN PAOLO / BRAZIL



HRSflow do Brasil comércio de sistemas de câmara quente importação e exportação LTDA

2004



99.98% INglass S.p.a. + 0.02% Maurizio Bazzo



19 employees

## ALBERGARIA-A-VELHA / PORTUGAL



SCC Assistencia Tecnica Unipessoal Lda.

2008



100% Sistema de Canal Caliente Iberica S.L.



28 employees

## BARCELONA / SPAIN



Sistemas De Canal Caliente Iberica S.L.Lda.

2005



50% INglass S.p.a. 50% Xavier RibesS.L.



8 employees

## JOHANNESBURG / SOUTH AFRICA



INglass HRS South Africa (Pty) Ltd.

2015



100% INglass S.p.a.



3 employees

**BONCHAMP LES LAVAL/FRANCE**



HRS FRANCE SARL

2014



100% INglass S.p.a.



5 employees

**SAN POLO DI PIAVE/ITALY**



INGlass S.p.a

1987

**HEILSBRONN / GERMANY**



HRS GmbH Vertrieb Deutschland

2003



100% INglass S.p.a.



25 employees

**NAGOYA / JAPAN**



HRS JAPAN CO. LTD

2015



100% INglass S.p.a.



9 employees

**HANGZHOU / CHINA**



INGlass Tooling & Hot Runner  
Manufacturing Co.,Ltd China

2006



100% INglass S.p.a.



414 employees

**HONG KONG**



HRS Hong Kong Limited

2008



100% INglass S.p.a.



1 employees

**BANGKOK / THAILAND**



HRS Flow (Thailand) Co. Ltd

2016



49% INglass S.p.a.



2 employees

**BURSA / TURKEY**



INGlass HRS MAKINE KALIP YEDEK PARÇA  
VE SERVIS SAN. TIC. LTD.

2010



99% INglass S.p.a. 1% Ruggero Morandini



8 employees

**PUNE / INDIA**



HRS FLOW INDIA Private Limited

2014



100% INglass S.p.a.



85 employees

# 1.7 / Our Value Chain

## 1.7.1/R&D

### THE PRODUCT

The company started as a mould maker specialized in multi-colour and multi-component injection moulds for lighting and injection compression. In 2001 we opened the HRSflow division to manufacture and sell hot runner systems for the automotive industry with special focus on lighting. After a long experience acquired in this application field, we have implemented our knowledge to compete in new sectors such as logistic & environmental, houseware & gardening, technical applications and domestic appliances.

The hot runner is the heart of the injection process technology and its main purpose is to keep the polymer melted from the injection moulding machine to the mould cavity. Several aspects must be considered during the product development, because the polymer must maintain its properties during the whole transformation process: solid > melted > solid.

The main purposes of the hot runner system are:

- reduce cycle times
- obtain high quality parts both aesthetically and structurally
- reduce production scraps

HRSflow features a wide product range from single nozzle to advanced injection systems such as servo driven valve gate technology.

As corollary businesses, the company offers also control units, SLM (selective laser fusion) technology and CAE (structural and rheological) analysis.

Thanks to the advanced technologies and the focus on the hot runner systems, the company's turnover has been growing steadily since the inception of the business.

**2001**

Introduction of the supported systems



**2003**

Fail-Safe technology patent for dual heaters and dual thermocouples on nozzles and manifolds



Prewired and Hot Half systems



**2005**

Introduction of screwed-in systems



**2006**

Creation of the new Diamond Line



HRS control units launched on the market



**2007**

SLM - Selective Laser Melting Technology to optimise mould cooling operations



**2010**

New MultiTech division for multi-cavity applications



**2012**

Lateral cylinder with no oil cooling required



**2013**

FLEXflow Servo-driven valve gate



**2016**

FLEXflow One: the servo driven valve gate system with no additional control unit required during the injection process



**2017**

HPgate The innovative solution suitable for direct injection on PMMA surfaces to optimize gate quality and avoid flashes  
Multitech Division closed



**2018**

HRScool: the solution for Hydraulic cylinders where water lines are not required anymore



**2019**

SA SERIES The ideal solution for technical applications with reduced weight



**2020**

FLEXflow Evo to simplify next generation electrical process. The evolution of the servo driven valve gate systems





## RESEARCH AND DEVELOPMENT

Research, Development and Product Engineering have always been central in the company, guiding HRSflow to become one of the market leaders. Our wide-ranging competence in the injection molding process and our continuous investments in R&D made us a valuable technological partner to OEMS and END USERS for the production of highly critical parts with special attention to process efficiency.

## R&D STRUCTURE

Today INglass Group relays on different technology improvement activities involving R&D, Application Engineering and Industrialization. All these activities are coordinated by the R&D team located at the Italian headquarter and at the Chinese plant. The R&D team includes highly skilled engineers, technicians and injection process experts to guarantee that every product is fully approved before market launch. Both R&D teams adopt same procedures, tools and knowledge allowing them to also co-develop new solutions directly in cooperation with customers.

## R&D STAFF

PLANT	2017	2018	2019
Italy	30	29	30
China	4	4	5
<b>TOTAL</b>	<b>34</b>	<b>33</b>	<b>35</b>

## R&D TEST LAB

Every single product is the result of in-depth analysis and repeated moulding trials. Theoretical Research activities are based on new components analysis and then compared with experimental data obtained during lab tests. In this way mathematical models can be adjusted according to the real on field conditions.

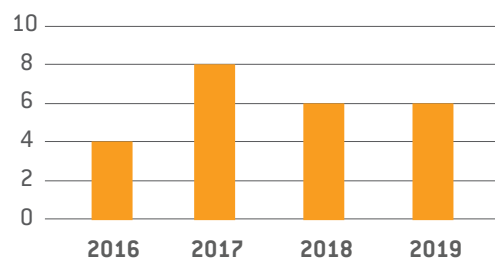
Test lab is equipped with injection moulding machines ranging from 50 to 1000 tons, where we duplicate real production conditions.

Product release times have been reduced year by year thanks to standardized activities and the application of lean processes.

Investments in R&D continue to be an important percentage on our turnover: in 2018, more than 2.8 ML € were invested

in R&D, representing 1.9 % of the turnover, in 2019 again 2.8 ML € were invested in R&D, 1.8 % of the turnover.

## Filed Patent Applications per Year



## R&D PROCESS MANAGEMENT AND INNOVATION

Each new project is based on Innovation and not Invention and managed according to a state-of-the-art process called Impact Innovation, where the R&D team is the process leader. Impact Innovation is based on governance enablers that create a structured approach to achieve a product development process without inefficiencies.



### INNOVATION

we create a new solution based on the goal that the market will value it and will buy it



### INVENTION

we create a new solution possibly more functional than others which the market doesn't value



We have two types of innovation:

**INCREASING INNOVATION**  
the change is low and value is low

**IMPACT INNOVATION**  
the change is high and value is high thanks to the concept/design adopted

### IMPACT INNOVATION PROCESS

R&D considers the impact innovation process mandatory to achieve its goals thanks to the following main elements:

#### 1. STRATEGY

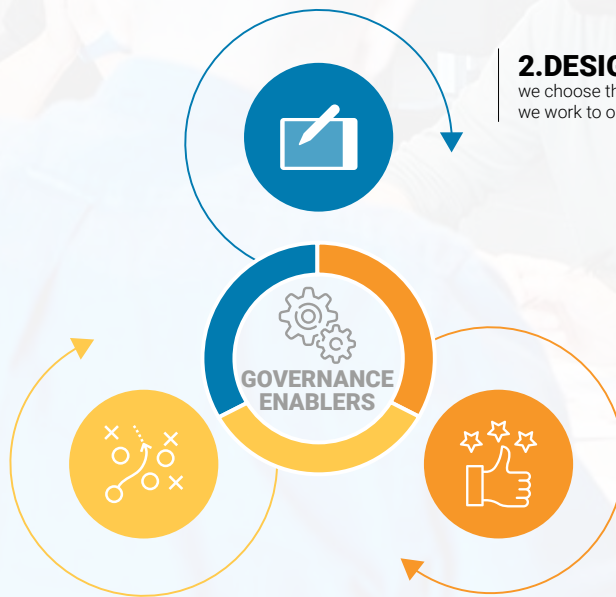
innovation starts with a clear strategy defined by business direction, not by the product expert. The target is to create the "concept".

#### 2. DESIGN

we choose the best concept and we work to optimize it

#### 3. REVIEW

we realize a small quantity in order to test the solution on the market.



#### GOVERNANCE

innovation must be under control in order to enhance ROI.

#### ENABLERS

all the aspects that can positively affect the innovation, such as work environment, positive thinking, available tools, etc....

**PATENT PENDING AND GRANTED PATENTS AT 26.06.2019**

To protect the results of substantial investments made over the years, 157 patent applications have been filed up to date for R&D activities

DATE OF FILING	PRIORITY NUMBER OF PATENT APPLICATION	TITLE
27/04/2001	T02001A000399	Nozzle for injection moulding of plastic materials.
27/01/2006	T02006A000057	Injector for injection moulding equipment of plastic materials.
28/12/2006	TV2006A000237	Method for detecting abnormal operation in a plastic injection moulding equipment.
01/03/2011	T02011A000178	Injector for injection moulding equipment of plastic materials.
01/03/2011	T02011A000179	Injector for injection moulding equipment of plastic materials.
28/06/2012	T02012A000578	Apparatus for injection-moulding of plastic materials.
09/10/2012	CN201220520236.4	Hot runner jet nozzle and special sleeve spanner.
09/10/2012	CN201220520246.8	Heater strip bending tool.
09/10/2012	CN201220520251.9	Protective casing of hot runner nozzle.
09/10/2012	CN201220520253.8	Temperature controlled nozzle.
16/10/2012	TV2012A000198	Valve pin bushing for the hot runner of an injection mould.
30/10/2012	CN201220574000.9	Nozzle with material isolation cap.
30/10/2012	CN201220573973.0	Valve needle drive device with heat radiating function.
30/10/2012	CN201220573975.X	Nozzle with multi-element core.
30/10/2012	CN201220573997.6	Sprue bushing component on nozzle.
24/12/2013	T02013A001071	Apparatus for injection-moulding of plastic materials.
24/12/2013	T02013A001073	Apparatus for injection-moulding of plastic materials.
03/03/2014	T02014A000170	Nozzle terminal for injectors of plastic material injection molding apparatus.
10/03/2014	T02014A000188	Apparatus for injection-moulding of plastic materials.
18/03/2014	T02014A000216	Method of injection moulding of plastic materials.
09/05/2014	TV2014A000069	Management system for injection press molding problems.
18/06/2014	CN201420333163.7	Thermoelectric couple device of flow splitting plate.
08/09/2014	T02014A000701	Method and apparatus for the injection moulding of plastic materials.
15/10/2014	T02014A000838	Apparatus for injection-moulding of plastic materials.
14/11/2014	CN201420683570.0	Cooling water insert.
10/12/2014	T02014A001021	Molding apparatus and method for producing articles molded through sequential injection.
10/12/2014	T02014A001022	Injector for injection moulding equipment of plastic materials.
11/12/2014	T02014A001030	Method and apparatus for the injection moulding of plastic materials.

DATE OF FILING	PRIORITY NUMBER OF PATENT APPLICATION	TITLE
28/01/2015	T02015A000059	System and method for injection molding of plastic materials.
03/03/2015	TV2015A000040	Method for producing transparent or semi-transparent components.
12/03/2015	IT102015000008368	Method and apparatus for the injection moulding of plastic materials.
07/04/2015	CN201520205073.4	Two-piece spacer.
07/04/2015	CN201520205114.X	Anti-seize bushing.
11/05/2015	IT102015000014572	Method for managing an apparatus for the injection molding of plastic materials.
17/07/2015	IT102015000035401	Nozzle terminal for injectors of plastic material injection molding apparatus.
14/08/2015	IT102015000044745	Nozzle terminal for injectors of plastic material injection molding apparatus.
12/10/2015	IT102015000060495	Spray nozzle for plastic injection moulding devices for the production of transparent or semi-transparent aesthetic vehicle components, such as lenses for lighting and injection moulding.
12/10/2015	IT102015000060311	Device for injection molding of plastic materials.
10/12/2015	IT102015000081904	Apparatus for injection-moulding of plastic materials.
17/03/2016	CN201620207028.7	Needle valve type hot runner system.
30/05/2016	IT102016000055364	Apparatus and method for the injection moulding of plastic parts of a same family in the same mould.
02/05/2016	IT102016000044688	Method and apparatus for injection moulding of plastic material.
30/05/2016	102016000055364	Family Mold
29/07/2016	102016000080198	Method and apparatus for sequential injection moulding of plastic materials
04/04/2017	102017000037002	Method, apparatus and press for injection moulding of plastic materials
08/06/2017	102017000062960	Apparatus for injection moulding of plastic materials
17/07/2017	102017000080662	Apparatus for injection moulding of plastic materials
20/09/2017	102017000105306	Method and apparatus for producing hollow articles made of injection moulded plastic material
24/11/2017	102017000135341	Method for the injection moulding of articles formed by plastic materials having different characteristics
29/11/2017	102017000137440	Molding parameters processing method for an injection press
13/02/2018	102018000002639	Process and apparatus for injection molding of plastic materials
13/03/2018	102018000003490	Apparatus for injection molding of plastic materials
16/04/2018	102018000004581	Apparatus for injection molding of plastic materials
31/05/2018	102018000005902	Process and apparatus for injection molding of plastic materials
26/06/2018	102018000006688	Control system and method of an injection molding apparatus of plastic material

## INNOVATIONS AND TECHNOLOGIES

During the past 20 years the company launched and patented many outstanding innovations, some of them are particularly important.

### >2004 FAILSAFE

Is based on double heaters and double thermocouples mounted on the manifolds and nozzles that allow normal production to continue, even in the event of a fault, preventing downtime and financial losses.

#### BENEFITS

- In the event of a failed thermocouple or heater, both can be backed up without having to open the system
- It's possible to connect the double heaters in parallel and in case of failure, the operating one restores the necessary power.
- Optimal thermal profile along the whole duct.



### >2013 FLEXflow

In 2013 HRSflow introduced the FLEXflow, the servo driven valve gate system equipped with an advanced control unit to set and monitor the valve pin position during the injection process. This technology assures accurate and flexible control of pressures and flow rates providing additional functions for 360° flow control and monitoring.

#### BENEFITS

- Quality improvements for Class "A" large surfaces, grained surfaces, chromed surfaces, and other cosmetic parts
- Optimal flow balancing
- Wall thickness reduction
- Scrap reduction
- High process repeatability
- Mold deflection reduction = longer tool life
- Successful family mold operation
- Clean operation (no oil no water)



## > 2018 HRSCOOL

In 2018 HRSflow launched the new HRScool, the innovative solution for cylinders with passive cooling. The thermal insulation is optimized thanks to supporting columns with a minimal contact surface that reduces the input of heat from the hot runner to the cylinder housing. The integrated telescopic design enables maximum heat dissipation from the cylinder to the cold plate.

