



SEED:S

Social
Environmental
Economic
Development
Sustainability



Economic value

■ 4.1

Balancing on a coffee bean

Highlights

+9%
illycaffè's Added Economic Value at the consolidated level

more than **7,000** farmers involved between 2010 and 2016 with courses, conferences, technical visits

5.02 million euros investments made in the 2011-2016 period to monitor and support the green coffee supply chain



■ 4.2

Innovation and research

Highlights

397

patents, including 283 granted and 114 pending divided into 54 families, as at December 31, 2016.

4.8

million Euros in research and development in 2016

9

papers published in international scientific journals 8 poster communications presented and 7 lectures at important national and international scientific conferences

■ 4.2.1 illycaffè's approach to research and innovation

illycaffè's strategy for innovation is geared to creating sustainable value for stakeholders, by offering them high-quality products, solutions and services. This commitment was made possible through continuous investments in Research, Development and Technology, through relationships with strategic partners and, above all, through the professionalism, competence and passion of the people working for the company. For illycaffè, innovation comprises the following aspects:

- **continuous experimentation** in molecular biology to study the genetics of raw materials, in order to identify the coffee varieties and create coffee "gene libraries" in the ambit of product traceability;
- **interdisciplinary** approach: combining multiple disciplines: agronomy, physics, chemistry, biology, physiology, genetics and engineering, to achieve continuous improvement and innovation with a multidisciplinary and interdisciplinary approach.

This scientific and technological approach, and the use of science and technology, have marked the company throughout its history, contributing to its growth and success. Of the eight radical innovative discoveries which revolutionized the world of coffee in the last century, **three were invented by illycaffè**:

- in 1933, pressurisation (the preservation system that involves replacing the air inside the packs with high-pressure inert gas) was introduced, to enhance and maintain coffee quality over time
- in 1935, **illyetta**, the forerunner of today's professional coffee machines, reinvented the high-pressure espresso formula and made espresso machines a familiar presence in bars
- in 1974, the **paper pod**, the first single-serve system, went into production, allowing espresso to be exported to countries with no professional baristas.

In 1988 illycaffè also patented a system for digitally selecting beans, the bichromatic selector, which allows you to choose only the perfect ones, one at a time: all it takes is one defective bean out of the fifty that make up a cup of coffee to ruin it.

illycaffè's most recent innovation is Iperespresso: a system with a capsule that extracts the coffee in two phases, hyperinfusion and emulsion, with a high quality end result and a unique cream in terms of body and persistence.

The company's patent portfolio, as of December 31, 2016, included 397 registered patents, 283 of which have been granted and 114 are pending, subdivided into 54 families of patents.

■ REVOLUTIONS IN THE WORLD OF COFFEE

The 8 innovations that have revolutionized the world of coffee:

1. Pressurization (illy)
2. Espresso (illy)
3. Instant coffee
4. Decaffeinated coffee
5. Poly-paired flexible packing
6. Single-portion pods (illy)
7. Single-portion capsules
8. Ready to drink

■ 4.2.2 Research and technological development

The company leads the way in the research and development of innovative technology solutions thanks to its Research and Development Department, recognized as a center of excellence around the world.

Research activities are managed at two quality control centers, one in Trieste and one in São Paulo (Brazil), a research center at the headquarters and one

in the Science Park Area in Trieste, for a total of five integrated laboratories for the horizontal transfer of knowledge that are in contact with university centers. The department also comprises two product engineering units, the first focusing on durable goods, and the second on consumables.

The research center laboratories employ highly specialized researchers and technicians, namely, 5 chemists, 1 biologist, 1 molecular biologist, 3 engineers and 4 food technologists.

illycaffè research hubs:

AromaLab

- Founded in 1998 at the Science Park AREA in Trieste
- It carries out studies and research to distinguish volatile and non-volatile chemical compounds, to pinpoint the precursors of the aroma, to identify the elements that determine taste and body and the biologically active compounds and to evaluate the effects of the processes from the bean to the cup, including the potential use of byproducts.
- It identifies new methodologies for chemical and chemical-physical characterization
- It performs studies and research into methods and processes for product traceability, authenticity and safety
- ISO 17025.2005 certificate

SensoryLab

- Scientific study of the relationship between sensory stimuli (taste and smell) and the sensations they evoke
- Union of chemistry, physics and psychology
- Uses human and non-human sensors to catalogue the range of perceived odors and flavors
- Validation of products and processes
- ISO 17025.2005 certificate

illycaffè launched a major research project with the help of other partners to sequence the *Coffea Arabica* genome. This wholly unique project has opened the way to future scientific and agribusiness developments, involving all coffee producing and consuming countries and with economic ramifications for the whole supply chain.

The all-Italian research was carried out in collaboration with Lavazza by the Universities of Padua, Verona and Trieste and the Istituto di Genomica Applicata in Udine, and was coordinated by Professor Giorgio Graziosi of DNA Analytica Srl, a "spin-off" of the University of Trieste. The Arabica genome sequencing project meant that for the first time for this species, the genetic structure could be decoded, allowing the results to be organized systematically and therefore making them available for potential agronomic and industrial applications.

