illycaffè’s Approach to Innovation and Research

Highlights

304 field visits to 304 producers and 20 exportable green coffee processing/selection facilities. In terms of surface, direct audit activities were performed on plantations of over 35,715 hectares

1,100 Coffee growers involved with courses and conferences in 2017

+1.7% Increase of Consolidated Economic Value distributed, compared to 2016
The scientific and technological approach is a founding value of illycaffè and, as such, it marks the company’s history, contributing to its growth and success. Of the eight radical innovations that in the last century revolutionized the world of coffee, three are illycaffè’s:

- in 1933: **Pressurization** (preservation system whereby air is replaced with high-pressure inert gas in the can) to maintain the freshness of coffee and to enhance its aromas;

- in 1935: **illetta**, the ancestor of current professional coffee machines with the **high-pressure espresso formula**, fostering the dissemination of espresso machines in coffee bars;

- in 1974: **E.S.E. pod**, the first portioned system, created to export espresso in countries with a shortage of highly skilled baristas.

Moreover, in 1988 illycaffè patented the system for the digital sorting of coffee beans – the **bichromate sorter** – which allows the company to pick only perfectly ripe beans. In fact, it takes only one defective bean, out of the fifty necessary to make a cup of espresso coffee, to compromise its quality. Lastly, illycaffè’s most recent innovation is **iperspresso**, a capsule system that extracts coffee in two phases – hyperinfusion and emulsion – giving rise to a unique qualitative result and an extraordinary rich and velvety crema.

The company is constantly at the forefront in the research and development of innovative technological solutions thanks to its **R&D Department** – whose work is described below – which is recognized as an international excellence center.
It performs studies and research on the characterization of volatile and non-volatile chemical compounds as well as the identification of aroma precursors and substances that determine flavor and body. The laboratory studies also methods and processes for product traceability, authenticity and safety purposes and the reuse of processing waste.

By integrating chemistry, physics and psychology, the laboratory focuses on the scientific study of the relationship between sensory stimuli – taste and smell – and evoked sensations. Like Aromalab, also Sensorylab has ISO 17025.2005 certification, General requirements for the competence of testing and calibration laboratories.

It performs research on coffee-based foods and consumer products.

It studies technological development in packaging and portioned products, also to reduce the environmental impact of packaging materials while maintaining their performance levels.

Divided into two operational units, devoted to microscopy and molecular genetics/biology, this laboratory, this laboratory studies the genetic information in both green coffee and espresso coffee.
The main areas of innovation for illycaffé are related to the circular economy, with its focus on environmental sustainability, effective use of materials and maximization of waste recovery. This means acting on the function, look and design, materials and practicality of the products, without compromising their pleasantness and quality.

Product planning and design allow the disassembly for recovery and reuse of the different components. The research is increasingly devoted to compostable and green-based materials while the development of new technologies is intended to reduce the wear and tear and durability of machines.

Following the life-cycle assessment conducted last year, the company has reached a higher level of awareness regarding the impact of its products and processes, which prompted it to implement improvement plans for the reduction of processing waste, without undermining the high-quality standard.

In 2017, in collaboration with AromaLab, SensoryLab and FoodScienceLab, illy’s experts completed a research intended to identify and enhance the most distinctive aromatic notes of Arabica coffee. In 2018 the company launched the new high-quality Arabica Selection products, a prestigious selection of Arabica coffees from Ethiopia, Colombia, Brazil and Guatemala which emphasize the peculiar aromatic notes and the distinctive flavors of those coffee-growing lands (flowery from Ethiopia, fruity from Colombia, caramel from Brazil and chocolate from Guatemala).

**MACHINES**

- **High-performance heaters** are being completed which, by using increasingly efficient exchange heater, make it possible to reduce energy consumption for the water heating process;

- **Design for disassembly** has been adopted, whereby machines are designed so that they can be disassembled and most of their components reused and recycled;

- **Coffee machines are built to last** increasingly longer and the company provides maintenance services to help prevent their premature scrapping.

