

Sustainability Report 2024

GRUPPO COLOROBIA.



In this document

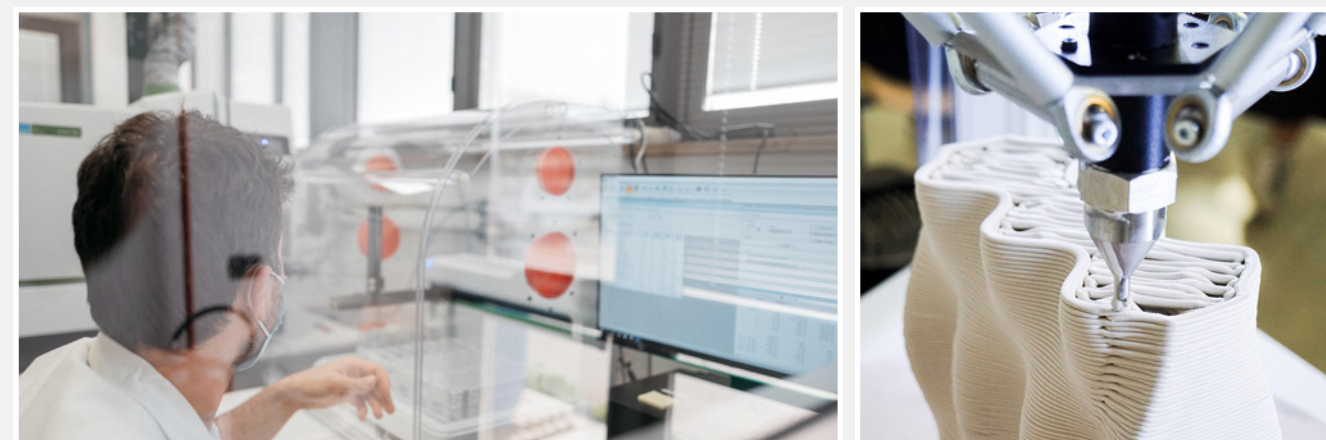
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“

Our DNA boasts an innate drive towards research and innovation, making the most of our internal resources.
This, together with an unparalleled know-how, has made us a dynamic partner, capable of providing a global service always future-oriented.

”

Knight of Labour Vittoriano Bitossi,
Gruppo Colorobbia Founder



Dear readers,

We are pleased to present the second Sustainability Report of the Colorobbia Group, with which we renew and strengthen our commitment to responsible and lasting development.

2024 proved to be a particularly challenging year for the ceramic sector,

still influenced by weak international demand and a slowdown in global trade. At the same time, it was the hottest year on record, with average temperatures more than +1.5°C higher than pre-industrial levels, confirming the urgency of accelerating the ecological transition. In this context, the solidity of our industrial model confirms the intention to take a further step forward along a path that we have undertaken with determination: to make sustainability a strategic lever to innovate, improve the efficiency of our processes and generate shared value for people and for the territories in which we operate.

Our passion for research and innovation continues to drive the Group's growth.

In 2024 we intensified investments in Research and Development, strengthening our commitment to process efficiency, experimenting with new technologies and developing products with high added value, including in application areas beyond the ceramic sector.

Each plant of the Group has its own dedicated R&D department, in constant dialogue with the internal Technical Committee, which brings together the main professionals involved in research and innovation.

The flagship projects in 2024 included evolution of the PRINCE programme for the electrification of ceramic kilns, the CIRP project for the recovery of precious metals and used solvents and the development of smart materials intended to capture CO₂ from industrial fumes. At the same time, studies continued on 3D printing in the ceramic field, on advanced digital decoration and on water-based inks for the textile and glass sectors.

We are guided by the belief that competitiveness comes from people: this is why we focus on safe, collaborative and stimulating work environments, where each individual is able to contribute significantly to our shared success.

In 2024 we consolidated the adoption of the Lean Manufacturing methodology in Italy and Spain, improving operational efficiency and enhancing the direct contribution of our employees.

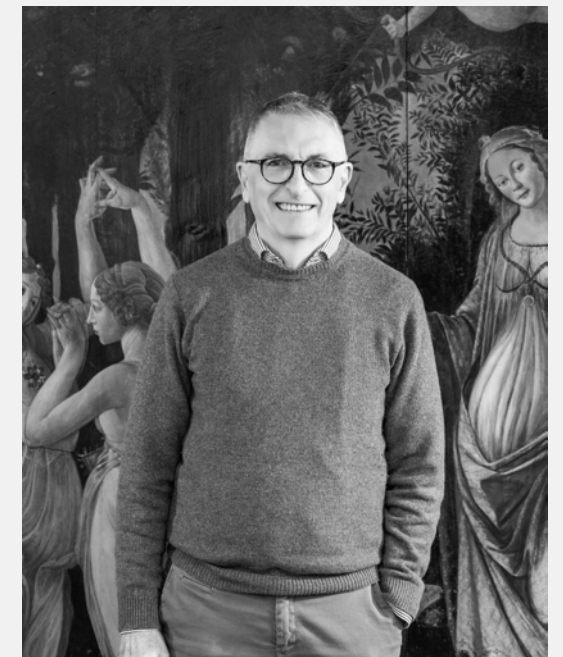
At the same time, we strengthened internal development programs, with over 24,000 hours of training provided, to enhance technical and managerial skills.

Returning value to the areas in which we operate is an integral part of our identity.

In 2024, we strengthened our cultural and social commitment through the Bitossi Museum Archive, the Ceramics School and the Vittoriano Bitossi Foundation, which promote historical memory and the training of new generations. Globally we support communities with educational programmes, scholarships, charitable activities and environmental projects, contributing to sustainable development in all the countries in which we operate.

We are aware that the road to sustainability is complex but we firmly believe that it is the right one. We will continue to walk it together with those who, day by day, share our commitment. Happy reading: this Report is the narration of a year lived with responsibility and vision, and an open look at what lies ahead.

Marco Bitossi
President of the Gruppo Colorobbia



COLOROBRIA'S ESSENTIALS: OUR COMMITMENT TO...

EMPLOYEES

Our people are at the heart of everything we do. We value their talent and professionalism and we therefore offer them a safe environment based on mutual respect.



CUSTOMERS

We serve our customers with dedication, offering innovative solutions that are the result of constant research and capable of anticipating the evolutions of a constantly changing sector.

COMMUNITY

We are committed to supporting the communities in which we operate, contributing to their cultural, social and environmental development with responsibility and a sense of belonging.





01. A GLOBAL FAMILY

COLOROBBLIA®

A GLOBAL FAMILY

Colorobbia's solidity, which has lasted for over 100 years, confirms it as a reliable partner for customers worldwide. And the story continues.

Born from the passion of the highly regarded Cavaliere Guido Bitossi as a small ceramics factory in Montelupo Fiorentino and transformed into an international success by the similarly esteemed Cavaliere Vittoriano Bitossi, Colorobbia has expanded its expertise to offer innovative solutions that cover the entire industrial ceramic production process, from the extraction of raw materials to the distribution of finished products.

With an international presence that today counts 45 companies in 18 countries and over 2,000 people, Colorobbia is a symbol of **vertical integration and internationalisation**. In the 1970s, the Group embarked on an expansion path that has strengthened production processes and optimised industrial organisation. Leading this growth is Colorobbia Holding S.p.A., which exercises the financial coordination of the Group, integrating a global mosaic of skills and traditions to respond with solidity and flexibility to the challenges of a constantly evolving market.

For over a century, the Colorobbia Group has represented a history of excellence and innovation worldwide in the production and distribution of raw and semi-finished materials for the ceramic and glass industry.



OUR VALUES

A global family business inspired by tradition

Our tradition and our past are the solid foundations of our future. A business family that has extended its tradition worldwide, becoming a leader in the ceramic sector.

We love our customers

We devote the utmost attention and all our experience to the customer. Trust, respect and continuous improvement: the customer at the centre.

People

The people who work with us have always been the secret to the success of our industrial group. Dedication, commitment and professionalism contribute every day to making our business better.



Passion for innovation and research

Our laboratories located in ceramic clusters around the world are constantly researching new solutions for high-performance products. The combination of ideas and creativity of our employees are fundamental to the creation of unique and high-performing products.



Sustainable Progress

We have always worked with respect for the environment and the resources that surround us, today more than ever. We strongly believe that our heritage, the planet and the community must be protected every day to safeguard our future. We are committed to the constant search for strategies and investments in new technologies to minimise the negative impact on the environment.