The sequencing of the Arabica genome will mean that agronomic practices can be improved and that the productivity can be increased. For example, it will be possible to ensure that the fruits all ripen at the same time, to identify the genes that make the plants more resistant to disease and infection, and to adapt cultivations to unfavorable environments.

BioLab

- The laboratory is divided into two Operational Units, dedicated respectively to microscopy and to genetics - molecular biology, this laboratory studies the substances present in coffee, as the seed and as the espresso drink, in terms of its genetic information.

TechLab

- Deals with technological development in the sector of packaging and pre-measured products, also with the aim of reducing the impact of packaging on the environment while maintaining its performance level.

FoodScienceLab

- It is dedicated to research into coffee-based foodstuffs and consumable products.

■ 4.2.3 Product innovation

The aim of illycaffè's continuous research and development is to improve consumer satisfaction by offering a unique sensory experience. This is translated into interventions on functionality, aesthetics, design, materials, comfort, pleasantness and the quality of the raw materials.

The main innovations in 2016



Soft-can

Innovation in illycaffè also means listening to consumers' needs: it was consumers, in fact, who inspired the creation of Soft-can, an important innovation in packaging and in the production process of ground coffee. Soft-can is the innovative system to refill the classic 250-gram tin can, pressurized to conserve the product's fragrance over time. In 2016 the innovation became fully operative: the production machinery is highly compact and verticalized, producing benefits in terms of production efficiency, as well as better control over the degasification process, which is more stabilized.

- In 2016, two LCA studies were carried out on this product:
- the first regarding the **environmental impact of packaging**, excluding the usage phase (study carried out as part of the work commissioned to the Politecnico di Milano on the Carbon FootPrint (ISO 14067:2013) of illy products);
 - the second, on the **environmental impact of the product** (through internal analysis)



Drip capsules

In 2016, production began on capsules that are compatible with the lperespresso system, for making caffè americano. The benefits of this innovation, in terms of sustainability, are:

- reduction of the plastic needed for the capsules;
- passage from the single-beverage system (espresso) to the multi-beverage system (espresso+drip);
- reduction in electricity consumption.



Cold Brew System

Cold Brew coffee is prepared by leaving the ground coffee to infuse in water at room temperature or cold for a prolonged period of time (10-14 hours).

illycaffè introduced this new system in 2016:

- It is a ground coffee pod, pre-dosed and packaged in filter paper contained in a poly-coupled casing to **make preparing it easier**, thereby obtaining the best flavor-aroma characteristics for the drink
- it is necessary to use a **dispenser** in all stages of the process: infusion, refrigerated storage, dispensing and pouring the Cold Brew Coffee drink
- A second type of dispenser can be used, which offers the possibility of making an "air" drink, by mixing in compressed air when dispensing to achieve a foam effect without the use of gas cylinders.

Capsule separator machine

Prototypes of a capsule separator machine have been developed and created that can separate a used lperespresso capsule into dry and organic waste. The system, designed to be installed in POS, allows the consumer to dispose of the used capsules correctly. 20 capsules can be loaded at a time making it easy to dispose of the separate waste collected into larger containers. Currently, the machines are used in some POS for functional and market tests.

Pillow Pack

In 2016, illycaffè developed, produced and marketed the pillow pack, a product consisting of two pods in filter paper with ground coffee, for drip-coffee preparation, packaged in vacuum-packed poly-coupled peel-open sachets. The target market is airlines, for coffees both in flight and in the lounges. The distinguishing feature of the product is its extreme ease of use in flight, as well as the excellent quality of the coffee,

Regarding coffee machines, over time illycaffè has introduced a series of models to respond to the needs of its clients and consumers and it has developed various preparation systems that combine the unique illy blend with the technology of machines which have been developed ad hoc. When the company introduces a new model, it also pays attention to innovation which can safeguard the environment and which is produced using non-polluting materials, maximizing the recyclability of the components, reducing consumption and paying attention to waste.

In 2016 the X1 anniversary machine was put into production. The machine has undergone important technological restyling, replacing the entire heating part, changing it from a brass boiler, to a steel thermoblock. This modification has the dual purpose of using a sustainable primary material inside the hydraulic circuit and generating greater energy efficiency due to the type of exchange, without accumulation, and the new control electronics.

■ SUSTAINABILITY IN MACHINES

When designing coffee machines, careful attention is always paid to reducing energy consumption:

- Full compliance with European regulations (illycaffè's are even stricter)
- Improvement in energy performance.
- Full compliance with disposal regulations (WEEE) as all materials are recyclable.



THE INNOVATIONS INTRODUCED IN RECENT YEARS

2004



IPERESPRESSO CAPSULES

The Iperespresso system combines a coffee machine with innovative capsules. The extraction system is based on a special extraction chamber protected by 5 international patents.

2009



X1

X1 second model of home machine coffee maker, made of top level performance steel.

ILLYCREMA

Frozen soft coffee ice-cream made with 100% Arabica illy espresso coffee and ice micro-crystals, without hydrogenated fats, colorants or preservatives.

2011



X2.1

X2.1 evolution of the X2 model, equipped with thermo-block technology and in compliance with the norms relevant to the emission of heavy metals.

Y1 TOUCH

Y1 touch, an evolution of the Y1 with soft-touch control panel and electronic management.

Y2

The new capsule machine for the Ho.Re.Ca. channel.

