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**OLON GROUP  
SUSTAINABILITY  
REPORT**

20  
22











# TABLE OF CONTENTS

Sustainable technologies  
delivering science

**p. 4**

## Letter from the CEO

We want to become a global leader in the production of APIs from an ethical and environmental point of view. We are representatives and promoters of a new industrial model that sets forward-looking objectives, and that marks the way for all those who will come after.

**p. 6**

## Olon, leading international API supplier

With our structured expertise in chemical synthesis and microbial biomanufacturing, we are characterized by agility of innovative processes, high quality and high speed of production typical of a small to medium-sized company, but with a global footprint.

**p. 12**

## Our vision

All of our strategies aimed at triggering a virtuous circle for the company itself and for the future of the planet revolve around four cardinal points: people, the development of a responsible business, the sustainable supply chain and social responsibility.

**p. 16**

## Environmental sustainability: the pillar on which we build the future. Targets, results, plan of investments

We operate with a global approach to actively contribute to the fight against climate change and for the protection of air quality, investing systematically in sustainability of the manufacturing network, and also to encourage all our partners to take action.

**p. 28**

## How we build a sustainable and responsible supply chain

It is more than ever necessary to create sustainable supply chains: short, diversified and certified in every single step. We are committed to high standards ourselves thus we have developed a Code of Conduct that it submits to all our suppliers.

**p. 32**

## Caring for talents

Our company policies are aimed at enhancing human capital: a global, transversal and structural approach to promote initiatives and programs - in particular in terms of training and development - that allow all our employees to express their own talent.

**p. 40**

## Global footprint, global ethical and social responsibility

We take on a social responsibility, monitoring and responding to the economic, environmental and social expectations of all stakeholders, and regularly promote partnerships to support the communities where our sites are based.

**p. 46**

## A path of growth. Our history of sustainable development

Our recent history shows a great progress, carried out through constant research, strategic acquisitions, development of new technologies and above all an all-round care and attention to the social and environmental sustainability of our production.

**p. 50**

## Researching sustainable technologies for the future

The only way to innovate medical science, improving people's well-being, is to constantly work on research and development, gradually reducing energy consumption and the amount of solvents needed in chemical and biotechnological processes.

## LETTER FROM THE CEO

*After the 2021 publication of the first Sustainability Manifesto, we have decided to turn this occasion into a regular meeting, to take stock of what we have done thus far and the sustainability actions we have planned for the coming years.*

*This report, with its revamped layout and content, differs from the last publication. It represents a breakthrough in terms of user friendliness and readability, with more detailed individual sections and a wealth of examples and best practices implemented by the Group.*

*It is a clear statement and policy document representing the sustainable growth in our global vision. Issued prior to the publication of the 2023 Non-Financial Report, it is, above all, an assumption of responsibility, to ourselves and our goals and to our customers, partners and employees.*

*We are a global company with a long history which requires us to be courageous and to steadily raise our standards. We must not merely endure changes, but we must anticipate them and act accordingly.*

*We are increasingly aware that sustainability is not just an objective measurement based on reducing consumption and adopting greener technologies.*

*It directly involves people and the surrounding social contexts. Only through coordinated, integrated development of these two facets we can expect to achieve significant goals, producing positive impacts for the Company and for society as a whole.*

*Our vision of the future is ambitious. To be a global leader in API production from a business, social and ethical perspective. We are representatives and promoters of a new industrial model that sets far-sighted goals, never forgetting how invaluable human and natural resources are and that those resources must be protected and regenerated. Being a market leader carries with it a social burden, to act as a driving force, paving the way for everyone who comes after.*

*Finally we focus on the patients, and our commitment to ensuring the focal point must always be the commitment to ensuring access to medicines, bringing to market innovative, safe and effective treatments.*

**Paolo Tubertini**  
CEO Olon Group



# Olon, leading international API supplier



Olon's ability to develop and manufacture Active Pharmaceutical Ingredients (APIs) in our network of facilities allows clients full access to integrated services resulting in delivery timelines, resulting in one of the stronger track records of the market.

We rely on synthetic and biological processes both for generic and contract development and the manufacturing

market, in a full cGMPs environment. With our structured expertise in chemical synthesis and microbial biomanufacturing, we are one of the leading international players of API and HPAPI production, including controlled substances, innovative and generics drugs, advanced intermediates, enzymes, proteins, peptides and food biomanufacturing.

Our sites are equipped with multi-purpose, dedicated lines where we can produce at different levels of high containment, up to OEB 5.

Our expertise is applied to the production of APIs for treatments used in many key therapeutic areas and for some breakthrough pharmaceutical products. We are leaders, among others, in the production of retinoids,

antineoplastic, cardiovascular and metabolic diseases compounds, antibiotics and antivirals.

Our pipeline of Generic APIs is reinforced in the oncology area, where we are one of the sector's top companies producing high-activity active substances, with the introduction of numerous oncology APIs, particularly those with selective high activity.





- Headquarter
- Facilities
- Facilities, chemical synthesis
- Facilities, microbial fermentation
- Offices

“ 11 facilities spanning over 3 continents, with strong capabilities in both chemical synthesis and microbial fermentation ”

OLON AT GLANCE

**2.300** employees  
**300** highly qualified and experienced people in R&D team

**11** facilities

**5** global offices

**580** Mio USD revenues (2021)

**2.500** m<sup>3</sup> reaction capacity

**4.900** m<sup>3</sup> fermentation capacity

**300** APIs

**500** DMFs

**Global footprint**

Headquartered in Rodano (Italy), Olon has 11 manufacturing facilities – 8 located in Italy, 1 in Spain (Murcia), 1 in the USA (Concord, Ohio) and 1 in India (Mahad), all compliant with international requirements, 2 branch offices

(Florham Park - USA and Mumbai - India), and 2 trading offices (Hamburg - Germany and Shanghai - China). The facilities of Capua and Settimo Torinese (Italy) are biotech centers, while the one in the USA is fully dedicated to dedicated to GMP clinical supply and process development.

**Our vision**

We challenge and innovate the way to deliver science to improve human health. Our competitiveness is based on creative ideas and pathways for prompt and sustainable solutions in the life science industry.



“ Our mission is to challenge and innovate the way to deliver science to improve health of human beings ”



From the start, Olon had three great strengths: expertise, innovation and sustainability. We made a fundamental contribution to the development of one of the most effective drugs for the treatment of patients who are ill with Covid-19, by producing its active substance. They chose us because we are able to ensure high quality and fast turnaround times. All of which is done with sustainability metrics that few other companies in our sector can offer. Our success comes from the fact that from the very start we invested heavily in innovation. At the same time, we have still maintained the agility of innovative processes that is typical of a small and medium-sized enterprise. Sustainability is something we have always worked on, we have generated significant results in cutting back on electricity and water use. We are on track for a 60% reduction in electricity and water use and carbon dioxide emissions between 2015 and 2025. We are increasing investments in the production of photovoltaic energy and we are developing new solutions to avoid wasting any energy generated in our production processes, often clashing with Italian bureaucracy.

