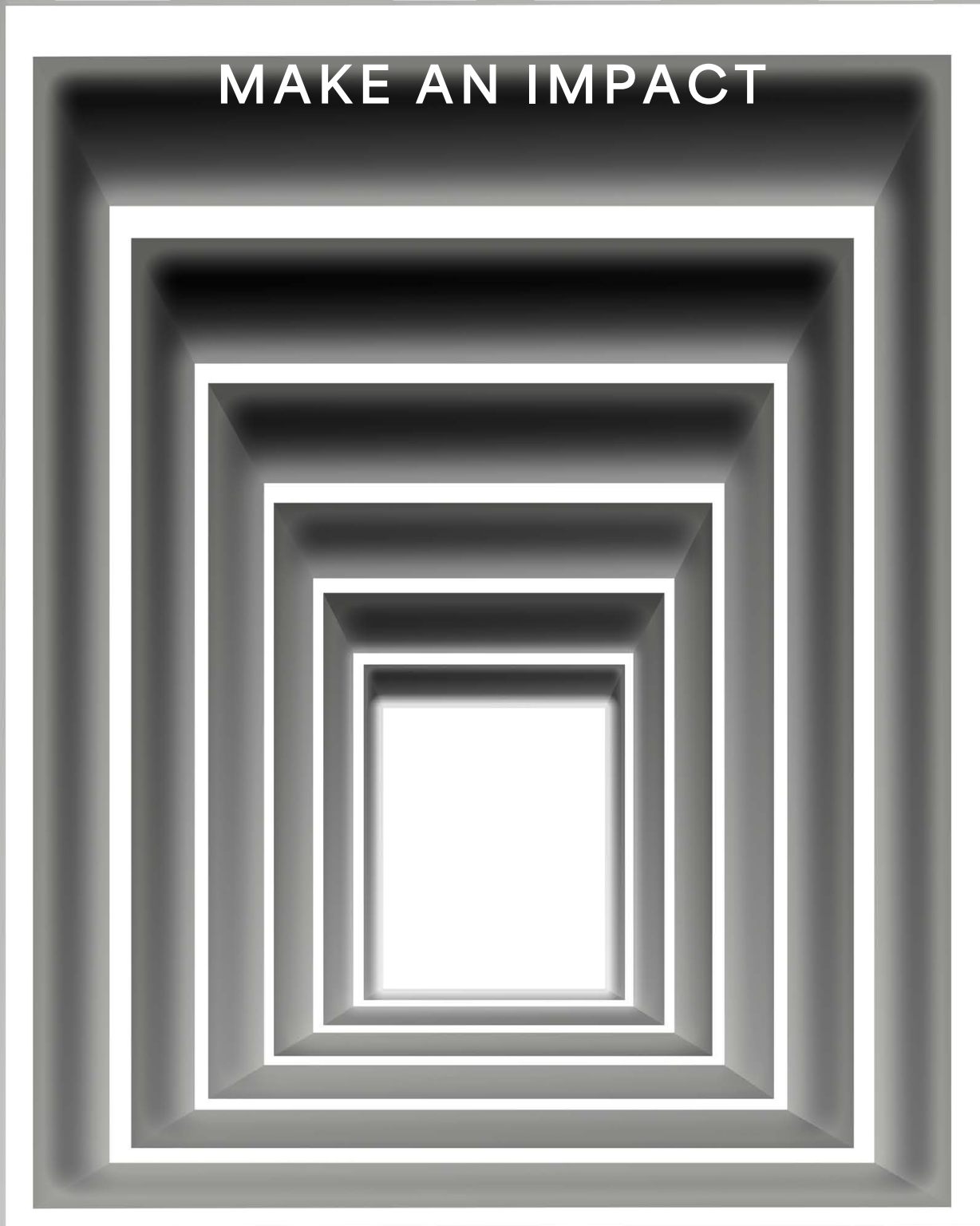


# EVOLVE

MAKE AN IMPACT



# EVOLVE

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# TRANSFORMING THE ECONOMY, CONTRIBUTING TO BEAUTY

## M

AIRE is a privileged vantage point for understanding the momentous changes that are taking place over recent years in our economies and societies. Our engineers, knowing the “magic” of chemical combination, work, day in day out, to test which new “technological formulas” will be able to best achieve the lofty goal of having clean energy and sustainable solutions for the needs of communities around the world, from agriculture to transportation (all transport! Land, air, sea) to the advanced materials that are used with countless applications for everyday life.

This daily dedication to technologies for decarbonization stems from the Group's ambitious strategic plan, which has dared to look ten years ahead, aligning the company with the realistic horizon of the transition, proposing, among other things, to increase its assets in technology. With tangible results: the pace of company acquisitions is intense, Conser in Rome and MyRemono in Abruzzo in 2023, and in this first part of 2024, HyDEP in Lodi and GasConTec in the heart of Hesse, Germany, with a fully European perspective, where great Italian innovation in green chemistry joins with the most advanced German chemical tradition. Our engineering expertise and execution capabilities have also been made stronger with the acquisition of APS in Rome and KTI Poland in central Poland.

The ability to combine the skills of both technology and implementation - the latter of which has been gained worldwide over many decades through the engineering and construction of plants producing polymers, fuels, fertilizers, intermediates and chemicals, etc. - gives MAIRE insight into the complexities of the transition, from laboratory invention, to pilot, to industrial-sized plant. A transition that is by no means trivial and by no means linear. We feel a great responsibility to help put this new generation of “low-impact plant engineering” into effect, in which the “environmental cost” and the “economic cost” are both sustainable. There is little time, we need to accelerate this colossal transformation that is taking place in all industries, reshaping entire sectors and production chains, forcing the pace: the urgency of climate change will not wait. The challenge is right in front of us. Today - in Western countries and beyond - the environmental emergency has entered the agenda of governments, companies and citizens as a priority. Yet for so many countries emerging from poverty, the goal of increasing people's quality of life is still prevalent. Being present with our professionals in different areas of the world, we are able to discern the different speeds that the ecological transition is taking. Our ambition is to industrialize innovations that ensure socio-economic growth that is not at the expense of the system's natural capital.

But we can go one step further. Industry has always considered itself the bearer of job creation, skills growth, and thus economic and social prosperity: an active contributor to the economic capital

and social capital of an area. Over the past three decades, on the push of institutional and social movements, sometimes compelled by regulations, it has gradually realized that its tasks include the protection of natural capital, and it is transforming its processes to this end. A less obvious, more underlying approach had at times, long ago, comprehended an additional dimension, what we might call “aesthetic-spiritual” capital, that is, the role that business can play as an active contributor to the cultural and creative world. It only seems to be a paradox how the industrial world, which produces technical vocabulary and languages, a vast array of words that tell the inner workings of processes and operations unknown outside of engineering, has been able to communicate the beauty of its numbers, measurements, and calculations, seeking a connection with other forms of art and beauty. And not only because industrial landscapes and industrial magazines have been and still are the “backdrop” and “containers” in which writers, poets, painters, and filmmakers have set their stories. We might recall the years when the young Ermanno Olmi was shooting his documentaries on Edison power plants, or when ENI's house organ, *Il Gatto Selvatico*, was entrusted to the poet Attilio Bertolucci and opened to big names in poetry and literature, or again when the first issues of *Finmeccanica's* magazine “Civiltà delle macchine” were being published, edited by the “engineer poet” Leonardo Sinisgalli.

There is, however, an even more active and creative function that links literature and industry, engineering and art: the large company especially can be considered a large living organism, in which individuals express not only technical expertise, but also inspiration, that is, that human ability to express the invisible with the various forms of the arts. This is why Adriano Olivetti's words continue to be a point of reference for us: «We dream of a free community where man's dwelling is in conflict neither with nature nor with beauty.» The Olivettian community experiment remains the boldest example of creating osmosis between a factory and its context, between a company that aims at productivity that is never at the expense of, but rather thanks to, the social support and the cultural stimuli suggested by (today we would say co-designed with) its employees, in a rooting in the territory that can also be urbanistic, making culture a tool for participation and change.

Many of those pioneering insights are being rediscovered in recent years, becoming relevant once again. We at MAIRE are aware that we are active contributors to change and proud of our role as humanist engineers committed to accelerating the energy transition. We have begun to work on our spiritual capital - particularly through the instrument of the Foundation - by recovering objects and projects in our archives and memory. We studied the need to prepare skills for the energy transition with international research presented at the last COP28 climate summit. We conveyed our passion for the humanist engineer to many young people in schools and universities. We asked our people to write short stories for a literary contest in memory of a colleague who remains in the hearts of so many of us. Special mention should be made of the EvolveArt contest, which involved some hundreds of students from fifty art high schools throughout Italy, making the covers of this EVOLVE magazine available for their works: a concrete way of giving space and support to the building of creative capital. This issue inaugurates the series of winning works on the cover.



In these pages, in addition to the “MAIRE chronicles” on the company's developments in meeting the challenge of ecological transition, you will find some insights from these projects. Others are on the horizon, in the fields of photography and contemporary art.

In many of our activities in recent years, we have increased our attention to young people, their educational paths, and their plans for the future. This attention, urged first and foremost by our entrepreneur, is not only about welcoming new generations of colleagues who, with their intellectual energy, will be instrumental in sustaining the group's growth and its own productive capacity in the face of the wave of investment we see coming. The push toward young people is something more than that: the idea of a company that wants its DNA to remain young at its core, that is, open to the new, to the future, to the possibility of dreams coming true, even along unusual paths, crossing the rigid divisions of the knowledge of the past.

To strengthen our identity, we have studied how our very name can be a treasure chest of key-values in which to recognize ourselves. In the following pages, you will discover how the renewal of our mottoes reflects a profound evolution that goes beyond a simple linguistic update, seeking synthesis, to succeed in distilling our true way of being and working. This issue is dedicated to the first one, “Make an Impact”: it is our purpose, to leave a positive mark with our intelligence and creativity, promoters of economic, social, natural, ... but also “aesthetic-spiritual” capital!

Happy reading

**Carlo Nicolais**  
Group Institutional Relations, Communication & Sustainability Vice President

# STRATEGIC TRANSFORMATION: THE NEW DIRECTION OF MAIRE'S MOTTOS

With the new Mottos, the philosophy «Make to Inspire» has been strengthened to generate an inspiring work environment where individual contributions can foster overall well-being.

In the previous issue of EVOLVE, we began by discussing the rebranding of MAIRE, an endeavor undertaken with the knowledge that we were operating in a complex ecosystem influenced by environmental, political, economic and social factors, whose narrative needed to be aligned with new industrial strategies and focus on the energy transition.

In a market where companies need to go beyond simply describing “what” they do and “how” they do it - focusing rather on “why” they act - we see how MAIRE's new purpose - We want a future in which humanity, industry, and the planet can thrive together - reflects its steadfast commitment to sustainability and a less institutional and more empathetic approach, both in its language and methods of communication.

## Actions that “inspire”

In this wave of renewal, **the “rethinking” of MAIRE's Mottos** could not be left undone. With the new payoff “MAKE to INSPIRE,” the transformation encompasses a substantial reorientation of corporate priorities. “Our new payoff,” **Ida Arjomand**, MAIRE Chief Marketing Officer points out, “not only emphasizes our ability to take action, innovate and generate sustainable solutions, but also marks our contribution to inspiring the industry to embrace this transformation. This evolution not only aims to support MAIRE's growth, but **also aspires to positively influence day-to-day strategic decisions, creating a virtuous cycle of inspiration and implementation.**”

The choice of the payoff “Make to Inspire,” a play on words that merges the beginning of “MAke” and the end of “insPIRE,” reflects the MAIRE name and rewrites the corporate narrative to effectively engage diverse audiences, including our internal resources. «It is vital that the narrative engages our employees, » the Marketing Manager continues, «as they represent **the beating heart of a Group in the “people business” that wants to celebrate its people and attract new talent**, showing MAIRE to be a place where it is possible to make a difference. » Indeed, with «MAKE TO INSPIRE », the company is calling for a stimulating work environment where individual



contributions can foster overall well-being and promote growth and development. It was only natural for the evolution of Mottos to be linked to our brand, which so strongly represents us: MAIRE.

## 5 Mottos, one brand, one shared culture

In choosing a homogeneous format, articulated with a combination of [verb] + [noun] or [adjective], the new mottos better reflect MAIRE's dynamism and aspirations in today's global context, with a new visual identity and revised wording that reflects its commitment to innovation and sustainability. «More than just slogans, MAIRE's mottos are essential in guiding the daily work of every individual within the organization: **they function as true pillars of the corporate culture and our core values**. The goal is for every team member to feel part of this transformative journey, understanding the vital role that mottos play in the day-to-day and long-term strategic direction, » continues Ida Arjomand.

## A multi-level process

The changes made to MAIRE's mottos involved the whole group, with great contribution from all of the international offices: «**We gathered feedback from all corners of the world** to make sure the messages were effective and consistent across different corporate cultures». This collaborative effort was highlighted by launch events in key cities such as Milan, Mumbai, and Rome, demonstrating the effectiveness of the new approach across regions.

The process of revising MAIRE's Mottos was coordinated by a team composed of Franco Ghiringhelli, Carlo Nicolais, Sara Frassine, Max Panaro, Ida Arjomand, and Massimo Dapoto representing the corporate functions of HR and Communications and approved by MAIRE's CEO and Chairman. Drawing upon their experience and listening skills, the team used a process that took the Group's new positioning and rebranding into account.