2013



Y5

New Iperespresso home coffee machine with automatic drain, an extension of the "Y" series.

X7.1

Limited Edition. Limited edition in fluorescent colors, designed for the Christmas seasonal campaign of 2013

2015

MOKA PULCINA

Thanks to the internal shape of its special boiler, Pulcina automatically stops dispensing the coffee with precision timing, thus avoiding the minor eruptions in that final stage of extraction that can leave a burnt, bitter aftertaste, and ensuring that the coffee emerges at its best, with the full rounded aroma intact.

YP1

The new professional YP1 machine developed by illy and Cimbali grinds perfectly, espresso after espresso, thanks to Bluetooth technology: it checks the time it takes to dispense the coffee, and if necessary, sends a reminder to the Conik grinder to correct it. The technology uses 25% less electricity than the previous model.

2007



X2

The first professional Ho.Re.Ca. machine with boiler, using Iperespresso capsules.

2008



X7

The first home machine with boiler, using Iperespresso capsules.

IDILLYUM

The first type of mono-variety coffee with a low level of natural caffeine, possessing a unique and refined scent.

ILLY ISSIMO /READY TO DRINK

A ready-to drink product for consumption away from home. Without additives, colorants and preservatives, illy Issimo is the result of the cooperation between illy and The Coca Cola Company and allows you to enjoy the best quality coffee in the form of a chilled ready to drink beverage.

2010



X7.1

X7.1 is the evolution of the X7 model, using boiler technology in compliance with the norms relating to the emissions of heavy metals.

Y1

Y1 home machine coffee maker using Iperespresso capsules, made of aluminum and glass, equipped with an automatic system for the expulsion of capsules. With thermal control and electromechanical commands.

2012

X7.1 E Y1.1 TOUCH

Evolution of the machines according to the ErP regulations on energy consumption.

DOUBLE ADAPTER

kit for Ho.Re.Ca IPSO capsules for professional ground coffee machines

2014



Y5 MILK, X9 AND KISS

new models of the Francis Francis for illy coffee machines

REFILLY / SOFT CAN

a refill designed to reduce environmental impact

SINGLE-SERVE ESE POD

for reduced primary, secondary and tertiary packaging.

IPERESPRESSO CUBE

Created to replace the can and reduce the packaging's environmental impact

2016

COLD BREW SYSTEM

ground coffee to be infused in water

PILLOW PACK

Pods in filter paper for drip-coffee preparation

■ 4.3

The supply chain

The sustainability of the green coffee chain creates an element of competitiveness and value for society and future generations. This is why illycaffè protects the raw material of its business, green coffee, and **safeguards every phase of the production chain with a view to sustainability.**

To obtain top-quality coffee, illycaffè works closely with farmers in the countries where the prized Arabica is grown. In fact, the quality doesn't only derive from a final selection, but from knowing every participant in the supply chain.

Over the past 25 years, illycaffè has implemented a system of direct relations with its suppliers, based on three pillars:

- selecting and working with the best producers, in other words those who are willing to constantly improve;
- transferring their knowledge and motivating them to create quality;
- economically rewarding the quality they achieve and encouraging their constant improvement.

The investment for monitoring activities and support to the green coffee supply chain amounted to 266,700 Euros in 2016, for a total of 5.02 million Euros since 2011.

This sustainable approach is audited by DNV GL, an independent, third party body, through the Responsible Supply Process certification, which certifies that illycaffè:

- adopts a direct approach for its purchases and traceability all the way to the producer, unless institutional barriers exist, as in the ECX market in Ethiopia;
- transfers knowledge to the green coffee supply chain in order to constantly improve the quality of the product;

- guarantees a price higher than the average market price to reward producers for the superior quality produced.

illycaffè is the first company in the world to have received, in March 2011, the "Responsible Supply Chain Process" certification, which designates a crucial role to the quality achieved and the ability to create value for all stakeholders along the entire green coffee supply chain.

The company decided to undertake this commitment to introduce the most suitable management solutions and evaluation systems able to detect and properly communicate the creation of responsible value along the entire supply chain.

The strategic orientation at the basis of this certification is based on principles of traceability, cooperation and quality.

The "Responsible Supply Chain Process" certification does not involve any direct costs for coffee producers: illycaffè bears the overall expenses for certification activities and inspections, including those carried out at the producers' farms.

