



**LU-VE**  
**GROUP**  
*leadership with passion*



# LEADERSHIP WITH PASSION

## 2023 Sustainability Report of LU-VE Group

Consolidated non-financial statement pursuant to Italian Legislative Decree no. 254/2016







## To Iginio Liberali the gardener of dreams

Iginio Liberali, founder of the LU-VE Group, died in December 2022.

The “Gardener of dreams”, as he liked to be known, has dreamt up many things and managed to achieve most of them.

He has left us with the values he always followed in his personal and professional life:  
the humility to continue learning to keep growing  
the passion for life and for his work  
way of thinking, always positive and always looking to the future.



***“Our best days have yet to be lived”***  
**Nazim Hikmet**





## LEADERSHIP WITH PASSION

2023 was a year of transformation and reorganization for LU-VE Group. We consolidated our economic results with a turnover of € 617 million, but above all we worked to lay the foundations for our future.

**The Group achieved all the targets set for 2023 in relation to the sustainability areas:** carbon neutrality, products with a positive impact, high employee engagement, and for the first time, sustainability became an integral part of our industrial plan (2023/2025).

Reorganization, conceived and initiated in 2023, was finalized at the beginning of the current year. The objective is to ensure growth, continuity, and good management, remaining true to the principles that have always guided us: humility, passion, values, and positive thinking. Part of this transformation involved the evolution of our governance structure, with the introduction of the new role of General Manager of the Group, entrusted to Riccardo Quattrini.

The past year was particularly dedicated to the culture of sustainability. To accelerate the process of change, we launched the **"Sustainability Ambassadors' Journey"**, a training program developed in all the countries where the Group operates. 80 employees were selected from various companies and positions within the Group. With the contribution of international experts, the "ambassadors" were trained on various key sustainability topics, such as climate crisis, energy transition and the protection of human rights.

In 2023, significant progress was made in production cycles, products, and the value chain. Strenuous efforts to decarbonize our production continued, with the focus on reducing greenhouse gas emissions.

LU-VE Group products are at the service of food safety, climate well-being, energy efficiency, and digital transformation. In this context, we continued the research, development, and commercialization of technologically advanced solutions, employing natural refrigerants with reduced environmental impact and optimized performance.

In 2023, analyses were conducted on the indirect emissions generated upstream and downstream of our activities, allowing us to better understand our impacts and to begin evaluating additional mitigation strategies.

Over the years, LU-VE Group has defined its vision of sustainability and pursued the progressive consolidation of results. Now the new phase of **transformative sustainability** begins. Mitigation and adaptation to the climate crisis, the protection of people and their rights, pursued through numerous national and international policies, are no longer ancillary elements of business activity, but become integral parts of it. In this context, our Group has the task of helping to meet the growing demand for air conditioning and refrigeration, through technologies and models capable of minimizing or limiting the effects on the climate crisis and maximizing human rights along our entire value chain.

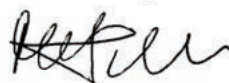
Our commitment for the future is to pursue the goal of sustainability with even greater dedication, to contribute to the construction of **"a world which is evolved, improved, balanced, and aware"**.

**Thank you to all the women and men of LU-VE Group** who have contributed to our growth and evolution.  
**"The best of our days have yet to be lived"**

**Matteo Liberali**  
*President and Chief Executive Officer*



**Michele Faggioli**  
*Chief Strategic Development Officer*



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**OUR VISION**

We have enclosed our vision in the four pillars and have indicated the material topics we pursue so that this vision can take shape in the real world.

Our vision is aligned with some of the Sustainable Development Goals (SDGs) defined at global level by the United Nations and understood as a priority for development by the end of 2030.<sup>1</sup>

## IDEAS AND PASSION FOR A COOLER WORLD

- Strategies for growth and long-term value creation
- Research, development and innovation
- Products with reduced environmental impact
- Customer orientation