The economic and financial results for 2024



OUR HISTORY: OVER A CENTURY OF EXCELLENCE AND INNOVATION

1921

Foundation of Manifattura Ceramica Cav. G. Bitossi & Figli, now Ceramica Bitossi in Montelupo Fiorentino (FI).

1947

Opening of the Colorobbia ceramic paint plant in Montelupo Fiorentino (FI).

1955-60

Start of the production of precious metals, colloidal solutions and polishes for the decoration of ceramics, porcelain and glass in Montelupo Fiorentino (FI).

1968

Foundation of the Colorobbia Italia ceramic paint plant and of Industrie Bitossi for the production of zirconium silicates in Sovigliana Vinci (FI).

1970

Opening of the sales offices in Colorobbia and of the warehouse in Fiorano Modenese (MO).

1977

Start of the production activity of Colorobbia Brasil.

1978

Marketing of table accessories under the brands Bitossi Home and Bitossi Diffusione in Sovigliana Vinci (FI).

1981

Foundation of Colorobbia Holding S.p.A.

1983-85

Start of the mining activity in Peru with Inkabor, of the production activity of Colorobbia in Fiorano Modenese (MO) and setting up of Colorobbia Portugal.

1988-89

Foundation of the Colorobbia España plant, start of mining in Italy with Eurit and setting up of Industrie Bitossi Mineral Sanayi (Turkey), Colorobbia Taiwan and Colorobbia Thailand.

1993

Launching of Mariter in integrated logistics services, with land terminal in the port of Livorno.

1993

Minerals 2000 is set up in Spain for the production and marketing of raw materials.

2000

New production sites of Industrie Bitossi and Colorobbia in Montelupo Fiorentino (FI), setting up of Colorobbia Indonesia and Colorobbia Nordeste (Brazil).

2001

Opening of Colorobbia China, Ceramic Services (Czech Republic) and Colorobbia Mexico.

2004

Colorobbia East Europe (Russia) was born.

2005

Colorobbia Polska (Poland) and Industrie Bitossi Guangzhou (China) are set up.

2008

Creation of the Vittoriano Bitossi Foundation for ceramic art in Montelupo Fiorentino, as a tribute to the deep bond with the territory and ceramics.

2012

Colorobbia Chemicals (India) is set up.

2013

Colorobbia Middle East (UAE) is set up.

2014

Inkabor (Bolivia) is set up.

2015

Colorobbia Ege (Turkey) is set up.

2016

Colorobbia USA is set up.

2017

Colorobbia Vietnam is set up.

2021

Celebration of a century of innovation and international entrepreneurship of the Colorobbia Group and the launch of Colorobbia Africa Pty Ltd.

2022-24

Creation of digital enamels, developed in collaboration with plant engineers specialised in the sector. Publication of the first Sustainability Report of Colorobbia Italia, Industrie Bitossi, Colorobbia España and the first Group Sustainability Report.

OUR PRODUCTS

Since 1921, we have always been at the forefront of offering raw materials, semi-finished products and integrated services for the cutting-edge and technologically advanced ceramics industry.



MINING AND RAW MATERIALS SECTOR

Micronised zirconium silicates, opacifiers, oxides, silicates and carbonates, boric products for industry and agriculture, feldspar and kaolin for the production of ceramic tiles.



FRITS

Frits for industrial ceramics, glass, abrasives, construction, sheet metal and other uses.



GLASS MATERIALS

Colour concentrates, enamels and paints for glass staining.



DIGITAL SPACE

Enamels, grits and additives for digital printing industrial solutions. In addition, Colorobbia Digital Space designs and produces pigment-based inks for the ceramic industry and, in parallel, develops specific lines for the textile sector, such as T-inks water-based inks for printing on fabrics.



LEAD OXIDE (MINIUM)

Production of lead oxide (minium) with a high purity standard, mainly used as a fundamental element for the production of positive battery plates, in the glass sector (crystal) to give brilliance and transparency. It is also used in small quantities in various production sectors such as ceramics (to give fusibility to frits) and paints (with anti-rust properties).



ENAMELS AND PIGMENTS

Porcelain enamels, glass enamels and pigments for the colouring, coating and decoration of various materials and surfaces.



SPECIALTIES

Preparations based on precious metals (gold, platinum and lustres) for the artistic and industrial decoration of ceramics and glass.



LOGISTICS

Management of maritime shipments through a terminal owned by the port of Livorno.



TECHNICAL CERAMICS

Grinding bodies, technical ceramic coatings for anti-wear and armour solutions.



GRANULES

Production of clear, anti-reflective and porcelain-effect grits for decoration and technical application on various surfaces.



ARTISTIC CERAMICS AND TABLEWARE PRODUCT

Production of ceramics by leading designers and architects on the international scene.

COLOROBBIA: HIGHLIGHTS OF THE YEAR

CERSAIE 2024: Colorobbia’s innovative vision for the future of ceramics

At CERSAIE 2024, Colorobbia confirmed its leadership in sustainable innovation, presenting a complete range of eco-friendly solutions developed thanks to consolidated skills, years of research and rigorous environmental standards. The stand, designed by Bottega Architetture Espositive, offered visitors an immersive experience, enhancing technologies capable of creating digital reliefs and micro-reliefs in perfect harmony, without compromising the technical properties of the finished products.

The main protagonist was **FORMA Plus**, the range that revolutionises ceramic decoration with three complementary lines:

- **Extra-Glazes**, innovative and sustainable water-based digital enamels;
- **Graffiti**, inks with water-repellent effects;
- **Neogrits Collection**, grits and micro-grits used to obtain unique textures inspired by natural materials, applicable both before and after digital decoration.



Colorobbia also presented **AIR Evolution**, the series of low-emission digital inks – available in both the solvent-based and water-based versions – that combines sustainability and high performance during decoration and firing.

The range also includes water-based digital adhesives that significantly reduce harmful emissions and odours, with proven performance in an industrial environment.



Finally, for the large-format segment dedicated to interior design and furnishings – from kitchen countertops to tables and decorative panels – Colorobbia has launched new surface finishes and full-body products with highly colourable formulations, 3D effects and customisable veining, paving the way for new design frontiers.

During 2024, the Group promoted two **Open House** initiatives in Spain. The first event took place in February and made it possible to present the latest innovations to the public through an exhibition itinerary designed to encourage direct encounters with the Group’s materials and people.

At the end of May, however, the **TechXperience** event combined technology and creativity in an immersive installation, offering visitors a multisensory experience that enhanced the technical and aesthetic excellence of Colorobbia solutions.



Furthermore, again at Cersaie 2024, Colorobbia presented the **Impronta Verde project**, an initiative that represented a significant step in the Group’s commitment to sustainability and care for the planet.

At the heart of the project was a clay vase, handcrafted with Galestro Colorobbia clay, which visitors could embellish with coloured imprints, transforming it into a collective work symbolising environmental responsibility.

Every footprint left on the vase also had a concrete value: for each of them Colorobbia donated a shrub to the Municipality of Fiorano Modenese, contributing to the creation of new green areas and the improvement of local environmental quality.

With Impronta Verde, Colorobbia sought to reiterate that even small gestures, if shared, can generate a real and lasting impact, while strengthening the bond with the local area and the vision of a greener and more sustainable future.



Colorobbia promotes the excellence of Italian ceramic technology in the Indonesian market

Promoting Italian industrial culture, blending tradition, innovation and expertise, across Asia – following its debut in Vietnam – the event travelled to Bali, attracting strong participation from customers throughout Southeast Asia (with over 200 attendees).

Over three intensive days of plenary conferences, networking sessions and one-to-one meetings, COLLECTIO highlighted Italian excellence in the ceramic sector – **showcasing cutting-edge materials, innovative technologies, new applications, design and emerging trends.**

The event was a great success, attracting professionals from 14 countries across the Asia-Pacific region, including Indonesia, Vietnam, South Korea, India and Thailand.

The theme **Made in Italy, Innovating the World** served as the common thread running through a rich and engaging agenda built around three key topics – **sustainability, innovation and customisation** – strategic drivers for remaining competitive in a constantly evolving market.

The initiative consolidated relationships with key stakeholders across the Asia-Pacific region, promoting Italian ceramic culture and the value of Made in Italy innovation.