### BENEFITS

- Superior thermal insulation
- No active cooling required
- Easy maintenance: no issues associated with clogged cooling circuits
- Compact solution, reduced cut out of the mold
- No degradation of the hydraulic fluid
- Optimal thermal uniformity along the hot runner system
- Bayonet lock/unlock



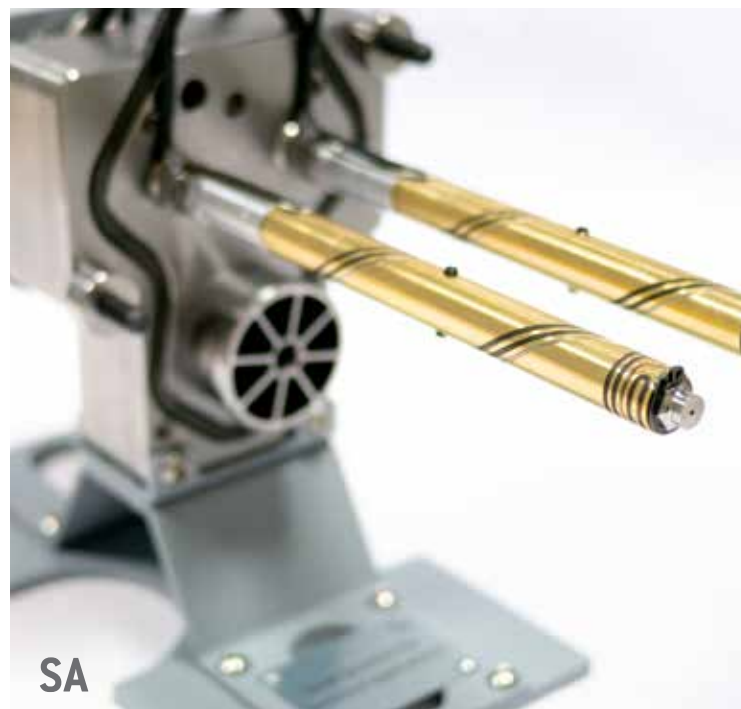
HRSCOOL

## > 2019 NEW SMALL NOZZLE SERIES (SA)

In 2019 HRSflow launched on the market a new nozzle suitable to process small part weight. Although its size is very small, the performance is very high. In fact, we can also use this new series with technical polymers, thanks to the technological solutions adopted [geometries and materials]. Thermal insulation is guaranteed thanks to the careful study of the contact surfaces and this aspect has allowed to obtain a green solution [low energy consumption]

### BENEFITS

- Superior thermal insulation
- Compact solution, reduced cut out of the mould
- The precision of the components is a guarantee of stability during the production of the parts
- Optimal thermal uniformity along the nozzle
- Screwed - in nozzles allow completely leakproof operations



SA

## > 2020 FLEXflow Evo

FLEXflow EVO is the evolution of the FLEXflow servo driven valve gate, the well-known electrically driven hot runner technology.

The new FLEXflow Evo includes on manifold actuators for a plug and play solution and new tips to improve flow rate management for all materials.

It features also an updated software that provides better performances in terms of:

- **SIMPLIFICATION:** reducing the pin steps from 8 to 4 simplifies operator's work
- **RESPONSIVENESS:** thanks to the optimization of the data transfer the controller has quicker reaction
- **FLEXIBILITY:** The settings can be done by speed/stroke. Previously only by stroke/time.
- **SECURITY:** the FLEXflow Evo software will prevent any settings that could potentially infringe existing patents

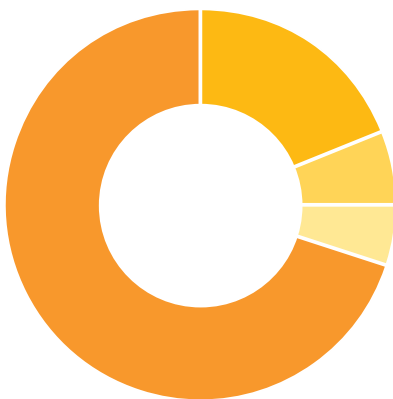


### 1.7.2/OPERATIONS

The HRSflow Technical Area is made up of a team of technicians located in all the production plants and in each branch that provide support sellers by identifying the most suitable solution for the needs of the customer and the application, simulating the behaviour of the polymer inside the hot runner system and the customer product, and designing the hot runner systems.

The HRSflow Technical Area is divided into 4 Teams comprised of Head Quarters, 2 Production Plants and 10 branches.

1. Design team
2. Team Sales Support Engineering
3. Application Engineering Team
4. CAE (Computer Aided Engineering) team



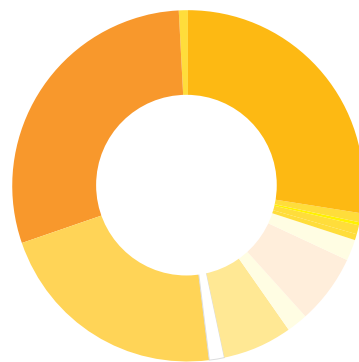
- Technical Office
- Sales Support Engineering
- Computer Aided Engineering
- Application Engineering

#### GLOBAL MANAGEMENT WITH LOCAL FOCUS

Each local team designs and provides technical assistance to customers on site and, when needed, also supports the other branches.

In fact, thanks to an advanced and integrated planning system, the progress of the individual project is checked and the workload that must be carried out both in the individual units and globally is assessed. This global analysis capability allows for incorporating different local

scenarios and understanding where it is most convenient to design the systems in order to guarantee the best service to the customer, which best balances the internal workload. The structure, fully aligned on procedures, know-how, design rules and workflow, allows the company to manage very complex international projects, splitting them into individual sections assigned to the different local design units, thus enabling the company to send the final project to the customer extremely quickly.



- China
- Italy
- India
- Canada
- Portugal
- Brazil
- Germany
- USA
- Czech
- France
- Japan
- Turkey
- UK + EE + Benelux

#### PROCESS STANDARDIZATION

The resources become part of the team after a training period of about ten weeks, four of which are in production and six being shadowed by a Team Leader who is responsible for training based on the product, the procedures and the internal design rules. Thereafter, training and learning is continuous and "on the job".

The team design rules are reported in online documents in English and therefore accessible to all technicians throughout the world in real-time. Each new release is followed by on-site training or with videoconferences led by a team dedicated to training and sharing updates for working methodologies and new provisions approved by Headquarters.

Great importance is given to the recurrent organization of meetings, training and exchanges between the different



production plants and branches which aim to create a solid and aligned team.

### KPIs

Company performances are constantly monitored in terms of efficiency and effectiveness by means of appropriate KPIs (Key Performance Indicators), indicators that allow for understanding and measuring the quality of the work done and pursuing company practices aimed at the constant improvement of our processes.

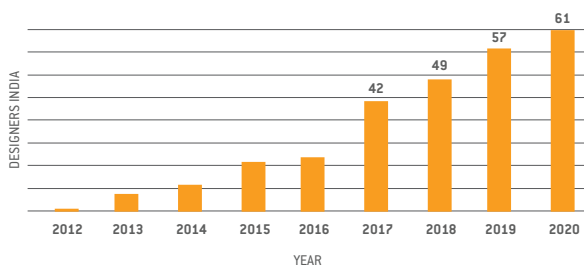
The errors generated by the team, both toward production and toward the customer, are collected, analysed and shared internally through training sessions in order to identify root causes and corrective actions (including procedures, information, training, automatizations) that can be implemented to prevent them from happening again.

### TOOLS STANDARDIZATION

Technicians located inside and outside of Italy use the same software making the exchange of information and activities between the many work teams worldwide even faster. Great importance is given to computer simulation and virtual optimization of projects with FEA (Finite Element Analysis) techniques, for which our skills are certified by our technological partners. These methodologies are widely used for design validation, allowing the company to "virtually" investigate the performance of our systems starting from the design phase, evaluate different technical solutions and improve their reliability and effectiveness.

### The team in India

In 2011, the Technical Area Team was founded in India as a basin to draw from with the target of balancing workloads between the local market, Asia, Europe and the Americas. Thanks to the ability, potential, reliability and flexibility demonstrated, the team in India has experienced exponential growth, making it the third technological hub of HRSflow.



### The production strategy

The strategy that INglass has pursued over the years has allowed the company to excel in the production area thanks to cutting-edge machinery that is highly automated and flexible. The production performances are uniform on a global scale since all sites in Italy, China and the USA are built in a mirror-like manner and managed with global procedures, all of which allows us to support customer requests in terms of:

- flexibility of the response both in the time frame and in the different dynamics relating to the areas of demand
- rapid response both in systems deliveries and in after sale components deliveries.
- quality expressed in all production plants.
- rapidity of innovation on all production sites, through strong standardization of processes

These results are the consequence of an industrial strategy rooted in the entire production process and in all the people who make up management, development and production teams, the founding principles of INglass' production philosophy have been:

- Standardization of management and production processes on a global level.
- Unification of strategic production processes in the various plants.
- High automation, even with the use of robotic interlocking, in order to allow for the possibility of using the systems 24/7.
- Maximum use of technologies to minimize possible human effects on product quality and production capacity of the lines.
- Identical and across the board KPIs on all production sites.

### LEAN PRODUCTION TEAM

In addition to these well-established methodologies, we added new areas of development that led to significant results in 2019 in terms of production capacity. INglass created dedicated production process development teams in all production plants, paying particular attention, thanks to new innovative detection systems, to the behaviour of the machine-tool-price system in order to further improve what is already in place and to push to the limit of what the tool market offers.

The results in this field are significant in terms of cycle time reduction and increased productivity.

INglass has decided to centralize the production of high-volume components at a single site in order to use technologies dedicated to this type of production. The technology can be used thanks to the high volumes achieved by the needs of the various production plants. This process will allow the company to better serve customers whenever further capacity is freed at the three factories. Also in 2019 INglass has been able to cement the results of optimizing the methods for manufacturing the product, which has enabled growth in volume and greater flexibility in response to customers. We must recognize that 2019 marks a turning point in the approach to the production world: to the strategies pursued so far, a new awareness and attention is added to the entire process of generating value for the customer. This means a global revision of the value chain throughout the production line with a broad perspective radius in evaluating processes as a whole.

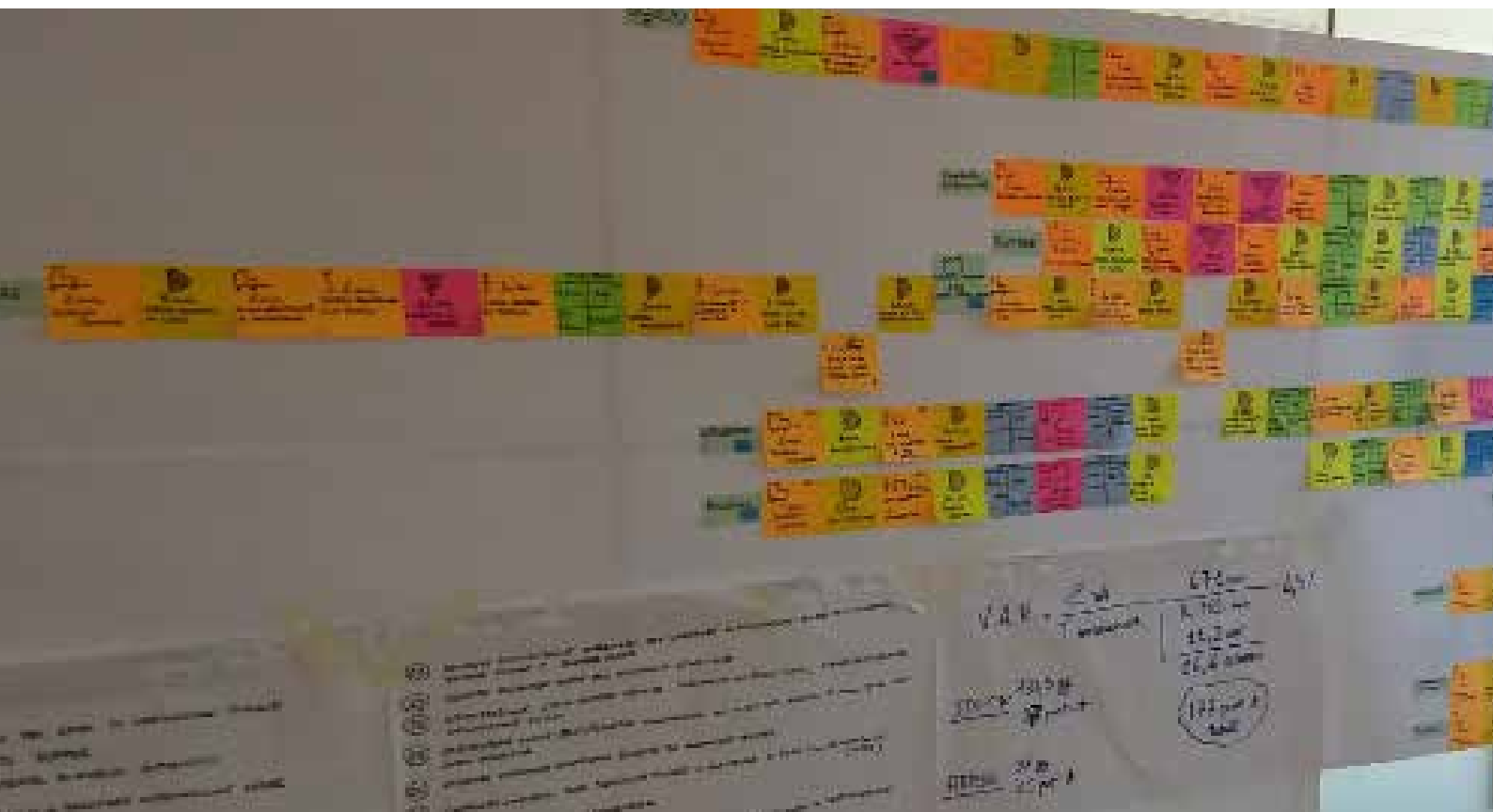
The entire Lean production team dedicated to this project, whose work is assisted by the transversal project teams, will soon lead to the redefinition of the entire Italian production plant.

As soon as it's completed in Italy, the new value generation model will be transferred to the other production sites. The project brings a new sensitivity to the issues of value perceived by the customer, the value chain and a strong focus on maximizing this.

#### Global management with local focus

The strong standardization of products, production processes and management processes affords INglass a considerable flexibility in the management scenarios. The production sites have teams dedicated to the management of local dynamics, but there are people / teams who have a global view of the load trends of work, the performance of each machine and the performance of each supplier. This allows a global sharing of the scenarios in order to react to endogenous and exogenous problems that can disrupt the normal processes of value generation.

This process has added the possibility for people not physically in those sites to contribute directly to the management of the production sites. In fact, India is no longer just a technical site, but has started to be an integral part of the decision-making process that governs the production sites.



### 1.7.3/ AFTER SALES SERVICE

One of the key strategic assets of HRSflow, is Aftersales Service dedicated to assure continuous customer satisfaction and repeated sales.

Aftersales service is performed by the Customer Service Department.

#### VALUE PROPOSITION

HRSflow Customer service added value is based on:

- System installation and maintenance
- Process tuning and optimization through try-out support
- Service calls global history database monitoring and product improvement (CRM)
- 24/7 hotline service support
- Spare Parts proposition
- TRAINING & KNOW-HOW

#### ORGANIZATION AND PROCESS

HRSflow Customer service team includes 145 professionals that are spread out across 52 locations around the world.