**PROCESS & COFFEE**

- **In view of a no-package** future, illycaffè is constantly researching compostable barrier materials for capsules, to minimize the environmental impact without compromising the quality of illy’s coffee and price competitiveness.

- **In 2016 the company launched the new 3-kg. cans,** which entail lower energy consumption in the sealing phase, with seamming replacing the welding method, with a reduction of the materials used and a 10% drop in weight.

- **In addition, the Easy Capsule Opener is available,** which makes it possible to separate the plastic of the Iperspresso capsules from coffee at home, in an environment-friendly manner.

- **Best practices for the collection and treatment of exhausted capsules are being reviewed and upgraded,** in keeping with the local regulatory differences.
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.

2007
X2
The first professional HoReCa machine with boiler, using Iperespresso capsules.

2008
X7
The first home machine with boiler, using Iperespresso capsules.

ILLYLYUM
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.

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.

2010
X71
X71 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.

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.

2013
Y5
New Iperespresso home coffee machine with automatic drain, an extension of the “Y” series.

X71

2014
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.

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.

2015
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.

COLD BREW SYSTEM
ground coffee to be infused in water
PILLOW PACK
Pods in filter paper for drip-coffee preparation

2016
IPERESPRESSO CUBE
Created to replace the can and reduce the packaging’s environmental impact

2012
X71 E Y11 TOUCH
Evolution of the machines according to the ErP regulations on energy consumption.

DOUBLE ADAPTER kit for HoRe.Ca IPSO capsules for professional ground coffee machines

2014
2016
2015
2013
2012
2011
2009
2008
2007
2004
4.2 The Supply Chain

The green-coffee supply chain features different processing phases, from the separation of the skin and pulp of the berry from the seed to the export of the products. illycaffè’s objective is to monitor and ensure the traceability and quality of the commodity along the chain and to manage relations between producers and the environment on the basis of the territoriality principle. This means establishing long-term ties directly with the community and with all the players along the green-coffee supply chain, through a greater involvement of producers and investments designed to train and transfer knowledge, on the basis of needs and requirements manifested at the local level.

The actors involved in the supply chain include:

- **Small farmers** who can perform certain preliminary works on the crop;
- **Producers**, or companies (i.e. consortia, cooperatives and medium and large growers) that perform such activities as separation, washing and drying;
- **Exporters**, or operators that purchase green coffee from the cooperatives, select the coffee directly with the producers and prepare commercial lots on the basis of their customers, traders or roasters. Exporters know the production areas and local producers and this is a guarantee of traceability and quality of the commodity. They are also involved in inspections and concerted actions typical of integrated supply chains.

In this context, a central role is played by collaboration with local institutions, **Government Agencies** (e.g. the Coffee Boards of Africa and India), **international institution** (e.g. ICO), **research entities** (e.g. University of São Paulo) etc., thanks to which illycaffè can monitor its own operational activities and work to disseminate the principles of sustainability within the communities involved.

4.2.1 The illycaffè Model for a Sustainable Supply Chain

To obtain a very-high-quality coffee, illycaffè works in close contact with growers in countries where the best Arabica is produced. In fact, the required quality cannot come only from a final selection but also from the knowing all the key players along the supply chain.

In the past 25 years illycaffè has implemented a system of direct relationships with its suppliers based on four pillars, as illustrated below:

I. Select and work with the best producers, that is those engaged in the constant development of a sustainable quality production;

II. Transfer them knowledge and encourage them to produce quality;

III. Reward them financially for the quality obtained and encourage constant improvement;

IV. Build an illy Community for the creation of a culture of excellence, through which direct relationships can be established based on knowledge, exchange and growth.
The table below illustrates the “Integrated supply chain”:

1. Select and motivate growers through rewards for their effort in producing excellent and sustainable-quality coffee
2. Purchase directly from farmers to pay a higher-than-market price and establish long-term ties
3. Transfer of knowledge through the activities of the University of Coffee and regular visits to plantations
4. Creation of illy Community to advance the culture of excellence and establish direct ties with the community

Total investment to monitor and support the green-coffee supply chain in 2017 amounted to €530,300, for a total of €5.53 million since 2011.