Avvenire, April 13<sup>th</sup>, 2022

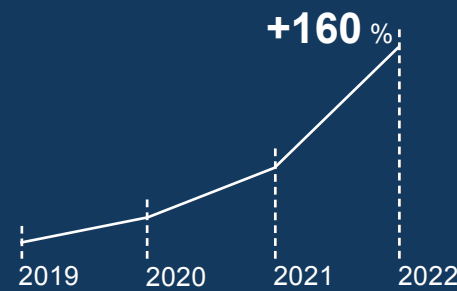
**Roberta Pizzocaro**  
President Olon Group

### Innovation drives our business model

We constantly develop technological platforms: a long-term programme in which the Group has invested substantial human and economic resources, in order to explore new technologies or new applications for existing technologies. The aim is to facilitate the production of new pharmaceuti-

cals and improve the quality and sustainability of the manufacturing process for those which we already produce. We constantly invest in our sites to upgrade the facilities in terms of GMP and technology standard, and to increase the manufacturing capacity. We are working on the cutting edge of R&D applied both to chemistry, with flow chemistry, photochemistry and electrochemistry, and to biotechnologies. ●

Growth of total investments



CAGR → +40 %



# Our vision

*Every crisis is an opportunity. The unprecedented challenges that we are facing — global geopolitical, energy and humanitarian situation — bring further to the forefront of sustainability. In a broad sense, this term is understood as ranging from the environment to society, involving individuals, and the consequent actions that must be implemented in order to keep up with all these changes.*

Although transparency with all our stakeholders in company processes and policies is fundamental for us, it is not just a matter of communication but an awareness that a contemporary industrial vision must be based on responsible business development, respecting and protecting the environment, and creating sustainable supply chains. This is the only way to guarantee the future we have in mind for our Company, not only in terms of economic performance, but also in triggering positive dynamics that contribute to the future of the planet. To do all this, we have chosen to rely on our people as vectors of change, producers of innovation and inspiration. In recent years we have strived to continually improve our

environmental performance by involving and informing the whole management structure and all the employees, of all our global locations, fostering a culture of responsibility and participation, and providing the necessary resources and training.

“ **All of our strategies, and resulting actions, ultimately revolve around four cardinal points: people, responsible business development, sustainable supply chain, and social responsibility** ”

Our vision starts from the business and extends to the entire sector, looking at the will to be a persistent enabler of skills. Our ambition is to promote a more sustainable production of APIs, meeting the highest standards of quality. To achieve this, we are investing in people, in innovation and technology processes, and

also embodying the sustainable development goals proposed by the UN 2030 Agenda.

A deep technological revolution, that challenges the production as we know it, must be carried on: the time frame to be taken into consideration will necessarily be longer but requires to develop more eco-friendly processes, which use fewer resources and produce less waste. ●





# Environmental sustainability: the pillar on which we build the future.



## Targets, results, plan of investments



### General 2025 targets

To promote environmental sustainability, according to the United Nations 2030 Agenda for Sustainable Development Olon set the following targets by 2025:

**-60%** of specific energy consumption per ton of production, over the 2018-2025 period;

**-60%** of CO<sub>2</sub> emissions over the 2018-2025 period;

**-60%** of water consumption to promote fair and sustainable use over the 2018-2025 period;

**-40%** of generated waste over the 2018-2025 period;

**+50%** of recycled waste on the total waste over the 2018-2025 period.

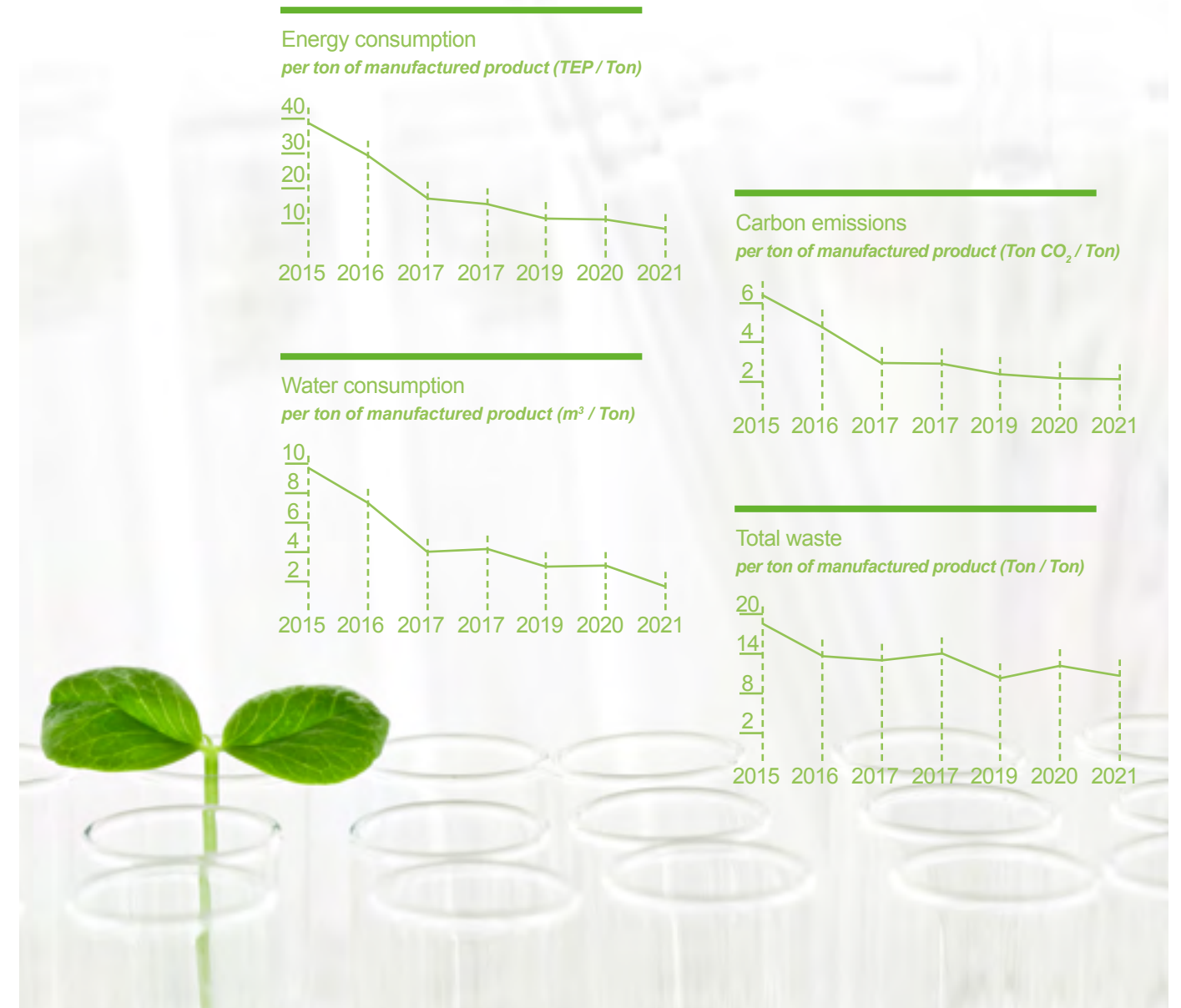




Environment is the first pillar of sustainability. We operate with a global and responsible approach to minimize adverse impacts on the environment, complying with all applicable environmental regulations. We invest systematically in the sustainability of our manufacturing network. The goal is to actively participate in the fight against climate change and

to protect air quality, we are also pushing all our partners to become as active as possible, implementing practices that facilitate the development of circular economies based on the reuse, reconditioning and recycling of materials, and through responsible use of raw materials and sustainable management of water resources.

Our systems are in place to ensure the safe handling, movement, storage, recycling, reuse, or management of waste, air emissions and wastewater discharges, and prevent and mitigate accidental spills and release of fuels, raw materials, chemicals, intermediates, products, and other hazardous materials into the environment.



Among the activities dedicated to sustainability in the last three years on our sites, we can mention:

- High-efficiency co-generators with reuse of thermal waste (*obtaining TEE*);
- New thermal power plants for steam production (*reduction of CO<sub>2</sub> emissions and specific methane consumption*);

- Technologies to increase the degree of production containment to protect workers and the environment;
- Distillation columns for solvent recovery (*reduction of generated waste, reuse of solvents, circular*);
- Green chemistry projects for the replacement of chlorinated solvents and reduction of critical substances

(*particularly toxic, especially on new processes*).

The aggregate data of the entire Group over the last five years also shows how our commitment to the environment has led to significant results, with the substantial halving of CO<sub>2</sub> emissions, water and energy consumption, and waste production.

### Olón awarded with “Premio Eccellenze d’Impresa 2021- Excellence of Industry” as a Sustainable Company



The Italian recognition is promoted by Harvard Business Review, GEA Consulting, and Arca Fund, with the official endorsement of Borsa Italiana – Italian Exchange. The prestigious award has been assigned to our President Roberta Pizzocaro during a ceremony to which the major representative of media, industry, finance attended. Olón came out to be most appreciated company for our sustainable approach. The jury, composed by few of most influencing representatives of economic-financial industry, has recognized our global commitment and vision to reduce environmental impact, caring people, community relations.