Service professionals are organized as follow:

Customer claims are collected, analyzed and processed by our Service Support Engineers (SSE) team of experts which:

1. Collect and analyze the customer claim
2. Define with the support of the AE team, the required activities to solve the claim
3. Assure customer satisfaction through follow-up activities

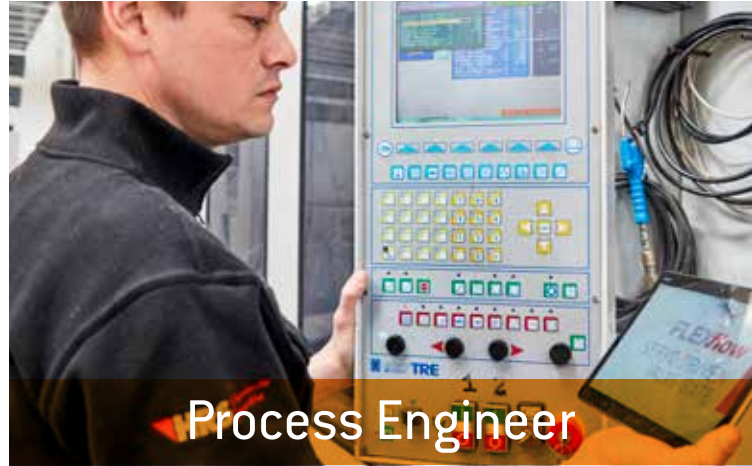
Then the ticket is forwarded to the **CSP customer service production team** who processes all activities defined by the SSE:

- Planning a technical intervention
- Shipping the required spare parts

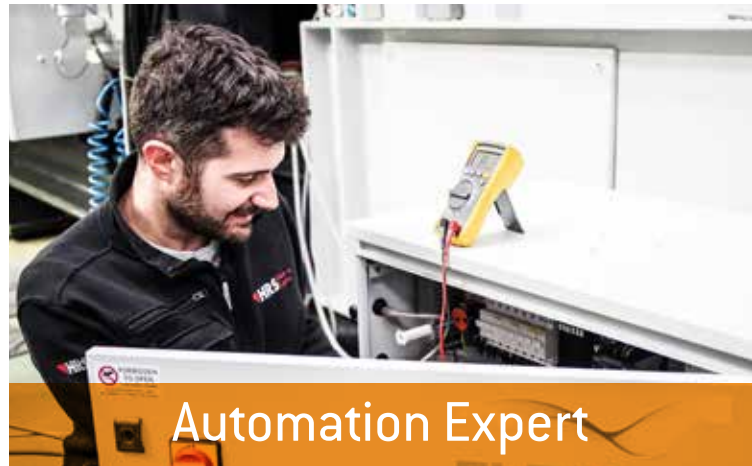




HRS Maintenance Technician



Process Engineer



Automation Expert

**CST**

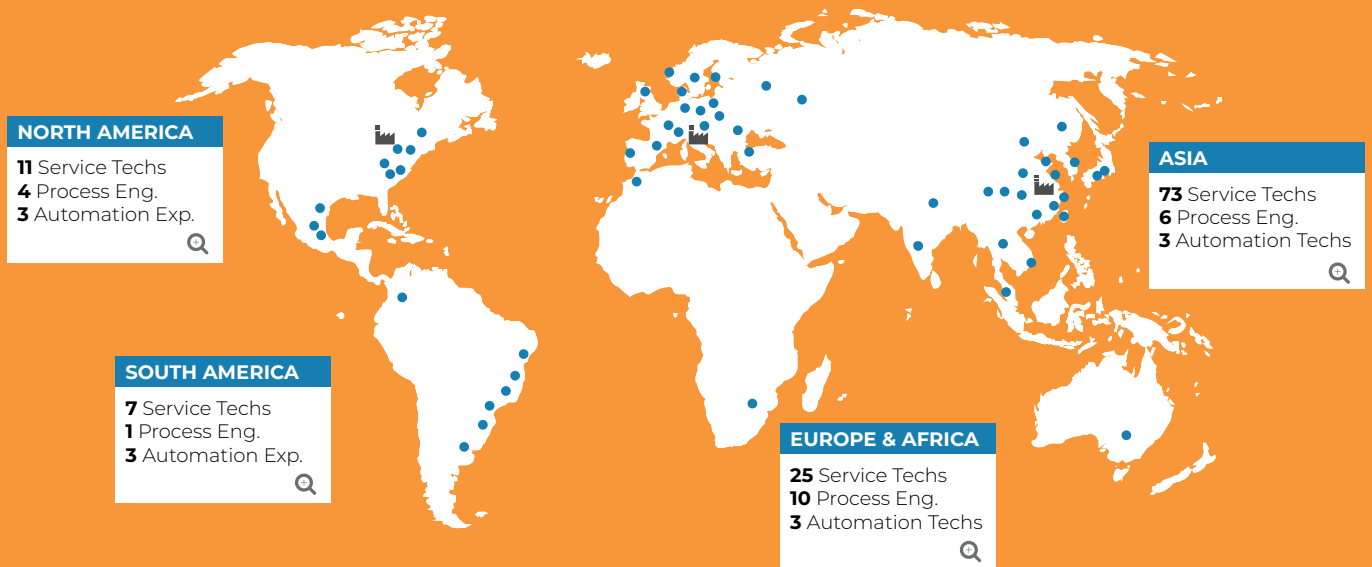
The CST organization has been structured to reflect increasing levels of complexity and the skills and experience needed to handle that complexity:

**HRSflow Maintenance technicians** to provide system installation and system maintenance

**Injection Process engineers** to provide tryout and injection process optimization support

**Automation Experts** to provide control unit maintenance and troubleshooting support

The CST is then organized by territories to support our clients (mold maker, Tier1, OEM) at their plants:



**TOOLS**

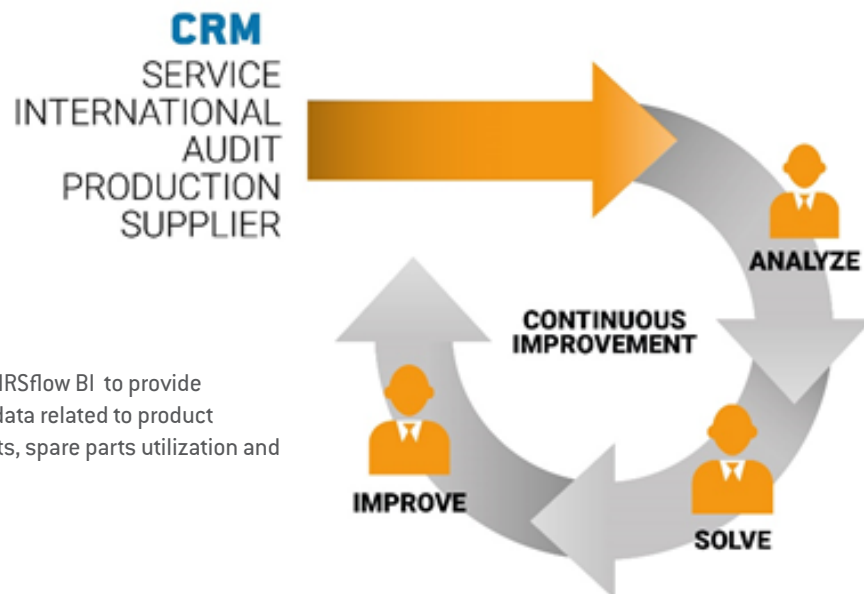
**CRM**

The process is managed by a CRM system and its mobile field service app, available in English and Chinese language. The CRM system records service calls categorized by different groups (spare parts requests, system failure, defect on plastic parts, system modification, installation, preventive maintenance).

- A global standardized approach is assured by a sophisticated wizard tool
- CRM is interfaced with ERP to automatically create the service quotation
- CRM Mobile Field Service Application then notifies the CST about the new service call

Call Number	LN Call number	Project	Created On	Status	Call group	Issue	Cause	Area (Actual User)
SR2020008737	ICS033956	S_H189834	2/26/2020 4:20 PM	In Progress	Spare Parts Request	Spare Parts Request	Spare Parts Request	GERMANY
SR2020008733	ICS033955	S_H118892	2/26/2020 3:48 PM	New	Spare Parts Request	Spare Parts Request	Spare Parts Request	POLAND
SR2020008732	ICS033954	S_H187695	2/26/2020 3:46 PM	New	Defect On The Plastic Part	Difficult/Impossible to Inject	Thermal problem on gate area.	BRAZIL
SR2020008729	ICS033952	S_H020095	2/26/2020 3:41 PM	New	Spare Parts Request	Spare Parts Request	Spare Parts Request	SLOVAKIA
SR2020008725	ICS033953	S_H179616	2/26/2020 3:14 PM	New	Defect On The Plastic Part	Sticking	Thermal problem on gate area.	ITALY
SR2020008721	ICS033951	S_H125319	2/26/2020 2:56 PM	In Progress	Spare Parts Request	Spare Parts Request	Spare Parts Request	GERMANY
SR2020008719	ICS033950	S_H139778	2/26/2020 2:21 PM	New	Spare Parts Request	Spare Parts Request	Spare Parts Request	ITALY
SR2020008718	ICS033949	S_H068964	2/26/2020 2:15 PM	New	Spare Parts Request	Spare Parts Request	Spare Parts Request	CZECH REPUBLIC
SR2020008717	ICS033948	S_H193327	2/26/2020 1:50 PM	New	Installation	System Installation	---	FRANCE
SR2020008714	ICS033945	S_H179917	2/26/2020 12:34 P...	In Progress	System Failure	Component Breaking	Customer Mistake	GERMANY
SR2020008710	ICS033947	S_H189833	2/26/2020 12:07 P...	New	System Modification Request	HRS System Mod Request	Other	GERMANY
SR2020008708	ICS033943	S_H120275	2/26/2020 11:26 ...	New	Spare Parts Request	Spare Parts Request	Spare Parts Request	ITALY
SR2020008707	ICS033942	S_H138450	2/26/2020 11:18 ...	New	Spare Parts Request	Spare Parts Request	Spare Parts Request	ITALY
SR2020008706	ICS033939	S_H051299	2/26/2020 10:57 ...	New	Spare Parts Request	Spare Parts Request	Spare Parts Request	ROMANIA
SR2020008705	ICS033936	S_H188571	2/26/2020 10:10 ...	New	Spare Parts Request	Spare Parts Request	Spare Parts Request	FRANCE
SR2020008702	ICS033934	S_H188542	2/26/2020 9:50 AM	New	Spare Parts Request	Spare Parts Request	Spare Parts Request	FRANCE
SR2020008701	ICS033935	S_H163614	2/26/2020 9:40 AM	New	System Failure	Pin Movement	Cause not defined	ITALY
SR2020008699	ICS033928	S_H085394	2/26/2020 9:35 AM	New	Spare Parts Request	Spare Parts Request	Spare Parts Request	ITALY
SR2020008693	ICS033926	S_H142341	2/26/2020 9:15 AM	New	Spare Parts Request	Spare Parts Request	Spare Parts Request	SLOVENIA

The app is used to:



CRM is also synchronized with HRSflow BI to provide Sales, Quality and Service with data related to product performances and improvements, spare parts utilization and Customer statistics.

### SERVICE MEDIA REPOSITORY

This tool allows the service team to stay up to date on new product releases and includes catalogs, procedures, videos and maintenance documentation.

### SPARE PARTS PROPOSITION

Spare parts supply is critical for all our clients: HRSflow, with its 14 warehouses, delivers standard components within 24 hours. For customized components, a dedicated manufacturing departments in each of the 3 plants, can assure a maximum of 5 working days lead time. Customized spare parts strategy is offered to our clients:

1. Spare parts kit management: the kit is supplied together with the system to Mold Maker or End user
2. Spare parts stock management: a spare part stock optimized for a group of systems in use by End users.

### TRAINING & KNOW-HOW

Full training programs supported by documentation and manuals, are available on:

- New product release and updates
- Maintenance and process skills improvement
- Best practices on HRSflow systems

To support in house training programs, dedicated IMM are available in our production facilities

End user Trainings are also organized at their production plants according to specific needs.

### 1.7.4/DIGITAL TRANSFORMATION AND INFORMATION SYSTEMS:

#### A STRATEGIC TOOL FOR COMPETITIVENESS

In the era of Industry 4.0, Digital Transformation is pervasive and transversal at all levels of the company. In the last years, innovative platforms (ERP, MES, CRM, PLM, O365 etc.) have revolutionized the communication within the company, shaping a collaborative environment that enables people and workflows to be more productive, more informed, more synergic.

Digitalization was again in 2019 a strong ally at the core of HRSflow continuous improvement initiatives.

ICT department perimeter has become larger, once again and was cross - involved virtually in every company project. Faced with rapid changes in technological paradigms and the tough deadlines of a fast-paced environment, ICT staff (and its partners) invested a significant amount of time in training to continuously be on par with the best practices and evolution of the sector.

The focus areas for 2019 have been the following:

#### DATA DRIVEN DECISION MAKING

- Thanks to multiple advanced Business Analytics tools, data is managed as a true company asset, a precious resource for accelerating and focusing the decision-making processes, allowing the company to identify new revenue opportunities and latest market trends, monitor operational efficiency world-wide and improve customer experience.
- Data intelligence is deeply rooted into the hearth of HRSflow culture and its employees.

#### PERVASIVE AUTOMATION

- HRSflow continued its journey into Automation, utilizing mechanics and electronics to control industrial processes and redefine work positions, elevating people to perform more qualifying software-assisted jobs and entrusting the most repetitive or merely operative tasks to machines. In 2019 speed and accuracy in several internal processes was increased, both in design and production phases.
- On our future challenges, new ambitious projects are being defined on BOTs and machine-learning algorithms.

- Dematerialization process was further accelerated, leading to considerable savings in paper and, consequently, a reduced impact on the environment.

### STANDARDIZATION AND INTEGRATION

- Company strategy maintained a strong focus on utilizing the same tools world-wide, taking into account specific local market needs, but converging in the same global platforms. This grants to the business significant flexibility and reliability, hence very repeatable and stable processes. Thanks to the very broad and coherent application coverage guaranteed by information systems, in 2019 it was possible to continue managing orders in a very efficient manner, based on the capacity and the level of saturation at the various production plants, thus increasing operational performance.
- CRM SALES – During 2019 HRSflow focused also on a new, best in class, CRM solution that connects all the sales stakeholders from the KAM, the sales representatives and the people at the back-office.
- CRM service – the platform is natively linked to the service management through the same interface, reaching out the very remote field technician in the farthest country: customer is always at the centre by design.

### SECURITY AND PRIVACY

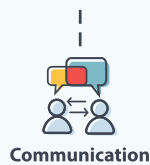
With the advent of digital expertise, a new mindset and new skills have entered the company, while at the same time also new threats. Smart-working and diffusion of personal digital devices (digital workplace) on the one hand, and plants connected to the cloud (digital factory) on the other, raised by far the need of specific risk management.

Hence the decision for 2019 to continue investing in security, both on the “hard” side related to ICT technology, and in the “soft” side, aimed to increase employee’s awareness of the great potential, but also dangers, tied to the usage of information systems.

At HRSflow customers and employee’s privacy are very important: in 2019 the compliance to the main international regulations (GDPR for EU, Privacy Shield for USA/Canada, PRC Cybersecurity Law) was maintained.



# DIGITAL TRANSFORMATION





### 1.7.5/MARKETING ACTIVITIES

Marketing dept is managing all strategic and analytic marketing in order to:

- Analyze market scenario, competitor behavior and future opportunities
- Launch new technologies or reposition the actual ones
- Define INglass value proposition and branding activities

Once the guidelines are defined, the marketing dept. is in charge to define and implement the best communication strategy.

Main purpose is to increase brand awareness through effective media, increasing the number of touchpoints for our customers to further gain loyalty.

#### VALUE PROPOSITION

Partners of our Customers through knowledge, technology, service.

- Knowledge: injection process expert
- Technology: technology pioneers
- Service: always available

#### ORGANIZATION AND PROCESSES

All these activities are coordinated by the Marketing team located at the Italian headquarter and one Marketing Coordinator in each strategic area: Germany, China, USA. The HQ marketing team includes:

**Communication Specialist:** Manage the contents of all marketing tools from Press releases to website and Social network according to marketing guidelines

**Marketing Specialist:** Support sales with commercial literature and event organization

**Graphic Specialist:** Realize graphic design ensuring compliance to brand identity

#### PROMOTIONAL TOOLS

##### 1. TRADE FAIRS AND EVENTS

**International plastic trade fairs:** are used to launch new products and penetrate new market segments. INglass is the most active hot runner manufacturer at the trade fairs thanks to active partnerships with IMM manufacturers with 5 to 10 live demo on new applications/products.