TRACEABLE AND GUARANTEED SUPPLY CHAIN

1. The coffee purchased by illycaffè is entirely traceable
2. illycaffè purchases coffee only from producers that guarantee high quality and sustainability, rewarding them with a premium price
3. Through courses at the University of Coffee and field visits of its agronomists and technicians, illycaffè transfers know-how and best agronomic practices
4. illycaffè performs audit activities to ascertain compliance with the required quality and sustainability standards
5. illycaffè creates loyalty programs for producers with which it establishes long-term ties. Clube illy is one such example
ILLYCAFFÈ FOR THE PREVENTION AND MITIGATION OF THE CHILD LABOR

Monitoring the supply chain involves paying attention also to child labor – determined by situation of extreme poverty, for both economic and cultural reasons, and the lack of government controls – which illycaffè takes very seriously, as suppliers found to be non-compliant with the relevant standards are included in a black list. This problem materialized with 3 third-level suppliers in Colombia. In two out of the three cases detected, the minors - who were either the children or relatives of the plantation’s owner – worked while their teachers were on strike. Accordingly, it was determined that they do not work regularly on the plantation. In the third case, 2 boys, 12 and 13, were identified who were the children of coffee pickers.

The 3 producers – who received immediate feedback on the applicable laws – undertook not to use child labor, signing a document submitted by an illycaffè technician to confirm that they were aware of the law. This is the third consecutive year in which our technicians have noted an open and positive attitude by the producers when training sessions are held. Producers admit, nearly always, their lack of knowledge of labor laws and take a proactive approach in addressing their non-compliance.

Mindful of the need to act at the institutional level, illycaffè also deals with the problem virtuously and proactively through different projects in cooperation with supplier cooperatives.

A virtuous project has been under way in Cauca since 2014, involving the teaching of matters regarding coffee in the 4 main subjects mandated by the ministry in 55 rural and public schools of the region. Moreover, a module was added which calls for practical exercises in the plantation owned by the school and in the adjacent “beneficio”, the area where coffee is depulped and dried. Every student participating in the project (who are eligible only if their families support them by making available their land) received between 500 and 1500 seeds, so as to have an income-producing activity by the time they graduate from school. These resources allow students to choose whether to pursue higher education or to go directly to work. It has been noted that the project is reducing substantially child labor and school dropout rates.

With a view to constant improvement, actions that illycaffè intends to pursue include:

• Support to the Escuela and Café project with training and coffee purchasing;
• Possible expansion of the project into the Nariño department
4.2.2 Selection of the Best Producers: Responsible Supply Chain Process

The company certifies its green-coffee supply chain management process in accordance with the ‘Responsible Supply Chain Process (RSCP)’, standard, developed by DNV GL, an international certification body that modeled the standard after illycaffè’s supply chain process, integrating into it the most authoritative emerging international guidelines in the area of sustainability and corporate responsibility applied to the agri-food sector.

The RSCP certification attests that illycaffè:

- Adopts a direct approach in purchases and traceability to the producer (save for institutional barriers, such as the ECX market in Ethiopia which is undergoing improvement);

- Transfers to the green coffee supply chain knowledge for the constant improvement of the product’s quality and sustainability;

- Guarantees a higher-than-market price to reward growers for the superior quality produced.

The RSCP applies to every actor of the coffee supply chain, thus not only at the level of single company. The standard applied to the green-coffee supply chain requires the company to monitor its suppliers, to ensure that minimum legal requirements are met (indispensable to continue to do business with the company), and calls for thorough reviews in the following areas:

<table>
<thead>
<tr>
<th>AREA</th>
<th>THEME</th>
</tr>
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| ENVIRONMENT | • Use of soil  
| | • Water management  
| | • Water quality  
| | • Impacts on local community  
| | • Biodiversity  
| EMPLOYMENT | • Agronomic practices utilized  
| | • Equipment used in production  
| | • Work conditions  
| | • Accident and injury risks  
| | • Abilities and skills of workers  
| PRODUCT | • Use of active principles in accordance with Integrated Farming  
| | • Agronomic and post-harvest practices utilized  
| | • Equipment used in production and work conditions  
| | • Hygiene |
IT IS ALWAYS A MATTER OF SUPPLY CHAIN.
In particular, the process followed by illycaffè to monitor the supply chain and to identify improvement actions to be shared with it is summarized in the following chart:

- The supplier review system undergoes constant revision and improvement to address, for example, the extension of purchases in Latina American and African countries, where the production chain is more fragmented, as it takes several growers to put together one commercial lot, and often in unpredictable ways.
Starting from the end of 2013, illycaffè has been preparing and updating every year a risk assessment document that analyzes environmental risks, business ethics risks, employment risks and product risks by country, by organization and by supply chain. This tool makes it possible to improve the monitoring process, paying special attention to the areas where future actions should be taken.

During the latest review activity, related to 2017, illycaffè confirmed the trend seen in previous years, that is that social risks are mainly limited to supply chains made up of small producers while management problems resulting from the neglect of environmental standards are common in certain countries (and not only in coffee production). Hence the need to consolidate further the partnership with public and private institutions in the various areas where coffee originates, scientific entities, communities, international bodies and all the actors that make up illycaffè’s supply chain, to disseminate the culture of sustainability.

The process includes also the audits and inspections necessary to enforce the performance standards set for illycaffè’s supply chain, that is:

- **Minimum action requirements** that suppliers are required to comply with, if they want to continue to do business with the company;

- **Key performance indicators (KPIs)**, that is indicators that describe the company’s supply chain which break down into:
  - **Core KPIs**: requirements that exceed minimum legal requirements which the company regards as fundamental in the relationship with the supplier;
  - **Recommended KPIs**: non-mandatory requirements which, however, the company regards as highly desirable in the relationship with the supplier.

KPIs allow illycaffè to evaluate its performance vis-à-vis the supply chains. Based on the performance indicators, the company sets specific objectives, identifying the most adequate actions in keeping with the targets identified. The company undertakes periodically to revise and recast such requirements, so that they might be consistent with the changes in the landscape, which are generally gradual and observable only in the medium-to-long term.

### Monitoring of the supply chain

Monitoring the environmental, work, human- and social-right aspects on the basis of the standards set by the Responsible Supply Chain Process is paramount in the formulation of plans and initiatives to advance the culture of sustainability and quality in the supply chains involved.

Special attention is paid to monitoring the origin of the green coffee on site. In 2017, the origins monitored were, in a decreasing order of number of visits: Brazil, Colombia, India, Nicaragua, Honduras, Costa Rica, El Salvador. The producers were sampled on the basis of both illycaffè’s risk assessment (by country, supply chain, organization) and the volumes purchased, depending on the findings of previous monitoring cycles.

In 2017, field visits were made to 304 producers and 20 exportable green-coffee processing/selection facilities. In terms of surface, direct audit activities were performed on plantations of over 35,715 hectares. The monitoring activities performed focused specifically on more critical areas, taking into consideration a number of indicators greater than in the previous years, precisely to understand better the real nature of the issues to be dealt with.

Thanks to the company’s effort in implementing a sustainable supply chain, 100% of first- and second-level suppliers (exporters, cooperatives and associations) were found to be compliant with illy’s procurement policies. As to third-level suppliers, that is the producers, in 2017 99% was found to be compliant with the Responsible Supply Chain Process protocol.

From the start of the program more than 2,200 producers were visited. After years of audits, the reality of certain countries – such as Brazil, whose producers were audited over a three-year period – is well known. Accordingly, the objective of responsible management is not so much the number of audited procedures but the study of how to improve an already mature supply chain. In fact, mapping the territory is necessary to study and implement local projects, capable of grasping and managing the community’s requirements.

This is possible thanks to the careful and meticulous choice of suppliers with which the company works in the field, the synergy with their sustainability actions and the relationship with local institutions.
4.2.3 Transfer of Knowledge: The Role of the Company for the Development of the Supply Chain

illycaffè implements programs to transfer know-how along the green-coffee supply chain, promoting study, research and innovation activities to improve coffee knowledge. In addition, it is committed to improving growers’ living and production conditions.