The circulation of the new mottos was also supported by a wide range of **branding materials**, including animated videos and graphics distributed through the global corporate network. «We created a suite of communication tools to keep the mottos consistently present in workplaces and daily communications, reinforcing their role as **inspirational guides** and keeping our brand awareness and the connection between employees and the corporate mission high.»

«Along with the ICT team, » Arjomand concludes, «we are moving toward a model in which our mottos also serve as "nourishment" for our artificial intelligence tools, so that we are always pointing toward those simple and powerful 5 pillars. »

# «MAKE AN IMPACT,» A MOTTO THAT GENERATES TANGIBLE RESULTS

It is not just encouragement that makes a difference, but also a call to action to live and work in ways that reflect our highest values and aspirations, actively contributing to building a better future for ourselves and future generations.

From a simple statement, «Make an Impact» comes a powerful and motivating guide intended to inspire individuals, organizations and communities to take actions that generate meaningful and positive change. The idea is for each person to consider the importance of their daily actions and their ability to leave a lasting mark, both personally and collectively.

In MAIRE, adopting the motto «Make an Impact» means committing to producing tangible and influential effects, promoting personal growth and improvement. It is a call to leave a lasting impression through decisions, actions and results that not only foster one's own development, but also uplift and improve the surrounding community. This can translate into developing new skills, increasing one's education or cultivating habits that contribute to individual and overall success.

But what does it mean, in practical terms, to «have an impact»? Having an impact implies exerting a significant influence on people, processes or environments. Triggering positive change, promoting innovations or improving existing conditions in visible and measurable ways can be intentional or result as a side effect of our actions. It may be large or small, immediate or long-term, but it is always defined by its obvious relevance and consequence.

To effectively apply the motto «Make an Impact» in personal and professional life, it is essential to set clear goals and define the specific actions that can lead to concrete results. This process begins with defining what you want to influence or improve and proceeds with identifying the strategies and resources needed to realize that vision. Measuring impact also requires establishing indicators of success so that the effectiveness of the actions taken can be evaluated.



# MAKE AN IMPACT

We're here to generate an impact. We have to be aware of the result we want, focus on it, and let it inspire us to overcome any challenge.



## MAKE AN IMPACT

*We're here to generate an impact. We have to be aware of the result we want, focus on it, and let it inspire us to overcome any challenge.*

It is just as important to generate a positive and meaningful impact through one's actions as it is to have a clear goal and keep it as a point of reference by finding in it inspiration, motivation and determination to overcome any challenge one may encounter along the way. MAIRE is acting according to this goal: to generate change that is meaningful and impactful.

### The impacts generated by MAIRE

Within this issue of EVOLVE, in the article beginning on page 10, it is CEO Alessandro Bernini who repeatedly highlights the perfect alignment between the motto «Make an Impact» and MAIRE's strategic actions. «The success of the company's strategies has paved the way for significant growth in financial indicators and a 40% increase in revenues of the Sustainable Technology Solutions business unit. The Group is experiencing acceleration that exceeds 2023 expectations, » Bernini said during Capital Markets Day 2024.

This success is not accidental but the result of a clear and well-defined approach toward sustainability and energy efficiency, consistent with the motto "Make an Impact". With this in mind, Bernini highlighted how MAIRE is leading the decarbonization of the energy industry, enhancing the Group's technological excellence and ability to build large plants.

The integration of sustainability and technological development can be seen in the activities of NEXTCHEM, which has seen a robust increase in its order book. «Decarbonization and circular economy are at the heart of our strategies, » Bernini added, emphasizing how development, collaboration, and acquisition are the pillars through which MAIRE intends to continue in its mission to reduce environmental impact.

As a further example of "Make an Impact," Bernini cited MAIRE's commitment to sustainability, which was further strengthened by the issuance of a €200 million Sustainability-Linked Bond in September 2023, raising the level of sustainable financing within the group to 37%. Bernini concluded by highlighting a 20% increase in engineering work hours from 2022, a sign of the Group's ongoing commitment to innovation and efficiency. In fact, generating impact means adopting advanced technologies and sustainable practices to transform not only its own business but the industry globally.



# ACT WITH SIMPLICITY

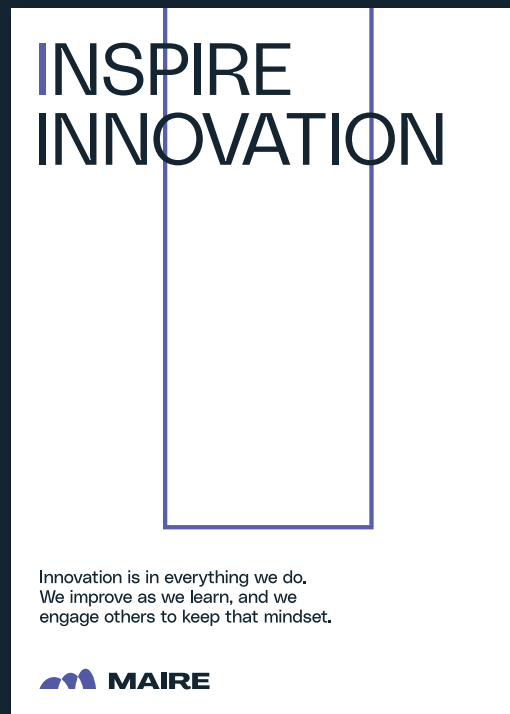
*Let simplicity be our strategy. Let's embrace it, make the most of simplifying decisions and collaborate accomplish goals.*

In an entity as large as MAIRE, it is essential to encourage simplicity as the main strategy with the purpose of reducing complexity and making faster, more efficient and effective decisions, procedures and actions. This is precisely why it is necessary to operate through collaboration and teamwork, in order to deliver better solutions and successfully achieve goals.

# INSPIRE INNOVATION

*Innovation is in everything we do. We improve as we learn, and we engage others to keep that mindset.*

Innovation is an essential part of MAIRE's approach: it is the pillar that must drive decisions, activities and goals, just as it drives the reality of the Group. It is an ever-evolving aspect that must constantly progress and develop through experience and the acquisition of new knowledge. This is precisely why innovation also passes through the active involvement of other people to maintain and foster a culture based on the sharing of ideas aimed at progress.





# RISE TOGETHER

*Inclusion as a way of being. Integration as a way of doing. We act together as an evolving ecosystem, creating value and sustainable results.*

Diversity and openness are an integral part of MAIRE's identity. Therefore, inclusion and integration are fundamental aspects of its culture and approach. It is therefore essential to operate as if in an ever-evolving ecosystem: through collaboration and interdependence among the people involved. The goal of this collaboration is to create long-term value and achieve sustainable and meaningful results.

# ENJOY OUR WAY

*Everyone makes MAIRE the place to be. We maintain a positive attitude, take care of each other, and enjoy everything that makes us unique.*

MAIRE is made up of people, and each person contributes to making MAIRE an extraordinary place. It is necessary for everyone to do their part in fostering positivity, solidarity, appreciation of each member's unique characteristics along with respect and care for others, helping to create an exceptional environment in which to work.

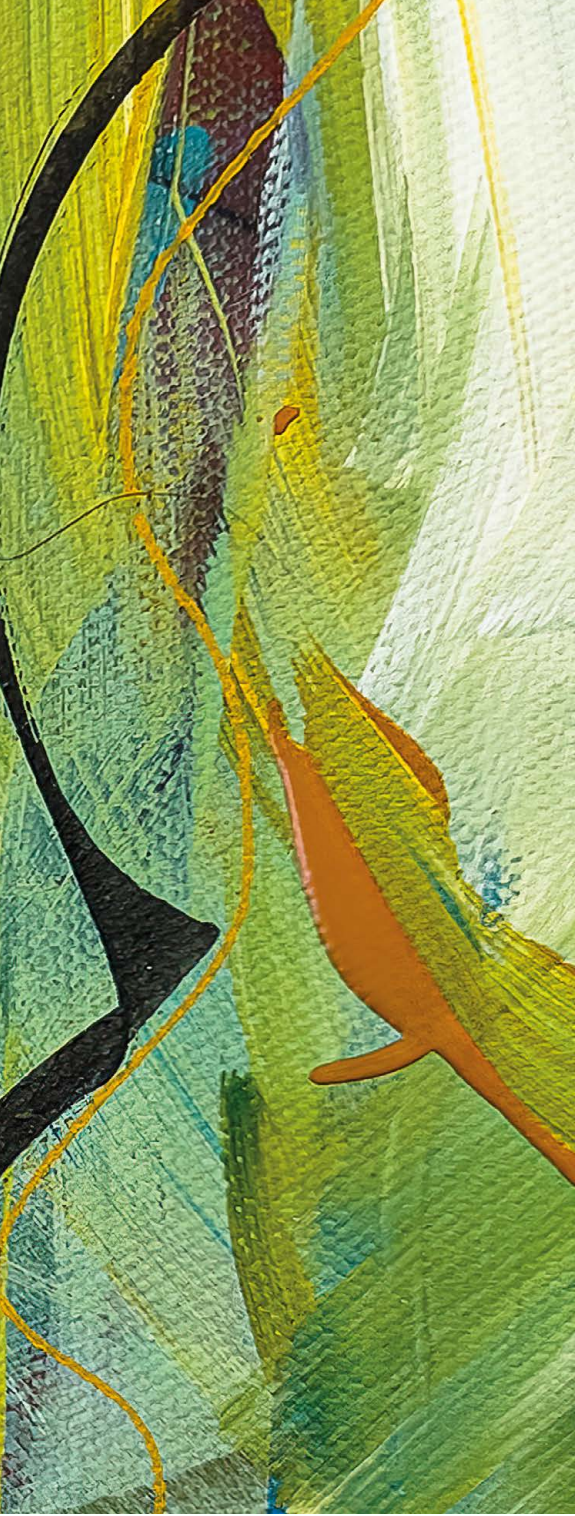




**Circular chemistry, new fuel and hydrogen: record growth and financial targets met ahead of schedule. CEO Alessandro Bernini confirms the validity of our strategic choices.**

**Alessandro Bernini**

Chief Executive Officer MAIRE



# MAKING A MARK THROUGH RESULTS

« T

he results reinforce the validity of the strategic choices made: the market is beginning to acknowledge our commitment." This is how **Alessandro Bernini**, CEO of the MAIRE group, remarked upon the double-digit growth of key financial indicators and a significant increase in contribution from the Sustainable Technology Solutions business unit, which saw a 40% increase in revenues. «The Group is experiencing an acceleration that is exceeding 2023 forecasts,» Bernini explained during the latest **Capital Markets Day**, an important event that shed light not only the outstanding results of the previous year, but also on the ambitious strategy for the future. In line with the new motto "Make an Impact," MAIRE's top management has expressed its firm intention to remain a leader in the decarbonization of the energy industry by leveraging the Group's technological excellence and ability to build large plants. «The impact that has been made is the result of our dedication to a clear and defined goal: the energy transition toward a more sustainable, low-carbon system,» Bernini confirmed.

At the heart of MAIRE's approach is the very integration of sustainability and technological advancement. The Group has substantially increased its order book, which now stands at over €15 billion, and everything revolves around **a business model that supports the energy transition**: «Decarbonization and a more circular economy are at the heart of our strategies, » added the CEO. «Develop, collaborate and acquire are the pillars of our vision, through which we intend to carry out our mission of reducing our environmental impact.» MAIRE's commitment to sustainability is further exemplified by the issuance of a €200 million Sustainability-Linked Bond in September 2023, with which it reached 37% Group-wide sustainable financing. «This demonstrates our ongoing commitment to innovation and efficiency, along with our engineering