**Technical Days in cooperation with IMM/ Mold Makers:** these strategic events have the goal of directly showing our technologies to clients or targets. Very often we present cutting edge technology on new applications and products.

**Open House events:** are hosted at our manufacturing plants at least once a year to demonstrate our manufacturing capability and organization in addition to new technologies.

**OEM live events:** in 2019 we started to organize global events together with Automotive OEMs and Non-Automotive OEMs. The Volvo event, organized by Volvo in JV with HRSflow, brought together Tier1s, mold makers, Volvo R&D technicians to discuss about new projects and increase the knowledge on the injection process. The Whirlpool event, organized by Whirlpool in JV with HRSflow, brought together mold makers and End user technicians to show new technologies like "family mold" and FLEXflow.



# EVENTS 2019

- Tooling Innovation Day @ VCC, Göteborg (Sweden), February 7th- 8th
- VDI Spritzgießertagung - Injection Moulding Conference, Baden-Baden (Germany), February 19th – 20th
- Automotive Meetings 2019 - ADVBE btb meetings, Queretaro (Mexico), February 19th-21th
- Koplas, Kintex (Korea), March 12th-16th
- Molding Conference 2019, Indianapolis (USA), March 19th-21st
- ARBURG technology days, Lossburg (Germany), March 13th – 16th
- CPRJ & Demag Injection Molding Conference and Showcase, Ningbo City (China), March 21st-22nd
- VDI PIAE, Mannheim (Germany), April 3rd – 4th
- International Injection Molding Conference/IKV - German event (IIMC), Aachen (Germany), April 10th – 11th
- PROPLAST SEMINAR, Rivalta Scrivia (Italy), April 16th
- SKZ - Networkday & Annual Member Meeting, Würzburg (Germany), May 8th
- TEDERIC Day, Guangzhou (China), May 22nd
- CONNECT! European Moldflow User Meeting, Frankfurt (Germany), June 4th-5th
- Engel Open House, Frankfurt (Germany), June 25th-26th
- IKV conference, Aachen (Germany), June 26th-27th
- Haitian OH, Ebermannsdorf (Germany), June 26th-28th
- EPF - Toshiba Open House, Pavia (Italy), July 11th
- China Lighting Tour, Taizhou (China), August 12th
- CPRJ Auto Conference, Beijing (China), September 5th-6th
- HRSflow Lighting Tour, Taizhou station (China), August 13th
- HRSflow Lighting Tour, Changzhou station (China), August 31st
- 2nd Conference “Innovations In Automotive Interiors”, Stuttgart (Germany), September 12th
- Molding Innovation Day – Moldex, Balingen (Germany), September 17th
- HRSflow Lighting Tour, Guangzhou station (China), September 27th
- APT conference, Chorzow (Poland), October 29th-31st
- Technical Advisory Group Meeting “Injection Molding 2019”, Aachen (Germany), November 4th-5th
- Acs Network Day 2019, Südwestfalen (Germany), November 6th
- OH for Door Panel Mold Demo Live, Bryon Center (USA), November 12th
- TEDERIC Automotive Conference, Dongguan (China), November 25th
- SKZ – Kunststoffrends im Automobil, Würzburg (Germany), November 26th-27th
- Haitian Technical Seminar Tour in China cities, such as Weifang, Jiangyin, Changzhou, Xiamen (China),
- Innovation and Emerging Plastics Technologies Conference, Erie PA (USA), June 19th -20th
- AMBA Annual Conference, Itasca IL (USA), May 8th-10th
- Material meets Engineering Conference - LyondellBasell, Frankfurt (Germany), June 18th
- MiDay Simpatec, Balingen (Germany), September 17th



# FAIRS 2019

- Intermold Korea – Goyang, Korea, March 12th-16th
- Plastimagen – Mexico City, Mexico, April 2nd- 3rd
- Feiplastic – San Paulo, Brazil, April 8th - 12th
- CHINAPLAS – Guangzhou, China, May 21st -24th
- Moulding Expo – Stuttgart, Germany, May 21st -24th
- KUTENO Kunststofftechnik Nord - Plastics Technology North, Rheda-Wiedenbrück Germany, May 7th- 9th
- Amerimold – Chicago, USA, June 12th-13th
- Intermold – Nagoya, Japan, June 19th-22nd
- Kunststoffen – Veldhoven, Netherland, September 23rd-24th
- MSV - Brno, Czech Republic, October 7th-11th
- K - Düsseldorf, Germany, October 16th-23rd
- Moldplas – Batalha, Portugal, November 7th-11th
- Meximold – Queretaro, Mexico, November 20th-21st



2. DIGITAL MEDIA

INglass strategy is based on digital promotion through its website that highlights our expertise in Automotive and Non-Automotive segments. User experience has been optimized and calls to action have been implemented to increase conversion rate.

Strategic presence on **social network** (with special attention to LinkedIn), and the **e-mail marketing campaigns** have been instrumental to each event increasing the number of participants. Digital activity has been pushed in Asia through “We chat”, that thanks to its engagement is a strategic tool for new product launches.



ADVANCED MARKETING TOOLS TO OPTIMIZE THE PROCESS FLOW

1. MARKETING MEDIA REPOSITORY

This tool allows the Sales force to remain Up to date on new product releases and includes presentations, flyers, catalogues, videos and case studies.

2. ACCOUNTABILITY AND CRM

The global company CRM includes marketing options to collect and manage new leads created during fairs and events allowing to monitor the success of an event.

The Marketing CRM collects the following data and information:

- Number of Total Registered Customers (Leads)
- Number of New Companies
- Number of New Contacts
- Number of Contacts Acquired
- Number of tasks generated by the event
- List of tasks with status open/closed
- Cost per new Contact
- Cost per new Client



### 1.7.6/STRATEGIC LEAN PROJECT MANAGEMENT

The Project Management Office is leading all strategic projects to ensure that they are delivered using a 'best-practice' Project Delivery Approach, with the agreed scope, time, cost and quality.

PMO is involved in the company's strategic growth with the aim to create value and ensure that projects deliverables stay within that scope.

#### LEAN PROJECT MANAGEMENT WITHIN INGLASS ORGANIZATION

Starting from 2015, Management decided to introduce this role, to closely work with Business teams at all levels of the organisation, branches included, to pursue strategic goals:

- Proactively engage with Management to identify opportunities for business improvements.
- Ensure monitoring of projects' status and enable stakeholders to have visibility and information to make the proper decisions.
- Contribute to business through budget planning, CAPEX process and sales initiative to accelerate the revenue growth.
- Encourage knowledge transfer and lessons learnt activities within the PMO and business project teams to drive, support and spread the best practice.

To manage projects more effectively the team applies different PM techniques such as:

- **GANTT** Charts to coordinate, track and plan the projects' progress
- **AGILE** that allows projects to get processed in small phases, cycles or incremental steps toward their completion
- **LEAN METHODOLOGY** to maximize projects' value, identifying value added & no value-added activities while minimizing wastes.

#### LLT1

The project acronym stands for Lean Lead Time 1 where one means first mover.

To be more competitive in our market, we applied the Lean methodology to our business process, in order to provide to our customers exclusively what they perceived as added value since the very first contact.

Through the value stream mapping, the easiest but very powerful lean tool, has mapped the process from request for quotation to design delivery to pursue the following goals by:

- Optimize lead time process;
- Simplify activities and data exchange with customers throughout the whole process;
- Increase process flexibility with the support of our design offices and subsidiaries.

#### MANUFACTURING COST OPTIMIZATION

After becoming the market leader in terms of quality and customer support, Inglass set a new ambitious target: to become the leader in terms of productivity in the market.

In order to achieve this new challenging goal, a deep change of mindset and a disruptive approach has been taken to boost the production process and re-engineer the product itself.

Improving delivery performance, reducing cycle time and increasing the quality of the products are some of the benefits we are expecting in manufacturing thanks to automation and data exchange. High volume production, new quality control systems and digital transformation will be the new key concepts for the coming years.

# 1.8 / Our stakeholders

INGlass stakeholders are those who, in any way, shape or form, influence and are influenced by the choices the company makes. Therefore, our Stakeholders have the right to be informed regarding our organisational operations and results. They are therefore the main, even if not the sole, target of this document. Identification of our main Stakeholders has always been the first step in the preparation of our Report.

Once our main stakeholders were identified, we tried to put ourselves in their position in order to understand what information could be of greatest interest. KPI's have been thus identified and described, set out in both table and graph form to enable and improve their immediate understanding.



# 1.9 / Main KPIs: overview table

KEY PERFORMANCE INDICATORS (KPI)		
PARAMETER 1		
Financial Sustainability	Consolidated 2018	Consolidated 2019
Turnover	€ 130.171.000	€ 135.092.000
Total investments	€ 10.019.000	€ 12.216.000
Added value created	€ 60.437.860	€ 62.954.000
PARAMETER 2		
Social Sustainability	Consolidated 2018	Consolidated 2019
Employees	1.094	1.141
% permanent contracts	92%	97%
% fixed term contracts	8%	3%
Female employees	181	177
Male employees	912	964
Part-time employees	20	25
Interns and trainees hosted during the year	27	24
Total training hours for employees	27.500	25.750
Hours of in-house training for colleagues located abroad	10.165	1.872
Total number of accidents	25	18
Average no. days sick leave due to accidents	13.2	3
Environmental Sustainability	Consolidated 2018	Consolidated 2019
Natural gas consumption (m3)	100.367 m3	325.136 m3
Electricity consumption (kwh)	9.817.519 kwh	10.003.961 kwh
Steam energy consumption (GJ)	0 GJ	0 GJ
Water consumption	28.159 m3	29.695 m3
Total waste produced	1.007.348 kg	985.910 kg
% weight of hazardous waste/total waste produced and disposed of	21%	21%
% weight of recyclable waste/total waste produced and disposed of	68%	68%





# ECONOMIC SUSTAINABILITY



## 2.1 / Determination of Added Value

The Added Value (VA) represents the value created within the company with the resources (human, technical and financial) available.

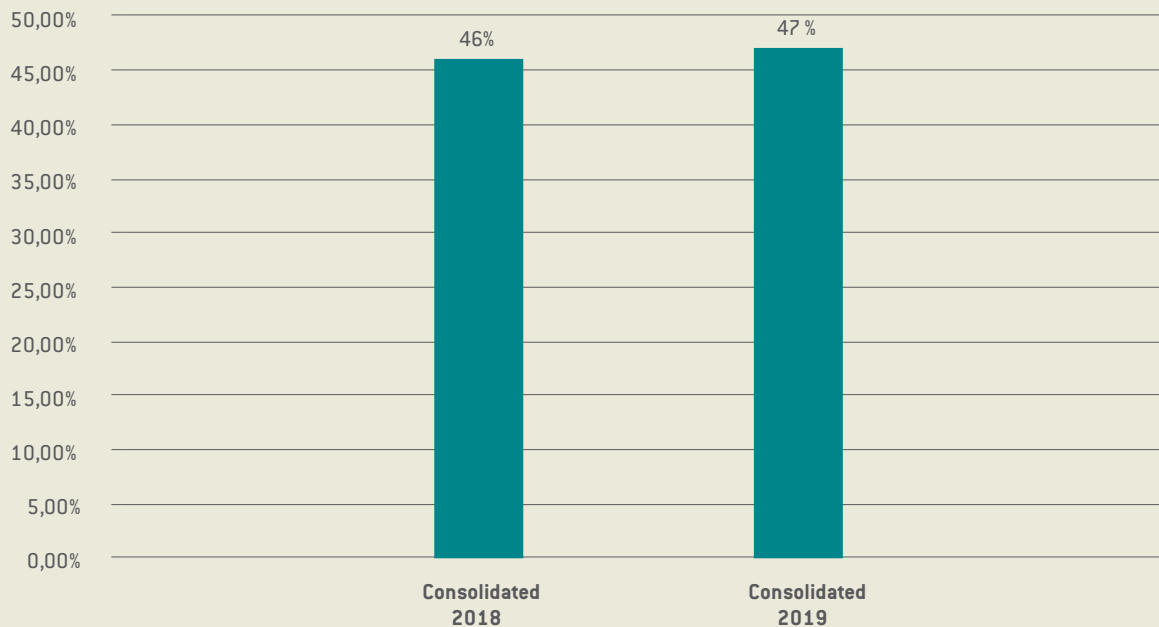
A company's Added Value can be easily obtained reclassifying the income statement for the fiscal period of interest. Therefore, starting from the Group's Consolidated

Financial Statements, prepared in compliance with the statutory regulations, and reclassifying the data in order to highlight Global Value and Intermediate Production Costs, the difference between these represents the Added Value. Following is the VA production layout in INglass Spa from 2017 (before and after Ermo dismissal) to 2018.

DETERMINATION OF ADDED VALUE	CONSOLIDATED 2018	CONSOLIDATED 2019
Revenues from sales and services (net of revenue adjustments)	130.171.000	135.092.000
Changes in inventory of work in progress, semi-finished and finished goods	9.000	117.000
Other revenues and income	4.909.000	5.723.000
Revenues from core business	135.089.000	140.932.000
Capitalisation of long-term costs	0	0
<b>GLOBAL PRODUCTION VALUE</b>	<b>135.089.000</b>	<b>140.932.000</b>
<b>INTERMEDIATE PRODUCTION COSTS</b>	<b>62.827.000</b>	<b>62.315.000</b>
<b>GROSS ADDED VALUE FROM ORDINARY OPERATIONS</b>	<b>72.261.860</b>	<b>78.617.000</b>
Ancillary revenues	600.000	408.000
Ancillary costs	636.000	309.000
Result from non-core activities	36.000	99.000
Non-recurring income	193.000	
Non-recurring costs	193.000	2.174.000
Result from non-recurring items	0	-2.174.000
<b>GLOBAL GROSS ADDED VALUE</b>	<b>72.225.860</b>	<b>76.542.000</b>
Depreciation and Amortisation	11.788.000	13.588.000
<b>NET GLOBAL ADDED VALUE</b>	<b>60.437.860</b>	<b>62.954.000</b>

Even in 2019 the % of Added Value on consolidated Turnover has increased 1% compared to the Consolidated Financial Statement 2018. Despite this, the company was able to increase the turnover on the Hot Runner Systems market.

#### ADDED VALUE CREATED AS % OF REVENUE



## 2.2 / Distribution of Added Value

The Added Value is then analysed from the point of view of how it is distributed between the resources that have contributed to create it, in particular:

- *Personnel, through the remuneration of employees;*
- *Public Administration (PA), through taxes paid to the State;*
- *Lenders, with the payment of interest for loans, mortgages, leasing, etc.*
- *Community, through donations and sponsorships in support of social, cultural and sporting activities*

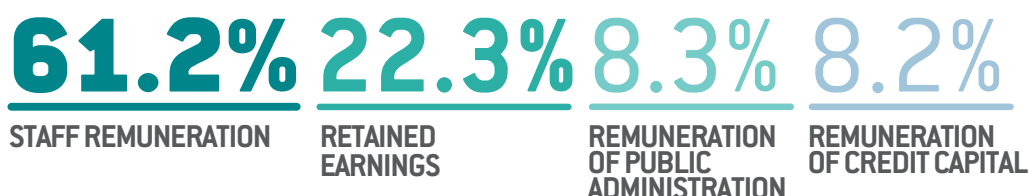
Finally, the operating result (profit, if any) may remunerate:

- Members/Shareholders with the distribution of dividends;
- and/or the Company itself, when profit is kept in the company for future investments and on-going company growth.