The initiatives carried out in 2017 saw the involvement of over 1,100 participants.

Quality was the focus of an extensive training program that involved nearly all the countries where illycaffè buys its green coffee: Colombia, Guatemala, Honduras, Nicaragua, India, Vietnam, Burundi, Cameroon, Ethiopia, Kenya, Rwanda, Tanzania and Uganda. The initiative entailed training programs in the areas of sensory, visual and aroma analysis of green coffee samples, involving 138 lab technicians and producers. The activities were divided in three sections, roasting to illy specifications, taste and visual/aroma analysis.

On the other hand, specific activities were carried out in different countries:

Brazil

- “Doing More, Doing better: Agribusiness Coffee Innovations”: Webinar organized in March 2017 by the University of Coffee in Brazil, with the objective of identifying the challenges for the creation of value through innovation in coffee production in the future. The course had 198 registered participants and 216 viewings in the following months.
- “Dia do campo”: Day of study for Brazilian growers on the production of quality coffee which saw the participation of 85 producers.
- “Dia do campo” for influencers: Day of study for 7 Brazilian coffee influencers. In the Instagram and Facebook profiles, the influencers involved had 170,000 and 20,000 followers, respectively. They had the opportunity to become familiar with Good Agricultural Practices – shared by illycaffè and hosted by the producer that hosted them – in coffee harvest, post-harvest and processing and with themes regarding the preparation of espresso, and activities of Clube illy and the University of Coffee for producers.

The University of Coffee published several articles in the “Quadernos da Universidade”, an important dissemination tool devoted to all the producers involved in the supply chain. Themes discussed included:
- Different possibilities in coffee production and consumer behavior;
- Description of drivers in coffee production;
- Evaluation of coffee contamination risk due to the use of pesticides;
- Contractual strategies for the supply of high-quality coffee.

The training activity carried out via PENSA’s online courses (available at http://universidadedocafe.com/) gathered steam in 2017. The most significant educational courses held in the year included:
- Integrated management of pathogens and harmful insects in coffee plantations
- Obligation of Brazilian agribusiness firms to comply with the new agroforest laws
- Treatment of processing waste water
- Technology to prepare a quality cup of coffee
- How to record production costs to prevent business losses
- Creating and adding value to green coffee
- Risk of coffee contamination from residues of phytosanitary products and proper management of such residues
- Managing processes in agricultural mechanization
- Management and risks in negotiating with the labor force in the coffee sector
- Climate changes and vegetal physiology of coffee plantations
- Precision agriculture in the coffee sector
- Governance, concepts and applications in family-run coffee farms (“fazendas”)
- New trends in the coffee world
- Climate change risk: What shall we do?
- Basic course on agribusiness

\(^{18}\)From 2010 to 2017 between direct actions (training courses) and indirect activities (participation ad organization of conferences), illycaffè reached an estimate number of over 8,200 participants.
Certain courses were subtitled in Spanish to encourage the participation of technicians from Colombia, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

India

In line with illycaffè’s long-standing policy to raise awareness on the theme “best coffee nature can provide”, this origin continues to be the focus of attention on good practices to be adopted for the reduction of the use of phytosanitary products.

In 2017, the problem was analyzed extensively and in 2018 various training sessions will be held with all the producers involved in the illy supply chain. Every initiative will be undertaken in collaboration with local suppliers, according to the typical modus operandi of integrated supply chains.