Glasstech 2024: Colorobbia and the future of glass

From 22 to 25 October 2024 Colorobbia attended Glasstech, the main international trade fair for the glass sector in Düsseldorf.



WE ARE AT GLASSTEC!

The industry's leading meeting place and showcase for glass technical developments. Here, trends are set that will move the future of glass.

Düsseldorf - Stand 12D39

Active in this sector since 1996, the Group has consolidated unique skills that have translated into a range of products divided into three brands: **V-Decor** (hollow glass decoration), **V-Gem** (feeder colouring) and **V-Home** (flat glass decoration).

The proposal was completed by technological solutions based on precious metals and the support of a specialised team, capable of offering dedicated technical assistance and continuous research and development.





Shaping the Color side of Glass

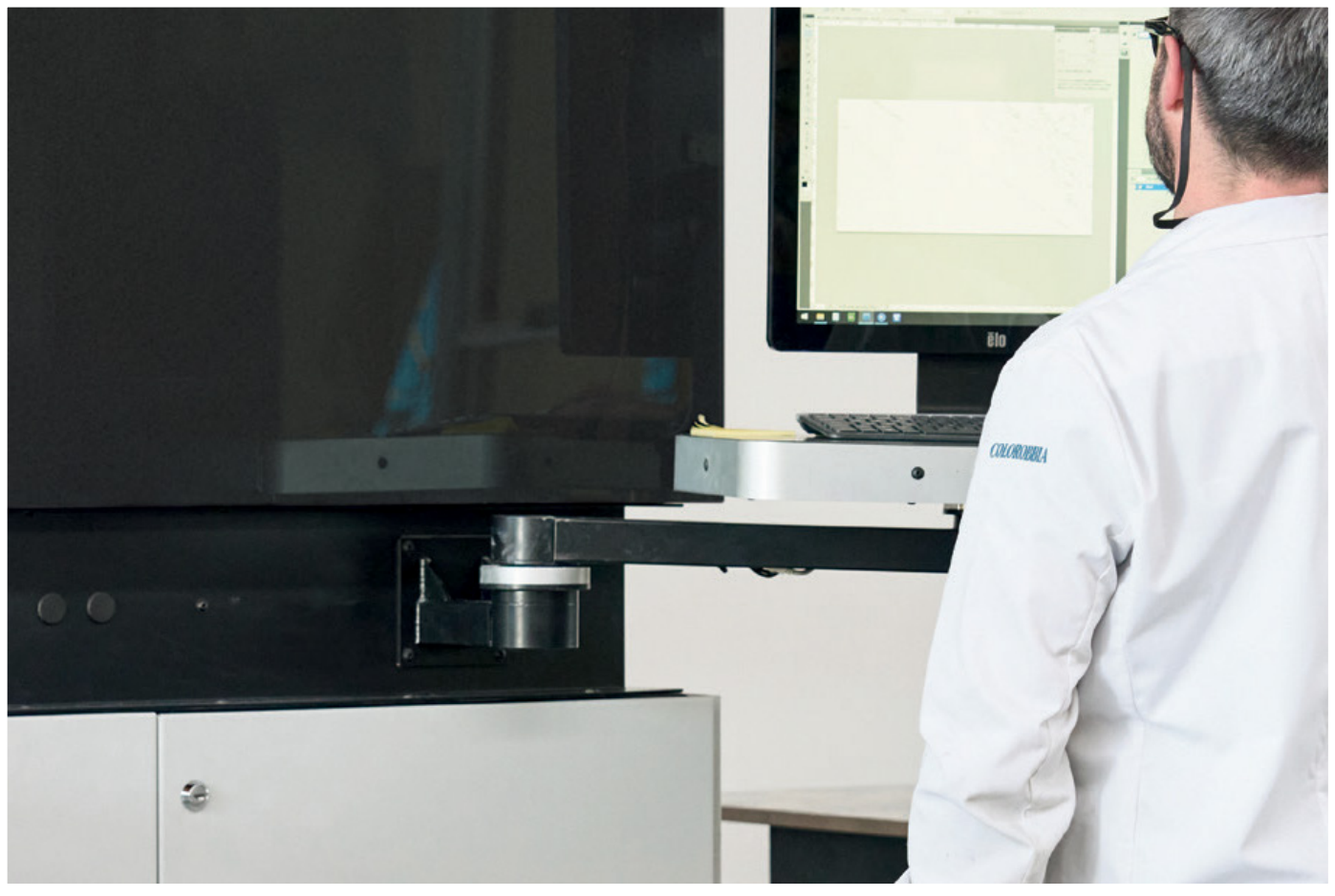


Dreamlab: Innovation and Matter

With the Dream Lab – Innovation and Matter initiative, Colorobbia Spain opened its doors to customers and partners, offering an immersive experience in which innovation and matter collided. The initiative, hosted in Vilafamés (Castellón), allowed for the exploration of new creative and technological possibilities, transforming ideas into reality thanks to the excellence of Made in Italy and the innovation of Colorobbia.

Dreamlab.





02.
PASSION FOR
RESEARCH AND
INNOVATION

A glimpse into the global context

69%

of Italian companies
invested in environmental
sustainability in 2024 and
24% of investments focus
on the circular economy.

(BCG, 2024)

15-30%

the reduction of fuel consu-
mption in the firing process,
thanks to the recycling of
hot air in the kiln.

(Decarbonizing the cera-
mic industry, ScienceDirect
2022)

INNOVATION AND EXCELLENCE SINCE 1921

Innovation is a fundamental pillar of the Group's success and longevity

With over a century of history, Colorobbia preserves the ceramic tradition that began at Manifattura Ceramica Cav. G. Bitossi & Figli, translating it on a global scale thanks to the contribution of all the Group companies.

The passion for research and innovation has always made Colorobbia a leading player in the sector, contributing to the continuous renewal of technologies and processes in all phases of ceramic production.



Colorobbia has established itself as an avant-garde company in digital printing for tiles and crockery, developing new techniques and high-performance inks that expand decorative possibilities.

In its research and development laboratories – the driving force behind the Group's innovation – located throughout the world, new solutions are continuously being studied and developed which, thanks to the combination of experience and creativity, lead to the creation of unique and high-performance products.

By leveraging new technologies and strategies, Colorobbia contributes to the sustainable transition of the ceramic industry and at the same time creates value in a variety of research areas.

The studies conducted by the Group's companies in the chemical and technological fields often result in innovative solutions that are applicable in numerous sectors, such as the medical and health sector.



Colorobbia has established an **internal Technical Committee that brings together the main professionals active in research and innovation within the Group.**

This committee, consisting of experts from the various areas and companies of the Colorobbia Group, meets twice a year in a two-day event dedicated to sharing current and future projects. The aim is to identify synergies, strengthen collaboration between departments and companies and accelerate innovation processes.

As part of its commitment to sustainable innovation and continuous improvement, Colorobbia España has promoted the creation of a new **research and development laboratory**, with the aim of centralising and enhancing all the Group's capabilities in this area. This new space, designed according to the principles of the Agile methodology, promotes a more efficient management of resources, interdisciplinary collaboration and an acceleration of innovative processes.

The concentration of talents and skills in a single environment means not only being able to enhance the synergies between the various technological areas but also to optimise the environmental impact of research and development activities, thanks to a more rational use of energy, materials and spaces.

This initiative strengthens Colorobbia's sustainability strategy, focusing on a responsible growth model, based on knowledge and oriented towards the development of increasingly advanced, efficient and environmentally-friendly solutions.

Focus on: Ce.Ri.Col, Colorobbia Research Centre

As part of the Group's innovation and sustainability strategy, **Ce.Ri.Col. – Colorobbia Research Centre**, based in Sovigliana-Vinci, represents the Group's division dedicated to research and connection with the academic and scientific world. Each company in the Group has its own R&D department, focused on application development related to the core business; instead the Ce.Ri.Col. operates across the board, focusing on large-scale projects and on collaborations with universities and international research centres.

Its activities include ceramics, textiles, the conservation of cultural heritage and selected initiatives in the biomedical field, supported by an analysis laboratory dedicated to the characterisation of materials.

Ce.Ri.Col.'s commitment to advanced sectors, such as nanomedicine and functional materials, reflects the Group's focus on a responsible development model, aimed at improving the quality of life and at enhancing cultural heritage.

In this framework, Ce.Ri.Col. plays a **complementary and integrative** role with respect to the research conducted by individual companies, transferring solutions and skills that fuel innovation, sustainability and growth.