### Innovative products

### Sustainable development

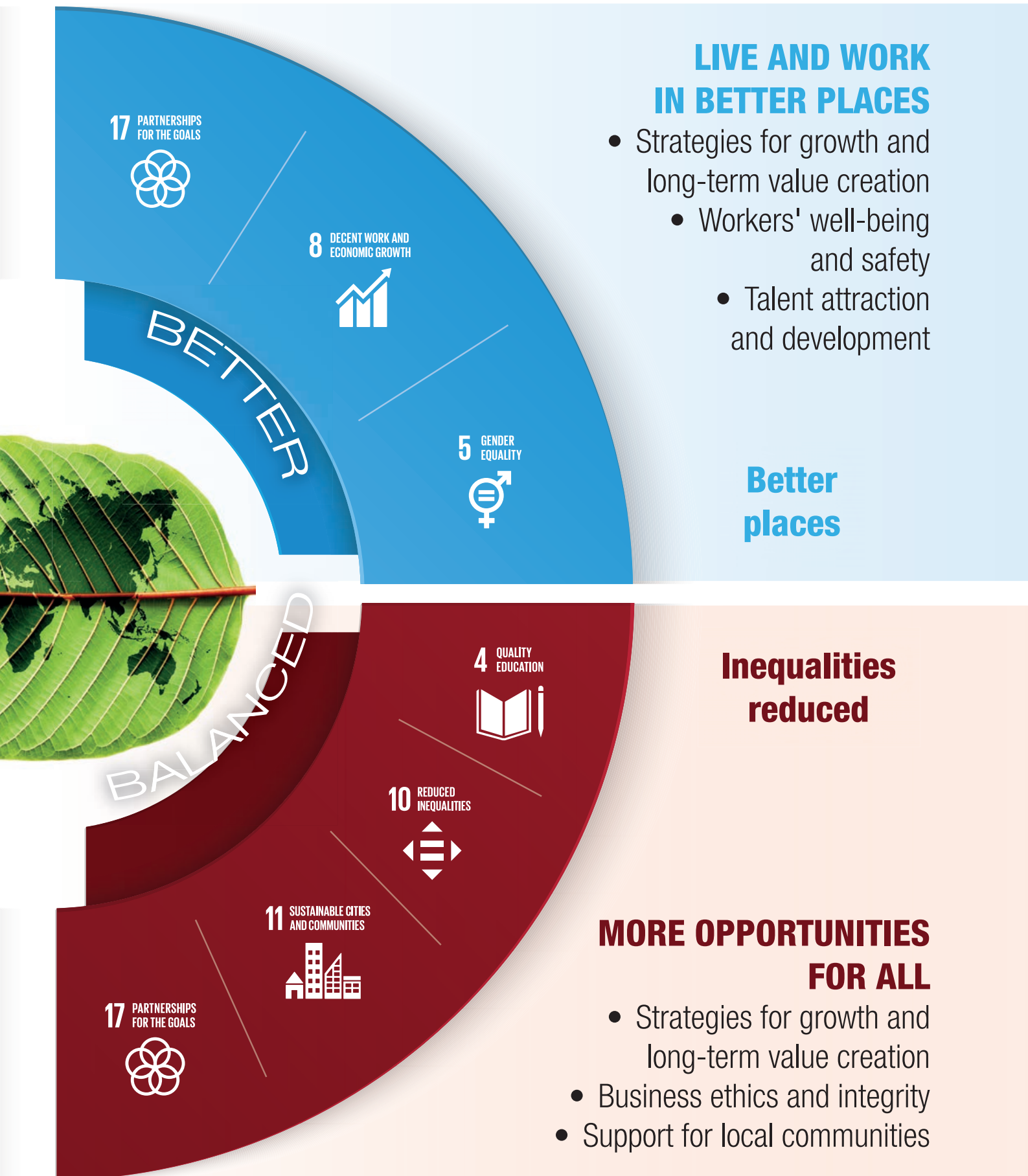
## STEWARDSHIP FOR A BETTER FUTURE

- Strategies for growth and long-term value creation
- Climate change
- Resource and waste management
- Responsible supply chain
- Food safety and waste



<sup>1</sup> The 2030 Agenda is the action programme underwritten in 2015 by the governments of the 193 member countries of the United Nations (UN) that supports organisations in implementing actions aimed at sustainable development. It defines 17 Sustainable Development Goals - SDGs - divided into 169 sub-goals or targets to be achieved by 2030.







*"The future has an ancient heart"*

*(Carlo Levi – writer, painter and doctor)*





# ABOUT LU-VE GROUP



# ABOUT LU-VE GROUP



## 20 facilities

in 9 countries



## 8 brands

of the Group



## 4 social impacts

generated by Group solutions

”

## Companies are first and foremost women, men and ideas

*People with extensive experience, young people with creativity and enthusiasm, specialists of the highest academic level, all united by a passion for their work and the vision of an evolved, better, balanced and conscious world.*

**Iginio Liberali, LU-VE Group founder**



## 1.1 A large Group

As a promoter of innovations in the field of industrial and commercial refrigeration and industrial air conditioning, LU-VE Group is the third largest global player and second largest in Europe in the air heat exchanger segment.



### VENTILATED PRODUCTS



### GLASS DOORS



### COILS



### SOFTWARE



### DIGITAL SIGNAGE



## HEADQUARTER

 UBOLDO (VA) - ITALY

## 20 PRODUCTION FACILITIES

### ITALY

ALONTE (VICENZA)

FLUMIGNANO DI TALMASSONS (UDINE) <sup>3</sup>

MEL (BELLUNO)

LIMANA (BELLUNO)

TRAVACÒ SICCOMARIO (PAVIA)

UBOLDO (VARESE) <sup>2</sup>

### VILLA SANTINA (UDINE)

### CHINA

### TIANMEN (HUBEI)

### FINLAND

VANTAA (UUSIMAA)

### INDIA

BHIWADI (RAJASTHAN)

SAROLE (PUNE DIST., MAHARASTRA)

### POLAND

GLIWICE (SLESIA) <sup>3</sup>

### CZECH REPUBLIC

NOVOSEDLY (MORAVIA MERIDIONALE)

### RUSSIA

LIPETSK

### SWEDEN

ASARUM (KARLSHAMN)