In the last financial year, the consolidated Value Added % allocated to employee remuneration was about 61.2% of the total VA. The remuneration of Public Administration through taxes paid to the State is stable at 8.3%. Remuneration of Credit Capital (funders) is 8.2%. A big part, amounting to 22.3% of added value was allocated to reserves in the company in order to continue to support growth and future investments.

BREAKDOWN OF ADDED VALUE	CONSOLIDATED 2018	CONSOLIDATED 2019
External staff:	1.673.860	1.714.000
Employees	33.583.000	36.854.000
> Direct Remuneration	29.146.000	31.873.000
> Indirect Remuneration	4.437.000	4.981.000
<b>STAFF REMUNERATION</b>	<b>35.256.860</b>	<b>38.568.000</b>
Direct taxes	4.505.000	4.024.000
Indirect taxes	1.281.000	1.192.000
<b>REMUNERATION OF PUBLIC ADMINISTRATION</b>	<b>5.786.000</b>	<b>5.216.000</b>
Charges for short-term capital	2.557.000	3.803.000
Charges for long-term capital	843.000	1.327.000
<b>REMUNERATION OF DEBT</b>	<b>3.400.000</b>	<b>5.130.000</b>
Share of net income distributed to members/shareholders	0	0
<b>REMUNERATION OF EQUITY</b>	<b>0</b>	<b>0</b>
Share of profit allocated to reserves	15.995.000	14.040.000
<b>REMUNERATION OF THE COMPANY</b>	<b>15.995.000</b>	<b>14.040.000</b>
<b>NET GLOBAL ADDED VALUE</b>	<b>60.437.860</b>	<b>62.954.000</b>

#### BREAKDOWN OF CONSOLIDATED ADDED VALUE 2019



## 2.3 / Investments

Over the course of 2019, INglass has invested 12.1 million euro in capital expenditures (including 1,5 million euro of right of use).

This figure demonstrates how, in 2019, INglass continued to invest significantly in improving its own production structure mainly in Italy and China. Investments in material assets amount to approximately 3.4 million euro (28% of the total) and principally refers to plant and machinery (1.1 million), equipment (0.8 million), electronic office machines (0.5 million) and building (0.6 million).

7.2 million euro (59% of the total) were allocated to the purchase of non-material goods, the main expenses refer to research & development projects (2.7 million) and licence agreements for software (3.3 million).

1.5 million euro (13% of the total) were allocated to the right of use assets, the main expenses refer to buildings (0.6 million), electronic office machines (0.4 million) and plant and machinery (0.3 million).

INVESTMENTS	CONSOLIDATED 2018	CONSOLIDATED 2019
INVESTMENTS IN MATERIAL ASSETS	3.837.000	3.405.000
INVESTMENTS IN NON-MATERIAL ASSETS	4.690.000	7.199.000
INVESTMENTS IN RIGHT OF USE ASSETS*	3.920.000	1.545.000
<b>TOTAL</b>	<b>12.447.000</b>	<b>12.149.000</b>

\* Under IFRS 16 a lease is defined as 'a contract, or part of a contract, that conveys the right to use an asset (the underlying asset) for a period of time in exchange for consideration'. A contract can be (or contain) a lease only if the underlying asset is 'identified'. Having the right to control the use of an identified asset means having the right to direct, and obtain all of the economic benefits from, the use of that asset. In this row we report the ROU for operating and financial leasing related to material and immaterial assets.

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## 2.4 / Auditing company

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INglass Group has collaborated with auditing company RECONTA ERNST & YOUNG for years, for the certification of INGLASS SPA's annual financial statement as well as the Group's consolidated financial statement. The collaboration with Ernst & Young has gradually grown over the years with the Group's expansion, to also include certification of the statements of the foreign subsidiaries of major economic and strategic importance. As far as the INGLASS USA INC.

company is concerned, the audit task was assigned to the auditing company FUNARO & CO., P.C. located in New York. The company's growth, also in relation to the quality of the presented numbers, therefore, extends beyond the national borders, beginning a global certification process, which includes an increasing number of companies pertaining to the Group, year after year.

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## 2.5 / Banks and Lending institutions

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The relationship with Banks and various lending Institutions continue to play a key role in supporting the company and its investment and continuous improvement plans. Over the years our structure has continued to expand its international territorial extension and our preferences go to the Institutions that already have experience and international structures. Thanks to the contribution of Simest SPA, it was possible to complete the development project in North America, in the state of Michigan, where a new production plant started up with the opening of a new company, INGLASS USA INC. In 2016, the debenture loan initially amounting to 8,000,000 euros was early discharged and at the same time a new bank loan was taken, which was characterised by better economic conditions with less

operating and managerial constraints. With reference to total outstanding loans, at the consolidated level, we have organised ourselves to sustain medium term investments with medium term financial instruments, substantially rebalancing the weight between short and medium/long term debt.

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## 2.6 / Insurance companies

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Insurance policies are independently managed by individual countries. In 2015, audits have been carried out at our foreign branches through the Willis international insurance network. We have also turned to the international network of Willis, which our Italian brokers also belong to, to further develop coverage on the new plant in Michigan (USA). In the Italian, Chinese and French manufacturing plants, contracts and areas of protection are very wide, whereas they are slenderer in the branches. Contracts provide for coverage required by law, as well as additional coverage to further protect people and the company's assets. Product

liability, leasing, employee transfers and life insurance policies are among the risks for which additional coverage exists. An additional policy is active in China and the United States compared to the regulatory requirements for medical coverage and employee accidents.







# SOCIAL SUSTAINABILITY



# 3.1 / Compliance & Ethical Code

In December 2018 the Board of Directors decided to adopt the Organisation, Management and Control Model according to Law Decree 231/2001 (from here on also referred to as “231 Model” or “MOGC”), appointing at the same time a Supervisory Committee (here below referred to as “OdV”), the composition of which is collegiate. During the same session, it has also adopted the Company Ethical Code, as a key component of the 231 Model.

This Code illustrates the Company Vision and Mission, and it defines the principles and behaviour standards that the Company observes in its dealings and in business operation, as well as in controlling its relationships with all the stakeholders. In particular, the document defines:

- The general principles relevant to
  1. Responsibility
  2. Legality
  3. Transparency, completeness and reliability
  4. Moral integrity, correctness, loyalty and good faith
  5. Confidentiality
  6. Equal opportunity and impartiality
  7. Free competition and trade
  8. Care of the environment and management of the environmental system
  9. Conflicts of interest
- The principles of conduct in its relationships with staff both in terms of
  1. Personnel policies (valorisation)
  2. Rights and duties for staff
- The principles of conduct in its relationships with
  1. Suppliers
  2. Clients
  3. Public entities
  4. Foundations, non-profit organisations
  5. Non-profit institutions
  6. Political parties and unions

Furthermore, the document instructs on the behaviour of the Company towards the information media and of the auditors and statutory auditors, and it provides indications on how INglass ensures correctness of the company information and internal reviews, the respect of the anti-money laundering legislation, as well as the culture of internal control and risk assessment.

Within the Ethical Code, its implementation modes are laid

out, as well as the warranties and reports in case of violation of the code itself.

Once the 231.01 project was terminated, through

- the identification of the risk areas for the perpetration of alleged offences included in the 231 decree
- the identification of the control protocols and the analysis of the management processes of the cash flows and of other assets
- the recognition of the existing situation (AS-IS) with relevant Gap Analysis,

an explanatory document for MOGC was elaborated and drawn up, consisting of a General Part and a Special Part. The structure of the General Part consists of chapters including explanations on the role of the OdV, as an entity assigned to oversee the operation and the observance of the Model. Also, a description is provided of the activities that INglass must pursue through its management to effectively implement the Model adopted.

The structure of the Special Part is organised as follows:

- A section is dedicated to the instrumental activities and the relevant control protocols identified to manage the financial resources and/or other assets, intended as a whole of activities which may involve or generate a supply of cash and/or other assets necessary for the pursuit of a potential corruption activity, as a prevention of alleged offences linked to the above corruption activity, both for the Public Administration and the private sector;
- The other sections include the following main elements for each category of alleged offences:
  1. a list of the specific substantial offences and administrative illegal actions with respect to the administrative responsibility of the organisations (the so called alleged offences of the section) arranged for each section;
  2. a list of “sensitive activities”, i.e. of the company’s activities which are potentially exposed to the pursuit of the alleged offences mentioned in the section;
  3. a description of the general behaviour principles that those benefitting from the model must observe in the management of sensitive activities;
  4. a description, for each sensitive activity, of the

- control protocols that the company adopts to prevent the alleged offences;
- 5. a description of the information flows that the management must report to the Supervisory Committee.

Model 231 covers the following offence categories, in the Sections making up the Special Part:

- Offences against the Public Administration
- Corporate crimes, and the offence of corruption between private parties
- Offences of unintentional murder and severe and very severe injuries committed in violation of the health and safety norms in the workplace
- Environmental offences
- Organised criminality crimes (national and transnational), the crimes of receiving stolen goods, laundering and illegal use of money, illicit goods or utilities
- IT offences and illicit data processing
- Crimes relevant to the violation of copyrights
- Crimes against industry and trade, and crimes of counterfeit and sale of products with mendacious and false signs
- Employment of citizens from foreign countries who do not possess a regular work permit
- Crimes against individuals
- Induction to refuse to make declarations or to provide mendacious statements to the judicial authority.

From the moment of its adoption, during the course of 2019, the Board of Directors and the Top Management of the Company have been pursuing the indications laid out in the General Part of the Model for what concerns the dissemination and training for those receiving the 231 Model, and relevant to whistleblowing (control system of reporting suspected misconduct). Furthermore, the whole power and power delegation system was changed, with particular attention to responsibilities concerning Health and Safety in the Workplace and concerning Environmental issues.

For what concerns the operation of the 231 Model, at the beginning of 2019 the Supervisory Committee presented its own “Annual Supervisory Programme”, followed by its implementation.

Amongst issues of interest, the Supervisory Committee has

monitored the operation of Section Number 04 of the Special Part, dedicated to offences such as unintentional murder and severe and very severe injuries, perpetrated in violation of the Health and Safety norms in the Workplace. Moreover, it has monitored the action plan elaborated following the environmental analysis carried out by individuals holding a mandate for Environmental issues.

Every six months the Supervisory Committee informs the Board of Directors on the activities pursued, by drawing up the “Six-monthly Report”, a copy of which is also sent to the Board of Statutory Auditors.

# 3.2 / Human Resources

Human resources are an essential corporate asset; their development and enhancement represent a fundamental factor for the Company's growth and continuity. The Company therefore undertakes to promote:

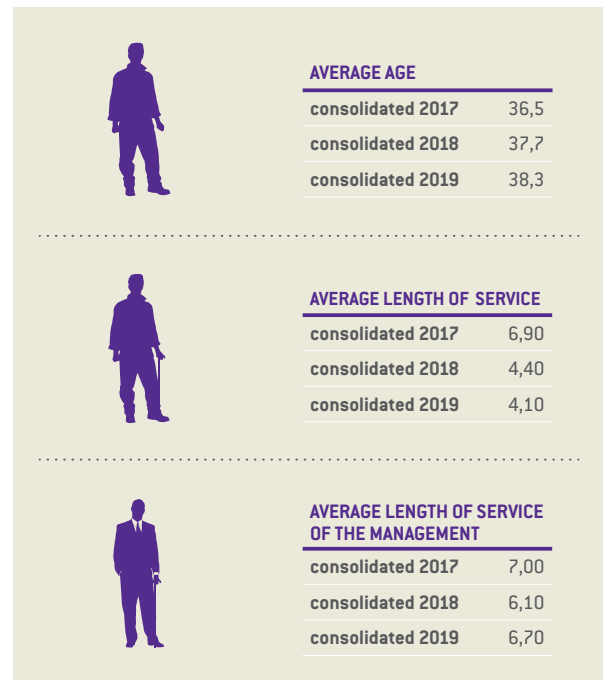
- the principles of the Universal Declaration of Human Rights (UDHR)
- the principles and fundamental rights at work of the International Labor Organization (ILO), (especially those concerning the abolition of child labour and forced or compulsory labour)
- the new guidelines of the Organization for Economic Cooperation and Development for multinational enterprises (OECD)
- the principles of the United Nations Global Compact (UNGC)

INGlass undertakes to respect the rights, physical, cultural and moral integrity of all people, therefore the Company requires that no form of physical and mental coercion, corporal punishment for disciplinary purposes and any form of harassment, humiliation, violence even in offensive language (not tolerated in any working situation) can happen inside InGlass work environment.

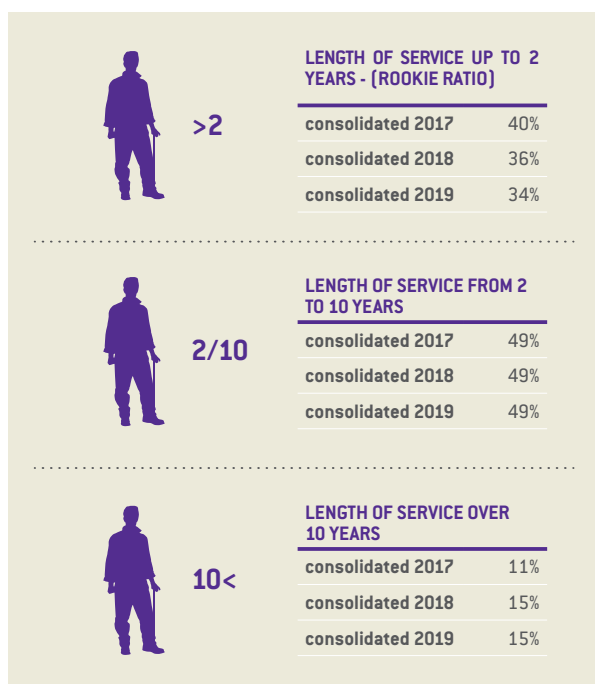
Work environment, safety and health of workers are at the top of InGlass's priorities which undertakes, in compliance with the provisions of current legislation on the matter, to maintain a work environment that takes care of safety and equip employees, depending on the activity carried out, of all the appropriate and necessary equipment to protect them from any risk or danger to their physical integrity. Employees must act loyally, in compliance with the obligations signed in the individual employment contract, of the provisions of the Code of Ethics and company procedures, in particular in accordance with the current Company Regulations, ensuring high performance standards of professionalism and fairness in performance. People at InGlass have always represented one of the most important resources in the pursuit of the company mission. Top-notch skills and industry know-how, the ability to continuously innovate processes and strong attention to product, love for challenge and improvement, and last but not least, strong interpersonal skills and shared values: these are some of the unique and irreplaceable elements that differentiate us in the marketplace and impart added value to our work.

## 3.2.1 PERSONNEL BREAKDOWN

As of 12/31/2019, the InGlass Group employs 1141 people worldwide, of which 964 are men and 177 are women. The number has increased about 4% compared to the total of 1094 in 2018. The average worldwide age of staff is higher than in 2018, reaching 38.6 years, and for management it has increased of 3 points amounting to 43.5 years.