Water-based textile inks: sustainable innovation for digital printing

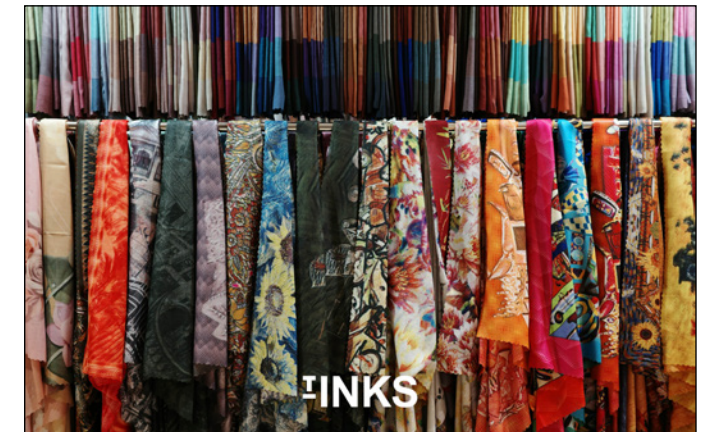
The Group has developed a **new generation of water-based pigmented inks for digital textile printing, designed to ensure high performance with a reduced environmental impact.**

The project has combined research on materials, eco-design and application tests, with the aim of offering solutions aligned with the highest technical and environmental standards of the textile sector, which is now increasingly attentive to sustainability.

Colorobbia España has obtained the ECO PASSPORT by OEKO-TEX® certification, an international recognition that confirms the safety and sustainability of chemical products used in textile processes.



Our water based pigmented inks are suitable for any type of fabrics.



Fashion

Suitable for
all textiles

Sportswear

High Resistance to
Rubbing and
Washing

Home Decor

Wide possibility
of Color range

Colorobbia Art:
beauty and safety

Colorobbia Italia has undertaken an important project on the Colorobbia Art line, introducing safer and more sustainable formulations in the use, transportation and storage phase. Titanium, copper, cobalt and zinc oxides have been replaced with safer alternatives, without compromising on the aesthetic and technical performance of the final product. A decisive step towards a more responsible chemistry, which combines innovation, quality and safety for the environment and for people.

Ultra Low Silica:
responsible innovation for
safety and quality

At Cersaie 2024 Colorobbia presented Ultra Low Silica, a new formulation characterised by less than 2% free silica. This innovation represents a significant step forward as it reduces exposure to a substance that is highly harmful to the health of workers while ensuring high technical performance: high colourability, 3D effects and custom decorations with natural veining.



3D printing:
less waste, greater efficiency

Bitossi Ceramiche has introduced 3D printing technology to create the basic shapes of its objects, shaping the clay with the utmost precision already in the design phase. This approach eliminates unnecessary processing and reduces the amount of material to be discarded, making the production process more efficient. The result is consistent quality, faster processing times and less waste with consequent benefits for the environment and artisanal excellence.



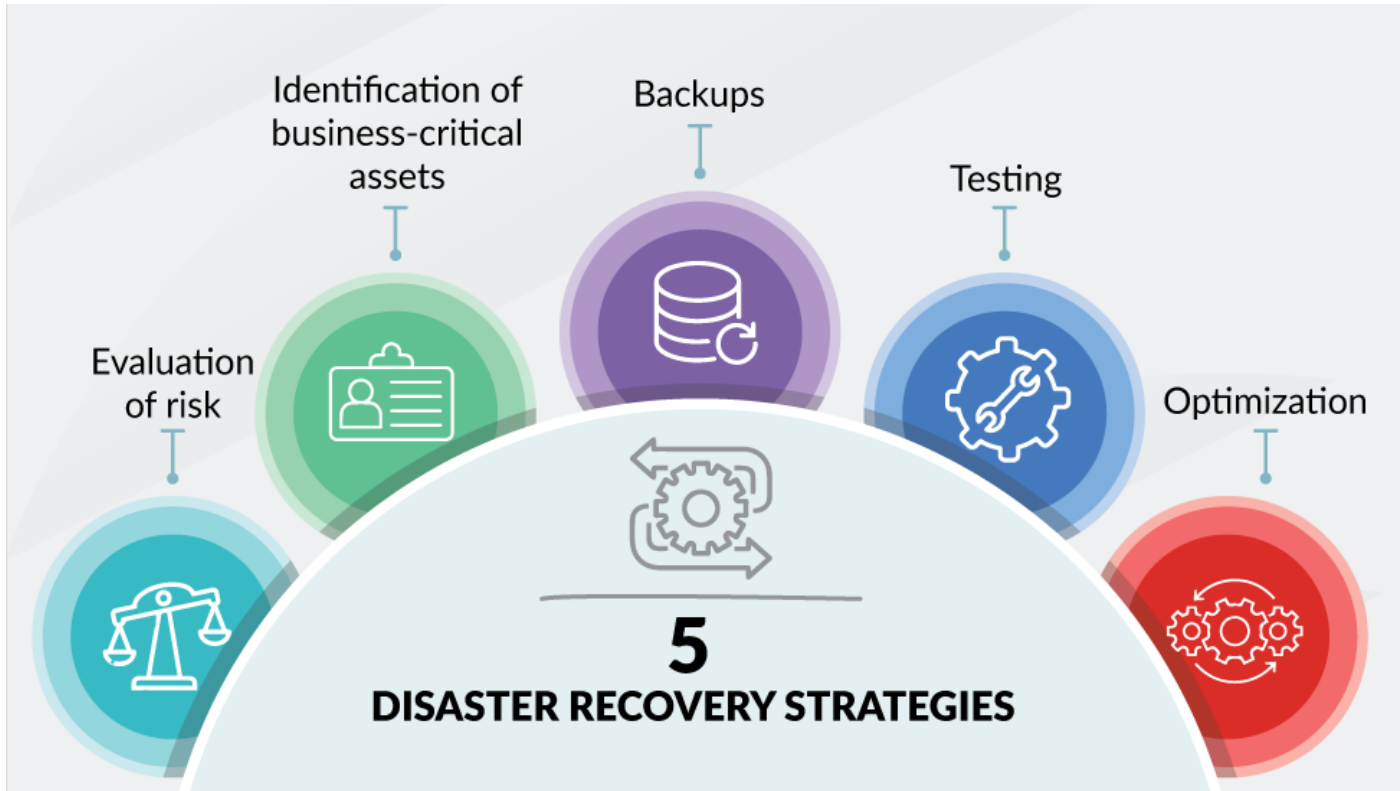
Strengthen operational
resilience with cutting-edge
digital infrastructure

In a world increasingly marked by the impacts of climate change and extreme weather events, Colorobbia has chosen to invest in strengthening its digital infrastructures to ensure operational continuity.

In 2024, a new Disaster Recovery system based on a hybrid solution was implemented at the Fiorano site, capable of ensuring maximum security, resilience and constant monitoring of critical resources, minimising the risks of disruption related to extreme events.

To protect the company's information assets, Colorobbia has also launched a project to review and optimise data backup and replication policies, consolidating systems on a single platform.

The digitisation of internal processes has been further accelerated thanks to the implementation of a new Intelligent Intranet based on Microsoft SharePoint Online, an advanced tool that facilitates communication, document management and knowledge-sharing in a secure and accessible way from any device, supporting the creation of a modern digital workplace.





04.
OUR PEOPLE AND
COMMUNITIES



A glimpse into the global context

72%

of large European companies report a significant mismatch between the digital skills required and those actually possessed by their employees.

(TRAILS, 2025)

62%

of people globally place more trust in businesses than in any other institution, a figure that confirms the growing expectation that companies will play an active role in pursuing the common good.

(Trust Barometer Edelman 2023)



GROWING TOGETHER: PEOPLE AND TRAINING AT COLOROBRIA

Internal growth:

training people to create value

For Colorobbia, the growth of people is the main driver of innovation and competitiveness.

In 2024, dedicated training programs were launched at various company levels: from front-line staff to sales managers and new recruits, with the aim of strengthening technical, managerial and cross-cutting skills.

Alongside these initiatives, continuous internal training – both specialist and soft skills-oriented – supports the professional and personal development of all employees.

In this way, Colorobbia invests in human capital in a long-term perspective, creating the basis for innovation, sustainability and shared growth.

2024 Training Programmes

The Group's companies promote structured training programmes to develop technical, managerial and ethical skills in line with growth and innovation objectives.