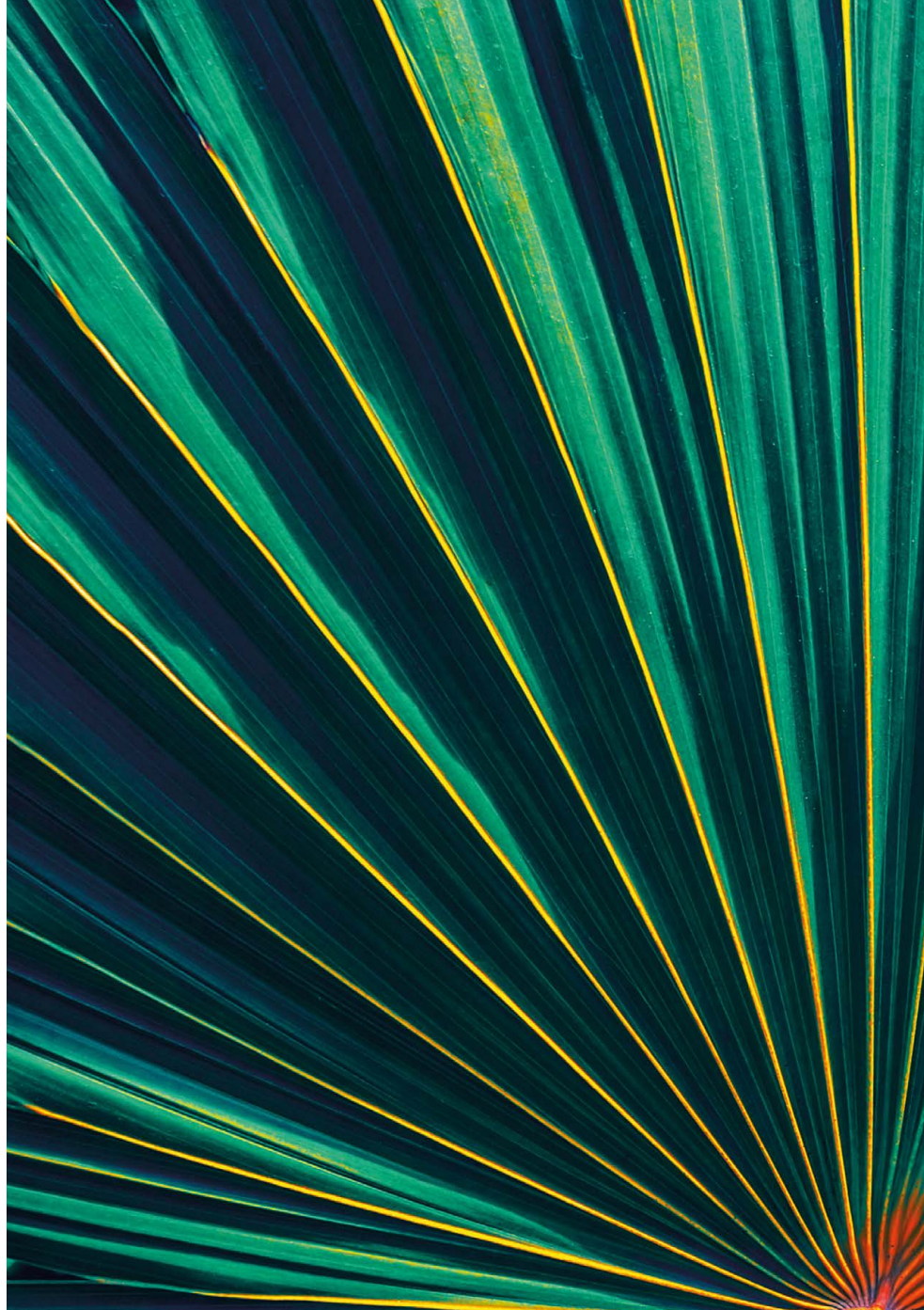
capacity, which has seen a 20% growth in man-hours since 2022. »

## Wide-ranging growth

The numbers are clear. In 2023, MAIRE group's revenue was €4.3 billion, an increase of 23% over the previous year. The EBITDA - an indicator that shows a company's income based only on its operations, and therefore not including interest, taxes and amortization - came in at €274 million, growing 31.1%. While net income increased to €129.5 million, marking an increase of 43.3% (which is why the Board decided to propose the distribution of a dividend of 0.197 per share to its shareholders, 59% more than the previous year), the outlook for the current year is optimistic with a forecast for a significant dimensional increase with revenue estimated at between €5.7 and €6.1 billion, and an EBITDA that is expected to be between €360 and €405 million.

During 2023, **MAIRE has acquired new orders totaling €11.2 billion.** «Today,» Bernini said, «we are seeing an acceleration of revenues with results that only last year we expected to achieve in 2028. We have acquired new orders for more than €11 billion, successfully leveraging the downstream investment cycle and bringing our portfolio to €15 billion. » Among these is the remarkable \$8.7 billion **Hail and Ghasha contract**, the largest in the company's history, which includes two gas processing units, three sulfur recovery sections, supporting infrastructure and export pipelines. The Sustainable Technology Solutions business unit secured orders worth €299 million (including an engineering study for a green synthetic fuel pilot plant in Italy and a feasibility study in the United Arab Emirates to convert solid waste into sustainable aviation fuels).

It is Bernini himself who commented on the growth: «The strategic choices announced last year confirm their validity: this is also why the market is rewarding us. The main financial indicators are growing in double digits, the contribution of the **Sustainable Technology Solutions** business unit is increasing, with revenues that are 40% higher: the expansion of our portfolio of solutions, supporting our clients' decarbonization goals, has in fact consolidated our technological leadership. » On the wave of this growth, what might the next decade bring?



«The strategic choices announced last year confirm their validity: this is also why the market is rewarding us » said CEO Alessandro Bernini.



## A strategic plan for the decade

MAIRE's 2024-2033 strategic plan emphasizes a marked commitment to decarbonization through proprietary technologies and sustainable solutions, aiming for revenues in excess of €10 billion and an EBITDA of around €1 billion by 2033. «With an increasing focus on the Sustainable Technology Solutions (STS) business unit, we anticipate significant expansion, with this unit expected to grow from current revenues of \*262 million to €1.6 billion in 2033. In fact, an annual increase between 20 percent and 30 percent in the second half of the decade. »

The plan also calls for major growth for the **Engineering and Construction (IE&CS)** business unit, with an annual revenue growth in the order of 11-12% in the first five years, and then 5-7%, reaching €9 billion in 2033. Investments in this division will focus on M&A and digital innovation initiatives, as well as co-implementation of projects applying STS proprietary technologies.

«NEXTCHEM » the CEO added, «will expand its portfolio of technologies in strategic areas such as sustainable aviation fuels and innovative electrolysis solutions, as well as offer end-to-end solutions in the areas of fertilizers, hydrogen, chemicals, circular fuels and sustainable polymers. » This expansion **will benefit from investments of more than €1 billion over the next ten years**, mainly concentrated in the first five years to expand the technology portfolio and validate new solutions.

Meanwhile, MAIRE intends to strengthen its global position by capitalizing on the challenges of energy security and climate change, with a particular focus on **investments in clean energy and the decarbonization of downstream assets**. The strategic plan expects that the contribution to the Group's EBITDA from sustainable technologies will significantly increase, reaching €600 million by 2033, representing approximately 60% of the total consolidated EBITDA.

# SUSTAINABILITY: TIME FOR BUDGETS, PROJECTS AND ACQUISITIONS





In the global energy context, MAIRE's holistic approach toward a sustainable and technologically advanced transformation changed pace in 2023: accelerating its commitment to innovation that meets the growing needs of the market, the Group - in keeping with its corporate DNA - has set the ambition of doubling its operations and staff within the next ten years, focusing on a new strategy and brand.

«Personally, » **Fabrizio Di Amato** said at the recent **presentation of the Sustainability Report**, «I feel a great responsibility to lead our Group through a profound transformation, not only in economic terms, but also by improving the social landscape. This is why sustainability has become a fundamental pillar of our business. We have integrated long-term sustainable practices that reflect our 10-year vision presented in March 2023, demonstrating our commitment to people, the environment and the economy. »

At the social level, MAIRE is committed to an inclusive and meritocratic work environment, with a goal of **achieving gender parity in recruitment processes by 2032**. Added to this is an acceleration of efforts to achieve carbon neutrality by 2029, working with suppliers to reduce emissions and optimize operational sustainability.

«Economically, » the Chairman added, «we are investing in innovative technologies and forming partnerships with industry leaders to industrialize effective solutions for the energy transition, with a focus on innovation as the main driver of our development. This ambitious path requires great effort from all of us, driven by the passion and spirit of belonging that our employees demonstrate every day. We have also adopted **a new visual identity and logo** that better represent the souls that drive our Group toward a future balanced between technological excellence, executive expertise and a strong commitment to sustainability. »

Since 2018, with the launch of NEXTCHEM, MAIRE has significantly enhanced its know-how, developing core competencies and technologies for sustainable industrial solutions. «We have established crucial relationships and partnerships,» said **Alessandro Bernini**, «developed proprietary technologies and expanded our geographic presence, improving our understanding of market dynamics and strengthening our leadership position. »

By reorganizing the structure into two segments - Sustainable Technology Solutions and Integrated Engineering and Construction, operating in synergy but with the flexibility to act as independent

**The success of the 2024-2033 strategic plan will depend not only on technological innovation but also on expanding operational and engineering capabilities, with a significant increase in personnel and resources dedicated to research and development.**



entities - the group can make the most of advanced technologies to design and build increasingly sustainable plants. Adds the CEO, «The rapid technological and market changes we are experiencing require an extended vision beyond the traditional five-year horizon. Aiming for 2033, we will invest in acquiring new talent, with a workforce that had reached about 8,000 employees from 80 nationalities by the end of 2023. With more than 2,200 patents, we have strengthened our leadership position and increased ESG targets in management from 10% to 20% by initiating an extensive stakeholder engagement process. »

## ADNOC, the largest contract in the Group's history

How is MAIRE investing in innovative technologies, and forming partnerships with industry leaders? Projects and acquisitions are the two key words at the center of the strategy.

In October 2023, TECNIMONT signed a landmark agreement with **Abu Dhabi National Oil Company (ADNOC)** during ADIPEC (the world's largest energy summit in Abu Dhabi) to build the onshore gas processing plant (gas produced by the reservoir of Hail and Ghasha), under an EPC contract worth \$8.7 billion. This project aims to achieve zero emissions through the implementation of advanced CO<sub>2</sub> capture and recovery technologies, and involves the construction of two gas treatment units, three sulfur recovery sections and related supporting infrastructure. TECNIMONT, supported by MAIRE's Sustainable Technology Solutions division, will develop innovative digital solutions to optimize energy efficiency and reduce plant operating costs. Engineering and procurement activities will be coordinated from Milan, with a focus on engaging local suppliers to stimulate the Emirati economy. The agreement - the largest contract in our Group's history - not only strengthens the relationship with a leading global partner, but also MAIRE's role in providing innovative and sustainable solutions for the global energy future.

## Biofuels, hydrogen and ammonia

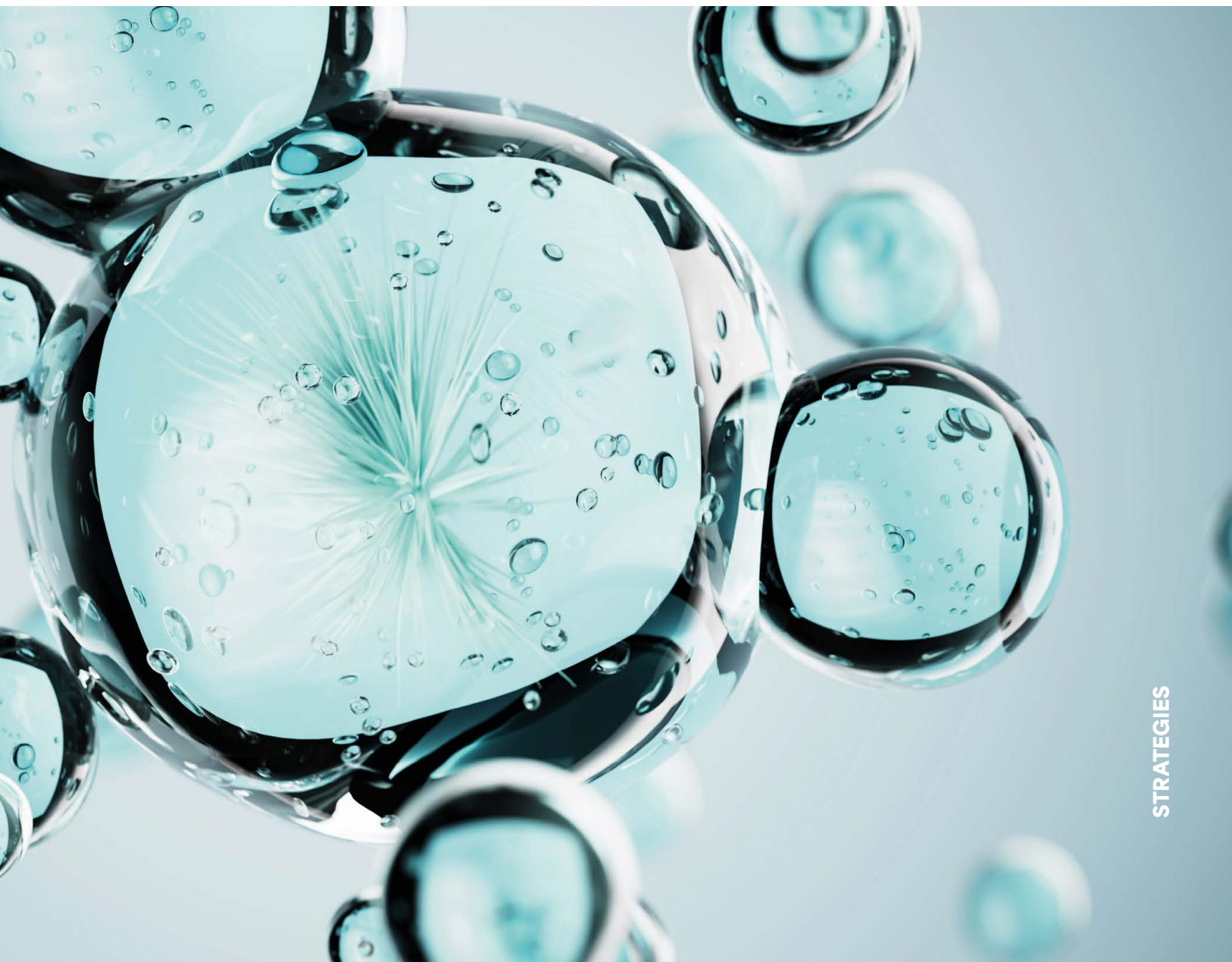
Also in 2023, NEXTCHEM launched several key international projects to promote innovation in synthetic fuels and biofuels. These include the implementation of **NX CPO™ technology** for green fuels in Italy, the design of SAF plants from agricultural waste in the U.S. and the supply of equipment for an energy-efficient urea plant in China, as well as a study to convert solid waste into sustainable fuels in the United Arab Emirates.