Colombia

Purchasing green coffee entails generally management complexities determined by legal compliance issues and unregulated labor. These situations derive from a more sensitive approach in areas that are constantly exposed to economic risks and are more inclined to contract out harvesting operations to the best offerors. Mindful of that, illycaffè is committed to starting projects in synergy with the more virtuous suppliers, which are on the receiving end of the company’s investments, disseminating in the coffee community a greater culture and awareness of sustainability issues. During the latest assessment activity for Colombia, it was noted once again that the criticalities identified in the field are mainly of a cultural nature. With institutional support from SENA (Servicio Nacional de Aprendizaje), last year 4 training sessions were held to address the optimization of production activities in the mill (“finca”), based on accurate bookkeeping, through a manual specifically developed by Positive Planet (the NGO founded by Jacques Attali that undertakes project entrepreneurship, financial education
and the organization of value chains) as well as a review of the path from the field to the warehouse, with ample use of visual material. The initiative was carried out taking into consideration the peculiarity of the social and political context of the country, where a peace agreement was signed recently after 53 years of civil war (the 113 participants, in fact, belong to groups of victims of the civil war and ex guerrilla fighters). Moreover, a decision was made to include women producer associations, which are particularly active in coffee production in the Cauca region, and teachers in rural schools with modules devoted entirely to the production of quality coffee. The inclusion of these teachers is particularly important, as the ultimate objective is to support a local project designed to include the new generations in the coffee sector, to reduce school dropout rates and the resulting child labor. Thanks to the success achieved, the Reforestation project in Tamara continues in its second three-year period. The educational programs related to the project were well received by the producers, which started sorting the waste generated in their fields, as they became aware of the importance of recycling, reusing and cooperating every day. The second phase aims at introducing smart water management.

Central America

The neglect of certain environmental parameters was specifically looked into in monitoring the supply chain of Central American origins, to understand better the causes and to take remedial action. In El Salvador, in-depth training activities were undertaken involving illycaffè’s entire supply chain, to mitigate a possible risk related to the use of highly toxic phytosanitary products. On the other hand, in Honduras and Nicaragua the company opted to undertake initiatives entailing longer-term activities, with a view to reducing water consumption and to improve the systems for the treatment of waste water.

Ethiopia

The company continues to collaborate with local and international institutions to encourage value creation along the supply chain. In Ethiopia, thanks to the cooperation with UNIDO, illy is contributing to bring a change to the sector that would result in a direct contact between producers and final customers, increasing the value that coffee can add for producers. Illycaffè and the Ernesto Illy Foundation mobilized key sector resources (skills, know-how, networks, human and financial capital) to improve the quality and productive capacity of small Ethiopian coffee growers and to increase their income, advancing sustainable production, transformation and international marketing. Moreover, both work with the project’s partners to improve local capabilities and knowledge of coffee’s value chain, acting as facilitators of trade and consultants. The project is expected to improve the coordination of all the players involved in coffee’s value chain as well as to increase the quantity and quality of exported coffee, expanding the presence of Ethiopian coffee in the international market.
SUSTAINABLE SUPPLY CHAIN. THE ACTIVITIES OF THE ERNESTO ILLY FOUNDATION TO SUPPORT ILLYCAFFÈ

“Master’s Degree in Coffee Economics and Science Ernesto Illy”
Master’s degree promoted and organized by a group of partners of excellence in the area of training and education: University of Trieste, University of Udine, Ernesto Illy Foundation, illycaffè. University of Coffee, SISSA (Scuola Internazionale Superiore di Studi Avanzati – International School of Advanced Studies, Trieste), the Molecular Biomedicine Consortium (Area Science Park – Trieste), the Trieste Coffee Cluster. In the past few years, this course has witnessed the growing interest of producers and people who want to have a career in the coffee industry.

Collaboration with El Zamorano University, Honduras
On May 17, 2016 the Ernesto Illy Foundation and El Zamorano University, Honduras, signed an agreement to introduce the coffee theme in the curriculum of the Pan-American University, which offers courses devoted to agricultural and agro-industrial firms. The agreement will last 3 years (academic years 2016, 2017 and 2018), where 3rd and 4th year students of El Zamorano University will be able to enroll in the optional module on coffee, known as Asignatura Adicional de Café (30-hour training program). The course is held three times a year, once a quarter. The Asignatura Adicional de Café consists of 5 courses held by teachers who received a Master’s Degree in Coffee Economics and Science Ernesto Illy.