### USA

JACKSONVILLE (TEXAS) <sup>3</sup>



## 35 SALES OFFICES

- 🌿 AUSTRIA - VIENNA
- 🌿 BELGIUM - UCCLE <sup>4</sup>
- 🌿 CHINA - TIANMEN, CHANGSHU
- 🌿 SOUTH KOREA - SEUL
- 🌿 DENMARK - AARHUS<sup>4</sup>
- 🌿 UNITED ARAB EMIRATES - DUBAI
- 🌿 FINLAND - VANTAA
- 🌿 FRANCE - LIONE
- 🌿 GERMANY - STOCARDA, BAD SEGERBERG
- 🌿 INDIA - NEW DELHI, BHIWADI, SAROLE
- 🌿 ITALY - ALONTE, FLUMIGNANO DI TALMASSONS, LIMANA, TRAVACÒ  
SICCOMARIO, UBOLDO, VILLA SANTINA
- 🌿 NORWAY - DRAMMEN <sup>4</sup>
- 🌿 NETHERLANDS - BREDA
- 🌿 POLAND - VARSAVIA, GLIWICE
- 🌿 UNITED KINGDOM - LONDON, FAREHAM
- 🌿 CZECH REPUBLIC - NOVOSÉDLÝ
- 🌿 RUSSIA - MOSCA, LIPETSK
- 🌿 SPAIN - MADRID
- 🌿 SWEDEN - ASARUM
- 🌿 SWISS - GÜMLIGEN (BE) <sup>★</sup>
- 🌿 THAILAND - BANGKOK <sup>4</sup>
- 🌿 USA - JACKSONVILLE (TX)
- 🌿 VIETNAM - HCM CITY <sup>4</sup>

<sup>2</sup> With reference to the companies LU-VE Exchangers and LU-VE Digital. LU-VE Digital is a software house for the Information and Communication Technologies sector, product computing software development and digitization

<sup>3</sup> Two plants

<sup>4</sup> Representative offices

★ It is not part of consolidated company; it is not included in the reporting



From an industrial point of view, 2023 included the completion and launch of new investment projects in Italy and abroad.

In **Italy**, the expansion of the production site of Refrion, in the province of Udine, was officially inaugurated in November, and the progressive conversion works of the former ACC – Wanbao production site, in the province of Belluno, continued throughout the year.

In **Poland**, now the Group's largest facility, the expansion of the "P2" site was completed as planned in June, while in September the purchase of the last available plot of land within the same Special Economic Zone was finalised for a total of Złoty 9.6 million (about €2.1 million), and studies for the future use of the newly available areas were started.

In Tianmen, **China**, factory expansion works were launched in June, the costs of which are entirely borne by the authorities of the Special Economic Zone. Construction is expected to be completed in April 2024.

Lastly, in the **United States**, following the redefinition of the strategic plan for the US market, the project to expand the production site of LU-VE US Inc. (since June, the new company name of former Zyklus Heat Transfer Inc.) was revised and rescheduled to 2024. Its share capital was increased to \$10 million in November following the partial conversion of the outstanding loan by the parent company.









## 1.2 An Ecosystem of Products, Applications and Impacts

# OUR ECOSYSTEM: PRODUCTS, APPLICATIONS, IMPACTS

**Heat exchangers**

**Air cooled  
equipment**

**Glass doors**

**Commercial  
and industrial  
refrigeration**



**Air Conditioning**



**Process cooling**

for industrial and power  
generation applications



**Other applications**



## LU-VE group commitment

**FOOD SAFETY**

Today, some three billion people lack safe and healthy food. The development of sustainable and technologically advanced cold chains is essential for the processing, storage, preservation, distribution and, ultimately, the increased availability of safe food for ever larger segments of the population.

A proper cold chain ensures safe and properly stored food and reduces food waste.

50%\*

**CLIMATE WELL-BEING**

The demand for air conditioning is growing internationally due to population growth, urbanisation rates and the demand for a better quality of life, especially in the warmer areas of the world.

Indoor climate comfort in buildings is an important element of people's health and well-being and quality of life

25%\*

**ENERGY EFFICIENCY**

On average, air conditioning and cooling accounts for around 15% of electricity demand globally, with peaks of up to 50%. Mitigating the resulting environmental impacts involves improving energy efficiency standards by 50% by 2030.

Maximising the energy efficiency of factories, buildings and systems is crucial for protecting the planet, reducing environmental impact and improving businesses' competitiveness.

18%\*

**DIGITAL TRANSFORMATION**

The international digitalisation process also touches on cloud computing. This strong impetus implies an increasing focus on the energy consumption of data centres, which currently account for 1% of the world total in terms of environmental sustainability.

Operational and efficient data centres are a prerequisite for a country's digital transformation

7%\*



\* respect Group's total turnover in 2023



## HEAT EXCHANGERS



**50%**

### HEAT EXCHANGERS FOR REFRIGERATION, AIR CONDITIONING, MOBILE AND DOMESTIC APPLICATIONS

Air cooled heat exchangers are components in which heat is transmitted between two fluids to remove heat from or transfer it to a specific environment. This type of exchanger is applied in more complex machinery made by third parties.

## AIR COOLED EQUIPMENT



**47%**

### EVAPORATORS, AIR CONDENSERS, CO2 GAS COOLERS, DRY COOLERS, INDUSTRIAL APPLICATIONS

Air cooled equipment consists of heat exchangers of various sizes and shapes paired with fans - electric or electronic - designed and sized to optimise heat exchange and, at the same time, reduce electricity consumption, and minimise refrigerant fluid volumes and the noise levels generated. Air cooled equipment (evaporators and condensers) may be installed, depending on the type, both inside refrigerated rooms and outside rooms to be cooled and/or conditioned. Each product is made according to the specific needs of the application and customer.





### GLASS DOORS AND CLOSING SYSTEMS FOR PROFESSIONAL, INDUSTRIAL AND DOMESTIC REFRIGERATION EQUIPMENT

Glass doors are installed in refrigerator aisles and displays, mainly in supermarkets or retail outlets, but also in other applications. They ensure temperature maintenance (negative or positive) inside the refrigerator sections and perfect visibility of the goods on display.