Staying on the topic of projects, MAIRE has obtained the significant funding of €194 million from the European project "IPCEI Hy2Use" to develop **the Italian Hydrogen Valley**. This project aims to create a hydrogen technology hub, supporting industrial decarbonization and sustainable mobility through the conversion of waste into hydrogen that can be used as fuel for transportation, as well as syngas and circular fuels, such as ethanol and methanol.

## MAIRE strengthens its portfolio with new acquisitions

With a view to acquisitions, in January 2024, MAIRE signed an agreement with **Newcleo**, company engaged in the development of modular lead-cooled reactors, to produce decarbonized energy from nuclear waste. This agreement aims to promote **sustainable hydrogen production and decarbonize the chemical industry**. The Newcleo reactors, part of MAIRE's 'E-factory,' will use waste from nuclear plants to produce hydrogen for the production of zero-emission chemicals and fuels. This medium- to long-term project marks an advancement in MAIRE's energy portfolio that includes advanced technologies to support the production of decarbonized e-fuels, methanol and fertilizers. **NEXTCHEM** will develop solutions for hydrogen from electrolysis, while **TECNIMONT** will provide specialized consulting, reinforcing MAIRE's position in sustainable chemistry.





As an integral part of MAIRE's 10-year plan, in February 2024 NEXTCHEM Tech signed a binding agreement to **acquire 80% of HyDEP S.r.l. and 100% of Dragoni Group S.r.l.**, both renowned mechanical and electrochemical engineering companies specializing in process engineering for green hydrogen. This acquisition, worth a total of about €3.6 million, aims to enhance NEXTCHEM's capabilities in electrolysis, further consolidating its position in the market for innovative sustainable energy technologies.

Also NEXTCHEM recently strengthened its position in low-carbon processes through the acquisition of 100% of **GasConTec GmbH (GCT)**, a German company with more than 80 patents and considerable know-how in the synthesis of hydrogen, ammonia, methanol and integrated methanol/ammonia processes. The agreement, with a total value of €30 million, was signed in March 2024.

Finally in May 2024 MAIRE, through its subsidiary KT - Kinetics Technology, acquired two engineering companies: the Italian **APS Designing Energy** and the Polish **KTI Poland**. This transaction was completed through the acquisition of (on July 30, 2024 the closing of the acquisition will take place) APS Evolution S.r.l., the parent company of both entities. This significantly expands MAIRE's operational capabilities, adding about 280 highly qualified professionals to its workforce. These acquisitions are part of the group's strategy to **strengthen its engineering footprint in Italy and Eastern Europe**. The companies involved have a strong track record in natural resource processing, innovative rubbers, green chemistry, biofuels, and bioplastics, covering a wide range of services: from feasibility studies to project management and construction.

# INNOVATION AND SUSTAINABILITY, THE PILLARS OF SUCCESS

For Chairman Fabrizio Di Amato, the Green Innovation District represents a strategic step toward a clean and sustainable future in energy. «Our customers are requesting the development of innovative projects to facilitate the energy transition ».

It is a reassuring and proactive vision, showing that MAIRE «not only addresses current market needs, but is also a pioneer in defining the contours of a sustainable future. ». The words MAIRE Chairman **Fabrizio Di Amato** spoke before investors and stakeholders remain a testament of how strongly the Group's growth is linked to the energy transition and technological innovation. «The excellent financial results, » he explained, «signal the dynamism with which the company is responding to global challenges. To maintain these standards, it is more than ever necessary to **move outside the box** to create a sustainable future. »

Three key areas were outlined by the Chairman: the **energy transition**, the **strategic positioning** of MAIRE, and a commitment to **continuous innovation**. «The energy transition process is continuing to pick up speed. MAIRE is in the right place at the right time, » he said, acknowledging the growing demand for green solutions for decarbonization and the acceleration of investment in the sector. «Looking at the current landscape, it is clear that the transition to more sustainable energy sources is exceeding our expectations regarding energy security and climate change management more every day. We are witnessing a growing demand from our clients, » Di Amato stressed, «who are urging the development of innovative projects to facilitate this transition. »



**Fabrizio Di Amato**

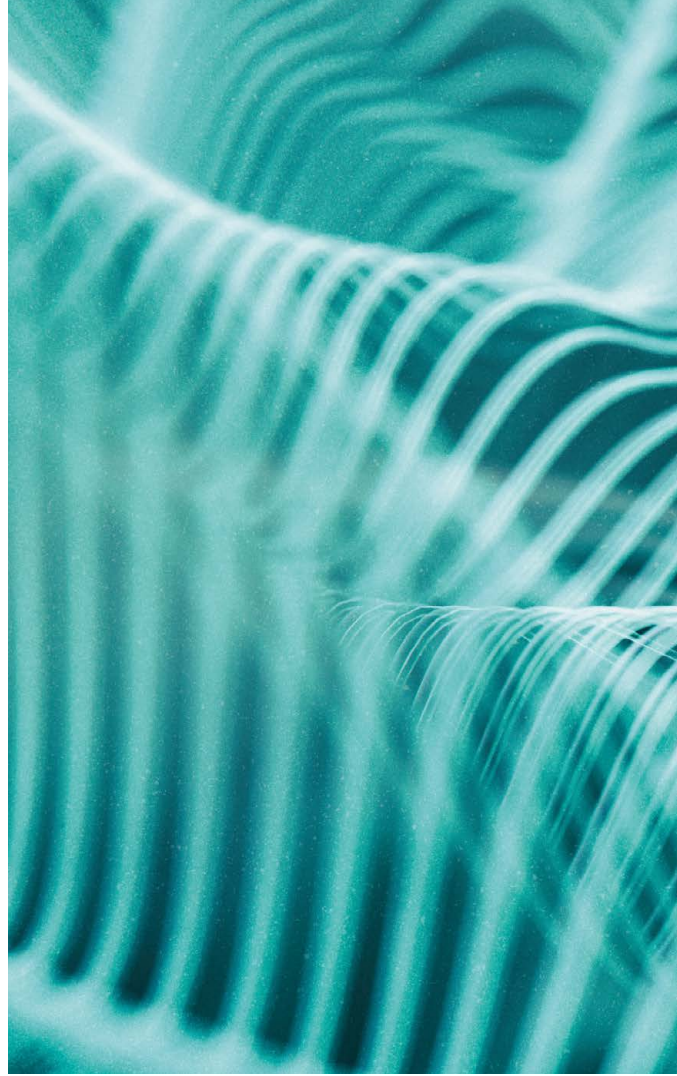
Chairman and Founder MAIRE

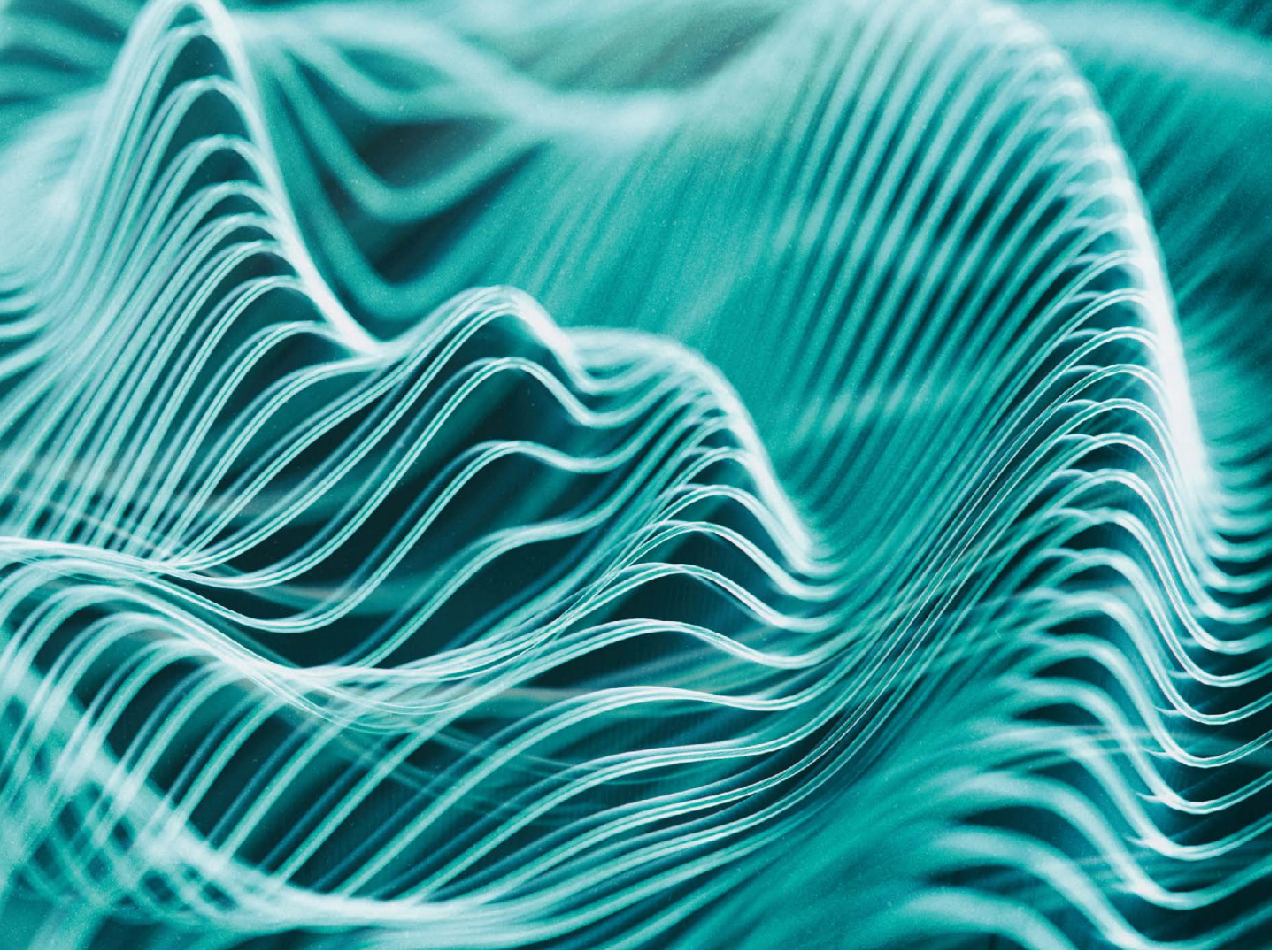
Regarding MAIRE's strategic positioning, the company is ideally situated to fully benefit from this growing wave of investment in the energy sector. Regardless of the technology chosen by clients to address the energy transition, **MAIRE has the capacity and experience to turn these projects into reality.** «Our decision to establish NEXTCHEM in 2018 was a forward-looking one, » the Chairman continued. «Having anticipated an energy revolution, we are now perfectly aligned with market needs. »

To illustrate the success and effectiveness of the strategy, MAIRE more than doubled its backlog, or work commissioned (but not yet executed or delivered) in 2023, which is a de facto indicator of the company's own financial health. As mentioned by Di Amato, one example of increased demand is undoubtedly the Hail and Ghasha mega project. In October last year, MAIRE signed a contract worth about \$8.7 billion with ADNOC (Abu Dhabi National Oil Company, the national oil company of the United Arab Emirates) to develop the onshore portion of the **Hail and Ghasha** project in Abu Dhabi. The project aims to operate with zero emissions, using CO<sub>2</sub> recovery units for gas capture and storage.

## Green Innovation District

Speaking about the commitment to achieve outstanding results in the field of sustainability, the Chairman reiterated MAIRE's current positioning as **a company deeply focused on technological innovation.** «And this is just the beginning. As a Group, we continue to drive a new sustainable industrial cycle, based on the circular economy and innovations pertaining to new chemistry. We are also stepping up efforts to reduce CO<sub>2</sub> emissions from our offices and production sites, with the ambition of achieving carbon neutrality by 2029, one year ahead of our initial targets. »





Getting to the heart of some of the projects, Di Amato explained how MAIRE's commitment to a sustainable future takes concrete form in the **Green Innovation District**, an innovation hub to be built at the Group's historic headquarters in Rome. «This district will be the beating heart of our research and development activities, a place where pilot plants will not only demonstrate our advanced technological capabilities but also serve as catalysts for the commercial scalability of our innovations. More than just a development area, the Green Innovation District will be a true **experiential and learning center.** »



At its core, the Green Innovation District is an ambitious project that aims to align all sustainable development initiatives in collaboration with strategic partners, including universities and research centers. «We aim to transform this space into a model green district, an epicenter of sustainable activities that can promote education and training. » Spanning more than 7,000 square meters, including both covered and uncovered areas, the district will be dedicated to the research and **development of emerging technologies such as bioplastics** and will host more than ten pilot plants, bringing innovations from across the Italian and international network to Rome.

# CONSER AND MAIRE: SUSTAINABLE TECHNOLOGIES AT THE SERVICE OF GLOBAL CHEMISTRY

**F**ounded more than 50 years ago, CONSER can claim an extremely diverse portfolio of technology patents dedicated to energy transition and chemical processes. With the acquisition - in 2023, by the subsidiary **NEXTCHEM Holding** - of an 83.5% stake in CONSER, the MAIRE group expanded into the markets for high value-added derivative technologies and biodegradable plastics intermediates.