■ 4.3.1 The illycaffè model for a Sustainable Supply Chain for coffee

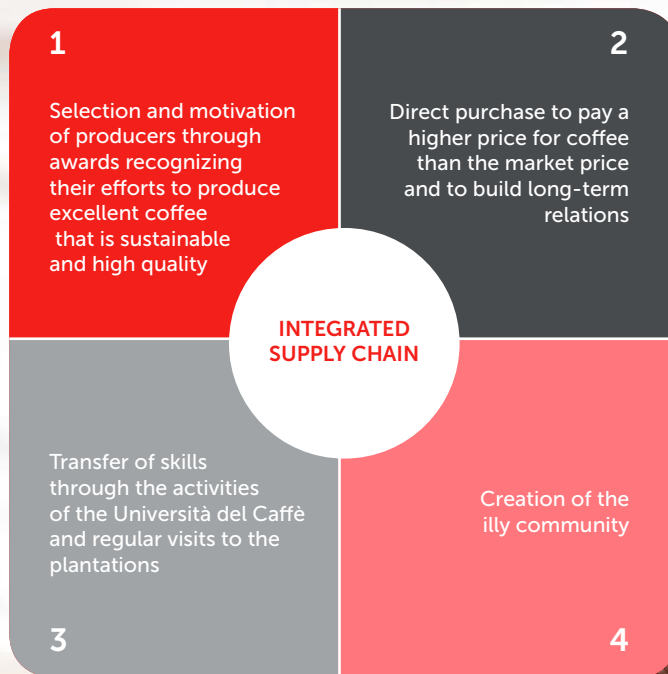
The green coffee supply chain is marked by various processing phases, from the separation of the seeds from the fruit, to the export of the products. The aim of illycaffè is to ensure traceability and quality of raw materials throughout the chain and to manage the relationship between producers and the environment on the basis of the principle of territoriality. This means establishing long-lasting and direct partnerships with the communities and parties in the green coffee supply chain, through increased involvement of producers and investment in education and awareness-raising based on local needs and demands.

The people involved in the supply chain are:

- **growers:** who work on small plots of land (1-2 hectares) and can conduct some preliminary processing of the harvest;
- **producers:** companies (medium and large-sized groups, cooperatives and growers) process the harvested coffee, such as sorting, washing, drying.

- **exporters:** they purchase green coffee from the cooperatives, sort the coffee directly at the producers' farms and create commercial lots on the basis of their clients, dealers or roasters. They know the areas of production and the local producers and this is a guarantee of traceability and quality of the raw materials. They are involved in checks and supply chain activities, in keeping with an integrated supply chain approach.

illycaffè also works in collaboration with local institutions, including Government Agencies (e.g. Coffee Boards in African Countries and India), Institutions (e.g.: ICO), research organizations (e.g.: which permit monitoring of operational activities and help promote the principles of sustainability within communities.



TRACEABLE AND GUARANTEED SUPPLY CHAIN



■ 4.3.2 Responsible supply chain process

Since 2011, illycaffè has certified the supply chain management system adopted by the company for the supply of green coffee, with the adoption of the standard requirements defined by the "Responsible Supply Chain Process" (RSCP) developed by DNV GL, an independent certification agency. DNV GL started from the supply chain model developed by illy and integrated this model with the current and emerging guidelines relevant to sustainability and entrepreneurial responsibility, within the framework of reference standards applied in certification and accreditation procedures.

In recent years, the company has worked to safeguard systems - both natural and social - in which people are treated with equity, dignity and respect, the environment is preserved and restored, and suppliers are compliant with rules and awarded for the quality and sustainability of their business. The strategy chosen to achieve the objectives is diversified according to the supply chain. The RSCP is applicable to every actor in the illycaffè supply chain, not only on the level of farms.

illycaffè's certification system is in line with the main international standards governing child labor, forced labor, fair wages, trade unions, multinational companies, and pollutants.

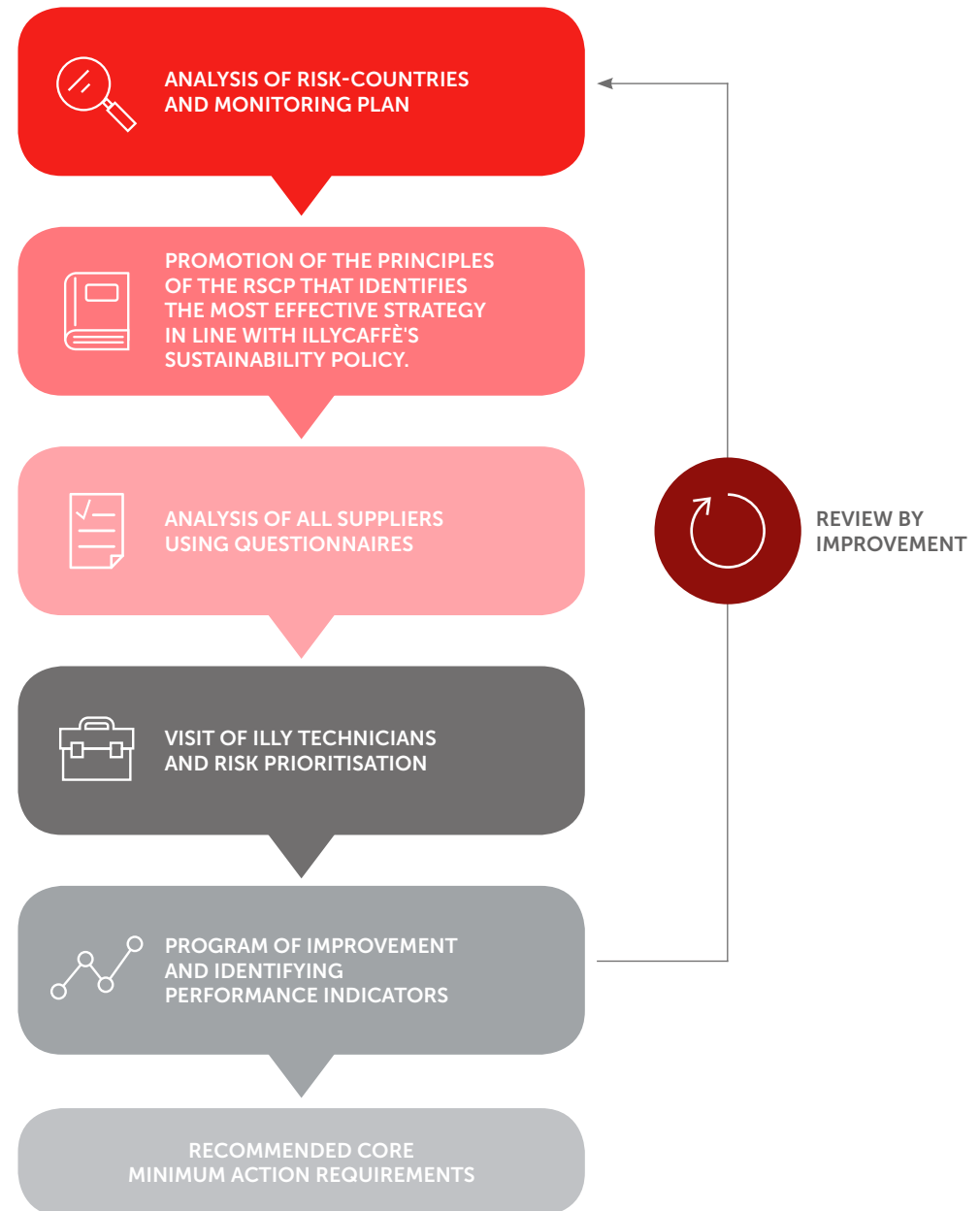
The standard applied to the supply chain of green coffee implies a strict monitoring of all suppliers on behalf of the company, in addition to a continuous control of compliance with the minimum requirements of working conditions (fundamental requirements in order to maintain relations with the company). Standard requirements are based on the monitoring of the following areas:

| AREA | REQUIREMENTS |
|-------------|--|
| ENVIRONMENT | <ul style="list-style-type: none"> • Use of soil • Water management • Water quality • Impact on local community • Biodiversity |
| CONDITIONS | <ul style="list-style-type: none"> • Agronomic practices used • Equipment used in the production phase • Working conditions • Risk of accident or injuries • Capacities and competencies of workers |
| PRODUCTS | <ul style="list-style-type: none"> • Use of active ingredients • Agronomic practices used • Equipment used in the production phase and working conditions • Hygiene |



IT'S ALWAYS A
SUPPLY CHAIN
MATTER.

The procedure followed by illycaffè to monitor the supply chain and identify improvement actions to share with producers is summarized in the following table:



Since the end of 2013, illycaffè formulates and updates a document dedicated to risk assessment through the analysis of the following risks: environmental risks, business ethics risks, employment risks and product risks, with an evaluation of risks carried out in each country and within the company supply chain. This analysis allows it to improve the monitoring process, in particular regarding the points on which it must focus its future actions. Control activities and periodical inspections are part of the process, with the aim of improving the performance parameters of the company's supply chain. These parameters can be summarized as follows:

- **Minimum action requirements:** the minimum number of requirements providers must respect, non-compliance results in the temporary exclusion of the supplier
- **Key Performance Indicators:** describe the supply chain of the company and are divided into:
 - Core KPI: requirements which go beyond existing minimum legal requirements, but are of crucial importance to the company;
 - Recommended KPI: requirements which are not mandatory by law but highly enabling.

KPIs are important for illycaffè for the evaluation of its performance in relation to the supply chains. On the basis of the findings, the company creates more specific objectives and identifies the most appropriate actions according to the targets identified. illycaffè is committed to periodically reviewing and reformulating these requirements, so that they are consistent with local changes, which are generally gradual and observable only in the medium to long term.

Monitoring the supply chain

The monitoring and evaluation of suppliers are crucial activities for illycaffè: on the basis of the requirements included in the Responsible Supply Chain Process, which include among others, environmental issues, and aspects relevant to human, social and labor rights, the company identifies new programs and initiatives to broaden the culture of sustainability and the quality of the supply chains involved.

Special attention is paid to monitoring the first phase of sourcing the raw material: the farmers. In 2016, 298 field visits to producers and 8 to beneficios secos were conducted. That equates to over 40,585 hectares covered.

The sources monitored were, in decreasing order of number of visits: Brazil, India, Colombia, Nicaragua, Honduras and Guatemala. The farmers are sampled based on illycaffè's risk assessments (at country, supply-chain and organization level), on the volumes purchased, and on the outcomes of previous monitoring cycles. Since the beginning of the program, more than 1,900 producers have been directly visited and controlled. After years of controls, the realities of certain countries like Brazil are well-known and thus, the KPI isn't the number of producers controlled, but studying how to add value to a supply chain which is already mature.

From 2010 to 2016, through direct actions (training courses) and indirect actions (organization of or participation in conferences) over 7,000 participants have been reached by illycaffè.

In view of illycaffè's strong commitment to implement a chain of sustainable suppliers, 100% of the purchases made from first and second level suppliers (exporters, cooperatives and associations) is in compliance with the company's procurement policies. Regarding third-level suppliers, the farmers, 90.2% of them respect the Responsible Supply Chain Process requisites. Considering the volume of purchases, following the monitoring of the farmers, illycaffè created specific initiatives to prevent sustainability risks: 0.1% non-compliances were found, concerning violations of environment and labor laws that were tackled with direct action.