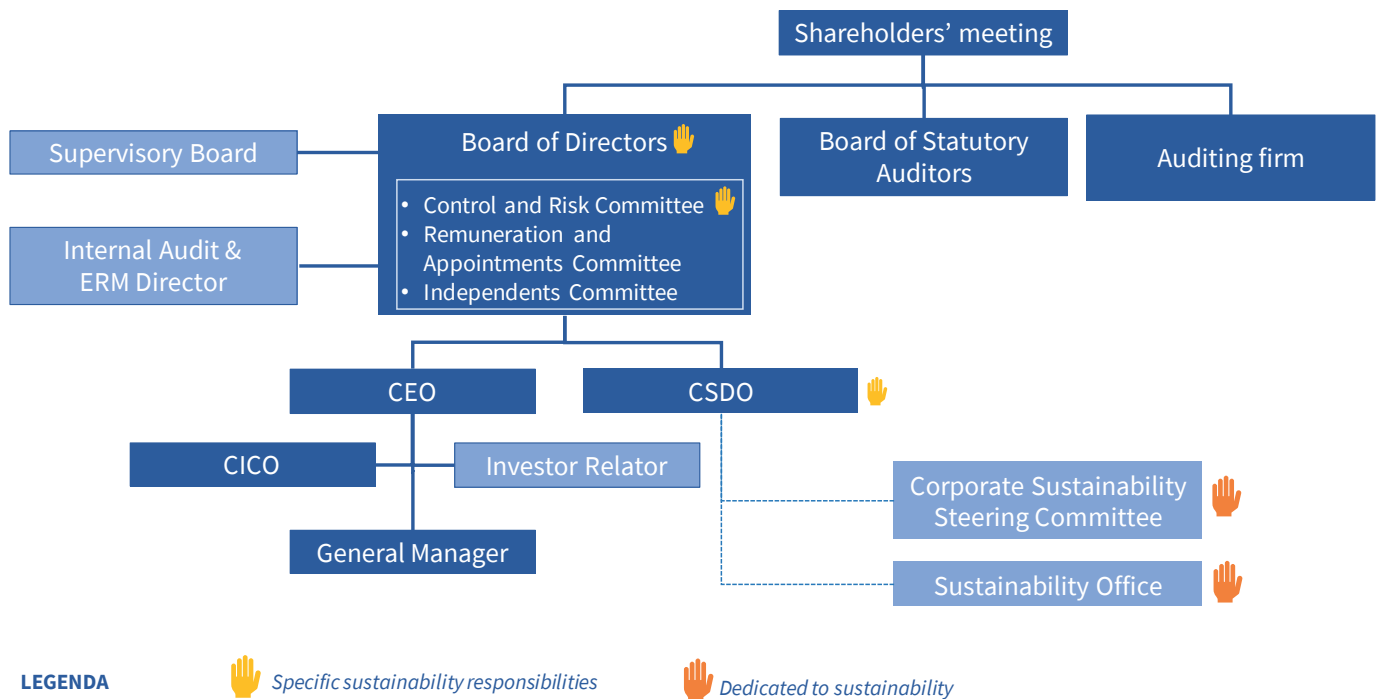


### 1.3 Sustainability governance

The governance of sustainability is integrated with the traditional governance model adopted by the Group and sets out to maximise the value created for shareholders and all stakeholders. The goal is to guarantee complete integrity and pursue the sustainability of its business.

In 2023, the most significant event was the introduction of the position of **Group General Manager**, entrusted to Riccardo Quattrini, who in December presented the project defining the new Group organisation and the objectives of the 2024-2027 Business Plan to the Board of Directors (BoD).

The new organisation was announced at the end of 2023 and became operational at the beginning of 2024. The Chief Strategic Development Officer (CSDO), who replaces the role of Chief Operation Officer, is responsible for overseeing strategic developments for the business. The Sustainability Office reports to the CSDO. The Chief Identity and Communication Officer (CICO) is responsible for promoting the Group's values in internal and external communication.









## ROLES AND RESPONSIBILITIES

The **Board of Directors** (BoD) is responsible for pursuing LU-VE Group's sustainable success. It provides strategic direction and evaluates the adequacy of the internal control and risk management system of LU-VE S.p.A. and LU-VE Group. It is responsible for approving the non-financial statements. The CSDO is the contact for sustainability issues.

As at 31 December 2023, the Board of Directors was composed of ten members, of which four were women. Five members have specific technical expertise on sustainability issues.

The appointment of Prof. Marco Claudio Vitale as Honorary Chairman of LU-VE S.p.A. (formerly Director of

LU-VE S.p.A. from 1986 until the expiry of his previous term of office) also deserves mention. Prof. Vitale will contribute to strengthening Group governance and stimulating reflection on the strategies to be adopted through his independent judgement and spirit. This appointment will remain for the entire term of office of the current Board of Directors.

The **Control and Risk Committee** ensures that the periodic financial and non-financial information is able to suitably and correctly represent the business model, the company's strategies, the impact of its business activities and the performance achieved, and lastly examines the content of periodic non-financial information which is relevant for the purposes of the internal control and risk management system.