In 2024, Industrie Bitossi and Colorobbia Consulting delivered programmes focused on Lean Management, sustainability, energy transition, cybersecurity and risk management. In Spain, Colorobbia España and Minerals 2000 S.A. organised initiatives covering corporate culture, languages, continuous improvement, safety and technological innovation.

Colorobbia Ege Kimya, in Turkey, launched a project aimed at strengthening technical collaboration and developing technological expertise, including regular training exchanges at Italian sites.

In Mexico, the Educación Continua project supports employees' professional and language development through tailored programmes.

In Italy, a joint Italy–Spain technical programme was also launched for senior frontline staff, alongside dedicated courses for Sales Directors and young employees designed to enhance leadership, communication and teamwork.

Colorobbia Accademia

The Group has launched an **extensive international technical training project**, designed to offer its employees a structured and continuous path of professional growth.

The initiative, developed in partnership with university professors and experts in the field, involved **technicians from the Group's various locations**, promoting the exchange of experience and the dissemination of a common technical language.

The program included a path aimed at junior technicians with the purpose of providing more knowledge on the ceramic sector, on the main production processes and on the tools essential to face the first professional challenges. Alongside this, an advanced course has been created, dedicated to senior technicians, with the aim of increasing knowledge of specialised aspects according to the needs of individual branches and strengthening the ability to deal with complex problems.

Both paths alternated theoretical and practical sessions, complemented by activities in the laboratory, visits and opportunities for discussion with external partners, helping to consolidate specialist skills and to promote a constructive dialogue along the supply chain.



Through this initiative, the Group has strengthened its human capital, supporting technical innovation and enhancing the skills of its people on an international scale.

Investment in training is a strategic pillar to ensure competitiveness in the long term and to disseminate a culture oriented towards growth, responsibility and knowledge-sharing.

Universities and Higher Education

Colorobbia works closely with the academic world, promoting training, research and career development projects in partnership with leading universities.

In 2024, the Company strengthened its academic collaborations: for Colorobbia, with the Universities of Bologna, Florence and Modena & Reggio Emilia; for Industrie Bitossi, with the University of Trento and several technical institutes. These partnerships enabled the Group to offer students structured programmes in training, work placements and work-based learning (PCTO) across its sites.

Other collaborations include participating in Career Days and university initiatives designed to connect companies with young talent – reflecting Colorobbia's commitment to supporting the professional development of the next generation.



Building the future and knowledge in the communities we serve

The Group invests in educational support to the communities in which it operates.

Colorobbia España supports il Master de formación permanente en Tecnología Cerámica, a training programme created to meet the growing demand for highly qualified professionals with specialist skills in ceramic materials and production processes. The course offers students an in-depth understanding of ceramic technologies, material behaviours and processing dynamics, key elements to promote quality, innovation and competitiveness in an increasingly global sector.

Inkabor has supported education in the communities of Salinas by providing **scholarships for local institutes and universities** as well as promoting vocational training programs aimed at working-age adults.

Colorobbia Indonesia also contributed to the improvement of education through a scholarship programme for deserving but disadvantaged students, offering them financial support, tutoring and mentoring, from which 10 students benefited.

In Poland, Colorobbia Polska continued to support a **local ceramic laboratory, organising courses and workshops for children and young people, providing essential ceramic materials such as enamels, engravings, pigments and clay**.

The Colorobbia professionals also shared their technical skills with the laboratory staff, while the purchase of a new chamber kiln made it possible to expand and improve the proposed activities.

In India, Colorobbia Chemicals India Pvt. Ltd. renewed its commitment to support a primary school, **distributing basic necessities and teaching kits to around 750 students** with the aim of empowering young people and ensuring they receive a quality education, thus building the foundations for the next generation.



Colorobbia & Industrie Bitossi: improving efficiency through Lean Manufacturing

An ambitious project to introduce **Lean Manufacturing** methodology in production areas has been launched in Italy and Spain, with the purpose of increasing operational efficiency and process quality. The Lean model aims to reduce waste, optimise workflows and generate value for customers, promoting simplification, continuous improvement and collaboration between people.

The key tools implemented include **Lean whiteboards**, visual supports installed in the departments to monitor performance in real time, promoting the immediate sharing of information and creating a transparent and participatory environment. Alongside these, tools have been introduced to allow operators to report critical issues and to propose improvements, thus enhancing the direct experience of those who are part of the production processes on a daily basis.

The project focuses on strategic areas such as the organisation of departments, the strengthening of staff skills, the improvement of internal communication, the active involvement of operators, the constant monitoring of performance and the creation of a positive and transparent working climate.

To accompany this cultural change, Colorobbia has launched a training course dedicated to Managers, Coordinators and Operators. The Production Manager is achieving the **Green Belt certification**, which certifies advanced skills in Lean techniques, while each department has identified its own **Lean Player**, a key figure among operators, trained on Lean principles, on change management and on the use of whiteboards as a communication and improvement tool.

Thanks to this project, Colorobbia aims to build more fluid, efficient and continuous improvement-oriented processes, always focusing on people and on their ability to contribute to collective success.



The Vittoriano Bitossi Hall: where innovation meets talent

In 2024, the Vittoriano Bitossi de Innovación Sostenible Hall continued to be a meeting point between the academic world and the ceramic industry, promoting a culture of sustainable innovation and strengthening the link between Colorobbia España and the Jaume I University of Castellón (Spain).

Created to honour the pioneering vision of Cavaliere Vittoriano Bitossi, the Hall confirms its position as a space for dialogue, education and growth dedicated to new generations.

During the year, Colorobbia promoted activities with high educational value, including an advanced course on the behaviour of inks and suspensions in ceramic decoration. Ten sessions, over 100 technicians involved, highly relevant technical content: a valuable opportunity for business and academic experts to update and exchange ideas.

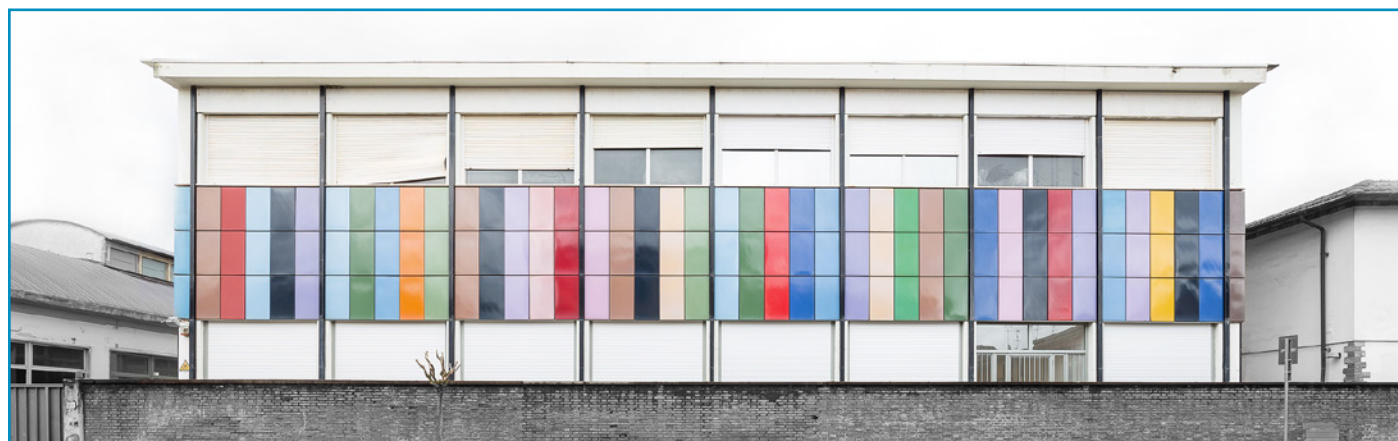
The Hall also played a key role in disseminating information, hosting the third edition of the **“Economic Intelligence for Strategic Decision-Making”** Day, which saw the participation of General Miguel Ángel Ballesteros, former Director of the Spanish Department of Internal Security, with a keynote address on the geopolitical context and future challenges. Over 100 participants from the ceramic and industrial sector.

Finally, Colorobbia has opened the doors of its plants to students of the training cycle in industrial chemistry, offering direct experience at the heart of the production process: a concrete way to inspire the professionals of tomorrow.