### A global address with local implementation

Given Olón’s global presence, our organizational approach to achieving sustainability goals is twofold. On one hand, there are the overall group goals and, on the other, specific initiatives implemented at indi-

vidual sites. The activities performed at the individual centers put the overall goals into practice while, at the same time, providing the group as a whole with the guidance necessary to establish new target outcomes, thus creating a virtuous circle. The optimization and renovation of existing machines and processes

will continue over the next years in all our sites. We also firmly believe that the complete and positive integration of our activities with the local environment and responsible behavior towards stakeholders are the most important conditions to achieve our development objectives.

### Protecting food and biodiversity

Recently Olón announced a long term partnership with Biotalys for the production of protein-based biocontrols. The partnership is driven by the common vision of transforming

food protection with unique protein-based biocontrol solutions and secures the global supply of the first protein-based biocontrol in the Biotalys pipeline, aims to provide fruit and vegetable growers with a new rotation partner in integrated pest management (IPM) programs.

It helps control diseases such as Botrytis and powdery mildew, thus reducing the dependency on chemical pesticides with corresponding residues in harvested produce while offering a distinctive new tool to manage pathogen resistance development.





↘ EcoVadis  
Sustainability  
Rating - 2022  
Bronze medal



The bronze medal was awarded to Olon Group as recognition of the EcoVadis rating.

The EcoVadis Rating covers a broad range of non-financial management systems including Environmental, Labor & Human Rights, Ethics and Sustainable Procurement impacts. Each company is rated on the material issues as they pertain to their company's size, location and industry.

As for sustainable purchases, Olon Group is in the 10% of the best companies evaluated by EcoVadis in the specific sector.

## Certifications and Implementation of Highest Industry Standard

The achievement of our sustainability goals is certified by leading international bodies responsible for verifying and monitoring consumption and emissions data.

These certifications are also critical in setting still further goals, in a constant process of growth and improvement in business performance.

**IPPC Environmental permit**  
(water, wastewater, waste storage, air emissions, etc.)



Agreement with **Local Authority** regarding the Health, Safety & Environment

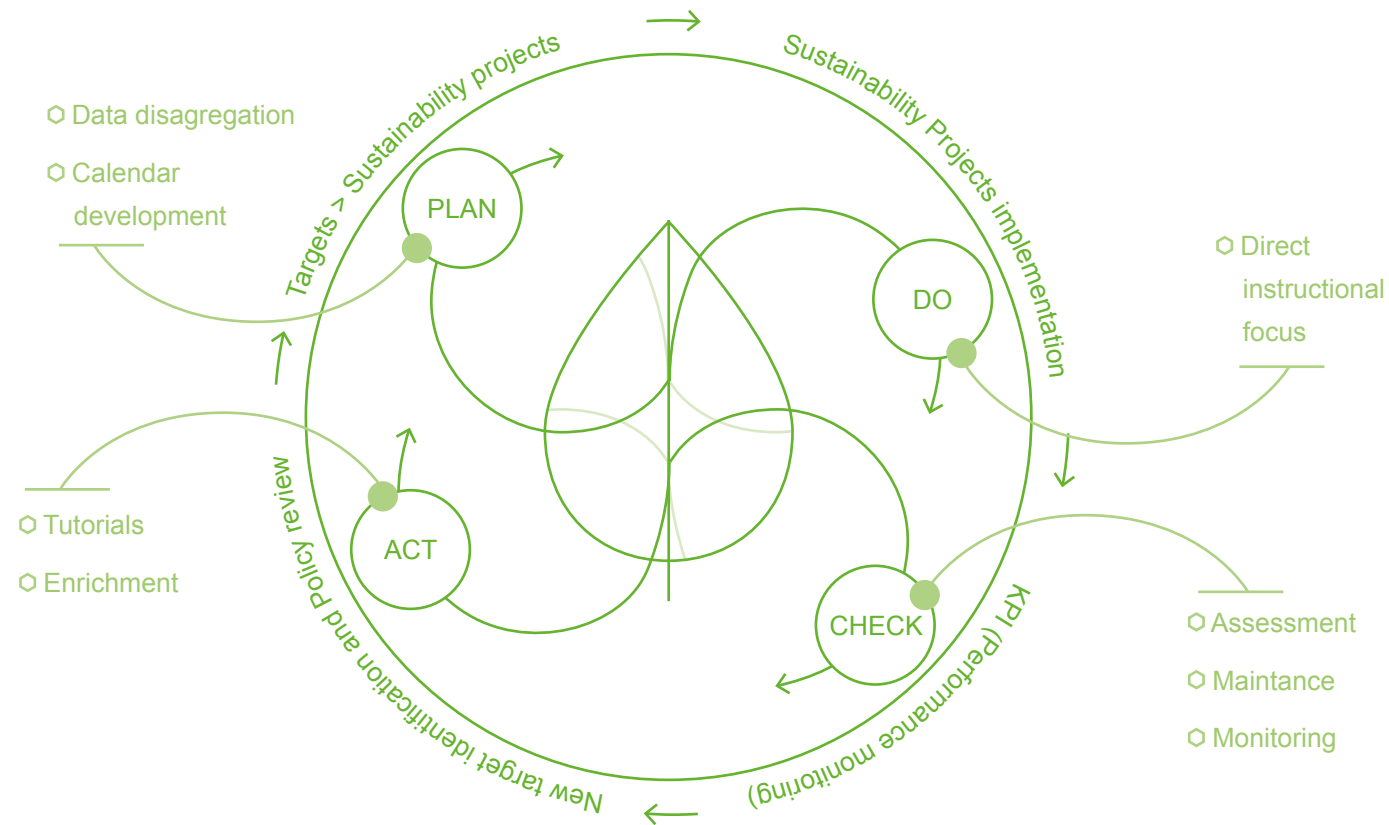


**Major Accidents Report**  
according to Directive 2012/18/UE.  
*Last full inspection 2019.*



**Fire prevention certificate.**  
*Last full inspection January 2022.*

↘ We apply  
a process of continuous  
improvement cycle



Rodano

## Renewable energy systems

To reduce energy consumption, we've launched a long term program to progressively install renewable energy systems in the facilities of our global manufacturing network.

Over 2022, we've been carrying on investments in 4 (Settimo Torinese, Mahad, Capua, Rodano) out of the 11 Olon sites to install advanced solar panel systems to generate renewable energy. In particular in Rodano, one of our most strategic site further than HQ

base, we've just successfully implemented the installation and the system is actually running. The new system will be producing 550.00kwh/year of renewable energy. It guarantees the total energy need of Olon HQ, in Rodano. Solar energy is carbon neutral.

## Sustainability projects implemented in 2021

### ★ Rodano (Italy)

**Recovery solvent** by distillation  
-5% of wastewater and water  
-4% of electrical consumption of compressed air  
**Solar panel 500KW**

### ★ Segrate (Italy)

+3% process yields

### ★ Casaleto (Italy)

-10% volume waste optimization

### ★ Dorno (Italy)

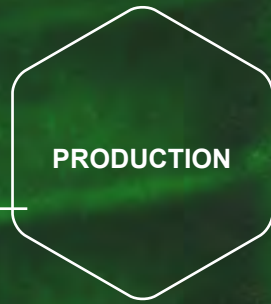
-5% energy consumption & chemicals

### ★ All the plants

PIE Assessment (*Environmental impact assessment of API manufacturing*) ●



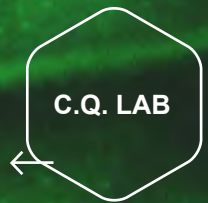
↘ In-depth analysis of all the sustainability projects implemented at the Dorno plant (2022 update)



Action	Target
	45% reduction in specific consumption for MOPE and UTILITES.
	45% reduction in specific consumption of MP, MOPE, Utilities, Waste.



Action	Target
<b>Recovery of Pallets and Drums</b> for handling in-house intermediates and for other sites. Weekly coordination between site functions and logistics colleagues at Olon sites for the project to work.	