Updating the monitoring system

The monitoring system for the evaluation of suppliers is constantly subject to revision and improvement, in order to properly cope with the increase in purchases in Latin America and Africa, where the production supply chain is more fragmented and where small coffee growers contribute with minimum quotas to create shared commercial lots, which cannot be determined beforehand.

In places where the offer of raw materials is highly fragmented, knowledge of the territory comes through controlling 100% of the second-level suppliers (farmers in associations), with an assessment of their work through visits to at least 10% of the individual growers who participated in the creation of an "illy plot of land".

Mapping the territory enables local projects to be researched and implemented that can understand and manage the needs of the farmers' communities. This is possible thanks to the careful and meticulous choice of suppliers that illycaffè adopts in its field, the synergy with their sustainability activities and the relationship with local institutions.

■ 4.3.3 illycaffè's role in developing the supply chain

illycaffè formulates and implements initiatives for the transfer of know-how to the green coffee supply chain and promotes activities of study, research and innovation in order to improve the knowledge of coffee. In addition, the company fosters the improvement of the living and working conditions of the farmers.

Initiatives conducted in 2016 include:

- "The agribusiness and global challenges of coffee": webinar organized in April 2016 through the Università del Caffè – Brazil, dedicated to identifying the challenges which coffee production will have to address in the future. The course had 230 participants and recorded 592 views online in subsequent months.
- "Dia do campo": a day course for Brazilian farmers looking in more depth at the production of quality coffee; 51 producers took part.
- "National and international market for high quality coffee", a presentation organized in May 2016 as part of "Encontro de Inovação e Tecnologia para a Cafeicultura do Cerrado Mineiro". 450 people took part, mostly Brazilian producers.
- Intensified training activities through PENSA online courses (viewable at <http://universidadedocafe.com/>). In 2016 new educational courses were added that looked at the following topics:
 - Integrated management of pathogens and harmful insects in coffee plantations
 - Requirements of Brazilian farms to comply with the new laws concerning agriculture and forestry.
 - Treatment of process waste water
 - How to make a quality coffee
 - How to note production costs
 - Creating and giving added value to green coffee
 - Contamination risk for coffee from phytosanitary products. How to manage them
 - Associations in coffee growing
 - New trends in the world of coffee
 - Climate change risks: what can be done?
 - Basic course on agribusiness

A number of courses were subtitled in Spanish to broaden the user base to technicians in Costa Rica, Colombia, El Salvador and Nicaragua, as well.

Brazil

Still in Brazil, a free course was organized for 36 expert sorters, who will work alongside producers regarding illycaffè quality requirements. The company pays great attention to the theme of the "best coffee nature can provide," to the point that various publications have been dedicated to good practices to reduce the use of phytosanitary products.

The Università del Caffè has published various articles in "Quadernos da Universidade", an important information tool. There are various themes discussed:

- different possibilities in coffee production and consumer behavior;
- description of the drivers in coffee production;
- risk assessment of coffee contamination due to the use of pesticides in farming
- Contract strategies for the supply of high quality coffee.

The company continues to pay attention to the environment, viewed as a complex system which must be considered through a holistic approach. After research conducted with Delta CO2 on quantifying the presence of carbon and nitrogen stored in soil, following changes in soil use in the coffee growing areas in Minas Gerais, in 2016 research estimating the amount of carbon stored in biomass and quantifying the levels of macronutrients (N, P, K, Ca and Mg) in plant tissue in Cerrado was carried out.

With this illycaffè completed its first round of studies into greenhouse gas emissions from green coffee production, into the soil level incidence in terms of fixed carbon, and into the amount of carbon stored at plant level.

India

In the face of a legal deregulation of farms and the presence of unregistered immigrants (Assamese labourers) in previous years, illycaffè has intensified the selection and evaluation activities of suppliers, requiring better protection for workers in the field of labor law and regularity.

Central America

The supply of raw materials from small producers generally involves management complexities due to the recognition of legality and unregulated labor. These situations derive from more sensitive operations in areas that are constantly exposed to economic risks and are more likely to entrust harvest work to the best bidders.

Awareness of this leads illycaffè to look for projects where it can work with the most virtuous suppliers, who are also assessed also on sustainability issues, in whom the company invests, promoting culture and awareness in the coffee communities. There are several initiatives like this:

- Collaboration with Positive Planet to draft a manual on financial management to educate farmers.
- Intervention in Honduras at the conference "Sostenibilidad en la Caficultura Hondureña - April 19-20, 2016 " by talking to the audience of technicians in Honduras about illycaffè's requirements in terms of sustainability.

- Training courses about the sensory, visual and olfactory analysis of green coffee samples in countries such as Honduras, Nicaragua and Colombia, involving 26 laboratory technicians. The activities were divided into three sections: roasting in compliance with the illycaffè profile, tasting and visual analysis/olfactory analysis.
- Thanks to its great success, in Colombia the second three-year leg of the Reforestation at Tamara project was launched. Educational programs relating to the project roused the enthusiasm of producers who have started to recycle waste in the field, understanding the importance of recycling, reusing and cooperating in their daily lives. The second phase is the goal of intelligent water management.