CULTURE AND THE HERITAGE OF “CRAFTSMANSHIP”: A SUSTAINABLE LEGACY FOR THE REGION

Sustainability understood as the custody of memory, the dissemination of culture, the preservation of places and traditions.



The Vittoriano Bitossi Foundation

Founded by the Bitossi family in 2008, the **Vittoriano Bitossi Foundation** promotes the historical culture and scientific research of ceramic art.

It is based in Montelupo Fiorentino, in a building dating back to 1929, and is involved in museumisation and technical innovation projects. The historic site houses both the paper archive and the museum's collection of ceramics.

The foundation aims to preserve and promote the tangible and intangible cultural heritage of the company founded by Guido Bitossi, a Tuscan entrepreneur who, starting from a small craft workshop in Montelupo Fiorentino, was able to transform ceramic production into an innovative industrial activity, contributing to the economic and cultural development of the local ceramic district.

The Foundation has established the **Industrial Historical Archive** consisting of over seven thousand Bitossi products from the 1920s to the present day.

The ceramic collection has been turned into a museum, occupying an area on the first floor of the factory, covering over 2000 square meters, a testament to the architectural stratification that has taken place from the early 1950s to the present day.

The Bitossi Museum Archive is a place to explore the manufacturing tradition of four generations of the family and to discover genres and styles through the stylistic change that has marked the evolution of the company for over a century.

The history of the company and of its product recount the excellence of Made in Italy and become actors in a memory for greater historical awareness.

Bitossi Museum: a cultural heritage open to everyone

“Museums and business archives preserve a living memory, a witness to the past and a stimulus for future change”.



In 2024, the **Foundation joined the FAI – Fondo Ambiente Italiano** spring weekend, opening the Museum Archive to over 1,200 visitors.

The initiative involved two local high schools, with approximately 40 students trained to accompany visitors, and included guided tours dedicated to the guests of the Castello di Montelupo Fiorentino Residential Health Care Facility, with a path focused on the emotional experience of the works.

During the year, the Foundation also:

- collaborated with **Toscana Promozione** to lend works to two international exhibitions on Made in Italy in San Francisco;;
- started the activities for participation in the **Osaka Expo**;
- continued the work of **digitising the drawings archive**;
- participated in **educational and cultural programs with Italian universities and academies**, including the Politecnico di Milano and Sapienza di Roma
- Activation of curricular internships.

The Vittoriano Bitossi Foundation leads the project known as the “Experimental Ceramic Centre for Know-how and Technical Innovation”.



The Experimental Ceramic Centre

In the heart of Tuscany, in an area with a centuries-old tradition of ceramic craftsmanship, in 2016 the **Experimental Ceramic Centre for Know-How and Technical Innovation (CCS)** was founded, a collaborative project between the Municipality of Montelupo Fiorentino and Colorobbia.

A cultural space in which to learn the technical knowledge of ceramic processing at different levels.

The Centre is located in the historic complex of Bitossi, within a building designed in the 1950s by the architect Ettore Sottsass to house the development of the Colorobbia Paint Plant.

The **Ceramics School** is an integral part of the **Experimental Ceramic Centre** and is spread over 1,000 square metres of laboratories.

The institute guarantees high-level training, where craftsmanship and business, tradition and innovation meet, teaching the art of know-how by combining knowledge with research and technological innovation.



Thanks to a teaching staff of approximately 30 highly qualified instructors from the local production district, **the School transmits theoretical, chemical and technical-practical skills, essential to keep the ceramic craftsmanship tradition alive.**

Equipped with state-of-the-art equipment and able to accommodate groups of up to 15 people, the School offers courses that explore in detail the various aspects of ceramics, customising the training approach according to the specific skills of each student. Through specialised workshops and targeted training courses, it aims to train the ceramists and artisans of tomorrow, contributing to renewal of the Italian ceramic sector.

Each year, in partnership with **the Empolese-Valdelsa Training Agency (ASEV)**, the school organises a 900-hour course for ceramists that ends with the issuing of a qualification recognised by the Tuscany Region, as well as other types of courses for a total of a further 800 hours. Upon completion of the course, the Ceramics School acts as a tutor for students, offering them the opportunity to complete an internship at local factories, where the collaboration often extends beyond the internship period.

Currently, **around 50% of the staff employed at Bitossi Ceramiche come from the School.**

It also includes seven former employees, now teachers, and five current collaborators who contribute to the training activity, confirming the deep bond between the company and the territory.

Colorobbia for the community: from local commitment... ..to global responsibility

Colorobbia is actively committed to supporting local communities through a series of long-standing social initiatives. Each year, in collaboration with the association “**Noi da Grandi**”, the Group supports families and young people with disabilities.



Colorobbia also contributes to **Médecins Sans Frontières** and **Treedom** on an ongoing basis, through targeted initiatives during the Christmas season or as part of corporate events.

The company has also played a key role in the development of the **Residential Healthcare Facility** in Montelupo Fiorentino, providing resources to bring to life a project of significant social value for the local community. This initiative is a concrete example of how the company combines industrial development with attention to the local area and collective well-being.

The Colorobbia Group has always been committed to supporting local communities in the countries in which it operates, through a series of social and environmental projects aimed at improving the quality of life and promoting sustainability.

In 2024, Colorobbia Nordeste promoted numerous initiatives in support of local communities, including donations to entities that deal with children with cancer, such as Donos do Amanhã and Hogar Infantil con Cáncer. In addition, with its customers, the Company has distributed food parcels to the municipality and to the ASPAM nursing home.

Inkabor continued its commitment to the elderly in the communities of Moche Huito, Santa Lucía and Salinas through an annual economic contribution aimed at improving their quality of life. The initiative allowed around 60 elderly members of the community to attend.

Colorobbia Brasil has implemented several social projects in support of the local community and the well-being of its employees. The main initiatives include health awareness campaigns, such as **Ottobre Rosa** for the prevention of breast cancer and **Novembro Azul** for the prevention of prostate cancer. The company also organised a special **Children's Day** at a local school in need, offering games, food and drinks thanks to the commitment of company volunteers. It supported **the Autism Reference Centre (CAI)** with a Christmas party for children, distributing sweets, gifts and donations needed at the facility and contributed to the Cancer **Fight Network** with donations for women undergoing cancer treatment. Finally, food parcels, hygiene products and clothes were distributed to vulnerable families in the municipality.

Minerals 2000 and Colorobbia España collaborate with various associations and cultural organisations, including Asolecas, the International Film Festival (FIV), the MacVac Museum, sports associations for both women and men, and organisations active in supporting people with Down Syndrome. The collaborations are in fact diversified and incorporate various ESG aspects.

Furthermore, in a context increasingly affected by the effects of climate change, **it is appropriate to highlight the important contribution of the Group's Spanish staff and companies during the DANA flood** that struck Valencia.

The support took the form of voluntary activities and economic contributions, including the purchase of material for the Economic and Monetary Union and the supply of food to the World Central Kitchen through local points of sale, for a total value of 117,762 Euro.



In 2024, Colorobbia Mexico confirmed its social commitment with an annual donation to the Ciudad de los Niños de Monterrey foundation, which offers academic training to children from low-income families, promoting their integral and harmonious development together with their families.

Colorobbia Thai has also supported the local community through several donations to schools, hospitals and the Red Cross.