Action	Target
<b>Reduction of laboratory HELIUM</b> consumption.	5% vs BGT.



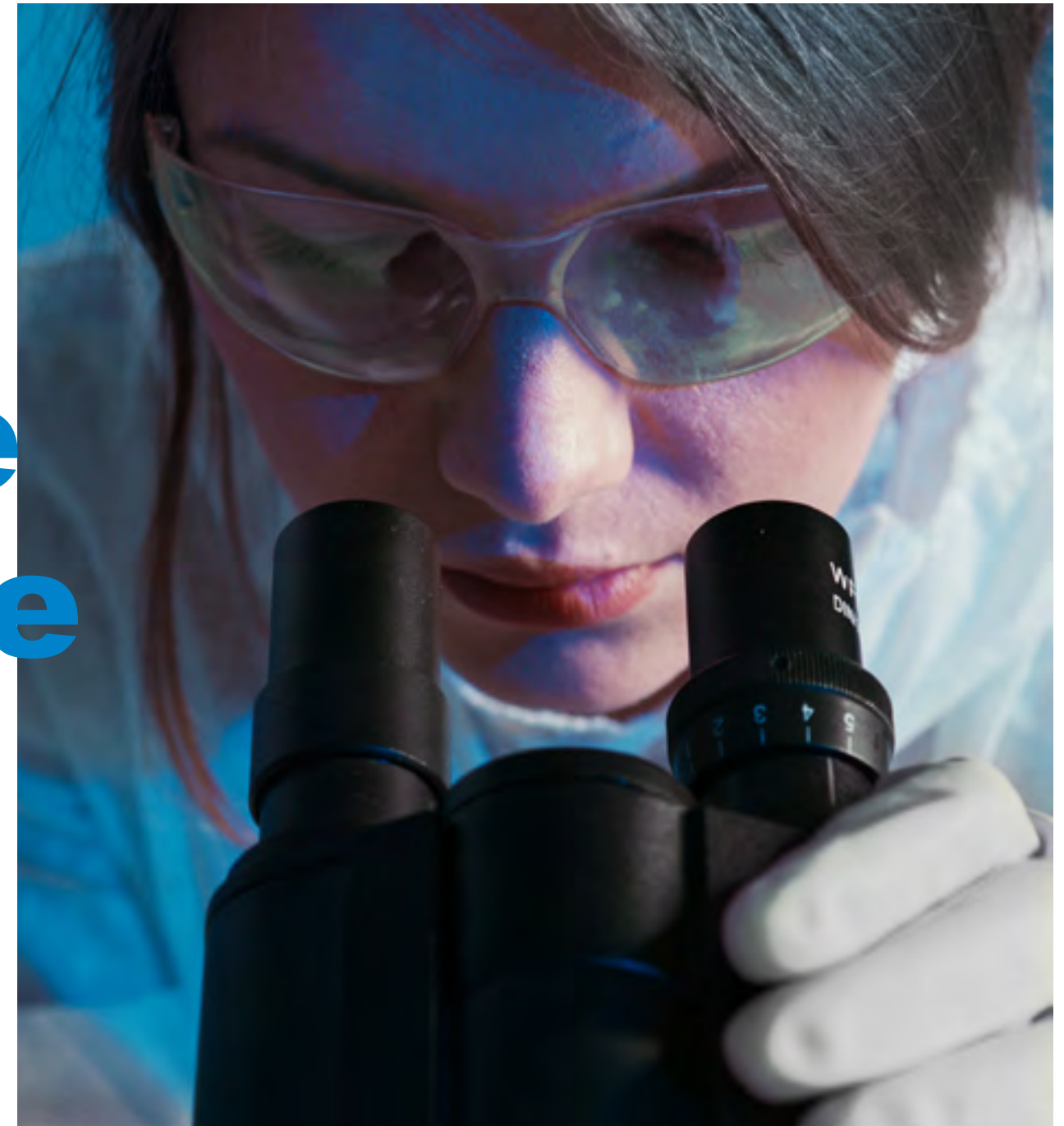
Action	Target
<b>Reduction in electricity consumption</b> and thus CO <sub>2</sub> emitted by the site.	5% reduction in BGT.
<b>Reduction of energy consumption</b> achieved by insulating cooling lines.	5% reduction in BGT.
<b>Reduction of water consumed</b> by the site achieved by replacing disposable well water with refrigeration system.	5% reduction in BGT.



Action	Target
<b>Reduction in chemicals</b> used directly or indirectly in production (e.g., solvents, nitrogen, soda ash, etc.).	5% vs BGT.
<b>Replacement of 85% acetic acid with 50% acetic acid for cleaning.</b>	Annual savings in Acetic acid of approximately 10 tons.
<b>Reduction by about 80 kg/reactor in acetone for cleaning and anhydrification.</b>	Annual savings in Acetone of approximately 10 tons.
<b>Reduction in natural gas consumption</b> and thus CO <sub>2</sub> emitted by the site by replacing heating boilers with water/diesel oil heat exchanger and replacing burner on the combustor.	5% reduction in BGT. Combustor: estimated 10% reduction in natural gas consumption equal to about 25,000m <sup>3</sup> .



# How we build a sustainable and responsible supply chain



More than ever, a responsible business development requires the creation of sustainable and responsible global supply chain: short, diversified, and certified supply chains every step of the way. It goes hand in hand with business and social

policies that respect human and environmental rights with economic performance.

Through the Olon's internal Code of Conduct and Our Management Approaches of Corporate Responsi-

bility, we have established the company standards that include ethical business practices, labour, health and safety, environment and related management systems. These standards are applied to all personnel and business models.

We are always committed to increase our standards. We have developed a Code of Conduct and a declaration of sustainability requirements that we submit to all suppliers and external businesses with which we do business globally.

The Code of Conduct binds the signatories to guarantee our same standards in terms of environmental protection, treatment of workers and production of safety certifications. All new suppliers must sign the document and ensure our same level of

sustainability at 360°. Our corporate guidelines provide that we close the collaboration in case of failure to sign. More than the 70% of our global purchases comes from suppliers that have formally accepted and signed the Code of Conduct.





### Quality depends on sustainability: the Code of Conduct

In the complex process of evaluating/qualification of suppliers from HS&E and GMP aspects, we have integrated in our procedures the sustainability aspects.

Regarding environmental sustainability, the document stipulates that:

**Suppliers should** support a precautionary approach to environmental challenges, operating in an

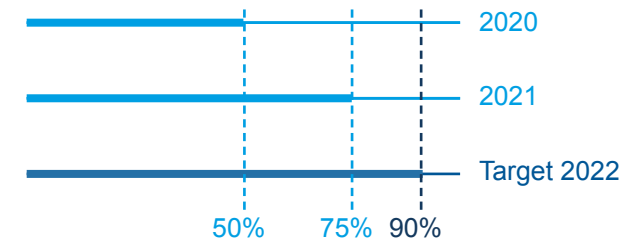
environmentally responsible and efficient way to minimize adverse impacts on the environment and undertaking initiatives to promote stronger environmental responsibility and sustainable technologies;

**Suppliers shall** comply with all applicable environmental laws and regulations. All required environmental permits, licenses, information registrations and restrictions shall be obtained and their operational and reporting requirements followed;

**Suppliers shall** have systems in place to ensure the safe handling, movement, storage, recycling, reuse, or management of waste, air emissions and wastewater discharges. Any waste, wastewater or emissions which risk to impact human or environmental health shall be appropriately managed, controlled and treated prior to release into the environment;

**Suppliers shall** have an organized approach to prevent and mitigate accidental spills and releases to the environment.