**MATTEO LIBERALI**  
CHAIRMAN AND CEO  
EXECUTIVE MEMBER



**PIERLUIGI FAGGIOLI**  
VICE CHAIRMAN  
EXECUTIVE MEMBER



**CARLO PARIS**  
INDEPENDENT DIRECTOR  
NON-EXECUTIVE MEMBER



**RAFFAELLA CAGLIANO**  
INDEPENDENT DIRECTOR  
NON-EXECUTIVE MEMBER



**MARCO VITALE**  
HONORARY PRESIDENT



Board members with responsibility and/or expertise in sustainability issues



The **Corporate Sustainability Steering Committee** established in 2022 counts the stable components of the CEO, CSDO, GD, CFLO, Investor Relations and the Sustainability Office. This Committee shares the progress of the Group's sustainability performance and discusses strategic lines of action, which are then submitted by the executive directors to the Board of Directors for appropriate assessments and resolutions.

The **Sustainability Office** has been in operation since 2021. It reports directly to the CSDO, with the aim of ensuring detailed management of projects at international level.

**Internal Audit** is responsible for ensuring that the internal control and risk management system is

operational and adequate.

The progress of sustainability policies and strategies is reviewed at the relevant committees and is encouraged through the defined Remuneration Policy.

As regards the MBOs (Management by Objectives) and the new 2023-2025 LTI (Long-Term Incentive) Plan, the presence of parameters linked to accident indices, already used in previous years, was confirmed. A parameter linked to the reduction of Scope 1 and Scope 2 emissions on a like-for-like basis in terms of consolidated EBITDA was introduced, which can be traced back to the ESG policies and actions identified in the Sustainability Plan.<sup>5</sup>



<sup>5</sup> For more details on the Sustainability Plan, please refer to the section "Our Sustainability Plan" in this document.

## OUR GOVERNANCE TOOLS

In addition to the parent company LU-VE S.p.A., the subsidiaries SEST S.p.A. and AIR HEXALONTE S.r.l. have an **Organisation, Management and Control Model** (pursuant to Italian Legislative Decree no. 231/2001) to prevent and combat the risk of commission of the offences laid out in the Decree, including the risk of offences perpetrated against individuals, environmental crimes and corruption offences.

In application of Italian Legislative Decree no. 24/2023 (implementing EU Directive 2019/1937), the **Organisation, Management and Control Models** (pursuant to Italian Legislative Decree no. 231/2001) have included the adoption of a whistleblowing system for reporting any unlawful activities by whoever may become aware of them by reason of their duties. The system makes it possible to report, also anonymously, to the person responsible for receiving and managing reports who has been appointed by the individual company, any breaches, including those of an ommissive nature, which damage the integrity of the company and which fall within the regulatory scope of reference.

In addition to the Group companies adopting the Organisation, Management and Control Model, the whistleblowing system has also been implemented by the Italian subsidiaries TGD and Refrion, the only ones with an average of more than 50 employees in 2023, as well as by the European subsidiaries, on the basis of their respective national regulations on the subject.

**There were no reports of unlawful activities in the whistleblowing system in 2023.**

The 2023 internal audit plan is an integral part of the **“2023-2025 Internal Audit Plan”** reviewed following an updated risk assessment. The 2024 audit plan was submitted to the Board of Directors for approval in March 2024.

In the reporting period, LU-VE Group **did not identify any cases of corruption, or legal actions for anti-competitive, anti-trust or monopolistic behaviours**. Furthermore, no penalties were paid and there were no significant instances of non-compliance with laws and regulations, including those concerning the disclosure of product information.

It should also be noted that during the three-year period 2021-2023, the LU-VE Group did not disburse any sum to directly or indirectly finance a party or political person.

## SUSTAINABILITY RISKS AND CLIMATE RISKS

The **internal control and risk management system**, which is an integral part of the Governance model, is described in the “Guidelines on the Internal Control and Risk Management System of LU-VE S.p.A.”. The Guidelines were approved by the Board of Directors at the end of 2017 and are revised following changes introduced by the Corporate Governance Code and changes in the Group's structure. The Group's risks are analysed on a yearly basis and the results are then described to the Board of Directors in the “CEO Report”.

The integrated Group Enterprise Risk Management system (ERM) launched in the last quarter of the 2021 financial year intends to bring together the management and risk monitoring systems for specific areas into a single outlook, yet still guarantee the independent operation of the systems and the parties responsible for them. This will avoid duplication and increase efficiency and effectiveness.

The ultimate goal of the system is to:

- coordinate the overall ERM process, taking care to ensure correct consolidation and risk prioritisation;
- consolidate the risk management strategies identified by all corporate functions, identifying common guidelines;
- draft regular reports on the ERM model, for the CEO, Board of Directors and Control and Risk Committee, also with a view to supporting the Board of Directors in the definition of elements of the Risk Appetite levels.

Already completed at the parent company level in 2022, the project was continued in 2023 with the risk assessment of the company in Poland. A gradual expansion is envisaged, giving priority to other strategically important subsidiaries.

The analysis of **non-financial risks** was updated in 2023. The main risks at global level, the phases of the value chain, the specific details of the manufacturing processes and the countries in which the Group is present were all taken into account. Non-financial risks were classified into different categories depending on the probability of occurrence and the potential impact.

Most of the risks identified were assigned a low or negligible score, including for example consumer health and safety, and the recording of cases of non-compliance related to product labelling and marketing.



The risks identified as moderate or high, including how they are managed, are detailed in this document under the specific sections.