QUANTITATIVE METRICS

The Colorobbia Group employees

	2024		
	Women	Men	Total
Total number of employees	354	1.733	2.087
of which permanent	336	1.675	2.011
of which fixed-term	18	58	76
of which full-time	314	1.710	2.024
of which part time	40	23	63
of which variable hours	0	0	0
Total number of hires	79	330	409
hire rate	22%	19%	20%
Total number of terminations	25	203	229
termination rate	7%	12%	11%

The Colorobbia Group employees, worldwide

	2023		
	Women	Men	Share of total (%)
Total number of employees	354	1.733	100%
Italy	105	547	31,2%
Spain	104	372	22,8%
Brasil	33	208	11,5%
Perù	20	144	7,9%
Mexico	13	106	5,7%
Indonesia	12	102	5,5%
India	3	71	3,5%
Poland	15	42	2,7%
China	7	32	1,9%
Bolivia	14	24	1,8%
Turkey	9	20	1,4%
Portugal	4	22	1,2%
Vietnam	7	19	1,2%
Other (South Africa, the Czech Republic, Saudi Arabia, the United States, Russia, Thailand)	8	24	1,55%

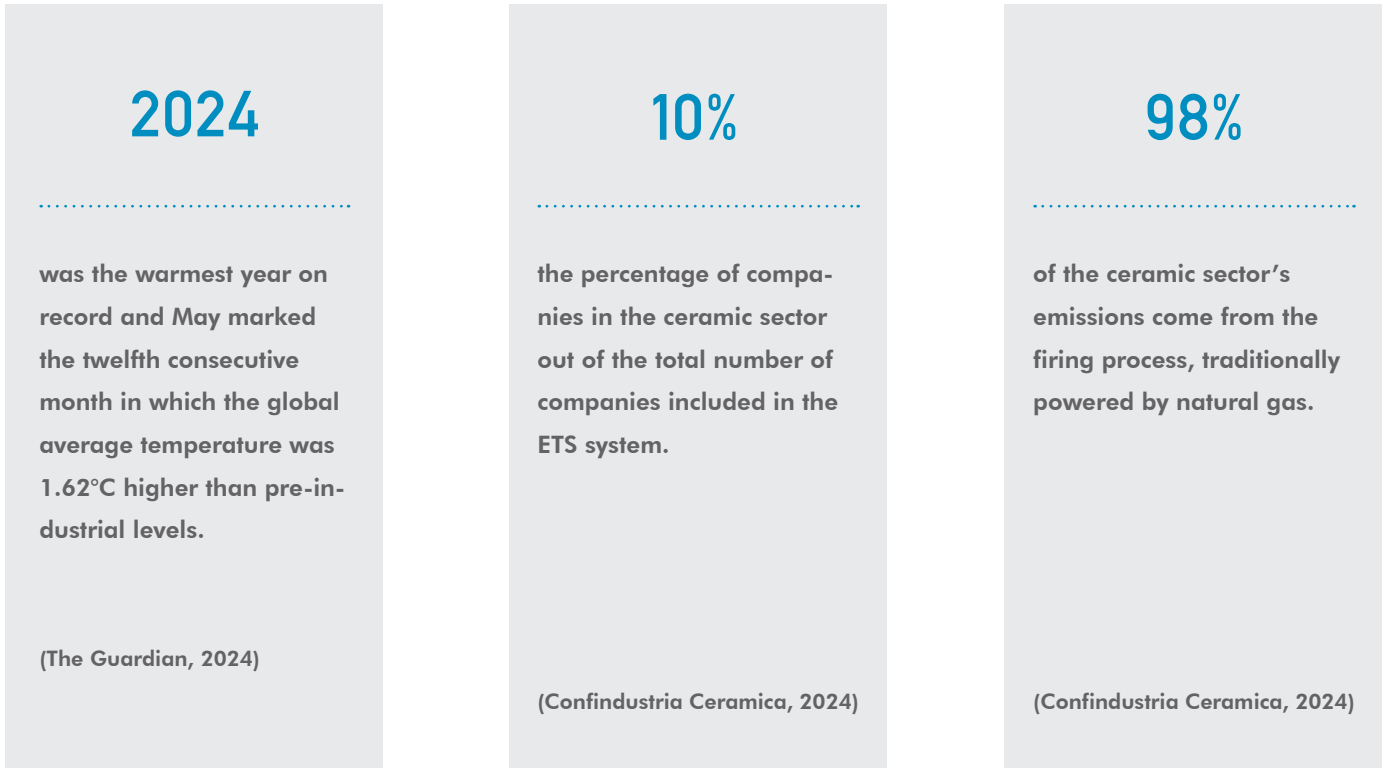
The training provided to Group employees

	2023		
	Women	Men	Total
Total number of training hours for employees	3.970,90	20.084,65	24.055,55
Employees and Managers	2.689,90	11.634,45	14.324,35
Workers	1.281,00	8.450,20	9.731,20



03.
SUSTAINABLE
PROGRESS

A glimpse into the global context



THE CLIMATE SCENARIO: THE IMPORTANCE OF ACTING QUICKLY

2024 was the warmest year on record, with annual average temperatures more than 1.5°C above pre-industrial levels and peaks of 2°C in Europe¹. To comply with the Paris Agreement, emissions are expected to fall by 7% per year, but continue to grow by around 1.5% per year².

The ceramic sector generates environmental impacts already at the stage of extraction of raw materials: these processes can cause soil erosion, loss of habitat and air and water pollution.

During production, firing at high temperatures requires large amounts of energy, often from fossil fuels, and represents the main source of emissions in the sector, estimated at between 75% and 92% of total CO₂³.

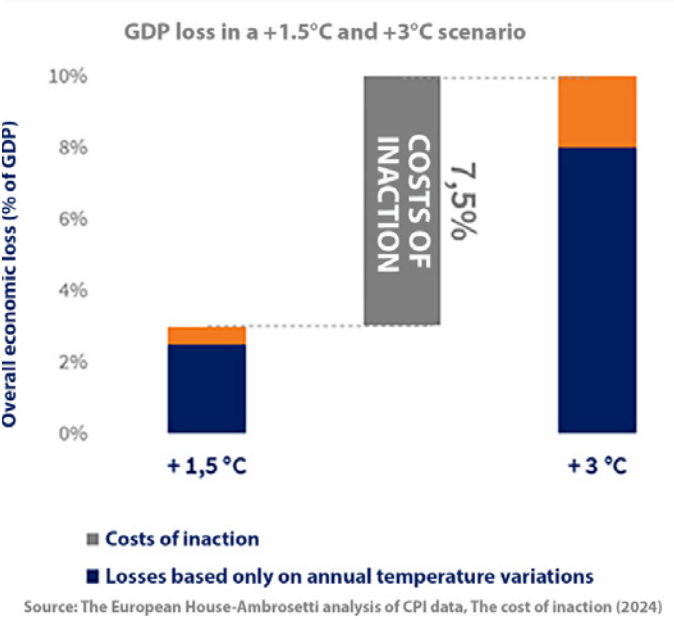
The current rise in temperatures has already cost around 2.5% of global GDP.

An increase of +3°C would put an additional 7.5% at risk. Translated into economic terms, this is €1,200 trillion of cumulative damage by 2100 compared to €670 trillion of investments needed to achieve the goals of the Paris Agreement^{4,5}.

In an effort to mitigate these risks, the EU has reaffirmed sustainable transition as one of three strategic levers to boost its competitiveness.

The urgency of effective and shared solutions has led to the signing of international agreements to define policies and targets aimed at containing climate warming.

The Green Deal, the “Fit for 55” package and the new RED III Directive set binding targets on renewables, emissions and climate neutrality, aiming at 42.5% renewables in the mix by 2030 (with an ambition of 45%) and climate neutrality by 2050^{6,7}.



¹ Copernicus, Global Climate Highlights, 2024
² WEF, Bold Measures to Close the Climate Action Gap, 2024
³ I. Abassi, Thorough Lifecycle Analysis of Ceramic Tiles, 2023
⁴ ETH Zurich, Substantial global cost of climate inaction (2024) (2) CPI, The cost of inaction (2024) (3) EEA (2024)
⁵ CPI, The cost of inaction (2024)
⁶ XXI Conference of the Parties to the Convention on Climate Change
⁷ ENEA, Energy efficiency, 2024

THE COMMITMENT TO REDUCE OUR ENVIRONMENTAL IMPACT

Electrification makes the difference: less consumption, less emissions

During 2024, the development of the “PRINCE” (Innovative Process for Technical Ceramics) project continued, the result of a collaboration between Industrie Bitossi, the University of Pisa and the University of Trento. The project aims to improve energy efficiency, to electrify and accelerate the sintering (firing) process of ceramics, a key phase of production. Currently, Industrie Bitossi uses a traditional method based on natural gas heating, which requires temperatures up to 1,650°C to be maintained for several days. This process is extremely long, energy-intensive and produces high CO₂ emissions.

The introduction of innovative kilns would allow a considerable reduction in energy consumption and would make it possible to almost completely electrify production, with a consequent reduction in CO₂ emissions.

These kilns also guarantee greater operational flexibility, thanks to the ability to switch on and off quickly, optimising the management of production peaks and improving both energy and economic efficiency. Finally, process automation also offers advantages in terms of product quality and process control.

During the year, after the conclusion of the evaluation phase of existing technologies, the project for the installation of a photovoltaic field was also approved. This choice will allow the new innovative kiln to be powered with self-produced renewable energy, further reducing dependence on fossil fuels.