KPI Global Sustainable Procurement  
Percentage of Supply Chain involvement in sustainability issues  
(OLON Code of Conduct Commitment)



### Conflict Minerals Program

As part of Olon's commitment to responsibility, including its policy on protecting human rights in its own operations along with its supply chain, Olon's goal is to source raw materials that require the use of tin, tantalum, tungsten or gold (known as 3TG) from conflict-free area. ●

“ We source raw materials from conflict-free areas ”



Travel restrictions and social distancing during the COVID-19 pandemic placed a whole new awareness on the challenges of supply chain continuity for medicines, highlighting the importance of contingency plans and flexibility. During this pandemic period, we have always been a reliable partner for our customers worldwide. Even as we move towards COVID-19 becoming endemic, supplies of medicines are by no means guaranteed. Potency levels of increasingly complex drugs must be balanced with sustainability targets, and rising energy costs pose challenges for the operation of highly complex development processes. The industry is increasingly considering dual-sourcing key materials and APIs to ensure supply chains are not hindered, even on exceptional and unexpected events in a specific area of the world. For many years, we have put in place a business continuity program that requires we have diversified sources for all our key raw materials. To reinforce this risk mitigation plan, our sourcing strategy requires that each of these sources should be based in a different geographic area than the first source.

**Cristiano Capriotti**  
Head of Global Supply Chain & Procurement

# Caring for talents



Woman occupation  
in Olon Organization (2021 data)



Division by gender in specific sectors

Functional Leaders



Olon School



Company organization is based on the value of its people, on their own talent, features and ambitions. Our focus is to develop an internal environment able to support the accomplishment of these individual trajectories finally contributing to the company growth.

This approach is implemented day by day through consolidated corporate policies to enhance the human capital. We are a Company that lets our people reach their highest potential, we invest in training and skills development, in international job rotation programs, and in talent development processes.

We carry out human resources development initiatives, investing in personal and professional growth within the organization.

We promote gender diversity and inclusion of gender, ethnicity, religion. Women professionals, who enrich

the organization and add value to the business, have equal career opportunities and equal pay.

## Promotion of diversity and inclusion

Diversity is concretely applied to our people management. It is proved by the 25% of women in management positions and by the fact that the ratio of the average remuneration of female employees to the average remuneration received of male employees is greater than 1.

In order to enhance all the skills within the organization and encourage the full expression of personal talent, women professionals are supported in having equal career opportunities at all levels because we believe that they represent a value and a driver for the development of the Company.



## Case of female Leadership

“ We strive to create an organization that enables all individuals to reach their highest potential ”



### The Biotech Campus in Settimo

Torinese, one of the most important and strategic sites of Olon, is dedicated to the production of proteins by fermentation, already announced in September 2021, and currently underway, which includes upgrading and expanding existing areas and the construction of new, greenfield project plants and departments.

Today this Biotechnology Center is led by female professionals and the entire leadership team of the site is made up of women: the Site Director; the Head of Planning; the Quality Manager; the Research and Development Leader and Human Resources. The widespread and systematic adoption of policies that favor the expression of talent and the creation of opportunities aimed at the female population, generates exemplary cases of “female leadership” of units and operating sites within the Olon Group.

### How to reach people with higher potential: Training and Development

We carry out human resources development initiatives and programs, such as the Olon School Project, which selects a group of young graduates, invests in their person-

al and professional growth within the organization and creates a pool of high-potential talents for critical roles, based on the concept of diversity and inclusion.

We strive to create an organization that enables all individuals to reach their highest potential, investing in training and skills development, in job rotation programs and talent de-

velopment to grant both the people and the company sustainability and growth over time.

We manage a training activity to identify the most critical needs triggered by business drivers, and we develop the skills to improve managerial culture to allow the full deployment of individual talents.

### Olon School Project

With the Olon School Project, we select young graduates, invest in their personal and professional growth within the organization and create a pool of high potential talents for critical roles. The scouting is structured in several steps and covers a long term period.

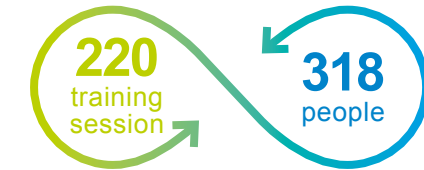
The search for talents, all with a

common scientific or economic-engineering background, is based on the concept of diversity and inclusion. The participation in the project is highly female, in particular for the scientific path. In fact, almost all of the participants are young women. It is included in STEAM network, promoted by Assolombarda, that is an initiative to reduce the gender gap.





Over 2021



Areas of development:  
**Project Management, Negotiation, Finance, Business English, Lean Six Sigma, and other major pillars for management.**



★ **Olon India**  
 In the years 2021/2022, many Employee Engagement activities were undertaken, especially at Mahad and Mumbai, our facility and office in India respectively.  
  
 Some examples: International Women's Day Celebration; Blood Donation Camp organized for the nearby community through Olon employees; Cricket Tournament for employees; National Safety Week celebration; Drawing Competition for employee's children; Indian Festival Celebration (like Ganesh and Dasera Festival).



### People development and engagement

We regularly carry out engagement and development initiatives because we want our people to feel valued and included, feel free to express their potential and feel as part of one organization.

### Safety

The induction process in joining the Group is combined with great attention to personnel safety, with an ambitious goal, already undertaken, of zero accidents, and the centrality of continuous training, which guarantees all employees an annual amount of hours dedicated to it.

In 2021, we provided 220 training sessions which involved 318 employees,

totaling 11,468 hours of training, 7,968 of which were dedicated to safety.

Recently we have launched the first Safety Day.

In partnership with all national and local Trade Unions we promoted a whole day dedicated to open dialogue, to education and to strengthen the culture of safety and sustainability on workplace. The initiative, in collaboration with Assolombarda, saw the collective par-

ticipation of all the main national and regional delegations, as well as site representatives, particularly from the relevant HSE departments.

Activities included a presentation by the company on the current geopolitical environment and managing the potential impacts that the energy crisis may have on the Group's performance now and in the future. The HSE structures at Olon sites were

featured, along with the significant results achieved thus far in terms of workplace safety and investments in training and development.

Thanks to the participation of the National Trade Union Representatives and Assolombarda, the day continued with events dedicated to training and raising awareness about safety, how to promote it and how to behave to prevent accidents.





### **Leadership Behavioral Award**

We are extremely proud of the dynamism that characterizes us in terms of professional paths in the Company. We are also proud to be able to give everyone the opportunity to cultivate and pursue one's career, and to build their personal success.

The Leadership Behavioral Award

is a global internal program to officially recognize and reward those people who display leadership behaviors, such as focusing on customers, acting with courage and candor, fostering collaboration, and demonstrating ethics & integrity. We recognize them on a regular basis, for the commitment and value they bring to the organization, helping achieve major business results. ●

“ We recognize our employees on a regular basis, for the commitment and value they bring to the organization ”

# Global footprint, global ethical and social responsibility



We take on a social responsibility, monitoring and responding to the economic, environmental and social expectations of all stakeholders. We regularly promote partnerships to support the communities where our sites are based.

We have always paid the utmost attention to the communities that reside where we operate, as demonstrated by the actions taken to react to the pandemic crisis. A social responsibility that can also be understood in a broader sense, towards developing countries.





## Green UMeeting Murcia



*Derivados Químicos has a positive impact on the territory. Thanks to its collaboration with a network of 450 local businesses that generate jobs, it has an economic impact and develops the specific skills of all the people involved, and, very importantly, this, in turn, has a direct impact on the region itself. The people working at DQ are highly qualified, a fact that is necessary to ensure production, control and compliance with regulatory standards. That is why collaboration with Murcia University is important. It ensures that we can constantly bring new talent into our organization, people who are active here but who will also see the fruits of their labour recognized globally throughout the group.*

*Unidad de Apoyo Multimedia, April 7<sup>th</sup>, 2022*

**Marcello Buson**  
Derivados Químicos President,  
Head of Global Operations Olon Group

### Olon's Code of Ethics

Recognizing the importance of ethical-social responsibility when conducting business and corporate activities and committed to respecting the legitimate interests of its stakeholders and the communities where it operates, Olon has drawn up its own Code of Ethics aimed at promoting and maintaining a true and proper corporate Code of Ethics which must be respected by directors, employees and anyone who works with Group companies. Given the basic respect for the

laws and regulations in all countries where we operate, anyone who signs the Code of Ethics undertakes to act fairly, honestly, and ethically, in interactions between workers and in interactions with customers, suppliers, and competitors. The code is divided into several sections that address general principles — i.e. centrality of individuals, equal opportunity, impartiality, transparency, and trust — but is then broken down into more specific issues inherent in a proper corporate culture — areas such as

confidentiality, protecting corporate secrecy and intellectual property, and preventing conflicts of interest. A key part covers managing human resource, protecting occupational health and safety and, of course, interactions with the outside world, the public administration, political parties and labour organizations. The goal is not only to enforce employee and supplier compliance with the Code of Ethics, but also to promote an approach that, in the long run, has positive effects on society as a whole.