Reforestation of Water Spring Areas in Támara, Colombia
The reforestation project in the region of Támara (Colombia), with native trees near the water springs, has been extended until 2020, in light of the good results obtained, with 69.2 hectares conserved and reforested with 15 different species, for a total of 12,290 plants/native trees. Benefits accrued directly to 80 coffee grower families and indirectly to 320 people. The objective is to increase the area of interest, involving 200 grower families, which participate also in the improvement of practices for the use of water in the coffee processing phase. Moreover, the project aims to involve two schools in the area in terms of environmental education and recycling.

Computational Science on Coffee in Collaboration with the Julich Research center, Germany
The collaboration between the Julich Research Center and the Ernesto Illy Foundation calls for the creation of a position as assistant professor pursuing research in computational coffee science, to advance the development and application of computational molecular simulation methods to address topical questions of coffee research on a molecular level.

Positive Economy – “Positive Coffee Observatory” in collaboration con Positive Planet
The project, which was conceived and developed in collaboration with Positive Planet (the NGO founded by Jacques Attali) measured the contribution made by the coffee sector in a positive economy, evaluating the sector’s trend in the next few years in terms of “positivity” and providing a positivity index on the coffee value chain in a transparent, transmissible and actionable manner for all the coffee communities. The pilot project, which started in 2016, created a coffee observatory in three producing countries: Ethiopia, India (Karnataka) and Guatemala.
4.2.4 Continuous Improvement: Rewards and Incentives for Producers

illycaffè pays growers with a superior quality output a 30% premium over market price. This reward compensates producers for the extreme care devoted to coffee growing and allows them to make a profit also when green coffee prices fall in international markets. The calculation is based in some cases on the country’s internal market and in others on the price of coffee quoted on the New York Board of Trade. The premium is an average that can increase when the quoted price is particularly low and decrease in case it is high. At any rate, illycaffè guarantees a fair minimum price for the coffee that it purchases, capable of covering the costs incurred by the growers and a profit margin. Such price is calculated through a complex series of variables, following an approach that is the result of years of experience and close cooperation with producers. The variables take into account the country of origin, the type of market, the quality of the product and the costs of production.

The most significant initiatives carried out to reward growers that produce the best sustainable quality include:

Prêmio Ernesto Illy de Qualidade do Café para Espresso
The initiative contributes cash rewards to the rural and environmental development of entire regions in Brazil. Since illycaffè introduced the reward, in 1991, more than 10,000 producers have participated, with total cash rewards distributed over the years in the amount of approximately BRL 4.5 million. Moreover, the company rewards the best Brazilian Supplier of the Year on the basis of performance in terms of quality, delivery punctuality and sustainability. Winners receive a free trip with their families to Italy, including a visit to illycaffè.

Clube Illy do Café
The Clube was established in 2000 to strengthen relations with Brazil’s best coffee producers. Growers admitted to the Club (358 in 2017) receive loyalty cards which vary according to the length of the business relationship and the quality of the product. Producers have learned also new sustainable and responsible growing techniques. Their know-how and abilities, thanks to illycaffè’s action, can be put to use in the market regardless of purchases by the company. Research by the Durham Business School describes and analyzes the process of de-commoditization of coffee quality in Brazil, indicating that small changes introduced in the Brazilian coffee market resulted in major changes in the long-term behavior of the worldwide sector. This research showed that the creation of the Reward led to a progressive increase in the value of green coffee and developed a network of producers of excellence. It also showed that companies can contribute to disrupt existing negative conditions and trigger virtuous mechanisms – i.e. the butterfly effect – by creating value through the development of a long-term vision, capable of combining quality and sustainability, which can be seen as two sides of the same coin.