As regards Africa, illycaffè launched the second part of the project with UNIDO, with the aim of educating and raising awareness among farmers.





■ THE SUSTAINABLE SUPPLY CHAIN: THE ACTIVITIES OF THE ERNESTO ILLY FOUNDATION IN SUPPORT OF ILLYCAFFÈ

“Master’s Degree in coffee economics and science Ernesto Illy”

A second level university Master’s degree promoted and organized by a group of partners of excellence in education: Cambridge University, the University of Trieste, the University of Udine, the Ernesto Illy Foundation, illycaffè, the Università del Caffè, SISSA - Scuola Internazionale Superiore di Studi Avanzati di Trieste, the Consortium of molecular biomedicine (Area Science Park – Trieste), the coffee industrial district of the Province of Trieste (Trieste Coffee Cluster). In recent years, interest in the Master’s degree has grown, particularly on the part of the future generations of producers and people who want to launch a career in the world of coffee.

Collaboration with the El Zamorano University

On May 17, 2016, the convention between the Ernesto Illy Foundation and the El Zamorano University (Honduras) was signed with the aim of introducing the topic of coffee to the Panamerican University study program, which offers university courses mainly dedicated to the agricultural and agri-industrial sectors. The convention lasts 3 years (academic years 2016, 2017 and 2018), during which time students enrolled in the 3rd and 4th year of the ordinary university course offered by El Zamorano will be able to enroll in the optional module on coffee called *Asignatura Adicional de Café* (30 training hours). The module will be offered three times a year, once per term. The *Asignatura Adicional de Café* comprises composed of 5 modules held by teachers who are graduates in Master’s in Coffee Economics and Science - Ernesto Illy.

Reforestation in areas with water sources

The reforestation project in the region of Tamara (Colombia), with native trees near water sources has been extended to 2020, given the good results achieved: 69.2 hectares were conserved and reforested with 15 different species for a total of 12,290 plants/native trees planted. Direct beneficiaries were 80 families of coffee farmers and 320 people were indirectly involved. The goal is to increase the area concerned, involving 200 families of farmers, with whom water usage practices during the coffee processing process can also be improved. The project also aims to get two schools in the area involved in terms of environmental and recycling education.

Computational Science on Coffee in collaboration with the Jülich Research Center in Germany

The collaboration between the Jülich Research Center and the Ernesto Illy Foundation involves the creation of a position as assistant professor in computational research in coffee science. It promotes the development and application of computational molecular simulation methods to respond to topical issues in coffee research at the molecular level.

Collaboration with CIRAD

The collaboration with the Cirad international research institute aims to develop a preventive warning system for coffee rust (*Hemileia vastatrix*) in Central America, within the framework of the PROCAGICA project (Programa Centroamericano de Gestión Integral de Roya de Café). The development program is subsidized by the European Union and aims to tackle climate change and its environmental effects by adopting and applying adaptation, mitigation and disaster risk reduction methods.

Positive Economy – “Positive Coffee Observatory”

The aim is to measure the contribution made by the coffee sector to a positive economy and to evaluate the sector’s evolution over the next few years in terms of “positivity” by providing a positivity index of the coffee value chain in a transparent, transmissible and operational way, for all coffee production communities and implementing important projects for the development of the coffee value chain. The pilot project (2016) began with the implementation of a positive observatory on coffee in three production countries: Ethiopia, India (Karnataka) and Guatemala.

■ 4.3.4 Awards and incentives for producers

The company recognizes and rewards the quality of coffee through several initiatives and awards. In this way, not only does it create the conditions to obtain excellent raw materials, it also stimulates the entrepreneurial and cultural growth of producers, transferring and adopting the fundamental principles of sustainability.

Some of the most important initiatives that illycaffè has undertaken to reward the quality of producers include:

Prêmio Ernesto Illy de Qualidade do Café para Espresso

This initiative awards sums of money to foster rural and environmental development of large regions of Brazil. Since 1991, the year illycaffè introduced the award, over 10,000 producers have participated in the initiative, with a total of funding of approximately 4.5 million reais distributed. illycaffè also awards the Best Supplier of the Year in Brazil, on the basis of the performances achieved in terms of quality, punctuality of delivery and sustainability. The award includes a journey to Italy for the winners and their families, with a visit to the company headquarters.

Clube Illy do Café

Created in 2000 to strengthen relations with the best coffee producers in Brazil and to promote best practices for coffee cultivation. 432 producers were admitted to the Clube in 2016 and received fidelity cards, which vary according to the length of the supply relationship and the quality of their products.

Producers acquired knowledge and competencies on new sustainable and responsible agricultural practices: the know-how and the capabilities at their disposal, thanks to illycaffè, can thus be valorized on the market, even independently of their supply relationship with illycaffè. Research conducted by the Durham Business School, describes and analyzes the evolution of the **decommoditization of coffee quality** in Brazil: small modifications introduced in the Brazilian coffee market have produced significant long-

term changes in the overall trends of the sector at the global level. The research evidenced how the creation of an Award can lead to a progressive revaluation of green coffee (decommoditization), and to the development of a network of producers of excellence. Furthermore, the research pointed out that companies can contribute to the modification of existing equilibriums in a market and trigger virtuous mechanisms, the so-called "butterfly effect," which produce profit in a long-term strategy, able to bring together quality and sustainability.