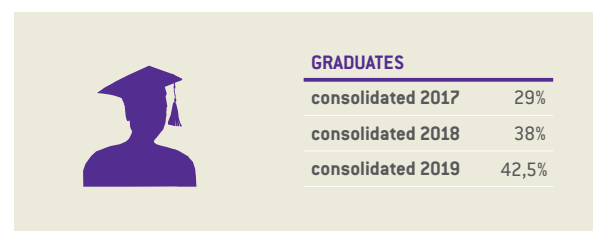
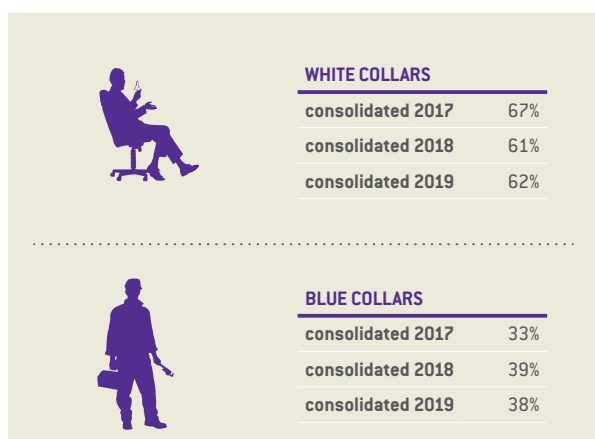


The average length of service worldwide is more or less stable (from to 4.4 to 4.1 years) and reached 6.7 years for the management team. The percentage of employees with over 10 years seniority is about 15%, while seniority between 2 and 10 years is stable (around half of people of the team belong to this group) and those with less than 2 years' service has decreased to 34%.



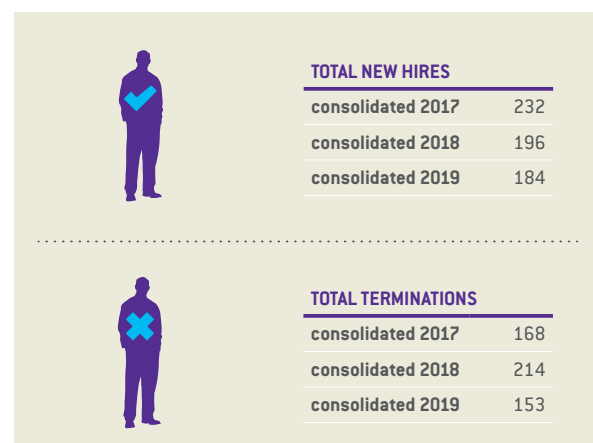
Indirect (not directly engaged in production activities and therefore whose working hours are not attributable to any specific production order) and direct personnel have reached in 2019 respectively 53% and 47%.

The % of blue collar is now 38%, compared to 62% of white collars. The percentage of University graduates to total employees is now 21% of the worldwide total.



### 3.2.2 TURNOVER

The total staff turnover (sum of recruits and dismissed, divided by average number of employees) is a figure that presents very different values in the various countries. Therefore, starting with the 2014 consolidation, it was decided to indicate only the absolute value of hirings and resignations, given that the turnover calculation (for which there are likewise various methods of calculation) is misleading in our view. In 2019 the total is stable and global recruitments has exceeded resignations of about 30 units.



### 3.2.3 ORGANIZATION AND STRUCTURE

The organization of work is very similar at the three production plants in Italy, China and USA, with one CEO that all three plants report to including both their Sales and Operations functions and their Staff activities. The branches do not include a production area and their teams consist of a Branch General Manager, designers, sales representatives, technical service engineers and technical-commercial specialists supporting the sales force (SSE), Sales Assistants (internal commercial support for sales representatives) and KAMs (Key Account Managers). The KAM is a figure that was introduced into the company in 2012, whose role consists in servicing a few key, global customers in a highly focused way. They manage the

relationship with their own HQ, as well as with branches and establishments worldwide, in order to always have a complete and updated view of new projects and opportunities. It is a transversal figure, linked to HQ from a strategic point of view and to the various branches from an operational point of view. The branches and foreign plants, although autonomous in their operational management, report to Italian HQ for strategic planning and the monitoring of results. The Global Sales Meeting, a meeting held twice a year, in rotation at one of the group's world branches, continues to represent an important moment in terms of discussing objectives, strategies, results, prioritization and analyses of any unresolved problems. Since 2013, the same procedure for review and updating has been applied to the Service structure as well, with the organization of a Global Service Meeting at Italian Headquarters for the whole service team. Beginning in 2014, the Global Innovation Meeting was also added with the goal of creating an opportunity to share technology and product innovations. It has been extremely important in aligning the various branches and giving rise to new opportunities for implementation which are shared and evaluated together.

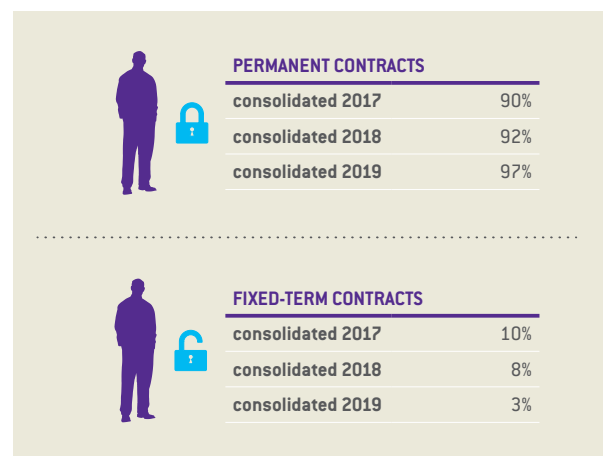
### 3.2.4 SELECTION AND RECRUITMENT

The search and selection of personnel is carried out by the human resources department within the Italian HQ. Given the complexity and quantity of activities carried out at the Chinese, Indian and USA plants, their management of human resources is independent, except for managerial positions. The branches instead, which do not all have a dedicated HR function, are provided with assistance and supported in their decision making by the Italian HR management, mainly about the more experienced job profiles. For each new position to be filled, we define the job description and profile, in addition to detailing the technical and transversal skills that the profile should include. This allows us to have an always updated job description manual, with activities and duties details of all the positions within the company. Once the profile has been defined, the selection process is structured through individual selection interviews and the use of psychometric tests and individual assessments. For the technical area, R&D, service and area operation, we provide prospective candidates with technical tests prepared internally. Once again in 2019, the applications submitted through our website were numerous, almost 350 online, in addition to another 150 applications in traditional paper format. In fact, on the company's website

it is possible to monitor the open positions both at Italian and foreign offices and to submit an application. This tool was introduced in 2012 and has proven to be extremely effective.

While we try to adopt a uniform occupational policy for all employees in Italy and abroad, we also recognize the specificities of varying situations. Recruitment of high school and university graduates, regardless of the position they will fill, is carried out with fixed-term contracts of up to maximum 12 months, with the prospect of changing the contract into a permanent one at the end of the temporary employment if mutual expectations are met. Instead, for positions requiring experienced profiles, the type of contract is evaluated on a case to case basis and is nonetheless always subject to a trial period. In 2019, the percentage of permanent employment contracts compared to fixed-term contracts has continued to increase amounting to 97% globally. The Chinese labour market deserves separate consideration, since by law all work contracts of less than a 10-year duration are regarded as fixed-term. For the purposes of our group calculations however, these contracts have been assimilated with the Italian permanent work contracts, given that they are substantively treated in the same way.

All employment contracts adhere to regulations stipulated by the individual countries in which the company operates and where personnel are employed.




The collaboration between the school and work environments remains very useful as it offers the opportunity to identify potential new employees. The

presence of interns, trainees and undergraduates within the workforce is quite prevalent in Italy, especially for structural and logistical reasons, but in 2019 training students were also hosted in China, South Africa and Brazil, for a total of 23 such workers worldwide.

### 3.2.5 EMPLOYMENT AND REMUNERATION POLICY

Over the past few years, the group's remuneration policy has included a variable portion of remuneration tied to the achievement of both individual and team goals. In fact, we believe that an ever-increasing participation in the determination and pursuit of company objectives is fundamental. And variable remuneration underlines this aspect. Each year, Management identifies the individuals that are most extensively and directly involved in the achievement of important business objectives and together they agree upon criteria for the granting of annual economic bonuses (Mbo - Management by Objective) in proportion to the achievement of these pre-established results. As of 12/31/2019, 173 individuals worldwide have participated in this process of shared earnings. This data include only bonus for managers and top levels.

Salary increases are instead recognized in case of consolidated professional growth and the acquisition of specific skills within the assigned company position. One-off bonuses are paid to personnel whose contributions or results significantly exceed expected company objectives. Length of service or age has no prevalence whatsoever in determining career advancement or internal career development paths. For the three-year period 2017-2019, the II-level Union Agreement in Italy was renewed once again, an agreement aimed at rewarding workers with a performance bonus calculated according to the company's productivity and profitability indicators. In addition, in Italy we also use tools for mapping skills and assessing potential, which allows for the annual monitoring of an individual's professional evolution and development. The comparison between expected and achieved results then becomes the grounds for one-off bonuses or the determination of corrective actions or additional training courses.



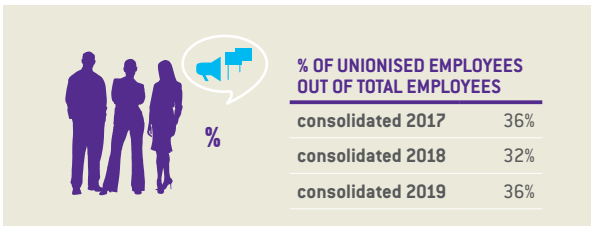
NO. OF PEOPLE WITH VARIABLE REMUNERATION	
consolidated 2017	848
consolidated 2018	897
consolidated 2019	935

A tool of fundamental importance for the company is the process of job rotation. Personnel rotation allows employees to rapidly build-up experiences in various functions and sectors, perfecting skills and thereby increasing their career opportunities. In addition, it allows the company to further expand its flexibility, but even more, to preserve and retain in-house its fundamental and strategic capabilities.

Furthermore, we have launched an international mobility and exchange project for SSE designers and technicians aimed at better understanding local diversities in terms of requests coming from customers, activities management and work organization, as well as improving the communication and relationships between colleagues operating in different locations. It is a growth path for internal resources, which likewise fosters the creation of an inter-nationality climate. Thanks to this continuous exchange, difficulties and linguistic barriers, distances and incomprehension between branches and HQ have progressively diminished. The project entails a period abroad of approximately 6-12 continuous months, the most efficient duration in order to give real operational support to foreign colleagues and to really improve the local language.

### 3.2.6 INDUSTRIAL RELATIONS

We desire the relationship between the various parts of the company to be mutually beneficial and harmonious. We therefore encourage an open and honest exchange between employees and Management, in the interest of better directing the company's choices, whenever possible, while also satisfying the needs of the individual. The company has always periodically met with key Trade Union Representatives, to discuss and provide updates on the company's business performance. The year-end speech, in which the Chairman illustrates the achieved results, underlines new challenges, and shares future strategies, continues to be a participated and meaningful event.



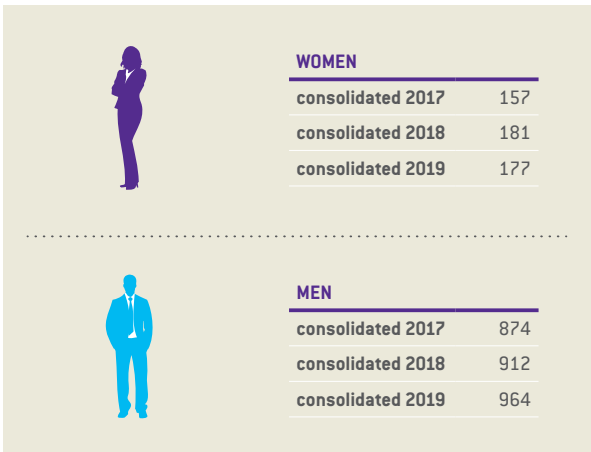
At INglass, union membership only applies to the three production plants.

The data should be read for each single country, as there are local and cultural diversities which are reflected in very different numbers in the individual countries.

In 2019 in both Italy and China, the number of members is stable and equal to 36% of the total number of employees. As for China we should also consider the fact that becoming unionized is a widespread and consolidated practice for all workers who have passed the trial period.

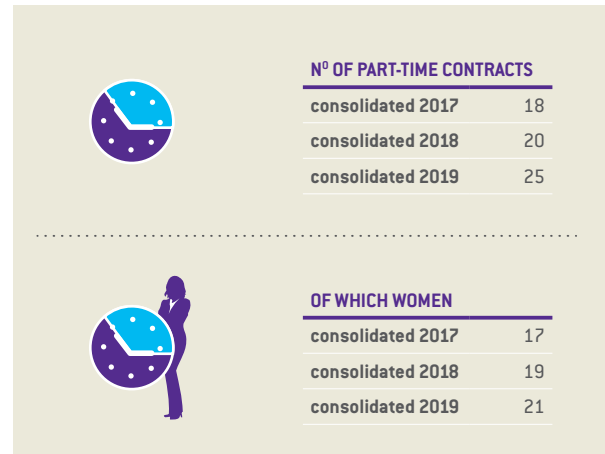
### 3.2.7 PROTECTION OF EQUAL OPPORTUNITIES AND RESPECT FOR HUMAN RIGHTS

We are completely against any form of discrimination. We apply the same criteria in every country where we operate when striving to select the best employees, without any form of discrimination. Female presence on the global level is now 177, equal to a stable 16% of the total workforce.

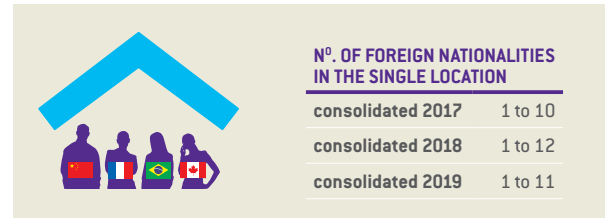


Respecting employees also entails trying to find a work-life balance that meets the needs of both parties, without compromising expected performance. Part-time employment is a work solution increasingly requested and

therefore offered within INglass. At present it is especially sought after by women, due to the family need to care for young children. Other opportunities are the Home Office and the Smart Working, solutions we first started to use in a few departments in 2018 but today it is a common line for all white collars, as a way to allow people a better balance and management between work and family.



In half of the company's locations worldwide, there are employees of foreign nationalities, with Canada having the highest number, namely 11.



We worldwide respect the existing national legislation concerning the promotion and employment of personnel belonging to legally protected categories since we strongly recognize its worth. Today, INglass employs a total of 10 people worldwide belonging to disadvantaged categories.

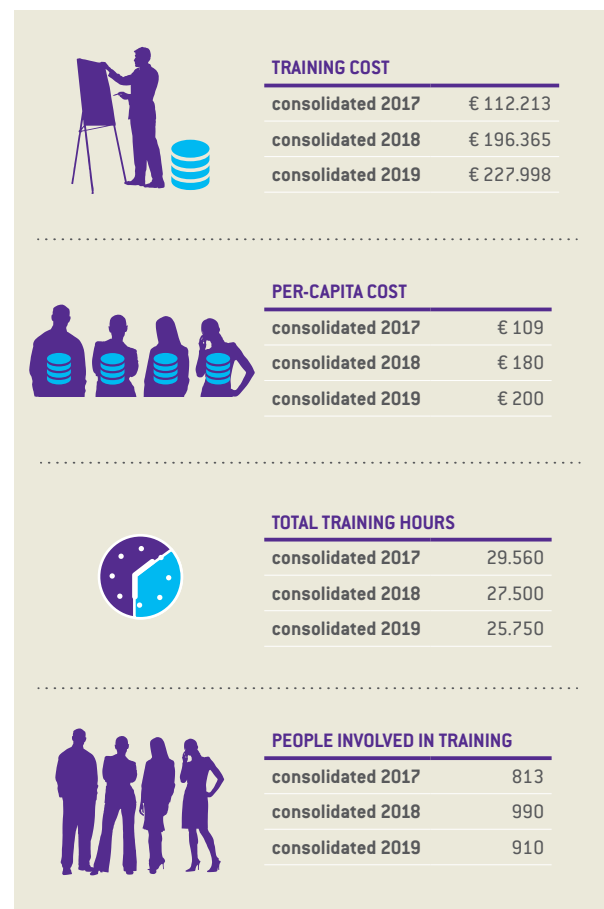




Youth employment in Italy is exclusively adopted during the summer months for students in their last years of high school. It refers to a strictly regulated work-study program and we scrupulously observe all existing regulations. In China and other branches, no personnel under the age of 18 years old is employed.