The inability to achieve strategic objectives due to changes in the external environment, such as extreme events, was assessed in 2023 as a potentially high risk.

With specific reference to **physical climate risks**, LU-VE Group had already requested a risk assessment for its production facilities in 2022. This analysis is considered up-to-date and applicable also for the financial year 2023, as it is based on IPCC (Intergovernmental Panel on Climate Change) scenarios, physical climate risk categories, calculation methodologies and time horizons still in line with the state of the art and the context in which the Group operates.

In fact, the risk related to the potentially disruptive effects of the climate crisis is now recognised as one of the main risks to people's liveability and the economic environment. The IPCC defines climate risks as potentially negative consequences for ecological systems and humans resulting from the potential impact of the effects of climate change and the actions taken by man to respond to, adapt to or mitigate these risks. These consequences can concern means of subsistence, health and well-being, as well as economic, social and cultural assets, investments and infrastructure. Furthermore, following creation of the reference framework of the Task Force on Climate-Related Financial Disclosures (TCFD) and the growing requests from regulatory authorities, the need to develop a better understanding of the risks and opportunities linked to climate have now been fully acknowledged.

The analysis was conducted considering different future scenarios correlated to internationally recognised climate models and based on greenhouse gas concentration pathways (Representative Concentration Pathways - RPC) developed by the Intergovernmental Panel on Climate Change (IPCC), i.e. the RCP 2.6 and RCP 4.5 scenarios and considering a time horizon to 2035. More specifically, the analysis was developed by combining scientific data at asset and climate risk level, assessed according to the dimensions of i) probability of occurrence of the risk based on various climate models, ii) asset exposure and iii) vulnerability, i.e. expected losses if the event should occur.

The analysis showed that the risks that will have the greatest influence on the Group are temperature variability, intense precipitation and precipitation variability. Vice versa, the exposure to certain other

risks, e.g. drought and fire risk, is not expected to be material to the Group's operating assets.

In 2023, the LU-VE Group also updated its **climate risk transition analysis**. The various types of risk - market, technological, legal/policy and reputational - were assessed based on their potential impact on the business and on the Group's capacity to manage them over time. By way of example, the market risks related to increases in production and transport costs, due to specific market conditions and to the introduction of new regulations (such as the Carbon Border Adjustment Mechanism at European level) were assessed, as was the demand for products with increasingly lower emission impact, as a result of the development of regulations and standards aligned with climate policies, such as the F-Gas Regulation (the new revision was published in February 2024).

Thanks to these analyses, the Group raised its awareness of the degree of exposure to risk and of the need to identify the best ways to appropriately contribute to climate change mitigation and adaptation. The related impacts, in terms of investments, costs and other impacts on cash flow were assessed and taken into consideration in the 2024-2027 Business Plan preparation process. Furthermore, with regard to the management of risks and opportunities, it should be noted that the significant sustainability topics - including the effects of climate change - were identified and assessed as part of the consolidated corporate risk assessment system.



## OUR POLICIES

The commitments undertaken in the policies are integrated with the company's strategies and the operating procedures adopted by the LU-VE Group, also in relation to its business partners.

The policies also define the roles responsible for ensuring that the policy principles are complied with and shared by all the corporate functions of all the Companies. Their approval, depending on the document content, can be the direct responsibility of the Board of Directors or of the Head of the Corporate Function responsible for correctly applying the policy in question.

Once a policy is approved, it is published communicated using the company's information systems, as well as newsletters and special meetings. Depending on the significance of the content and the wishes of those responsible, training sessions can be organised for employees aimed at sharing guidelines on the correct implementation of the policies in business practices.

When the field of application involves not only LU-VE Group employees but also business partners, the company functions of reference are required to share the policies with the various stakeholders.


