Upon the acquisition, CEO **Alessandro Bernini** appreciated the added value that **Flavio Simola** brought to the company, «We are excited to continue working with him and his team. This important step allows the MAIRE group to expand its technology portfolio in the area of sustainable chemicals. »

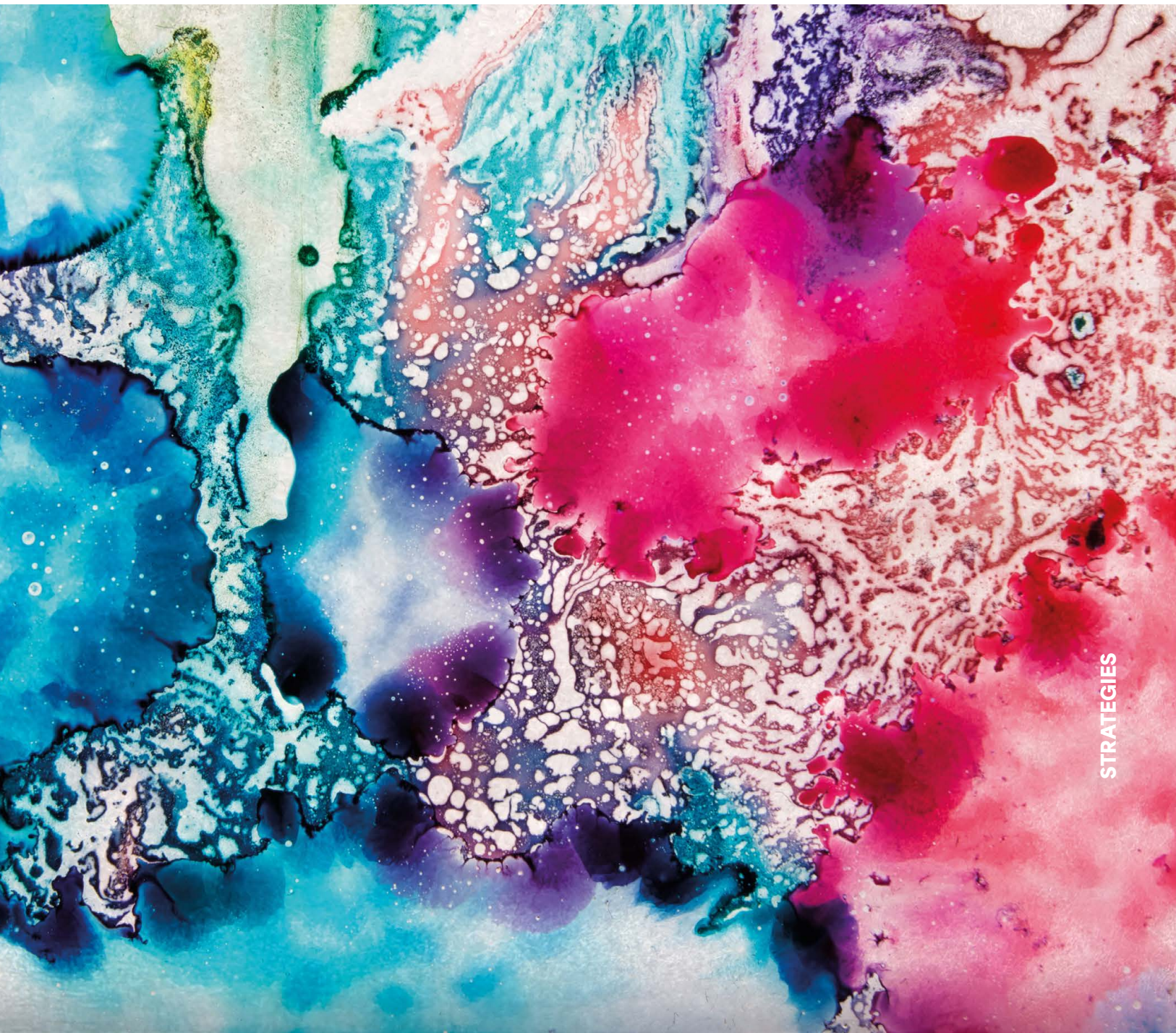
«Our group's focus on CONSER has long roots,» explains **Andrea Vena, Commercial & Operations VP** of MAIRE. "We have always seen CONSER as a center of excellence for technologies related to the energy transition: the acquisition coincided with the 54th anniversary of CONSER's founding. The company's integration into the NEXTCHEM family extends to both fuels&chemicals (through its patented technologies on C4 derivatives) and to polymers, thanks to the Duetto™ technology, which enables the production of the raw materials necessary for the synthesis of biodegradable plastics. »

## More than half a century of history

CONSER was founded in 1969 as an industrial consulting company in the field of chemical processes. In the first decades, it focused mainly on services in the field of Oil&Gas and petrochemical processes. «The first important turning point, » says **Flavio Simola**, «occurred in the early 1990s, when the company decided to evolve:







With the acquisition of CONSER, MAIRE has strengthened its leadership in the field of energy transition and circular economy. To learn more about the history of this center of technological excellence, here are the accounts of engineer Flavio Simola (Innovation & Intellectual Property Director of CONSER) and Andrea Vena (Commercial & Operations VP of MAIRE).

from a service company to a company dedicated to the development and commercialization of technologies. Another pivotal moment began during that same period, but was fully implemented by 2005, with the company's entry into the Chinese market, which was growing rapidly in the industrial manufacturing sector. The most recent decisive step was the entry into the MAIRE group, which opened new horizons both for new business fields and the opportunity to enter markets outside of the Asian region. »

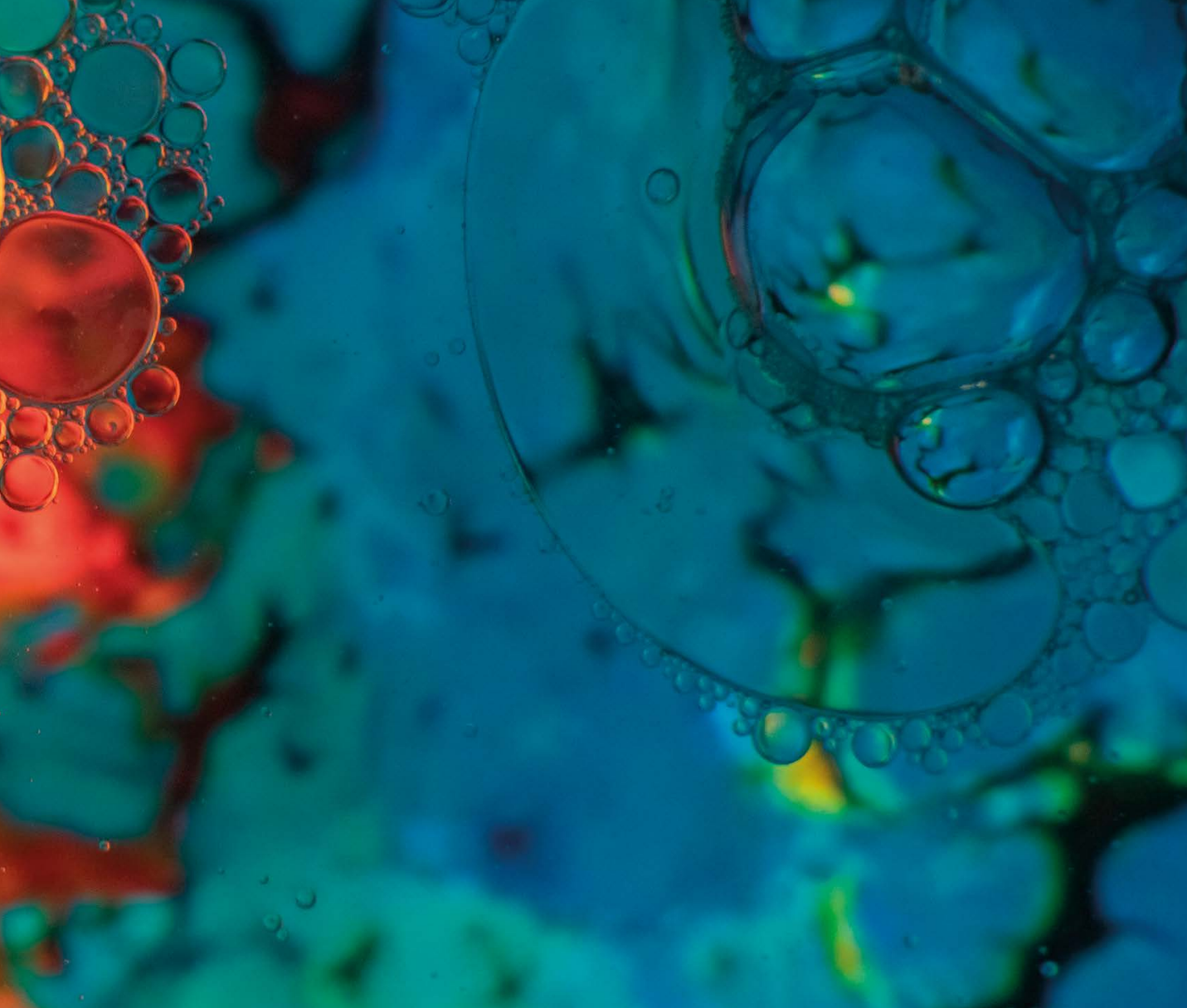
The technologies developed by CONSER are the result of synergies between laboratory research and internal development, often in collaboration with Italian universities. **The company has always maintained a close relationship with the world of production and industry**, making the contribution of external collaborators with experience in industrial plant management indispensable. «From a business point of view, » Simola continues, «CONSER's flagship technology is that of maleic anhydride and its derivatives, a sector in which the company is considered one of the global leaders. From a technological point of view, the most innovative technology is that of halobutyl rubber, which is distinguished by a particularly complex polymerization reaction at extremely low temperatures (-100°C), giving CONSER prestige and satisfaction. »

The most important factor for CONSER has been finding experienced and well-connected local agents or partners in the industry. **Especially significant was the collaboration in China** with companies such

as *Synocal Technology Development and Chemarti Technology Development*. «Cultural and regulatory differences have not posed great difficulties, » says **Simola**, «partly because CONSER has been familiar with Chinese culture for many years and partly because of the prestige and reputation it has acquired with major Chinese industrial groups over the course of the three decades it has been there. »

## Collaborations with universities and industrial partners

CONSER - which, despite its limited size, has distinguished itself by its ability to adapt to the demands of the international market - has developed a distinctive methodology and technical capability in the research and development of petrochemical technologies, **through constant interaction with industry, manufacturing, and a number of Italian universities**. Some of the technologies licensed by CONSER have resulted from the collaboration with manufacturing companies and integration with their R&D centers. «Since the early 2000s, CONSER has established



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Since the early 2000s, CONSER has established important collaborations with prestigious Italian universities, such as Federico II University of Naples and La Sapienza University of Rome.

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important collaborations with prestigious Italian universities, such as Federico II University of Naples and La Sapienza University of Rome, for the development of technologies such as epichlorohydrin from glycerin, brominated butyl rubber, HPPO, maleic anhydride, PTMEG and butanediol/dimethylsuccinate, the latter being fundamental for the transition to bio-degradable plastics. »

«Looking to the future, » **Andrea Vena** concludes, «CONSER intends to focus on the development and continuous improvement of technologies for biodegradable plastics, in response to market developments that aim to reduce or ban the use of non-biodegradable plastics. In addition, CONSER will focus on expanding technologies for the production of a wide range of chemicals needed for the creation of everyday materials and objects, benefiting from innovative and sustainable production processes. »

# LEAVING A TRAIL TO CHANGE THE FUTURE



In an issue of EVOLVE with the dedicated theme “**Make an impact**”, we think that making a mark in the contemporary world requires more than just ambition: what is needed is personal and collective transformation. So here - as the readers of EVOLVE will know - is a brief selection of texts that may offer some guidance on the subject: “*The 7 Habits of Highly Effective People*” by Stephen R. Covey (the title in Italian is “*Le 7 regole per avere successo*”) and “*Reinventing Organizations*” by Frederic Laloux. To these we have added a few short extracts from “*Can't Hurt Me*”, an essay written by David Goggins, a former soldier in the Navy SEALs, the U.S. Navy Special Forces on the editorial case of 2023. By reading them carefully and critically, you will discover how personal effectiveness and a new organizational vision can in fact coexist and shape our future.

## Covey: the path to personal effectiveness

Voted by Time magazine as one of the 25 most influential Americans, **Stephen R. Covey** (1932-2012) was a world-renowned authority on leadership, a family expert, teacher, consultant, business leader, and author. His books have sold more than 40 million copies, in more than 50 languages worldwide. “**The 7 Habits of Highly Effective People**” has been called one of the most influential business books of the 20th Century. After earning an MBA from Harvard University and a doctorate from Brigham Young University, he co-founded and became vice president of FranklinCovey, a consulting firm on leadership issues worldwide.

Published more than three decades ago, “The 7 Habits of Highly Effective People” remains a cornerstone in self-help and personal management literature. Covey identifies seven key habits that, if adopted, can transform a person from a merely reactive existence to a proactive one. These habits - Be Proactive, Begin with the End in Mind, Put First Things First, Think Win-Win, Seek First to Understand, Then to Be Understood, Synergize, Sharpen the Saw - not only increase personal effectiveness, but also create the foundation for solid, authentic interpersonal relationships. In an age of uncertainty, Covey’s habits offer an anchor, a replicable model - a guide toward personal and professional fulfillment.

## Laloux and “enlightened” organizations

The way we run businesses seems more anachronistic every day. Inside ourselves, we know that much more can be done and better. We all want workplaces that have a soul, more authentic relationships, a more grounded sense of community, and a meaningful purpose to pursue.