Smart materials to capture CO₂: the challenge of Industrie Bitossi

In 2024, Industrie Bitossi conducted a research project with a high environmental value, aimed at developing new materials capable of capturing carbon dioxide directly from high-temperature industrial fumes. The sorbents, based on lithium orthosilicate, were tested in the laboratory and on a pilot scale, with the aim of creating an experimental system in the Pratella plant.

The result is an “intelligent” material, capable of absorbing CO₂ even in complex operating conditions. A concrete challenge to contribute to the reduction of climate-changing emissions and to accelerate the transition towards more sustainable production processes.

Preheating gases project

The Preheating gases project, developed by Colorobbia España, aims to make the kiln for melting ceramic frits more efficient and less polluting, reducing the consumption of natural gas and oxygen. The intervention involves preheating gas and oxygen before they enter the kiln, exploiting the heat of the exhaust fumes that would otherwise be wasted. In this way, the kiln will require less energy to reach the melting temperature, thanks to the heat recovery already available.

As preheating increases the volume of the gases, the burner will need to be modified to ensure an optimal flame. With this system, it is estimated that energy consumption will be reduced by more than 7%, depending on the type of frit being produced.



POLLUTION REDUCTION

Colorobbia S moving towards energy independence

During 2024, the Group implemented several initiatives aimed at reducing the pollution generated by its operations through targeted interventions on production processes, systems and technologies, with the purpose of improving environmental efficiency and of reducing the impact of industrial activities.

- **Adaptation to the environmental regulations of the Tuscany Region**

The Tuscan companies of the Group have completed the adaptation to the new emission limits provided for by the Regional Plan for Air Quality, in force since 2025. The most restrictive parameters on total dust and NOx are already respected by existing systems, confirming the effectiveness of the environmental technologies already adopted.

- **Authorisation update and environmental verification at Colorobbia Italy**

As part of the renewal process of the Integrated Environmental Authorisation (IEA), the need for an Environmental Impact Assessment (EIA) procedure was excluded. However, new environmental measures were introduced, including the monitoring of rainwater and the adoption of strategies for the management of hydrogeological risk.

1.513 tons

of CO₂ avoided in the atmosphere every year



- **Development of water-based textile inks**

The Group has started the production and marketing of a new line of water-based pigmented inkjet inks for textile printing, characterised by high technical performance and a reduced environmental impact compared to traditional inks.

- **OEKO-TEX® ECO PASSPORT Certification for Colorobbia España**

Colorobbia España has obtained the prestigious certification, which guarantees the use of safe and sustainable chemicals for human health and the environment, in line with the international standards required by the fashion industry, which is most attentive to sustainability.

RESPONSIBLE WATER MANAGEMENT

Collaboration for the protection of the Salinas and Aguada Blanca Nature Reserve



In 2024, INKABOR renewed the agreement signed in 2023 with the Peruvian environmental authorities responsible for the areas of Laguna de Salinas and Aguada Blanca, with the aim of protecting the Salinas y Aguada Blanca Nature Reserve, under the protection of the Ministry of the Environment. Located between the provinces of Arequipa and Moquegua, this reserve is an ecological heritage of extraordinary importance, characterised by spectacular Andean landscapes, lagoons, endemic flora and wildlife adapted to extreme conditions.

This area is vital for the survival of endangered species such as the vicuna, the guanaco and the taruca as well as for numerous varieties of birds, including flamingos. The El Misti and Chachani volcanoes add further natural and geological value to this unique ecosystem.

Maintaining the ecological integrity of the reserve is essential not only for biodiversity, but also to ensure sustainable management of the water resources that supply Arequipa and the surrounding areas. Protecting this area ensures fresh water for local communities and agriculture, contributing to the economy and food security of the region.

CLOSING THE CIRCLE: COLOROBIA'S CONTRIBUTION TO A MORE CIRCULAR INDUSTRY

Colorobbia and CISP: innovation and sustainability in the porcelain enamel industry

In 2024, Colorobbia Italia launched CISP (Circular Re-Paint), a pilot research project that aims to revolutionise the management of production waste.

The intention is to develop an innovative process for the recovery of precious metals and used solvents generated during the production and application of metal polishes on ceramics, glass, metals and other supports. Led by the Aurobit Department – Colorobbia centre of excellence for metallic lustres – CISP adopts advanced pyrolytic technology based on heating in a non-oxidising atmosphere. This innovative method allows materials to be treated without combustion, avoiding the formation of CO₂.

Unlike traditional methods, often characterised by high material losses and external disposal costs, the CISP process is proposed as a sustainable, efficient and low environmental impact solution.

The first laboratory tests have already shown promising results, in particular for the recovery of gold, confirming the potential of the project in transforming what is currently discarded into a valuable resource for the future.



Baterurgia: the project for the recycling of EV batteries

Baterurgia, the project that addresses the challenge of recycling electric vehicle batteries, continued in 2024. The aim is to recover the precious metals contained in batteries, to reuse them in the production of new batteries or in other industrial sectors.

To achieve this, innovative technologies such as sensors, robotics and machine vision are studied, capable of disassembling batteries with precision and obtaining purer and easier to recycle materials. This makes the whole process simpler and cheaper.

So far, the project has made it possible to produce a rich mixture of metals from recycled batteries and to recover and purify them, paving the way for a more sustainable use of resources and a more responsible management of technological waste.

QUANTITATIVE METRICS

The Group’s energy consumption

* net turnover

	2024	
	MWh	MWh/€Mln*
Energy consumption from fossil sources	688.103,08	1.103,28
Stationary combustion	619.617,15	993,47
Diesel	2.648,15	4,25
GPL	4,59	0,01
Petrol	-	-
Natural gas (methane)	616.964,33	989,22
Car fleet	17.808,44	28,55
Diesel	14.778,68	23,70
GPL	1.999,45	3,21
Petrol	692,34	1,11
Natural gas (methane)	337,97	0,54
Consumption of products acquired or purchased	50.677,49	81,25
Electricity purchased from fossil fuels	50.603,31	81,14
Heat, steam or cooling from fossil sources	74,18	0,12
Percentage share of consumption from fossil sources out of the total	92,754%	-
Energy consumption from nuclear sources	8.979,08	14,40
Electricity, heat, steam or cooling from nuclear sources	8.979,08	14,40
Percentage share of consumption from nuclear sources out of the total	1,210%	
Energy consumption from renewable sources	44.775,14	71,79
Electricity consumed from renewable sources	26.849,38	43,05
Electricity purchased with a guarantee of origin	11.520,00	18,47
Self-produced energy from renewable sources (Photovoltaic)	6.405,76	10,27
Percentage share of consumption from renewable sources out of the total	6,036%	
Total energy consumption	741.857,29	1.189,46

The Group’s greenhouse gas emissions

* net turnover

	2024	
	tCO2eq	tCO2eq/€Mln*
Gross emissions of scope 1 GHGs	130.278,57	208,88
Gross Scope 2 GHG emissions based on the position	32.110,13	51,48
Total GHG emissions (based on location)	162.388,70	260,37

The Group’s water consumption

	2024
	m³
Total water consumption (m³)	447.646,00
of which groundwater withdrawals	254.480,00
of which withdrawals from aqueducts	193.166,00
of which recycled/reused water	1.015.083,00
of which stored water	7.021,00
of which in water-risk areas	155.739,00

The raw materials used by the Group

	2024
	t
Total critical raw materials used	166.748,23
Nickel	13,96
Manganese	108,54
Titanium metal	1.040,65
Antimony	37,30
Phosphorus	133,55
Feldspar	111.839,45
Silicon metal	6,00
Aluminium/bauxite	24.775,25
Coking coal	128,70
Fluorspar	145,15
Phosphorite	1,00
Cobalt	371,64
Magnesium	2.234,48
Lithium	13,99
Light rare earth element	133,46
Tantalum	30,27
Vanadium	2,84
Tungsten	2,41
Afnium	0,00
Strontium	204,68
Barite	3,08
Bismuth	14,00
Boron/borate	25.456,77
Copper	51,09

The waste produced by the Group

	2024
	†
Total waste produced	14.279,64
of which destined for disposal	2.288,46
of which not destined for disposal	11.991,17
Total hazardous waste	6.880,51
of which destined for disposal	702,73
of which not destined for disposal	6.177,78
Total non-hazardous waste	7.399,13
of which destined for disposal	1.585,73
of which not destined for disposal	5.813,40

GRUPPO COLOROBIA.