### 3.2.8 TRAINING

Training continues to play a very important role within the company. The collected figures, however, are incomplete since they do not consider mentoring for people changing roles within the company, or the numerous daily opportunities for cross-training between individual functions and offices. In 2019 more than 910 individuals worldwide were involved in at least one training program in the course of the year, accounting for more than 80% of the total workforce.



In 2019 the company has organized more than 25.700 hours of training worldwide, 29% of which was focused on training for apprentices and new employees and 28% on product training. The chart shows that almost 13% of the time was spent on language trainings, while a 7% each was dedicated to safety training and to training for the production areas. 4% of the hours were spent on Information Technology area training, while a percentage just below a global amount of 12% refers to Administration and Finance area, Supply Chain, Quality training, Human Resources and Management training.

TOTAL HOURS OF TRAINING	CONSOLIDATED 2019
- % hours of training for new employees	29%
- % hours of training on product	28%
- % hours of training in languages	13%
- % hours of training in production dept.	7%
- % hours of training for safety	7%
- % hours of training in ICT dept.	4%
- % hours of training in supply chain	3%
- % hours of training in finance and administration dept.	2%
- % hours of training in H&R dept.	2%
- % hours of training on particular software	2%
- % hours of training on management	2%
- % hours of training in quality dept.	1%

### LEARNINGCLASS – THE ACADEMY

In 2019 Inglass continued the training programs on specific topics related to products, process and soft skills. In addition to external trainers some of the classes have been held by senior managers of the company, with proven experience and specific knowledge.



## LEARNINGCLASS

THE ACADEMY

In 2019 we organized 19 internal courses divided into 4 categories:

- Product, processes and technical updating
- Programmes for all employees to explain product, technical and production workflow and new applications.
- Ict and software
- ICT security and excel courses

- Managerial and soft competencies
- Top Management courses in soft skills and people management
- Technical and production training
- Training for designers, including production knowledge to understand hot runner system manufacturing then Solidworks training aimed to design the system.
- Manufacturing courses for CNC lathe and milling operators.

### 3.2.9 SAFETY

The safeguarding of a healthy work environment and the safety and health of its workers are at the top of INglass's priorities.

In compliance with the provisions of existing legislation on the matter, we are committed to maintaining a safe working environment and providing employees, pursuant to their specific activity, with all the appropriate and necessary equipment to protect them from any risk or danger to their physical well-being. We inform employees of the conditions, practices and procedures imposed by law regarding health and safety in the workplace. We maintain our production plants, offices and operating systems in compliance with all health and safety standards.

The means used to provide safety in the workplace are many: application of all possible precautions in the layout and tooling of machinery, timely compliance to regulatory updates for increased safety, specialized training, allocation of safety devices to all individuals that require them and the utmost severity against anyone who does not comply, continuous awareness of both internal personnel and external visitors.

Employees and collaborators must in turn abide by the conditions imposed by law, as well as follow all practices and procedures adopted by INglass, ensuring that their actions do not put themselves or others at risk. In addition, they must inform their superiors of any behaviour or risk potentials that could compromise the safety of their work environment.

Although continuing rigorously to pursue these objectives, over the course of 2019 a total of 18 injuries took place, 12 of which in Italy, 3 in China, 2 in the USA and 1 in France. The average duration of injury is very low and amounts to 3 days each.

The company's effort and commitment to ongoing safety training, specific risk analysis, the search for continuous improvement of working conditions, and making sure each company department is aware of all these issues, remain constant and continuous priorities.



**TOTAL N°. OF ACCIDENTS**

consolidated 2017	18
consolidated 2018	25
consolidated 2019	18



**AVERAGE LOST TIME PER INJURY (DAYS)**

consolidated 2017	14,0
consolidated 2018	13,2
consolidated 2019	3



**LTIFR (LOST TIME INJURIES FREQUENCY RATE)**

consolidated 2017	NA
consolidated 2018	NA
consolidated 2019	9,31



**LTIGR (LOST TIME INJURIES GRAVITY RATE)**

consolidated 2017	NA
consolidated 2018	NA
consolidated 2019	0,11



### 3.2.10 INTERNAL COMMUNICATIONS

Internal communication is carried out using traditional tools, mainly electronic mail. Each employee, both in Italy and abroad, has a company email address and access to the company intranet connection where work documents are shared. Each location also has a video conferencing system available, which is used daily in branch meetings. For telephone calls Skype is used whenever possible, while in each individual location the prevailing mode of communication is the staff meeting, together with email. Organizational communications are posted on the bulletin board and, if appropriate, also displayed on related signs which are periodically updated. A monthly meeting is held between the Top Management and Management for aligning strategy, sharing projects and addressing problem issues. This meeting is also extended to foreign Branch Managers twice a year. Lastly, once a year, the Chairman shares results and planning for the following year with all Italian employees and a rotating representation from the foreign staff, as well as with union representatives who wish to attend the meeting.

### 3.2.11 ORGANIZATIONAL CLIMATE AND MOTIVATION

We believe people's motivation in carrying out their various activities is a key element for ensuring the highest quality standards, both in terms of the services/products provided to the customer, as well as in the quality of life of our employees.

The organizational climate within the company has been frequently analysed in the past, in a structured way by external professionals. In addition, individual interviews continued to be held with most employees throughout 2019, to better understand the degree of worker satisfaction both in terms of duties and the overall organizational climate.

We do believe, however, that motivation and any eventual problems that can arise inside the company can be better grasped and addressed only through proper interpersonal relationships between employees and management, an approach that we promote and monitor daily.

We are also convinced that people's motivation is not exclusively linked to economic incentives (see occupational Policy section) but rather on numerous aspects of the company-employee relationship. Though not directly corresponding to economic remuneration, these aspects play an important role for many in making INglass a preferable place of employment. Consider, for example,

the flexibility acknowledged in the organization of one's own work, the promotion of important internal paths for professional development (so much so, that a majority of managers come from career paths within the company), the continual training offered, the international nature of the company with the possibility to undertake professional experiences at one of the group's foreign branches. All these are aspects that have characterized the company for many years.

In order to gather feedback from so many employees regarding personal and family issues, the most streamlined and effective tool we have identified is the online questionnaire. Thanks to this tool, general information can be quickly collected in order to guide feasibility studies and any subsequent implementations.

Agreements regarding reduced rates for employees were also renewed and extended for the following entities: three Medical Clinics, a local Travel Agency, an Insurance Agency, three banks, one music school and an English school. We added also a Nursery school and a host of other providers of goods and services of mutual interest (tire shop, mechanic, optician, hairdresser). Finally, an in-house cafeteria service with reduced prices continues to be available to employees, as well as favourable terms with regard to compensation for travel expenses and travel time, when comparing to the National Collective Bargaining Agreement.

# 3.3 / Customers

INglass has defined in its code of ethics the criteria of behaviour towards customers.

INglass promotes respect for the principle of impartiality and therefore rejects any form of discrimination in relations with customers. It provides transparent messages, communications and contracts, avoiding difficult-to-understand formulas and illegal or incorrect commercial initiatives.

INglass maintains high quality and safety standards and periodically monitors the quality of the service provided to the customer, pursuing maximum satisfaction, and promoting the continuous improvement of the quality of the offered products.

INglass aims to establish close and lasting relationships with its customers by providing them with high quality products and services that meet their needs and expectations.

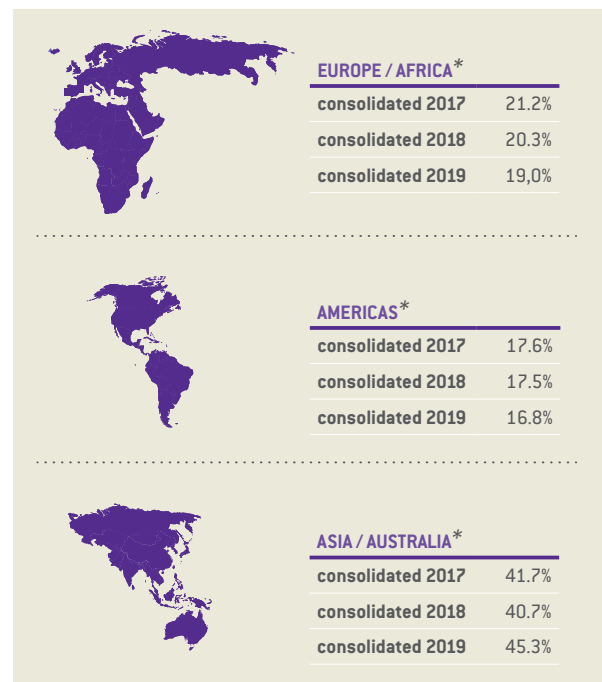
Employees are obliged to carefully listen to the customer's needs, without preconceptions, in order to anticipate requests and offer a wide variety of products and services. In particular:

- deal with customers honestly and transparently according to the procedures and instructions given
- provide high quality products and services that meet the customer's reasonable expectations and protect their safety and security by trying to innovate and improve the quality and safety of the products and services provided by the Company on an ongoing basis
- respect the truth in advertising, commercial or any other kind of communication
- respect the interests of customers and Company

TURNOVER	
	consolidated 2017* € 150.729.000
	consolidated 2018 € 130.171.000
	consolidated 2019 € 135.092.000

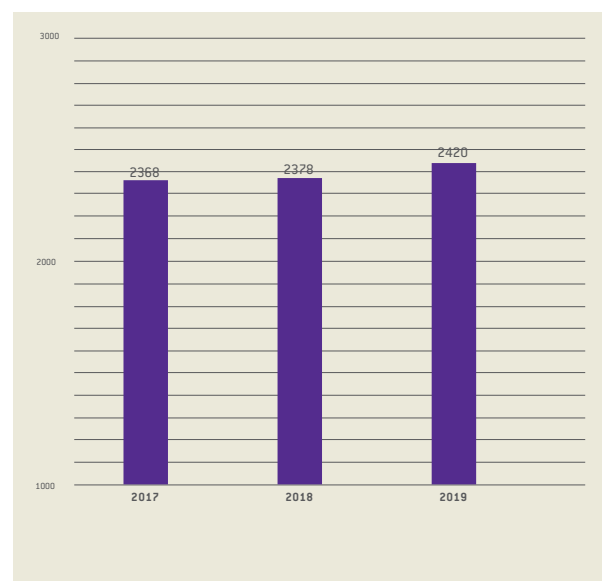
\*Turnover 2017 includes 23.190.000€ from Mold Division.

In 2019 the turnover from continuing operations (HRSflow) has been € 135 Million and the turnover for the mold division (sold during 2020) has been € 15.8 Million.



\*All the data refers to the turnover of the hot runner systems division.

## WORLDWIDE CUSTOMERS INglass GROUP



# 3.4 / Suppliers

INGlass has defined the behaviour criteria towards suppliers in its code of ethics.

About the supplier choice, it must comply with the current standards and internal INglass procedures envisaged for this purpose. The purchasing processes are based on the search for the maximum competitive advantage for INglass and on the granting of equal opportunities for each supplier. In the selection, INglass adopts objective and transparent criteria envisaged by current legislation and / or by the internal regulation without precluding, to any supplier company that meets the required requirements, the possibility of competing to win a contract with it.

In selecting the supplier, it considers its ability to guarantee the implementation of adequate corporate quality systems, the availability of resources and organizational structures and the ability to meet confidentiality obligations. INglass requires the supplier to comply with the standards of international labor agreements (so-called ILO) and the minimum objectives set by international and national regulations for health and safety in the workplace and for the environment.

The agreed remuneration is congruous to the performance indicated in the contract and payments are not made to a person other than the contractual party, nor in a country other than that of the contractual parties.

	CONSOLIDATED 2019
Services and Indirect Material	20%
Mechanical components based on our specification	25%
Commercial components	19%
Electrical and Electronic components	18%
Raw Materials	14%
Finished Molds	3%
Third Party	1%



# 3.5 / Community

INglass does not make contributions, either in Italy or abroad, to political parties, their representatives or candidates, and does not sponsor conferences or events that have political propaganda as their exclusive purpose, refraining from any pressure, direct or indirect, from exponents politicians.

The taking on of commitments and the management of relationships, of any kind, towards sports associations, foundations, non-profit organizations, non-profit organizations are managed by the company functions (staff) appointed and authorized according to the system of delegations, company procedures.

It is forbidden to pay the contribution by cash payment or similar payment method and it is forbidden to accept sponsorships without entering into a contract or express approval, of written acceptance of a contribution.

## 3.5.1 TRADE ASSOCIATIONS

Transparency and fairness are key and essential concepts in relationships with the community. Community for us means:

- Trade associations
- Schools and Universities
- Institutions
- Local community
- Press and media

From the end of 2016 we have been sponsoring the International Association Istma World, International Special Tooling and Machining Association. A body that groups together the main associations of moulders all over the world.



### ITALY

- CONFINDUSTRIA. We have been partners with Confindustria for many years, the main association that represents manufacturing and service companies in Italy, which are more than 150,000 companies of all sizes. The local association that we refer to is Unindustria Treviso.
- ASSOCOMAPLAST of Assago, Milan, renamed AMAPLAST in 2018, today groups 165 companies that manufacture equipment for the processing of plastics and rubber. AMAPLAST publishes the trade magazine Macplas, organising the Plast trade fair in Milan and provides training in collaboration with Cesap.



## BRAZIL

- ABINFER, National Moulding association Brazil. Founded in 2011 in Joinville, Santa Catarina. The association represents the Brazilian moulding industry at the national and international institutions, also providing training, technological and managerial consultancy services
- ABIMEI, the Brazilian Industrial Machinery and Equipment Importers Association was created in 2003 by capital goods import companies to represent and defend the point of view of the segment. It represents a sector that stimulates the development of Brazil, bringing technology and increasing competitiveness of product manufactured in the country. <http://www.abimei.com.br/en/home/>



## CANADA

- APMA, Automotive Parts Manufacturers' Association. National Canadian Association founded in 1952. Represent OEM component, equipment, machinery and service producers for the global automotive industry. The main purpose of the association is to promote the industry supplying OEMs in the automotive industry, both domestic and foreign. Its carries out business promotion, representation, support and organises periodic global marketing activities. The association also maintains constant relations with equivalent associations in other countries.
- CAMM, Canadian Association of Mould Makers. Canadian National Association founded in 1981. Represents mould manufacturers and promotes various activities (communication and field studies, innovation and new technologies and training) for the protection and development of local producer networks.





## USA

--- A.M.B.A - American Mould Builders Association. An association founded in 1973, it is involved solely in the part of the plastic industry dealing in mould manufacturers. Its members are companies that build moulds and dies for injection, blow, compression, thermoforming moulding and other moulding applications.



**American Mold Builders Association**

--- OESA Original Equipment Suppliers Association strives to foster collaboration throughout the supply chain and help members make critical business decisions. Its mission is to champion the business interests of automotive original equipment (OE) suppliers through industry events, peer group councils, research and analysis. Since 1998, the Association has been addressing issues of common concern and advocating on behalf of the supplier community throughout the supply chain and in Washington, D.C. OESA is a nonprofit trade association and one of four divisions of the Motor & Equipment Manufacturers Association (MEMA)



## CHINA

--- CDMIA, China Die & Mould Industry Association. Established in 1984, CDMIA is the only national association for this sector in China. Mainly consisting of individual firms that are voluntary members, research centres, universities, colleges and social institutions related to the world of moulds and moulding. It currently brings together over 1,500 members and has 50 branches in the individual cities and major industrial centres. CDMIA is a founding member of FADMA as well as a member of Istma/Fadma. Over the years CDMIA has established excellent relationships with important moulding industry entities in various countries and regions.