A former associate partner at McKinsey & Company, **Frederic Laloux** holds an MBA from INSEAD and a degree in coaching from the Newfield Network in Boulder, Colorado. In his essay “**Reinventing Organizations**”, published in 2016, Laloux opens our eyes to a future of work that puts people at its center, unlocking the resources they offer for the well-being of the individual, the organization, and the environment.

The American writer focuses on how to transform a disillusioned organization into an enlightened one: his research shows how over the past centuries, each time it has moved to a new stage of

«Most people do not listen with the intention of understanding. They listen with the purpose of responding. » To explore the theme “**Make an impact**,” we have drawn some forward-looking snippets from the thinking of Stephen R. Covey, Frederic Laloux and David Goggins.

consciousness, humanity has invented new ways to structure and manage organizations. The enlightened organization, Laloux says, is collaborative, decentralized and adaptive, with a “detect and respond” approach to problems, operating on trust rather than fear.

“Reinventing Organizations” describes a work environment where hierarchies become flattened, and each member contributes with authenticity and creativity. According to Laloux, “Teal” (meaning “tea leaf”) organizations not only meet the needs of the individual, but also elevate the collective whole by embracing management that values self-organization and a sense of shared purpose. Laloux’s Cultural Model - which is inspired by the model of human consciousness created by philosopher Ken Wilber - is a model characterized by five different colors: in analyzing the different theories of evolution, the author identified 5 evolutionary stages of organizations, which he has paired with colors and metaphors:

1. Red organizations - impulsive, fear-driven (pack of wolves)
2. Amber organizations - conformist, driven by norms and procedures (army)
3. Orange organizations - achievement-oriented, driven by processes, projects and planning/control (corporate machines, big corporation)
4. Green organizations - pluralistic, driven by culture and values (family)
5. Teal organizations - evolutionary, the color of tea leaves, driven by constant perception of changes in the environment and rapid adaptation (living organism).

Laloux suggests that an organization is never uniformly colored, but rather represents a palette of different hues. Each stage of development has its own intrinsic value, specifically related to the goals the organization intends to pursue. Advancing or

regressing between phases is always possible: outlining a detailed developmental map can therefore be very useful, as this tool helps to accurately identify areas that need specific actions to strengthen the current phase or facilitate the transition to the next one.

## Unity of vision for a sustainable future

The synthesis of the theories of Covey and Laloux suggest **an approach to life and work that is deeply interconnected**. Where Covey teaches us how to be leaders of ourselves with habits that enhance our effectiveness, Laloux extends these concepts to the organizational level, promoting a structure that facilitates innovation and collective responsibility. **Indeed, the current era requires a twofold transformation:** internal, through continuous self-impro-

vement, and external, through the reinvention of our institutions.

More than just manuals, these texts are considered “manifestos for a future” in which every individual and organization can transcend their current limitations and **make a lasting impact**. Essential reading for anyone who wishes to successfully navigate the complexities of our time and leave a mark that goes beyond a mere personal scope. Influencing the community in a positive way.

To blend the thinking of these two visionaries, we thought it interesting to add some excerpts from the bestseller **“Never Finished”**, published in 2023 by **David Goggins**, a former soldier in the Navy SEALs, the U.S. Navy Special Forces. Goggins, now turned athlete and motivational speaker, talks about the “40% rule” to highlight a very powerful motivational concept dealing with mental and physical limitations. According to this rule, when your mind tells you that you are exhausted and cannot continue, you have only actually used about 40% of your actual capacity. This implies that even if you feel you are at your limit, you still have 60% of your resources available to go on.

The idea behind this rule is to encourage people to overcome their self-imposed limits and push themselves beyond what they think is possible. Goggins argues that by learning to overcome pain and mental fatigue, we can access levels of performance that previously seemed unattainable. This approach is often used to increase endurance and determination in difficult situations, both in sports and in daily life.

His personal story testifies to this. Starting from the most difficult circumstances, he began his extraordinary journey of rebirth when he realized that the real enemy is not outside, but within. David went on to become the only member of the U.S. Armed Forces to have ever completed Navy SEAL training, the U.S. Army Ranger School and Air Force Tactical Air Controller training. When we think it is time to make our mark in the contemporary world, chances are that reading “Can’t Hurt Me” will have a noticeable impact on our ability to motivate ourselves, both personally and at work.

According to **Peter Drucker**, an Austrian economist and essayist, «The greatest danger in times of turbulence is not the turbulence - It is to act with yesterday’s logic.»

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**In the book “Can’t Hurt Me”, published in 2023, David Goggins says that when your mind tells you that you are exhausted and cannot continue, you have only actually used about 40% of your actual capacity.**

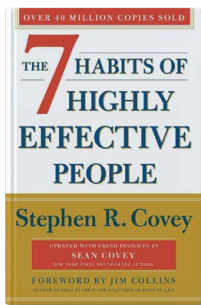
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# EXCERPTS OF THE FUTURE

## Modernity and levels of wealth

For thousands and thousands of years, people have lived on the brink of famine and in fear of plagues, always at the mercy of a drought or a simple flu. Then suddenly, almost out of nowhere, modernity has brought us unprecedented wealth and life expectancy in the last two centuries. And all this extraordinary progress has come not from individuals acting alone, but from people collaborating in organizations.

*[Frederic Laloux]*



## Character matters more than words

What we are communicates far more eloquently than anything we say or do. We all know it. There are people we trust absolutely because we know their character. Whether they are eloquent or not, whether they have the human relations techniques or not, we trust them, and we work successfully with them.

*[Stephen R. Covey]*

## Mind and body at their best

Human beings change through study, habit, and stories. Through my story you will learn what the body and mind are capable of when they're driven to maximum capacity, and how to get there. Because when you're driven, whatever is in front of you, whether it's racism, sexism, injuries, divorce, depression, obesity, tragedy, or poverty, becomes fuel for your metamorphosis.

*[David Goggins]*

## Real education, day in and day out

To focus on technique is like cramming your way through school. You sometimes get by, perhaps even get good grades, but if you don't pay the price day in and day out, you'll never achieve true mastery of the subjects you study or develop an educated mind.

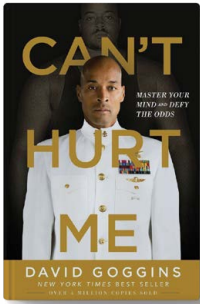
*[Stephen R. Covey]*

## Profit as a means to a greater end

It is necessary to recognize one's company as part of the ecosystem in which it lives and with a clear calling to do something useful for people, society and the planet. [...] Profit becomes a means to a greater end that simultaneously produces impact in the world and vitality in the organization. [...] We need to imagine more and more workplaces where individual and organizational biographical development coexist, leading people to feel part of a community and not small cogs in a big mechanical wheel.

*[Frederic Laloux]*





## For every 100 soldiers, only one is a warrior

Heraclitus, a philosopher born in the Persian Empire back in the fifth century BC, had it right when he wrote about men on the battlefield, «Out of every one hundred men, ten shouldn't even be there, eighty are just targets, nine are real fighters, and we are lucky to have them, for they make the battle. Ah, but one, one is a warrior... »

*[David Goggins]*

## Actually, we describe ourselves

Each of us tends to think we see things as they are, that we are objective. But this is not the case. We see the world, not as it is, but as we are - or, as we are conditioned to see it. When we open our mouths to describe what we see, we in effect describe ourselves, our perceptions, our paradigms. When other people disagree with us, we immediately think something is wrong with them. But, as the demonstration shows, sincere, clearheaded people see things differently, each looking through the unique lens of experience.

*[Stephen R. Covey]*

## Leveraging the remaining 60% of capacity

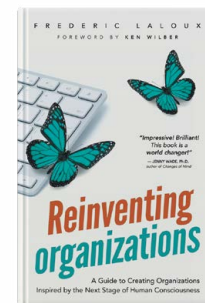
Odds are you have had a much better childhood than I did, and even now might have a damn decent life, but no matter who you are, who your parents are or were, where you live, what you do with your life, or how much money you make, you are probably harnessing about 40% of your actual abilities. We all have the potential to become much better than we are.

*[David Goggins]*

## Work must make sense

The current way we run organizations has been stretched to its limits. For people who toil away at the bottom of the pyramids, surveys consistently report that work is more often than not dread and drudgery, not passion or purpose. But life at the top of the pyramids isn't much more fulfilling. Behind the facade and the bravado, the lives of powerful corporate leaders are ones of quiet suffering too. Their frantic activity is often a poor cover up for a deep inner sense of emptiness.

*[Frederic Laloux]*



### Snippets excerpted from:

- Stephen R. Covey, *“The 7 Habits of Highly Effective People”*, Simon & Schuster UK
- Frederic Laloux, *“Reinventing Organizations”*, Nelson Parker
- David Goggins, *“Can't Hurt Me”*, Lioncrest Publishing

# EVOLVEART'S ARTWORK WITHIN THE MAGIC OF THE COLOSSEUM



The winners of the EvolveArt competition with the members of the jury and the Chairman of the MAIRE group and the MAIRE Foundation, Fabrizio Di Amato.



The works of the EvolveArt competition were displayed along the Via Sacra inside the archaeological Park of the Colosseum.









The winners of the EvolveArt competition, from left: Alesia Andrea Nicolescu, Dario Fella, Nicola Leonardo Lenoci, Melani De Mali, Giorgia Consonni, Andreea Diana Di Mattia, Mattia Andronic, Nicholas Matrone.

# EVOLVEART, A COMPETITION TO REWARD STUDENTS

**N**ow, two millennia later, human ingenuity continues to be the link between past and present. Inspired by the energy transition, a fusion of art and industry took place in the ancient Temple of Venus and Rome: in May 2024, the Colosseum Archaeological Park hosted the **award ceremony of the EvolveArt competition**, organized by the MAIRE Foundation, the Friends of the Biennale of Artistic High Schools (ABiLiArt) Association, with the support of the National Network of Art High Schools.

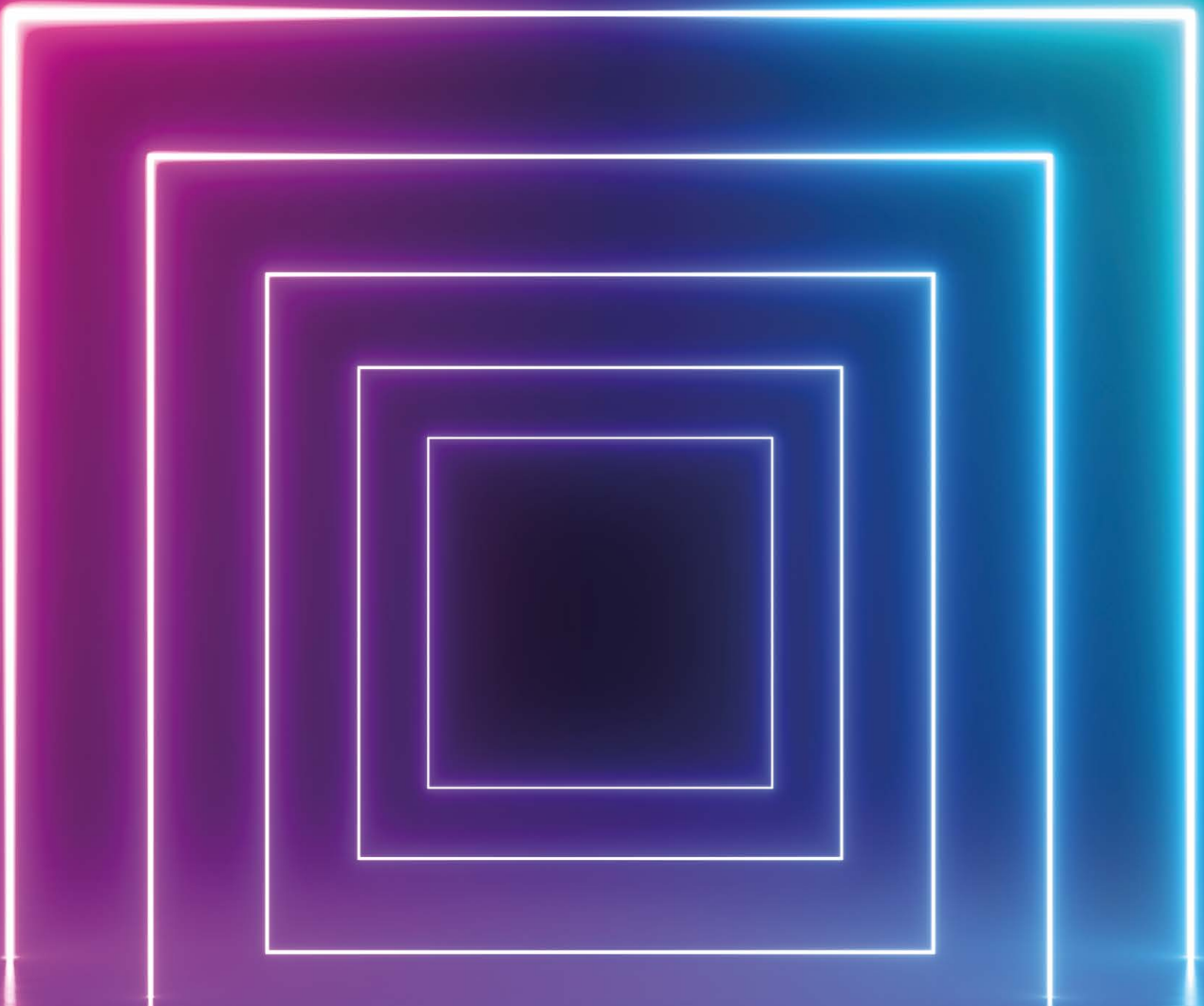
More than 280 students from 50 art high schools in 18 Italian regions envisioned, designed and created original artistic works on the theme **"Technology and Innovation in the Energy Transition."** The eight works that won the competition ex aequo will become the covers of upcoming issues of EVOLVE, our magazine distributed worldwide. In addition to the winners, 20 other works received special mentions and were displayed along the Via Sacra inside the archaeological park.