POLICY   GUIDELINES	AREA	OBJECTIVES AND CONTENT	DISSEMINATION P (public)/ I (internal)	APPLICATION	COMMUNICATION
Environmental policy		Formalises the principles and actions to protect resources and mitigate environmental aspects. Defines a standardised approach to the management of environmental aspects at all LU-VE Group facilities, and to express the commitment to safeguarding resources through four fundamental dimensions: people, market, processes and products.	I	Employees, Company Representatives, Business Partners	- Shared via the company's information systems
Code of Ethics	  	Illustrates the behavioural principles that guide the Group's activities and support the commitment to protecting health and safety and the human rights of workers, as well as protection of the environment in all its components. Promotes respect and empowerment of people; integrity in the conduct of business; the rejection of corrupt practices or behaviour; and the respect for business ethics in terms of transparency, market fairness and fair competition. The commitment calls for the performance of <u>due diligence</u> .	P	Employees, Company Representatives, Business Partners	- Formal adoption by the Parent Company - Sharing with all Group companies - Publication on the company website - Hard copy distribution on the bulletin boards of Group companies
LU-VE Group HR Policy		Acknowledges that human capital is " <i>the most important, strategic and fundamental resource for the Group's growth</i> ". Formalises the business values and officially outlines the Group's objectives and priority areas for ensuring a positive, stimulating and safe working environment. The commitment entails <u>respect for human rights</u> .	I	Employees, Company representatives	- Shared via the company's information systems
Travel Policy	 	Defines the guidelines to support employees in organising their business travel according to methods and procedures that promote economic and environmental sustainability.	I	Employees	- Shared via the company's information systems - Corporate communications
General Purchase Conditions	   	Shares with suppliers the main principles on which the Group's operations are based: ethics, integrity, limitation of environmental impact and its monitoring, creation of a healthy and safe working environment, adoption of international conventions on human rights, such as the International Organisation of Labour and the United Nations Convention on the rights of children. The commitment calls for the performance of <u>due diligence</u> .	P	Suppliers	- Document signing at the time of activation of the supply contract or as soon as possible
Supplier Form	   	Through the suppliers, promotes the protection of best working practices, <u>respect for human rights</u> along the entire supply chain and compliance with social and environmental regulations.	I	Suppliers	- Document signing at the time of activation of the supply contract or as soon as possible
Diversity Policy for members of the corporate bodies	 	Supports an appropriate level of diversity among members of the Corporate Bodies, with the aim of guaranteeing optimum composition and ensure the fairness of the Group's Bodies, adding variety to the discussion given the different skills of the various members, as well as enabling a greater understanding of the requirements and requests of stakeholders.	P	Corporate bodies	- Approval by the Board of Directors and publication on the company website
Policy for managing dialogue with investors and other stakeholders		Defines open, transparent and continuous forms of dialogue with Shareholders, other investors and all the main Stakeholders of the Company with a view to fostering the creation of long-term value for the entire Group. Helps to understand the business model, strategy, market positioning, the Group's financial results and the Company's governance.	P	Company representatives, Investors	- Approval by the Board of Directors and publication on the company website
GDPR Policy		Formalises the paperwork for compliance with Regulation (EU) 679/16 ("GDPR") containing provisions on personal data processing which came into force in May 2018. Raises awareness among corporate functions on the GDPR issues regarding the collection and processing of personal data of natural persons.	I	Employees	- Shared via the company's information systems - Corporate communications

## ENVIRONMENTAL AND SOCIAL CERTIFICATIONS

The organisation models compliant with international ISO standards are designed to keep the impacts generated by activities under control and systematically promote sustainable improvements.

A gradual adoption of certified organisation models in accordance with the international ISO 45001 standard is also planned for the facility in Bhiwadi, India.

In 2022, the Bhiwadi facility (Rajasthan, India) obtained the renewal of the “IGBC Green Factory Building – Gold” certification, issued by the *Indian Green Building Council* (IGBC), concerning waste management, efficient water usage, reduction of the use of fossil fuels, energy efficiency and conservation of natural resources. The current certification will be valid until 2025.

PRODUCTION FACILITIES	ISO 9001	ISO 14001	ISO 45001	ISO 50001
Goal	Organisation quality management	Environmental management	Occupational health and safety management	Energy management
<b>ITALY</b>				
Alonte (Vicenza)				
Flumignano di Talmassons (Udine) *Refrion Srl				
Flumignano di Talmassons (Udine) *R.M.S. Srl				
Limana (Belluno)				
Mel (Belluno)				
Travacò Siccomario (Pavia)				
Uboldo (Varese) <sup>6</sup>				
<b>CHINA</b> - Tianmen (Hubei)				
<b>FINLAND</b> - Vantaa (Uusimaa)				
<b>INDIA</b>				
Bhiwadi (Rajasthan)				
Sarole (Pune Dist., Maharashtra)				
<b>POLAND</b> - Gliwice (Slesia) 2 facilities				
<b>CZECH REPUBLIC</b> - Novosedly (Southern Moravia)				
<b>RUSSIA</b> - Lipetsk				
<b>SWEDEN</b> - Asarum (Karlshamn)				
<b>USA</b> - Jacksonville (Texas)				

<sup>6</sup> The certifications indicated refer to LU-VE SpA in Uboldo.



## OUR STAKEHOLDERS

LU-VE Group's stakeholders include all those in a position to influence the Group's business, as well as those who have expectations of the company. The mapping of the Group's stakeholders was first conducted with top management during preparation of the first sustainability report, and subsequently confirmed at the same time as the periodic updates of the materiality analysis for the Group's Non-Financial Statement.

Stakeholders are periodically engaged on specific topics, in order to share the strategic lines of development and for them to contribute to making the activities implemented as effective as possible.

For the purpose of effective listening and engagement, the tools are periodically assessed and customised on the basis of the linguistic and cultural diversity of

the different stakeholders. The contact person for stakeholder engagement and listening activities liaises with the central structures to ensure a thorough and common approach is adopted. It should also be noted that the company's whistleblowing channels can be used by all stakeholders.

Among the various stakeholder listening and dialogue activities, LU-VE Group designed and submitted **a survey for investors and a selected group of customers** in 2023. The aim of the customer survey was to gather expectations and views on the main sustainability impacts and to share sustainability goals and cooperation opportunities; investors were instead asked to evaluate sustainability plans and governance, as well as the main impacts that should guide the sustainable business strategy. The results also made it possible to update LU-VE Group's impact assessment in the context of the materiality analysis.