Ernesto Illy International Coffee Award
With this Award, established in 2016 to extend to the rest of the world the initiative started 25 years earlier in Brazil, illycaffè recognizes and celebrates the Producers of the best sustainable-quality Arabica in the world, stressing the importance of working hand in hand with them, to continue to pursue the company’s dream of being purveyor of the world’s best coffee. illycaffè’s quality control in Trieste picks the best 27 coffee lots (first, second and third) from among the harvests of the coffee season just ended in the 9 countries that contributed to the formation of illy’s unique blend. In the second edition (2017), the countries in question were Brazil, Colombia, Costa Rica, Ethiopia, Guatemala, Honduras, India, Nicaragua and Rwanda. An international jury selected and presented an award, at the United Nations in New York, to the Best of the Best of the 9 winning lots of every country. The Ernesto Illy International Coffee Award is also an opportunity for the 27 finalists from the producing countries and their teams to meet and to live a unique experience, which includes also an ad hoc workshop devoted to scientific, socio-economic and sustainability issues in the world of coffee, with top-tier international speakers.
Economic Value Added

In 2017 illycaffè improved its operating performance and financial conditions. Following the increase in sales volumes and the foreign exchange effect, the Value of Production rose by approximately 2% on 2016. At fiscal year-end, the company showed a slight increase in EBITDA and EBIT, compared to 2016, and a net profit higher than the comparable year-earlier amount.

As illycaffè applied the new Italian GAAP (OIC standards, as updated pursuant to Legislative Decree 139/2015, which transposed the accounting Directive 34/2013/EU), the figures for the previous period were appropriately restated.

To calculate the economic value that the business generated and distributed to a number of important stakeholder groups, illycaffè uses the consolidated Economic Value Distributed metric which, at December 31, 2017, amounted to €438.6 million, up 1.7% on 2016.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>2016</th>
<th>2017</th>
<th>2017 - 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECONOMIC VALUE GENERATED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Revenues</td>
<td>468,586,893</td>
<td>478,431,805</td>
<td>2%</td>
</tr>
<tr>
<td>b) Financial income</td>
<td>1,980,899</td>
<td>1,012,789</td>
<td>-49%</td>
</tr>
<tr>
<td>(A) Total economic value generated</td>
<td>470,567,792</td>
<td>479,444,594</td>
<td>1.9%</td>
</tr>
<tr>
<td>ECONOMIC VALUE DISTRIBUTED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Operating costs</td>
<td>305,461,606</td>
<td>312,715,561</td>
<td>2.4%</td>
</tr>
<tr>
<td>b) Personnel expenses</td>
<td>93,836,164</td>
<td>98,135,752</td>
<td>4.6%</td>
</tr>
<tr>
<td>c) Debt and equity</td>
<td>17,454,360</td>
<td>13,787,727</td>
<td>-21.0%</td>
</tr>
<tr>
<td>d) Taxes</td>
<td>13,672,985</td>
<td>12,832,216</td>
<td>-6.1%</td>
</tr>
<tr>
<td>e) Donations and association dues</td>
<td>861,304</td>
<td>1,129,423</td>
<td>31.1%</td>
</tr>
<tr>
<td>(B) Total economic value distributed</td>
<td>431,286,418</td>
<td>438,600,680</td>
<td>1.7%</td>
</tr>
<tr>
<td>(A-B) ECONOMIC VALUE HELD</td>
<td>-39,281,374</td>
<td>-40,843,914</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

The above table shows the flows between the company and the social and economic system with which it interacts, with special reference to some of the main stakeholders:

- **Suppliers**: Remuneration due to purchases of raw materials and other services;
- **Human Resources**: Direct and indirect compensation of employees and consultants;
- **Government**: Payment of taxes and levies;
- **Capital providers**: Remuneration of debt and equity holders;
- **Community**: Membership fees and donations

The consolidated Economic Value generated and distributed (€438.6 million) by illycaffè shows that:

- The most significant portion, 71.3%, is allocated to the remuneration of suppliers, particularly the purchase of services and raw materials.
- Human Resources receive 22.4% of the total. This item includes all that is provided for by the applicable labor agreements as well as certain costs incurred by the company, such as those for training and cafeteria operations.
• Capital Providers receive 3.1% of economic value, which consists of dividends to the Parent Company’s shareholders (€6.5 million), profits to minority interests and financial expenses.
• Government (State and Local Authorities) receives 2.9% of the total in the form of taxes and levies.
• Lastly, the community receives 0.3%, in the form of socially-oriented expenses (mostly the contributions made to the Ernesto Illy Foundation) and membership fees.
PLACE THE SEED, TO COLLECT THE BEAN.