### Engaging stakeholder

In order to foster an open and transparent dialogue with our stakeholders, we regularly promote visits to our sites. We usually engage stakeholders and Local Governments and Representatives of the local community inviting them to personally visit our manufacturing sites, R&D labs, offices.

In 2021 alone, we organized 5 official visits to Olon sites.

### Knowledge brings innovation: Green UMeeting in Murcia

In 2022, the Faculty of Chemistry of the University of Murcia (Spain) has inaugurated Green UMeeting, a new space, a meeting point for professors, researchers, and businessmen to celebrate all kinds of interactions in the open air with the chemical companies of Murcia, to generate innovation, discussion, and knowledge. Green UMeeting,

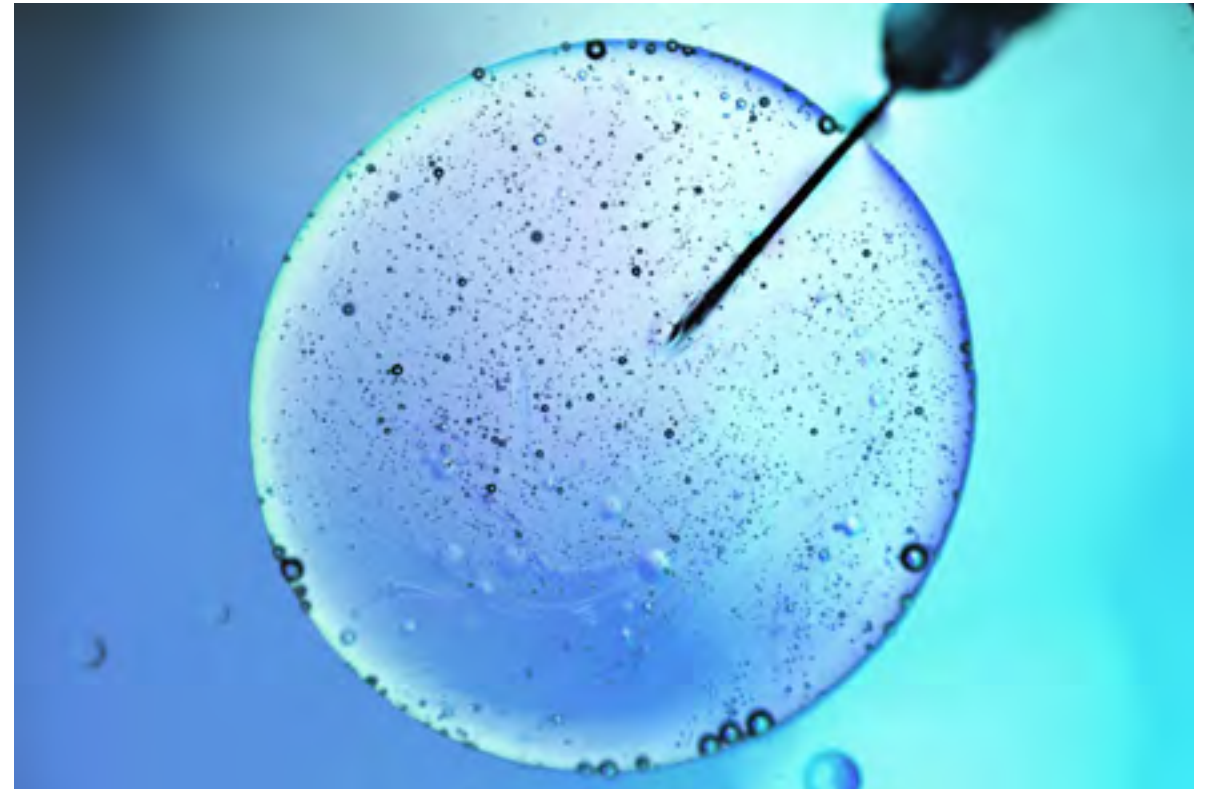
within the Faculty of Chemistry of the University of Murcia, was carried out with the support of Derivados Químicos.

The space, the first initiative ever created to encourage exchange and collaboration between chemical companies and universities, is intended to organize presentations and meetings and aims to raise awareness of the chemical excellence of the area, such as Derivados Químicos itself, to encourage innovative projects and attraction of talents in the company.





**\_1\_ Flood Relief Activities at Mahad -** Distribution of groceries and water to nearby villages in Mahad and Animal Health Camp for flood affected animals. **\_2\_ Handover of Portable Cabin-style homes** to survivors in Landslide (Taliye Village in Mahad, Maharashtra). **\_3\_ Kudrimoti Center (Mahad) - Isolation/Quarantine Center** was created for Olon employees and their families who were Covid-19 infected and suggested home quarantine. **\_4\_ During the Covid-19 period** many police officials lost their lives. To support the families of such police officials Olon contributed funds through CSR. **\_5\_ Tree Plantation at Solamkond Village, near to Mahad Plant.** **\_6\_ Computer Lab for Amshet Village -** Computer Lab was provided to youth of Amshet village in Mahad for use for educational purpose and upliftment of youth.



### Improve the quality of life: supporting communities and people in Mahad

For years, Olon India has promoted social projects to meet the key needs of local people living in Mahad, where our site is based, to improve the quality of people of their local community, focusing on health,

infrastructures, environment, and education, particularly for women. Every year through Corporate Social Responsibility initiative we at Olon India undertake many activities related to promoting education, ensuring environmental sustainability, rural development projects and contribution to disaster management, including relief, rehabilitation and reconstruction activities.

“ We ensure environmental sustainability, rural development projects and contribution to disaster management ”

In 2021/22, many such activities were undertaken in Mahad and nearby villages to Mahad Plant, due to major flood situations in Mahad and Covid-19, most of the activities were planned for this relief.

“ We have covered the cost of more than 24,000 treatments ”

### The partnership with Novartis in Ghana

Since 2019 we have also been contributing to the distribution of hydroxyurea-based treatments in Ghana:

in partnership with Novartis, we participate to a public-private partnership involving the African state's own government, unique in its kind and aimed at helping the local population suffering from sickle cell disease. Olon has covered the costs of more than 24,000 treatments.

The partnership has included the establishment of national guide-

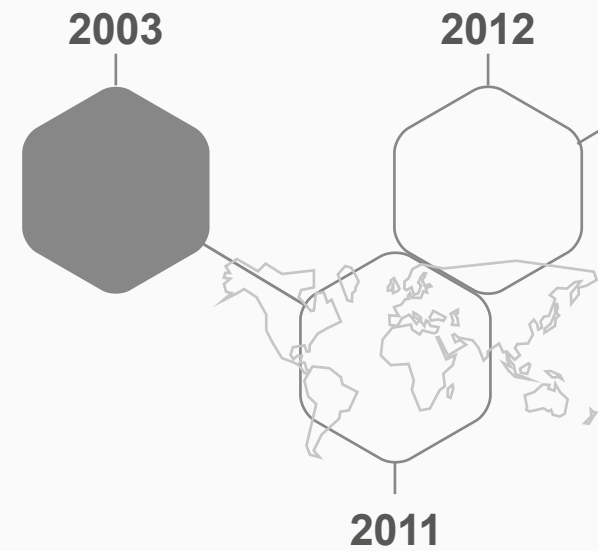
lines for treatments, newborn screening and centers of excellence for treating sickle cell disease; the provision of accessible treatment options in line with global standards of care; the use of digital technologies to monitor and assess patient registration, report data in real time and help ensure the safe introduction of drugs on a large scale. ●



# A PATH OF GROWTH

## Our history of sustainable development

Acquisition of Solchem Italiana, Laboratori Mag, Antibioticos, highly specialized in microbial biomanufacturing.