Fair profit for farmers

illycaffè calculates the minimum fair price for the coffee it purchases through a complex series of variables. This approach has been developed through years of experience and close collaboration with the farmers. These variables include the country of origin, the type of market, the quality of the product, and the production costs.

illycaffè pays its farmers an average of 30% more than the market price.

This margin repays the producers for the extreme care they dedicate to their cultivations and guarantees them a profit, even when the price of green coffee decreases on the international market.

International Ernesto Illy Coffee Award

With this award, established in 2016, illycaffè recognizes coffee makers' commitment to quality and sustainability, underlining the importance of working with them together, hand in hand, to continue to pursue the company's dream of providing the best coffee in the world. The illy quality laboratory in Trieste has identified the 3 best batches of coffee from the 2015/2016 harvests in the 9 coffee producing countries that are most representative of the unique illy blend. For the first edition, the countries were Brazil, Colombia, Costa Rica, El Salvador, Ethiopia, Guatemala, Honduras, India and Nicaragua. An international jury chooses the coffee that, from the 3 best batches, represents the best of each country, and an external international jury selects the winner.

■ 4.4

Economic added value

During 2016, even though global economics failed to take off, the company was able to increase revenue, in terms of profitability and in financial terms. **Production value rose approximately 3.4%** on 2015, mainly because of higher sales volumes and the exchange rate. In short, the economic-financial data for 2016 shows slight falls in the gross operating margin (EBITDA) and the net operating margin (EBIT) compared to 2015 and a higher overall net income, compared to the previous year.

As illycaffè has applied, when drawing up its financial statements, the new OIC accounting standards (updated following the new items introduced by Legislative Decree 139/2015, which takes into account the Accounting Directive 34/2013/UE), the figures for the previous financial year have been republished.

| | 2015 | 2016 |
|---------------------|-------|-------|
| ROI | 14.7% | 12.4% |
| ROE | 14.4% | 12.9% |
| ROS | 8.2% | 7.1% |
| PFN/Ebitda | 1.75 | 1.9 |
| PFN/Equity | 1.06 | 0.94 |
| Number of employees | 1,177 | 1,269 |

illycaffè, in order to make it the economic value clear that the business activities generated and distributed to some important stakeholder categories, uses the Distributed Economic Value parameter (from this year the Global Reporting Initiative scheme is applied, to keep closer to the international standard).

The assessment of Added Value allows the company to evidence its capacity to generate wealth, in the period of reference, to the advantage of the various stakeholders, in respect of the economic management and expectations of the stakeholders themselves. As of December 31, 2016, the distributed Added Value of illycaffè, at a consolidated level, equaled 432.3 million Euros, a slight increase on 2015.

| ITEMS(data in Euros) | 2015 | 2016 | VAR 2016-2015 |
|--|--------------------|--------------------|------------------|
| ECONOMIC VALUE GENERATED DIRECTLY | | | |
| a) Value of production | 453,261,101 | 468,586,893 | 3.4% |
| b) Financial income | 14,008,055 | 1,980,899 | -85.9% |
| (A) Total economic value generated directly | 467,269,156 | 470,567,792 | +0.7% |
| ECONOMIC VALUE DISTRIBUTED | | | |
| a) Operating costs - Suppliers | 306,705,440 | 305,461,605 | -0.4% |
| b) Personnel costs | 85,042,515 | 93,836,164 | 10.3% |
| c) Credit and risk capital | 17,456,396 | 17,454,360 | 0.0% |
| d) Duties and taxes - Public Administration | 16,313,388 | 13,672,985 | -16.2% |
| e) Donations and membership contributions | 844,770 | 861,304 | 2% |
| (B) Total economic value distributed | 426,362,509 | 431,286,418 | +1.2% |
| (A-B) ECONOMIC VALUE WITHHELD | 40,906,646 | 39,281,374 | -4% |

The chart shows the relationships between the company and the related social-economic system with which it interacts, with particular reference to important **selected stakeholders**:

- **Suppliers:** remuneration due to the purchase of raw materials and other management services;
- **Human Resources:** direct and indirect remunerations of collaborators (employees and non-employees);
- **Public administration:** funds disbursed for payment of taxes and duties;
- **Financers:** remuneration of risk and credit capital;
- **Community:** membership fees and donations.

From the economic value produced and distributed in 2016 (433.3 million Euros) by illycaffè at consolidated level it emerges that:

- The most significant share, **70.8%**, is intended for the remuneration of **suppliers**, in particular the management of the operational and managerial services and the purchase of raw materials.
- **21.8%** is destined for pay for **Human Resources**. This expenditure includes all the items indicated in the specific contractual clauses and a series of expenses incurred by the company, such as the expenditures for training activities and for the management of internal cafeteria facilities.

- **Financers** received 4% of the economic value, consisting of dividends for parent group shareholders for a total of 8.3 million Euros, third party profits and financial charges.
- **3.2%** of total Added Value has been dedicated to the Public Administration (state and local bodies) for duties and taxes.
- **0.2%** was donated to the community in the form of charges for social utility (the information is primarily relevant to contributions from illycaffè S.p.A. (Italy) to the Ernesto Illy Foundation) and in the form of membership fees.