## A vision of the future

Despite its complexity, the theme of the energy transition was brilliantly interpreted by the young artists, who, in front of a large audience of teachers, school administrators and experts in art and photography, presented their visions for the future of **how they intend to address climate change using their creativity**: an essential issue regarding the future of our planet.

«In the magnificent setting of the Colosseum Archaeological Park, hosted to us in partnership, this occasion brings the initiatives of the MAIRE Foundation ever closer to the heart of the goals we want to pursue,» said **Fabrizio Di Amato**, Chairman of the Foundation and the MAIRE group. The goal is to give students the tools and knowledge to address environmental issues, deepen the meaning of sustainable development and orient them to the job opportunities of the energy transition. «An essential message,» Di Amato added, «so that the results we set out to achieve can be reached, but only in the presence of realistic goals. And on this journey of learning, art has the role of making everyone aware of the great challenges of the future.»





With a focus on technology and innovation in the energy transition - and promoted by MAIRE and the MAIRE Foundation in collaboration with the Friends of the Biennial of High Schools of Art Association (ABiLiArt) and the National Network of High Schools of Art - the EvolveArt competition involved more than 280 students from 50 artistic high schools in 18 Italian regions.

## The humanist engineers of tomorrow

As explained by the Foundation's General Manager, **Ilaria Catastini**, «choosing the winning works was by no means easy given the high quality of the entries submitted. » Indeed, through its Foundation, MAIRE supports the **training of tomorrow's humanist engineers**, professionals capable of contributing to the energy and digital transition of the future. Together with schools, universities and the third sector, it aims to promote the skills of young people and combat educational poverty.

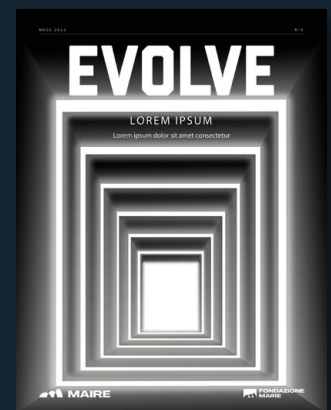
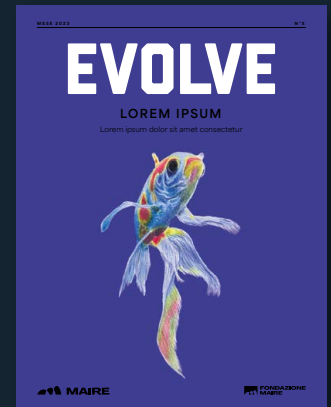
«The meeting with the MAIRE Foundation and the idea of proposing a competition for Italian High Schools of Art has greatly stimulated the imagination and creativity of our young artists, leading them to explore complex but fundamental issues for their future, » commented **Mariagrazia Dardanelli**, Honorary President of the National Network of High Schools of Art, and President of the AbiLiArt Association. The many submissions we received, all of a very high standard, demonstrate what great potential of an artistic education when it is applied to the territory and is called upon to collaborate with the world of work and research. **Education is curious, wanting to share ideas and passions, highlight its potential, and imagine a possible future.** We need to make sure that this all happens, in the best way and with the right support. This is an occasion we can be proud of. »

## The transition as seen by young people

Selecting and voting on the works of the EvolveArt competition, along with Carlo Nicolais (Institutional Relations, Communication and Sustainability VP MAIRE), and Massimo Dapoto (Group Communication Manager MAIRE ), were the aforementioned Ilaria Catastini and Mariagrazia Dardanelli, as well as Daniela De Angelis (historian of Contemporary Art), Giovanni Federle (lecturer of Graphic Design), Antonio Fiorenza (photographer, lecturer of Photography) and Renato Pennisi (director of Christie's auction house).

«EVOLVE is the symbol of our change, » explained **Carlo Nicolais**, «initially adopted as the title of our magazine, it has since become the name of the Foundation: so for us it is a distinctive sign of the transformation taking place. As was highlighted by Chairman Fabrizio Di Amato, we are renewing our identity as an engineering company, pushing hard on research to move from a focus on traditional natural resources to more innovative and alternative solutions. »

An evolution that also includes the integration of art and energy transition: an approach that has proven to be very inspiring for young people. «The students have interpreted and responded to the challenge of energy transition through their individual point of view, » Nicolais concluded. «One of the most gratifying aspects for us is that **the winners' works will be used as the covers of the next eight editions of our magazine.** As an international company, we distribute our publication to a large global audience, which includes clients and stakeholders spanning from Malaysia to the United States, Europe to the Middle East. This provides this emerging talent with an extraordinary platform of worldwide visibility. I warmly thank the entire team for their commitment to this initiative. For us, this is a time to take a step forward not only to contribute to the well-being of the community, but also to promote a vision for the future and hope. »





# THE WINNERS OF THE "EVOLVEART" CONTEST

Here is the list of the 8 “ex aequo” winners, whose artworks will be used as the covers of the next eight editions of our EVOLVE magazine:

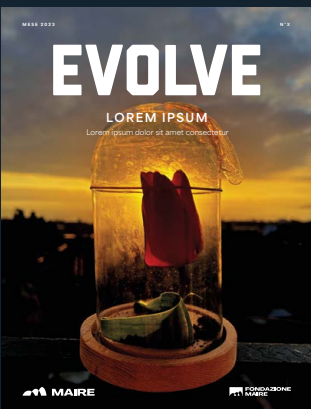


## **Mattia Andronic**

Liceo Artistico Statale "Benedetto Alfieri," Asti  
Artwork: "Electric Orchids"

## **Alesia Andrea Nicolescu**

Liceo Artistico Statale "Leonardo da Vinci," Aversa (NA)  
Artwork: "Now or Never" - Innovation that transforms the present and shapes the future



## **Melani De Mali**

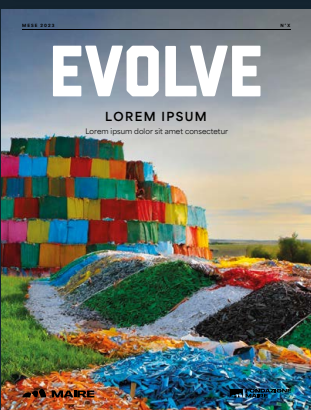
Liceo Artistico Statale "Tommaso Catullo," Belluno  
Artwork: "The Fish"

## **Giorgia Consonni**

Liceo Artistico Statale "Fausto Melotti," Cantù (CO)  
Artwork: "Through Change"

## **Andreea Diana Di Mattia**

Liceo Artistico Paritario "San Giuseppe," Grottaferrata (RM)  
Artwork: "Green Street"



## **Dario Fella**

Liceo Artistico Statale "Vincenzo Calò," Grottaglie (TA)  
Artwork: "On board a bike"

## **Nicholas Matrone**

Liceo Artistico Statale "Giorgio de Chirico," Torre Annunziata (NA)  
Artwork: "Do Not Touch"

## **Nicola Leonardo Lenoci**

Liceo Artistico Statale "Enrico e Umberto Nordio," Trieste (Italy)  
Artwork: "Art-i-Fact Landscape"

# HUMANISTIC ENGINEERING AT THE HEART OF THE ENERGY TRANSITION



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imilar to a modern industrial revolution, the energy transition is redefining the global employment landscape. According to the International Energy Agency's **"World Energy Employment 2023"** report, the energy sector employs about 67 million people globally, with the workforce in the clean energy sector (35 million) now surpassing the one in the fossil fuel sectors (32 million) as of 2021. According to future forecasts cited in another IEA study (**"Net Zero by 2050"**), the transition to renewable energy could generate up to 14 million new jobs in the clean energy sector, displace about 5 million workers from the fossil fuel sector, and necessitate a skills upgrade for another 30 million workers.

Having ascertained, then, that this change will not only bring increased employment and the emergence of new job roles, but will also require an innovative approach to training and education to maximize these new opportunities, how widespread is the awareness of the need to acquire these new skills? And what skills are we talking about?

To answer these questions, during the recent COP28 in Dubai, **Ilaria Catastini**, General Manager of the MAIRE Foundation, and **Nando Pagnoncelli**, President of IPSOS Italy, presented the results of an international survey that examined perceptions in 10 different geographies about the importance and urgency of developing and renewing the skills needed to address the energy transition. «Climate challenges,» the authors explained, «require a rapid and inclusive response that embraces education for climate mitigation and adaptation, as well as the development of innovative solutions to reduce carbon emissions.» In the energy transition debate, the research highlighted how investment in education and international industry cooperation are essential to turn climate challenges into opportunities for economic and professional development.

To lead the energy transition, a high-tech background is not enough. It is necessary to train new skills that combine creativity and problem solving, critical thinking and a multidisciplinary approach with elements such as knowledge of sustainability issues, environmental impact analysis, and knowledge of alternative raw materials, the circular economy and renewable energy sources. There will therefore be more humanistic engineers who will take the reins of this new transformation.

**The energy transition is not only an environmental necessity, but also an opportunity for professional and human growth. According to a recent study commissioned by the MAIRE Foundation, the process of decarbonizing the world economy - as well as creating new jobs - will also require entirely new and advanced skills. The research highlights how humanistic engineering will become critical in shaping the sustainable future we all hope for.**



**Nando Pagnoncelli**

Ipsos Italia President

## A theme known to 90%

To produce the report, interviews were conducted between September 22 and October 9, 2023, with 1,700 individuals spread across ten different nations: Italy, the United Kingdom, Turkey, Saudi Arabia, the United Arab Emirates, China, India, Algeria, the United States, and Chile. Participants were selected to ensure a balanced representation in terms of gender, age, geographic region, educational level and employment status. In addition, 15 opinion leaders in the field of sustainability and energy transition were interviewed from five countries (Italy, the United Kingdom, the United Arab Emirates, India, and the United States), representing three professional categories: academics, institutional figures, and private company executives.

The results of the study show that more than 90% of respondents said they are familiar with the energy transition. Familiarity with this topic is particularly high in developed economies such as the United States and India, both at 63%, followed by Italy and the United Kingdom with 60% and 59% respectively. In contrast, awareness falls below 50% in countries such as China, Chile and Turkey. The majority of respondents believe that energy transition is an important issue and for two-thirds of them it is a priority, with particular emphasis in Turkey and India, where 70% rate this transition as crucial, followed by other Asian, African and Latin American nations.

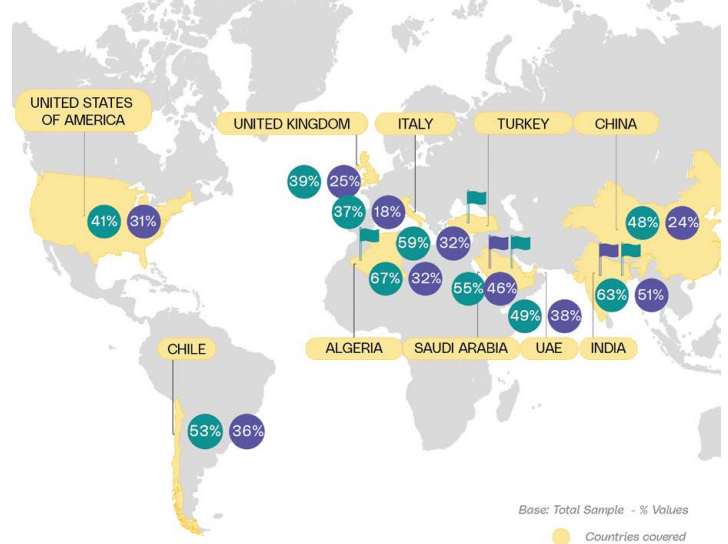
In our country, only 37% of the sample say they are aware of the positive impact of the energy transition on employment, while 55% of Saudis, 63% of Indians, 67% of Algerians and 53% of Chileans are. Moreover, 18% of Italians surveyed know of its positive impact on women's inclusion compared to 46% of Saudis, 51% of Indians, 32% of Algerians and 36% of Chileans. Nevertheless, a need for specific training is also emerging in Italy, although the perception of its importance and urgency is lower on average.

## New jobs

Opinion leaders believe that Northern Europe, the United States and China have made the most progress in the energy transition. However, in Italy, the United Kingdom and even the United States, many consider their country's progress to be average or even lagging behind others. In contrast, Saudi Arabia, the United Arab Emirates, India, and China see their own efforts as more advanced than the international average, tending to evaluate their progress with an overly positive assessment. In countries such as Chile, Algeria and Turkey, perceived to be further behind in the process, the need for energy transition is felt more by citizens than their governments.