Establishment of the group international footprint with the opening of new offices in Shanghai and in the USA.

Establishment of Olon Group as a merging of the acquired companies.

Setting of the targets for the UN 2030 Agenda for Sustainable Development, with the goal to hit them by 2025.

2015



2016



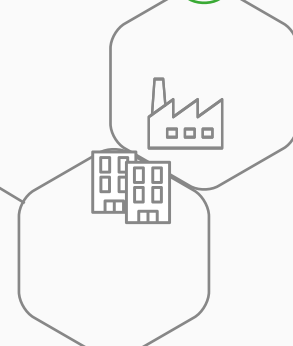
2017



2019



2018



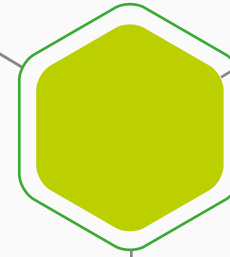
2020



2021



2022



Acquisition of Ricerca Bioscience R&D center (USA).

Reached **-23% of carbon emissions** per ton of manufactured product (Ton CO<sub>2</sub>/Ton) vs 2016.

Reached **-42% of energy consumption** per ton of manufactured product (TEP/Ton) vs 2016.

Activation of processes and technologies aimed at sustainability on sites (high-efficiency co-generators with reuse of thermal waste; new thermal power plants for steam production; technologies to increase the degree of production containment; distillation columns for solvent recovery; green chemistry projects for the replacement of chlorinated solvents and reduction of critical substances).

Acquisition of INFA Group.

Acquisition of three further manufacturing facilities: Labochim, Sifavitor (Italy), Derivados Quimicos (Spain).

**€5.5 million invested** by Derivados Quimicos regarding sustainability and the environmental impact matters.

Reached **-21% of water consumption** per ton of manufactured product (m<sup>3</sup>/Ton) vs 2015.

Partnership with Novartis to ensure the distribution of hydroxyurea-based treatments in Ghana to people with sickle cell disease.

**> €14 million invested** in the Rodano, Casaleto Lodigiano, Dorno and Settimo Torinese production plants to make the sites more sustainable.

Reached **-26% of total waste** per ton of manufactured product (Ton/Ton) vs 2018.

The acquisition of Capua Bioservices makes the group one of the first companies in Europe producing APIs with microbial biomanufacturing for third parties.

Acquisition of Novartis API plant in Mahad (India).

Opening Mumbai Offices (India).

Awarding of the Excellence of Italian Industry for the Sustainable approach by Harvard Business Review GEAArca SGR, with the endorsement of Borsa Italiana.

Creation of an international network of scientific excellence to launch large-scale biocatalysis as an industrial technology, with Biosphere and the Biocatalysis Group of the Van't Hoff Institute for Molecular Sciences (HIMS-Biocat) at the University of Amsterdam (UvA), is announced.

Installation of the steam generator, guaranteeing 100% use of biomass instead of fossil fuel in the Mahad plant.

Development of a Code of Conduct and a declaration of sustainability requirements that are submitted to all the Group suppliers.

Achievement – 4 years in advance – of all the sustainability targets set in 2018, following the UN 2030 Agenda for Sustainable development.

As a reaction to the pandemic, the communities where Olon is present were supported by donating medical supplies and food, and by providing a psychological support service.

Contribution to the development and marketing of many of the current drugs used for the treatment of Covid-19.

Reached **5% of annual increase** in good practices at all sites, in terms of optimizing the consumption of energy resources and recycling of used materials.

Announcement of the creation of a Scholarship for a PhD in the development of new highly innovative and sustainable photochemistry-based processes at the University of Milan.

Governance review in progress to set the new 2023-2030 sustainability targets.



**olon** s.p.a.

STABILIMENTO DI CASALETTO LODIGIAN

**ETICHETTA**

**ID:**

**Sol:**

**Date/Sign:**





# RESEARCHING SUSTAINABLE TECHNOLOGIES FOR THE FUTURE

If our mission is to innovate the way to deliver advanced science to human being, to improve their well-being and to do so through sustainable industrial and technology solutions, the only way to give expression to this intention is to constantly work on innovation, research and development.

The goal is to further improve the quality and safety of products while ensuring their accessibility to a wide range of beneficiaries. We are also working on enhanced digitization processes in order to speed up and optimize the phases of research.

Essential to moving in this direction is partnering with institutions and universities because networking leads to sharing knowledge, strategies and best practices that generate solutions which benefit everyone.

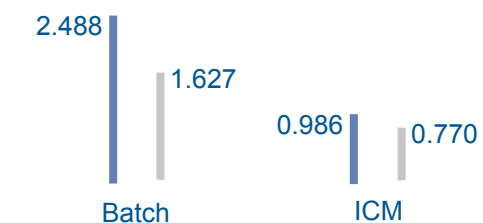
As for the actions carried out by Olon, the specific goal is also to find ways to improve the production processes to gradually reduce energy and natural resources consumptions and the amount of solvents required for chemical processes, which are generally quite elaborate and require numerous steps.

Our research for innovative technologies is therefore focused on tackling these issues.



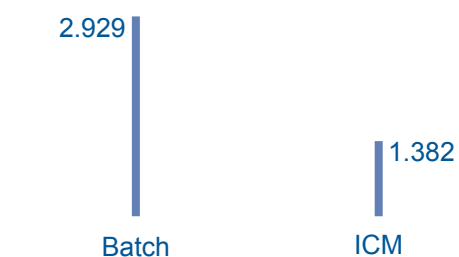


E-factor (kg Waste/kg Product)



— Non-recycle cake wash Solvent 1 for dissolution  
 ..... Recycle cake wash Solvent 1 for dissolution

Energy Intensity (MJ/kg)



$$\text{Energy Intensity} = \frac{\text{Total process energy (MJ)}}{\text{Mass of product (kg)}}$$

### Keeping production units active at all times: continuous manufacturing processes

To overcome the significant amounts of energy required for reactors, we are implementing several continuous manufacturing processes investigating both the flow chemistry approach as well as CSTR (continuous stirred tank reactors).

It means no batch reactors with loading and unloading phases, but constantly active production units (either microreactors or small classical reactors) that reduce the footprint of the continuous manufacturing processes

for the production of the same quantity of product. Since in this innovative production set-up, usually smaller amount of materials is used for unit time, the control of the local temperature is higher, ending up with the possibility to avoid high energy consumption extreme temperature for chemical transformation. It also provides greater safety for operators and for the process itself, due to using limited quantities of products that react together at any given time.

Moreover, the latest technological development will make it possible to use light (photochemistry) or electricity (electrochemistry) to run reactors, which would not be unfeasible under more conventional conditions with no or reduced need of chemical reagents and extreme temperature.