**中国模具工业协会**  
China Die & Mould Industry Association

## INDIA

--- The All India Plastics Manufacturers' Association (AIPMA) was founded by Industry visionaries 73 years ago. Through the years AIPMA has expanded and progressed by leaps and bounds in all fields of Plastics. Today the Head Offices are located in prime



locations such as Mumbai, Delhi, Chennai, and Kolkata. AIPMA works towards making India an International sourcing base for plastics, promotes plastics in compliance with National & International standards and Certifications like BIS, ISO, Six Sigma, Lean Management, National Manufacturing Competitiveness, Reach, etc. for the industry for an extensive use of Global Information Technology, sets up an Export Cell to provide information and assistance to all members with regards to plastics, fights against any national or international challenges confronting the growth of the Indian Plastic Industry, promotes membership through zonal regions especially the MSME Sector, organizes Training programmes for Blue collars as well as, skilled individuals in the plastic industry, promotes Plastics Cluster Development, remains alert on various environmental issues & anti-plastic campaigns. [www.aipma.net](http://www.aipma.net)

## GERMANY

- VDWF, Verband Deutscher Werkzeug und Formenbauer. The German moulding company, which was founded in 1992, groups the leading moulding companies present in the area. It lobbies and raises awareness of the requirements in the sector, offers cross services to members and represents a network of constant comparison and sharing between the companies in the sector.
- IKV, Association for the promotion of the plastic processing Institute. The association, based in Aachen, was founded in 1950 and now involves approximately 250 companies from the plastic sector, from all over the world. Its mission consists in protecting the competitiveness of the plastic industry in a growing global market. The members of IKV, through their cooperation with the institute, are able to benefit from new technological developments from the very first phases of applicability.
- SKZ, Das Kunststoff Zentrum. SKZ has been a partner of the plastic industry for over 50 years. SKZ, one of the major accredited institutes for quality certification, supervision of more than 900 products for more than 400 companies. SKZ also performs its own research



and development, it offers consultancy and training services for collaborators in the plastic sector. Its main headquarters are in Würzburg but it also controls many branches in other areas of Germany, in the UAE and China.

--- KUNSTSTOFF-INSTITUTE LÜDENSCHIED

The Kunststoff-Institut Lüdenschied was established in 1988. It is DIN EN ISO 9001 certified and has been equipped with an accredited test lab according to DIN EN ISO/IEC 17025 standards since 2000. The Institute collaborates with more than 100 specialists in materials, processes, tooling, surface engineering, process and testing technologies. They have 12 injection molding machines (8 of which are equipped with insert and parts removal automation), a Thermoset processing competence center, more than 100 devices for material, finished parts and surface testing, and many other instruments available for companies of the plastic industry. KI can support its members in the selection, development, optimization and realization of products, tooling and processes, across the entire range of plastics technology, in research and development, and in training.



--- KNF – the Kunststoff-Netzwerk association based in Franken is a platform to exchange information within the plastics industry. It aims to pool professionals in workshops and expert meetings, inform them about latest developments in our industry and to offer the possibility to build up a personal network within the association. All events are aimed at strengthening the companies' efficiency and, as a result of these activities, to increase their competitiveness.



--- ACS - Automotive Center South Westfalia. A network of companies and institutions that through a platform communicate, inform and work in committees, plan events and joint projects on the future topics of the automotive industry and automotive engineering. ACS is moreover closely connected to the Competence Center Vehicle Electronics (KFE) in Lippstadt and the AutoCluster.NRW, as well as to Europe-wide project partners and research institutes.



## PORTUGAL

- CEFAMOL, Portuguese Association of the Plastics Industry. Founded in 1969 by 7 companies in the plastics industry, it is now the largest national association and represents the interests of this part of the industry, in terms of relations with the Institutions and with other associations, both national and foreign



### 3.5.2 SCHOOLS AND UNIVERSITIES

For many years now we have been promoting activities and projects that aim to shorten the distances between students, schools and businesses, by investing in young people in the area, thus contributing to their education before the conclusion of their studies.

We believe that this school-company interaction is important in many respects: for the student, who is not yet familiar with the production world and its peculiarities and through these visits can gather ideas of insight and curiosity, and for the company, which through these meetings can convey the needs of the professional world to teachers and future workers, while also gaining a better understanding of the point of view of someone seeking their first job. Too often, unfortunately, there is indeed a misalignment between these two realities. Only a widespread and continuous collaboration such as this one can reduce the distances.

The main activity for running this project is the organization of meetings with the students. In Italy, during 2019, we welcomed the following visitors:

- students from the Gewerbliche Schule (Germany), which once a year brings their students to visit our company
- 5th year students from local technical high schools focused on mechanical, automation or plastics studies: Itis Galilei of Conegliano, ISIS Scarpa of Motta di Livenza, ITIS Kennedy of Pordenone.
- 2nd and 3rd year students from local middle schools

In 2019, we hosted 8 high school interns, 2 university interns, and collaborated with 1 graduating university students for the development of their final theses.

In 2019, in Italy, we've continued our collaborations with the

local university of Padua participating to "Open Engineering", an event for work orientation and meetings with enrolled and graduating students coming from technical and scientific departments.

### MEETINGGLASS



In 2019 the MeetINglass project organized multiple meetings inside and outside the company, in order to meet students and show them how their studies could be functional within a company.

At the beginning of the year we organized some training days in INglass with 16 students of technical institutes Galilei, Fermi and Scarpa. This project has the aim to reduce the gap between school and working world and it has been extended during the rest of the year to other schools and universities: Industrial Eng. Dept of University of Padova, Istituto Superiore Giorgi-Fermi (Treviso), CFP Lepido Rocco (Motta di Livenza).

MeetINglass means also relationships with school and universities through local events and HR fairs.

### 3.5.3 INSTITUTIONS

We have excellent relations with local and national institutions with regard to the exchange of documentation and requests as well as in the resolution of issues of misalignment in the daily conduct of bureaucratic activities. In regard to our factory in China, the Hangzhou Economic and Technological Development Zone (Management Committee and General Union) is the Body with whom we have main business relations. Our company pursues utmost transparency and fairness even with regard to our institutional interlocutor, providing clarifications and additional data whenever a justified request is submitted.

Relationships with **Cei Piemonte** (Foreign Centre for the Internationalisation), the first Italian regional body dedicated to internationalisation of the territory are still under way. Multiple Piedmont entities are associated with Cei (the Region, the Municipality, Turin's Polytechnic, Turin University and the Chamber of Commerce) and are a reference for local businesses who work or intend to work in foreign markets and for foreign interlocutors interested in learning about Piedmont's economic system. At Cei we have been selected in the "From Concept to Car" project a prestigious project, which admits only the most innovative companies.



### 3.3.4 LOCAL COMMUNITY

Every year we allocate a portion of our efforts to add value to the community in which we operate. Unfortunately, there are many needs and we therefore cannot contribute to them all. We do however, try to provide our support on a rotating basis to those initiatives that seem to us the most deserving. We are always ready to welcome new collaborations and support social projects. We do this not only through donations but also by offering tangible actions of support including activities that involve our internal staff and their families.

In fact, we believe that raising awareness on important social issues is just as important as providing economic support. Acting in an ethical and responsible way is not limited to "doing charity" but must also be reflected in the choices and daily actions of us all, with constant

attention and respect for the needs of those less fortunate.

In 2019 we also managed to provide a bit of support to some amateur sports associations in the area (soccer, basketball, karting, volleyball, cycling, handball, athletics) and to a few worthy cultural and social local initiatives such as Opera in Piazza, Let's study in English, "Nessuno escluso" a basketball project for disadvantaged children. For about three years we have also been supporting "**I bambini delle fate**", a social organization that since 2005 has been engaged in marketing, social communication and fundraising to support projects and pathways for social inclusion, managed by specialized local organizations, for the benefit of children and youth with autism and other diversities. INglass, among the projects sustained by "**I bambini delle fate**", supports the Association F.a.r.c.e.l.a. that works with disabled people implementing sport and cultural initiatives useful for their rehabilitation and involvement in the society <https://www.ibambinidellefate.it/>.





# ENVIRONMENTAL SUSTAINABILITY



Our processes are not considered activities with high environmental impact as we do not use products with high chemical risks. We accept and comply with environmental legislation, aware that respect and environmental protection not only concern the individual but also productive entities. For this reason, in any situation in which alternate company processes are proposed with equal end results, our choice falls on the one having the least possible impact on natural resources.

Raw materials (almost exclusively steel and copper), energy and water are at the base of our production process. Through the various stages of processing (internal and external) and surface treatments, we produce the finished product and production waste according to the diagram.

In brief, environmental impact concerns the consumption of energy, water and fuel, the storage and disposal of waste and packaging, and in a very limited way, due to the nature of our production, noise, air emissions and use of hazardous substances.

We are also fully committed to finding new technical solutions which offer energy savings, through:

- FLEXflow = a technology that allows customers to reduce the tonnage of their injection molding machines with significant energy savings in production. Thanks to this technology, it is possible to optimize polymer filling during the injection phase, resulting in a reduction of raw materials;
- The use of insulating materials and geometric profiles optimized for hot runner systems aimed at reducing thermal dispersion;
- Particular technical solutions to shape bioplastics, renewable materials to reduce the consumption of traditional materials;
- New molds and hot runner systems for the production of plastic parts with thinner walls, reducing the weight of the plastic parts and their disposal.

## INPUT: RAW MATERIALS

METAL, STEEL, COPPER, BRASS

ENERGY

WATER



## PROCESSING

TURNING

MILLING

ELECTRO-DISCHARGE MACHINING

LASER SINTERING

POLISHING



## OUTPUT: FINISHED PRODUCT

INJECTION SYSTEMS

## WASTE

REFUSE

WASTE WATERS



# 4.1 / Raw materials






Only raw materials authorized by European regulations are utilized in the production process at the Italian plant.

The steel used in all production plants is of European origin (Germany, Italy, France, Slovenia and Sweden). It is the main raw material used for the production of our product (87% of the raw material purchased).

Even if this sometimes results in a higher manufacturing cost, it guarantees a consistent level of quality in the final product.

The other raw materials used are: are copper, which in 2019 represented an average incidence of 1.6%, brass 5%, and tungsten 6%. The rest is made of various materials including aluminium, iron and special alloys.

In the packaging of our products we use wooden crates, cardboard and various materials for insulation and protection of the product within an exterior box. A polyurethane based foam secures the product firmly inside the box, to avoid damage during transport. We continue our commitment to increasing our use of eco-sustainable materials whenever possible. In fact, wooden crates and cardboard represent the largest quantity of packaging materials, amounting to 77% of the total packaging costs in 2019.

	<b>STEEL</b>	consolidated 2017	86%
		consolidated 2018	93%
		consolidated 2019	87%
	<b>COPPER</b>	consolidated 2017	4%
		consolidated 2018	2%
		consolidated 2019	2%
	<b>BRASS</b>	consolidated 2017	6%
		consolidated 2018	4%
		consolidated 2019	5%
	<b>TUNGSTEN</b>	consolidated 2017	2%
		consolidated 2018	1%
		consolidated 2019	5%
	<b>OTHER (TITANIUM, VESPEL, BRASS PIPE, PTFE BAR)</b>	consolidated 2017	2%
		consolidated 2018	0%
		consolidated 2019	1%

	<b>WOODEN CRATES</b>	consolidated 2017	73%
		consolidated 2018	75%
		consolidated 2019	73%
	<b>CARDBOARD</b>	consolidated 2017	7%
		consolidated 2018	5%
		consolidated 2019	4%
	<b>OTHER (POLYURETHANE, POLYSTYRENE, BUBBLE WRAP, CELLOPHANE)</b>	consolidated 2017	20%
		consolidated 2018	20%
		consolidated 2019	23%

Values shown in both tables refer to the value of the purchased product on total supply, not the quantity.

# 4.2 / Energy

All the production plants are powered mainly by electricity **drawn** from the national grid (for office activities, machine operation and hot water heating) and with thermal power stations fuelled by **methane gas**.



### NATURAL GAS

u.m.	m3
consolidated 2017	139.161
consolidated 2018	100.367
consolidated 2019	325.136



### ELECTRICITY

u.m.	Kwh
consolidated 2017	9.117.761
consolidated 2018	9.817.519
consolidated 2019	10.003.961



# 4.3 / Water

In the production plants, water, in addition to its sanitary use, is also used for some other processes, such as: fire safety, irrigation and cooling of factory buildings.

In Italy, all waste water other than for domestic use is collected in special tanks, in compliance with the EWC (European Waste Catalogue) classification codes. It is also differentiated according to the presence of oily emulsions and subsequently entrusted to third party companies authorized for proper disposal.



### WATER CONSUMPTION

u.m.	m3
consolidated 2017	29.098
consolidated 2018	28.159
consolidated 2019	29.695



## 4.4 / Environment protection & management of the environmental system

INglass is committed to improving its performance also in environmental sustainability. Therefore, in relation to its own specific activities, it contributes to the promotion and development of scientific and technological research, in order to develop environment friendly products and processes with an increased focus on safety, Employee health and the protection of communities where the Company operates.

The operational management of the industrial activities, in compliance with current legislation on prevention and environmental protection adheres to the most appropriate criteria for safeguarding the environment and energy efficiency, in order to reduce its overall environmental impact.

INglass guarantees constant and timely compliance with national and international environmental legislation, promoting and implementing all reasonable initiatives aimed at compliance with legal and regulatory obligations. The Company also guarantees that the development and growth of its operations in no way jeopardizes the protection of the environment.

### **EMISSIONS, NOISE AND HAZARDOUS SUBSTANCES**

INglass follows a recurrent emissions control and maintenance program conducted by authorized, external third-party personnel. Recurrent environmental noise analyses are performed in compliance with current local regulations for assessing risk to employees. Since the company does not perform noisy processes, it has not been necessary to carry on any additional analysis.

Following the chemical risk assessment performed at the company, substances are used and manipulated according to proper practices related to their specific level of danger.








### WASTE PRODUCTION AND DISPOSAL

Waste produced in the production plants is carefully collected and disposed of.

For the most part our waste is non-hazardous, due to the type of processing we perform. To date, there have never been any spillages or contaminations to the environment. The data reported was collected from the 3 global production plants.

Of the total waste produced at a consolidated level in 2019, 68% is recyclable waste, while 21% is considered hazardous waste according to the international CER classification codes, with an incidence nearly unchanged with respect to last year. Both rates are steady when compared to 2018 numbers.

The branches also collect and recycle waste coming from office activities, in compliance with the regulations in force in each individual host country, even if it is not possible for them to trace the quantities produced and disposed of.

	ITALY	Consolidated 2019
	Turnings & scrap steel	392,570 kg
	Oil	100,980 kg
	Wood recycling	56,360 kg
	Washing water	81,540 kg
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	USA	Consolidated 2019
	Turnings & scrap steel	72,270 kg
	Oil	3,344 kg
	Wood recycling	18,702 kg
	Washing water	41,186 kg
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	CHINA	Consolidated 2019
	Turnings & scrap steel	213,900 kg
	Oil	55,270 kg
	Wood recycling	ND kg
	Washing water	24,850 kg



**INglass S.p.A.**

Via Piave, 4 - 31020 S.Polo di Piave (TV) I.  
Tel. +39 0422 750111 Fax. +39 0422 750301  
[www.inglass.it](http://www.inglass.it) - [www.hrsflow.com](http://www.hrsflow.com)