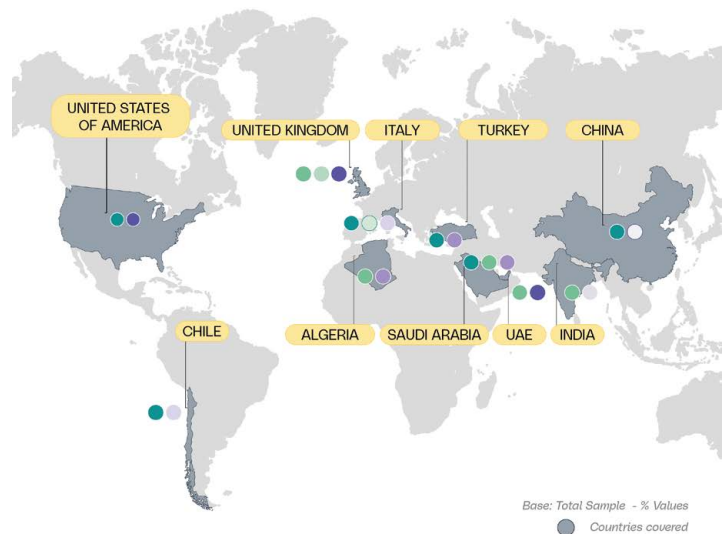
With the exception of the Italians, who are more skeptical, respondents generally acknowledge that the energy transition will bring benefits in several areas, including economic, health and environmental. For

## Perception of energy transition benefit across countries



- Higher value of awareness of occupational benefits of energy transition process
- Higher value of awareness of opportunity of women inclusion in the energy transition process
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## Key skills and competences prioritized for energy transition



### Hard Skills

- Assess the environmental impact
- Renewable energy sources
- Assess the impact on the territory
- Circular economy
- Alternative materials

### Soft Skills

- Problem solving
- Creativity
- Critical thinking
- Multidisciplinary approach

most countries, excluding Italy, the most relevant aspect is the creation of new jobs, with particular interest in Algeria, Turkey, Saudi Arabia and India. Despite this, there is a widespread perception that school and academic education is not evolving fast enough to meet the demands of the labor market.

The study shows that in Italy, Turkey, China, and Algeria, more than 85% of respondents believe there is a need to improve their skills related to the energy transition, while in other countries the percentage, while decreasing, remains high, exceeding 75%. The main parties responsible for education in this area are seen to be in central governments, indicated by 61% of respondents, followed by public entities such as research centers and universities, by 57% and 48%, respectively. The private sector also plays an important role, considered relevant by 40% of respondents. What about education? University education is seen as the most crucial, but the importance of instilling respect for the environment as early as elementary school is also recognized.

## The skills needed

What are the skills required of these future energy transition professionals? They vary from country to country, but it is clear that technical and cross-disciplinary skills, **hard skills and soft skills**, must converge and are crucial. The emphasis on creativity (in the UK, Algeria, Saudi Arabia, India, and the UAE), problem-solving skills (in Italy, Turkey, Saudi Arabia, China, the US, and Chile), critical thinking (in the UK), and analytical skills signals the need for new professionals with a different mindset. The engineers who will take the reins of this new transformation will, therefore, be multidisciplinary and flexible, humanistic. While flexibility and the ability to work in a team are skills that are valued across the board, in Italy there is also an emphasis on knowledge of the regulatory framework and the ability to assess the local impact of the energy transition.

Regarding hard skills, the importance of assessing environmental impact and in-depth knowledge of raw materials and renewable energy sources are highlighted. In India, the United States and the United Arab Emirates, about half of the respondents place technical knowledge on a higher level than personal skills. However, in general, both types of skills are considered crucial, interacting in what the MAIRE Foundation calls a "humanist engineer": a professional who integrates human considerations and social welfare into decision-making processes and the development of sustainable solutions. The training of these humanist engineers is at the heart of the educational and cultural initiatives of the MAIRE Foundation, which supports specific courses in schools and universities for this purpose.



**Technical knowledge and personal skills are both considered crucial. The “humanist” engineer - at the heart of the initiatives of the MAIRE Foundation - is a professional who integrates human considerations and social welfare into decision-making processes and the development of sustainable solutions.**



## The role of information and companies

In terms of information, television and national newspapers are the main sources regarded as trustworthy in Asian countries, while in Italy, the United Kingdom and the United States more credit is given to specialized journals and academic publications. Research centers and foundations are valued for their potential to complement formal education and reach a wider audience through diversified educational offerings. For example, the MAIRE group collaborates with more than 24 universities globally and uses Open Innovation platforms to stimulate research and development, promoting innovation in the energy transition.

There is a prevailing belief among respondents that companies bear most of the costs associated with the energy transition. Over the past three years, there has been a growing commitment to the sector by private companies rather than by policymakers, particularly in nations such as Italy, Turkey, India, and Chile. There is a general consensus that in order to effectively manage the energy transition, companies must embrace renewable energy, ensure transparent reporting, develop the necessary skills internally, and promote cultural change externally as well.

The study also highlights the need to raise awareness about the energy transition through multi-level cooperation between local authorities, central governments, private companies and international organizations. This includes simplifying





bureaucratic procedures, implementing clear regulations and creating common digital platforms. Respondents believe there is no need to establish new entities, but rather to strengthen existing ones, such as the UN, UNFCCC, the International Renewable Energy Agency, the Union for the Mediterranean and the European Union, the latter of which opinion leaders believe is the most effective among global players.

## An opportunity for gender

Currently, women make up only 16% of the workforce in the energy sector. Interviews show that creating job opportunities for women is seen as the least relevant benefit, with considerable variation in levels of interest: it is a particularly important issue in India and Saudi Arabia, while receiving less attention in the United Kingdom, China and, even less so, in Italy. Nevertheless, the emergence of new professions in the energy sector could open up significant opportunities for young women, especially through targeted university pathways.

In this context, the MAIRE Foundation is actively engaged in education, promoting female students' access to STEM (Science, Technology, Engineering and Mathematics) disciplines. In Italy, the Foundation has launched an initiative in collaboration with ENEA aimed at educating female high school students in STEM subjects and the topics of energy efficiency and transition, with more than 2,000 hours of lessons already delivered. Additionally, according to the MAIRE Foundation, the use of technology is as important as the development of new solutions, and a broader technical response to climate change is needed, focusing both on how people use technology, products, and infrastructure and on the design of next-generation technologies, products, and services that are low-carbon.

At the conclusion of the proceedings, Fabrizio Di Amato, Chairman of the MAIRE group and MAIRE Foundation, commented on the study's findings, «To address the energy transition and the shift to Net Zero we must embrace the concept of the 'humanist engineer' as a new agent of transformation. These people will know how to navigate complexity and find solutions that include technological innovation, and attention to economic, environmental, social, and cultural needs. Our Group is actively committed to the training and involvement of the younger generation, who will be the effective drivers of change. Furthermore, we pay specific attention to the potential that innovation in the field of energy transition offers in terms of the inclusion of female talent. All these aspects are priorities of our strategic plan, with the goal of generating a positive impact both through our technologies and through the work of our foundation. The skills we are able to create today will make a real difference in achieving the goals we have set for 2050. »

# 5 QUESTIONS FOR NANDO PAGNONCELLI, IPSOS ITALIA PRESIDENT

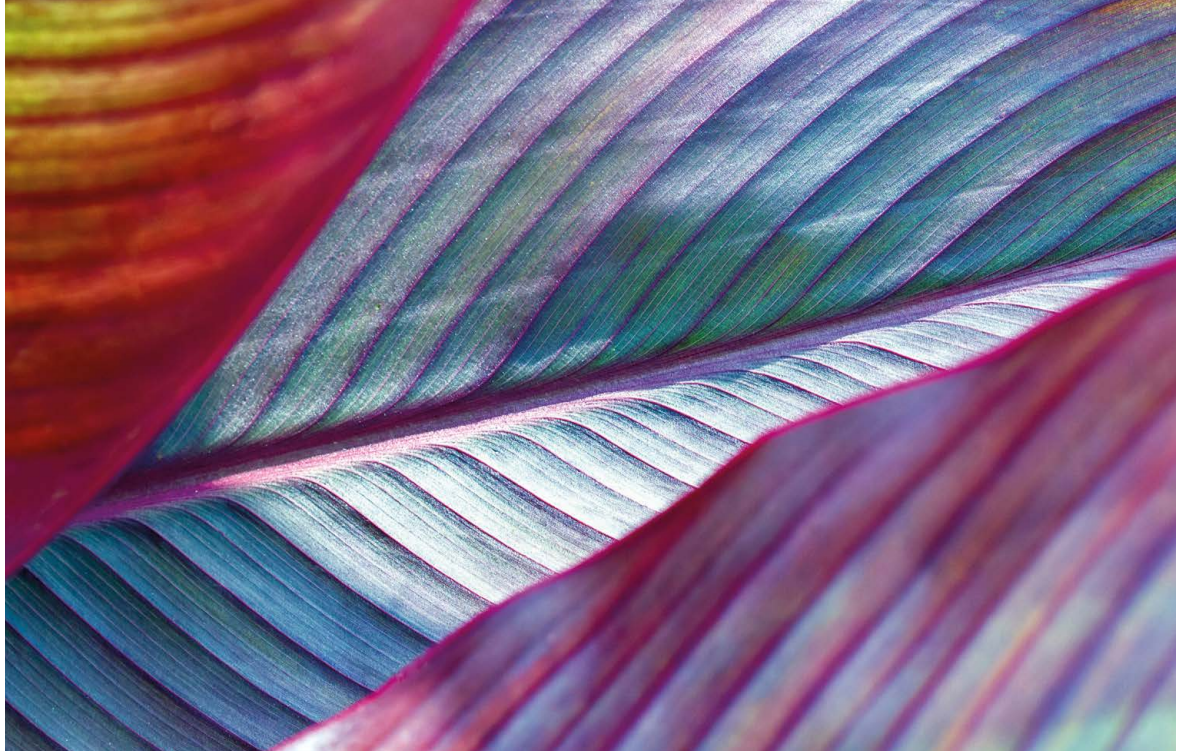
**The research that was conducted together with the MAIRE Foundation identified and measured international perceptions about the importance and urgency of developing skills for the energy transition. Were there any findings or trends that particularly surprised you?**

One of the most interesting findings was the confirmation of the high degree of sensitivity to the issue, showing variations in awareness and the prioritization of the energy transition process geographically. In China, 50% of those responding believe that companies should focus on sustainable product and service innovation, while in the UAE, more than 37% think that companies should prioritize employee training.

Concurrently, the need to develop new soft skills was reiterated, on the one hand showing appreciation for the creation of "well-rounded" professional figures, and on the other emphasizing the crucial importance of continuing education in meeting future challenges.

**The data show significant geographical differences in the awareness and importance attached to the energy transition. What is your interpretation of these discrepancies and what are the main obstacles slowing down the process?**

The geographic discrepancies in the awareness and importance attached to the energy transition can be traced to various socio-economic, cultural and political factors. The dynamic and proactive attitude of countries that aren't as far along in the process can be linked to government strategies, investment in renewable technologies, growing awareness of the potential benefits, not just in terms of the environment but also economically, and recognition of the need to close the gap with the more advanced countries. On the other hand, it is interesting to note that in the more advanced countries, some coming from Western economies (Europe and the U.S.), people tend to perceive the issue of energy transition as a lower priority on both a national and individual level. In this case, the fact that they have already implemented many sustainable energy initiatives and policies may lead them to the belief that they have reached a level of progress significant enough to consider the transition less urgent than in regions that are just beginning their journey.



**3) Speaking of the influence that the different sources of information have - TV, newspapers, social media, and others - are there any channels that you think have been particularly effective in creating awareness for the energy transition among the public?**

It is crucial to adopt a strategy that involves companies, governments, and various channels of information. Companies should prioritize the building of skills to drive the energy transition, while also focusing on the innovation of sustainable products and services. Governments, for their part, need to implement supportive policies and economic incentives to facilitate the training and adoption of new skills. Traditional news outlets such as TV and newspapers, along with new media such as social networks, play a crucial role in raising public awareness. TV channels and specialized discussion programs are considered among the most reliable sources for information on the energy transition, while newspapers and scientific journals offer accuracy and depth. Social media, despite some possible concerns about the veracity of its information, has the ability to reach a wide and diverse audience, contributing significantly to the dissemination of knowledge. A combination of technical expertise that is highlighted in the mass media and backed by more technical sources has the potential to resonate, reaching all target audiences and effectively raising general awareness about the energy transition.

**4) The report indicates that the energy transition may have a positive impact on various social groups, including the issue of women's inclusion in the energy sector. On this issue, which countries recognize this potential the most?**

Middle Eastern countries, such as Saudi Arabia and the United Arab Emirates, are showing a significant commitment to promoting the inclusion of women in the energy sector. India is another example of a country that recognizes the importance of including women in the energy sector workforce, emphasizing the need for training and skills development to ensure equitable and inclusive participation. These are the countries where, in general, there is greater recognition of the potential a transition process has as a means to promote gender equality and social inclusion.

In Europe and North America this perception is less strong, yet various programs and initiatives have been launched to increase women's education in STEM disciplines, which are critical to the energy transition. For example, the European Union has promoted several policies and projects to support gender equality and inclusion in the labor market, recognizing that greater diversity can lead to more innovative and sustainable solutions.

**5) At a time when artificial intelligence is at the center of much debate, do you think the business world as a whole is grasping the importance of complementing super-technical and specialized figures with men and women with "humanistic" skills?**

It is essential for businesses to recognize the importance of integrating humanistic skills with technical ones: in this sense, the creation of the humanistic engineer, a multidisciplinary professional figure, is an appropriate and necessary solution. This approach is key to developing innovative solutions that not only take advantage of advanced technologies, but are also responsive to global, social and ethical needs. In this way, soft skills such as critical thinking, creativity and problem-solving skills are integrated with knowledge of materials and new sustainable technologies, ensuring the development of a strategy devoted to innovation and sustainability.

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