“ Advanced processes can dramatically reduce the use of energy and solvents ”

### Investing in biocatalysis

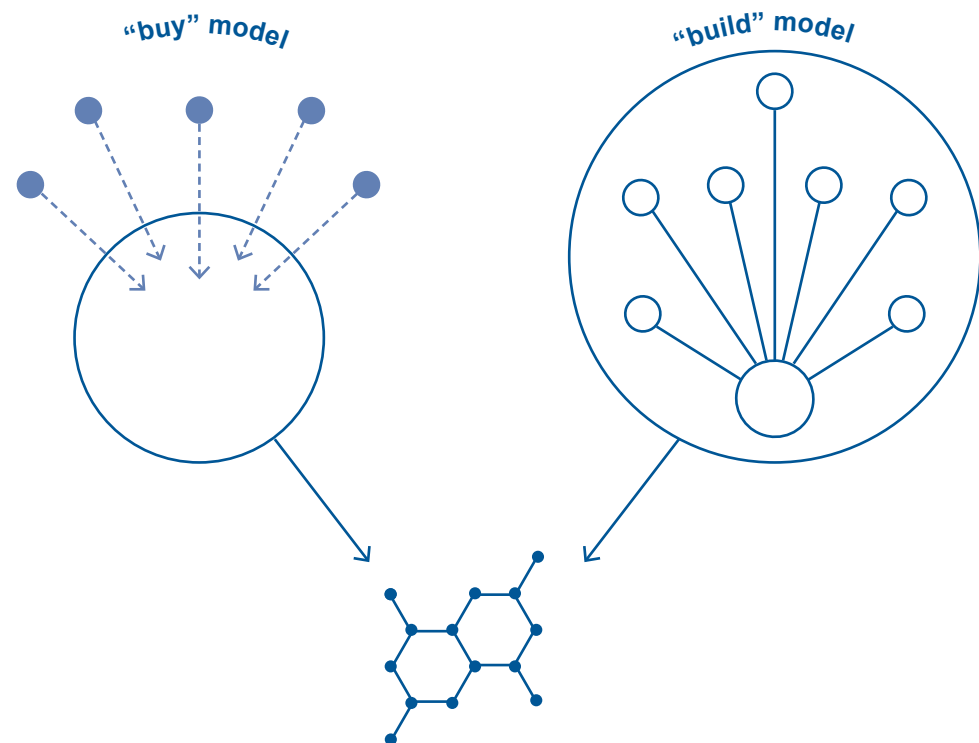
Nowadays there is an increasing desire for chemical transformations that are more cost-effective, atom economical, robust and selective. Biocatalysis, broadly defined here as the use of microorganisms or enzyme preparations to catalyze chemical transformations, meets these requirements for a growing number of reactions.

The use of biocatalysis in industrial processes is very attractive thanks to its several advantages, such as:

- Synthesis of products that are not always accessible by standard chemical reactions;
- Use of alternative raw materials that are often less complex and less expensive;
- High selectivity of biocatalysts, resulting in the synthesis of high purity and, therefore, high quality products;
- Eco-sustainability thanks to use of water as a reaction solvent, potential elimination of organic solvents and reaction temperature close to room temperature.



From the “buy” to the “build” model



There are two general operating models to employ biocatalysis in producing small molecule APIs: “buy” or “build”. The “buy” model refers to procurement through commercial suppliers, whereas the “build” model is based on the investment in the creation of internal bespoke departments. The “buy” model allows to exploit biocatalysis without a dedicated department, but it sacrifices control over enzyme supply and freedom to operate. In the “build” model, biocatalysis and enzyme evolution capabilities are maintained in-house. This model requires an investment into scientific expertise, technology platforms and infrastructure but benefits the security of supply for enzymes incorporated into future manufacturing routes and allows for increased control over intellectual property of developed processes. Aware of the enormous potential of biocatalysis, in October 2021 Olon Group takes a further step towards the “build” approach and announces the creation of an international network of scientific excellence to launch large-scale biocatalysis as an industrial technology used within

its production facilities in Italy and around the world. This partnership brings together some of the most advanced expertise in the field of biocatalysis from both academic and industrial spheres: it unites the Olon Group, Biosphere — an Italian SME specialized in fermentation and industrial biotechnology — and the Biocatalysis Group of the Van’t Hoff Institute for Molecular Sciences (HIMS-Biocat) at the University of Amsterdam (UvA). With the leading expertise implemented by these collaborators, it will be possible to identify the most effective enzyme, thanks to engineering and HTS, for the type of reaction required before scaling up its production and the biocatalytic process to industrial levels. These high-level collaborations and the expertise already present in Olon group are fundamental to strengthen the change of mindset towards sustainability. This investment will allow us to build a strong know-how with the purpose of developing innovative, eco-friendly, convenient and high quality processes and improving existing ones.

### End-to-end manufacturing goal

We are grappling with a change of mindset, in which there is a continuous exchange of knowledge and information between the chemical and engineering sectors, also generating new specific know-how.


This investment will have a double impact in terms of sustainability: it is less energy and labor-intensive due to the high level of embedded automation.

All this is in a context of greater safety, with the aim of reaching end-to-end manufacturing: from raw product to ready drug, with fewer steps and purification processes. Technological progress also has an impact on the entire production chain, producing a rapid evolution in terms of procedures and digitization, towards an effective Industry 4.0.



*Together with Biosphere and the University of Amsterdam, we have been working on a very important biotech innovation. We use enzymes to generate new chemical reactions. Simply put, this means teaching microorganisms to produce the molecule we need. This enables us to avoid the need for some of the high environmental impact steps that would be required to achieve the same result through a conventional chemical process. This is a European innovation that demonstrates how the environmental impact of pharmaceutical manufacturing can be drastically reduced while keeping production in Europe.*

Avvenire, April 13<sup>th</sup>, 2022

 **Roberta Pizzocaro**  
President Olon Group



*Fermentation is, intrinsically, a green process, and we deem respecting the environment of paramount importance. For the most part, we use water rather than chemical solvents and, as far as possible, we use crude raw materials, recycled, recyclable and unrefined substances in production. The life cycle of our products includes the reuse of any waste products to produce energy (biogas) or in agriculture and animal feed. Eco-sustainability is a screening parameter for the acquisition of new orders.*

*Kosmetica, February 2022*

 **Andrea Conforto**  
VP Olon Biotech

## Biotechnology

With our Biotechnology Centers, we are a global leader in microbial manufacturing.

We started manufacturing by microbial fermentation in the 1960s, applying the technology to the production of antibiotics and later to many other molecules including cancer drugs.

Today, fermentation, which is a recombinant DNA technology, is applied to manufacturing life-saving treatments.

Microbial fermentation is an eco-friendly and highly sustainable process that mainly uses only water, renewable nutrients and microorganisms. It reduces the use of chemical solvents, which are already significantly limited in all Olon Biotechnology Centers.

However, we are firmly committed to further reducing the environmental impact and strive to limit the use of chemical solvents in all our manufacturing processes. We want to take on a leading role in the chemical-pharmaceutical sector from an ethical and social point of view even before the economic and productive one, by being bearers of a new perspective.

“ **We want to take on a leading role in the chemical-pharmaceutical sector from a business, ethical and social standpoint** ”





*Our primary focus is to increase process safety across our operations, and we will continue activities to collect information to allow us to optimize safety. The next priority is to collect more information to guarantee a smooth scale-up of processes. We will be building a large lab containing a great amount of equipment, as well as software to simulate critical process parameters — for example, stirring or heat transfer in large-scale reactors compared with smaller vessels in the lab. We will collect data in the lab and use software to predict behavior at larger process scales.*

 **Giorgio Bertolini**  
Senior VP R&D Olon Group



## ↳ An innovative global R&D model in the Rodano center

In May 2022 Olon announced the creation of an R&D hub at its center in Rodano (Milan, Italy), home to the Group's headquarters, paving the way for further major expansion and diversification of its expertise and technologies applied to the development of APIs for the CDMO and Generics market. With a €10-million investment, the area will be dedicated entirely to research laboratories to be used to develop APIs, manufacturing processes, forming a central research hub and which, integrating with the 7 existing Olon research centers will give rise to an innovative global R&D networking model where the high-level expertise and know-how involved in specific processes will be connected, shared, and extensively applied across the Group's entire manufacturing network. The major investment involves the construction of a vast area of laboratories, operative by the second quarter of 2023, some of which will focus on furthering the develop-

ment of new, highly sustainable technologies, including biocatalysis, photochemistry and electrochemistry. It will also support significant growth in the R&D team, with up to 50 new researchers hired, bringing the total number of people assigned to research activities to around 350. The new hub represents growth in terms of people, expertise and skills, with the strategic objective of boosting internal know-how. Based on integrated data systems, this know-how will enable the company to scale up products faster and to achieve highly flexible and reliable tech transfer from one site to another.

Thanks to this new project, the prestigious monthly Pharma Tech Outlook has included the Olon Group in its annual report on the 10 European companies at the forefront of providing CMO/CDMO solutions and transforming businesses in the region. ●





**Sustainable technologies  
delivering science**