STAKEHOLDERS	OBJECTIVES OF STAKEHOLDER ENGAGEMENT	MAIN FEEDBACK AND ENGAGEMENT TOOLS
<i>Employees</i>	<ul style="list-style-type: none"> <li>Respect for workers' rights</li> <li>Contribution to individual well-being</li> <li>Protection of occupational health and safety</li> <li>Development of skills and professionalism</li> <li>Monitoring of emission impacts of home-work travel</li> </ul>	<ul style="list-style-type: none"> <li>Ideas mailbox</li> <li>Training meetings</li> <li>Company intranet</li> <li>Dedicated internal communications</li> <li>Ad hoc surveys</li> <li>International meetings on specific topics (e.g. HR meetings)</li> </ul>
<i>Customers</i>	<ul style="list-style-type: none"> <li>Assessment of customer satisfaction</li> <li>Improvement and development of services and solutions with low energy consumption</li> <li>Co-designing</li> </ul>	<ul style="list-style-type: none"> <li>Customer satisfaction analysis</li> <li>Group Customer Care Service</li> <li>Website – Products section</li> <li>Social networks</li> <li>Customer Newsletter</li> <li>Surveys</li> </ul>
<i>Shareholders and Investors</i>	<ul style="list-style-type: none"> <li>Sharing of growth and sustainability drivers</li> <li>Profitability</li> <li>Reduction of investment-related</li> </ul>	<ul style="list-style-type: none"> <li>Insider List</li> <li>One-to-one meetings</li> <li>Roadshows</li> <li>Dedicated communications</li> <li>Press releases</li> <li>Website – Investor relations section</li> <li>Investors Newsletter - Surveys</li> </ul>
<i>Banks and other lenders</i>	<ul style="list-style-type: none"> <li>Support for the Group's growth and sustainable development</li> </ul>	<ul style="list-style-type: none"> <li>Press releases</li> <li>Dedicated communications and meetings</li> <li>Official financial statement documentation</li> </ul>
<i>Suppliers</i>	<ul style="list-style-type: none"> <li>Compliance with contractual conditions</li> <li>Protection of workers and respect for human rights</li> <li>Assessment of supplier impact on CO<sub>2</sub> emissions</li> </ul>	<ul style="list-style-type: none"> <li>Supplier selection, qualification and assessment questionnaires</li> <li>Dedicated meetings</li> <li>Dedicated communications</li> </ul>
<i>Regulatory bodies and other associations</i>	<ul style="list-style-type: none"> <li>Process and product certifications</li> <li>Improvement of the performance and impacts of processes and products</li> </ul>	<ul style="list-style-type: none"> <li>Certification audits</li> </ul>
<i>Local communities</i>	<ul style="list-style-type: none"> <li>Development of projects of value to the community</li> <li>Transparency and sharing of information on business issues</li> <li>Sharing of abilities and skills</li> </ul>	<ul style="list-style-type: none"> <li>Website</li> <li>Social networks</li> <li>Press releases</li> </ul>
<i>Trade associations</i>	<ul style="list-style-type: none"> <li>Updated and prompt information on scenarios and performance</li> <li>Joint promotion of key sustainability and business issues</li> </ul>	<ul style="list-style-type: none"> <li>Discussion with representatives</li> </ul>
<i>Academic centres and universities</i>	<ul style="list-style-type: none"> <li>Enhancement of research activities</li> <li>Sharing of technical know-how</li> </ul>	<ul style="list-style-type: none"> <li>Research partnerships</li> <li>Training sessions</li> <li>Workshops</li> </ul>
<i>Media</i>	<ul style="list-style-type: none"> <li>Transparent, clear and prompt disclosures</li> </ul>	<ul style="list-style-type: none"> <li>Website</li> <li>Social networks</li> <li>Press releases and dedicated Newsletters</li> </ul>



# COMMUNICATION

## SOCIAL MEDIA AND WEB COMMUNICATION

### SOCIAL MEDIA

The LU-VE Group **LinkedIn** page is one of the Group's main communication channels. Over time it has recorded excellent qualitative and quantitative performance, thanks to its content: corporate and financial news, information on new products, technologies and applications, market news, events, interviews and webinars. A special section is also dedicated to personnel recruitment. The page is in Italian and English, and occasionally in German, Spanish, Swedish, Russian, Finnish and Dutch.

At the end of 2023, there were over 28,100 followers (4,900 more than at the end of 2022), over 63,000 homepage views (+10,000 compared to 2022) and 23,782 unique visitors, in line with the previous year.

The LU-VE Group also has active pages on **Facebook** (Italian and English) with 1,830 subscribers (+125 compared to the previous year) and on **YouTube**.

### WEB SITE

The Group's website [www.luvegroup.com](http://www.luvegroup.com) includes two sections dedicated to **products** and **investor relations**.

In 2023, *luvegroup.com* had over 50,000 active users, totalling about 75,000 visits to the page, while *investors.luvegroup* had 47,000 active users, totalling about 54,000 visits to the page.

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## PRIZES AND AWARDS 2023



### ECOVADIS 2023

LU-VE Group received the **EcoVadis Bronze Medal** in the annual sustainability assessment for the second time in a row.

In 2023, LU-VE Group was in the top 23% of the “Environment” section, in the top 22% of the “Sustainable Procurement” section, and finished in the top 20% of the overall ranking of the most virtuous companies in the industrial manufacturing of general-purpose machinery.

Investors consider EcoVadis one of the most reliable corporate sustainability rating companies, as stated in the latest Rate the Raters report. The specialist company assesses corporate sustainability in four thematic areas (environment, labour practices and human rights, ethics, and sustainable procurement), considering 21 criteria (energy consumption and greenhouse gas emissions, end-of-life of products, employee health and safety, diversity, environmental practices of suppliers, etc.).



### COMPANIES MOST ATTENTIVE TO CLIMATE IN 2023

LU-VE stood out among the top 100 Italian companies engaged in reducing CO<sub>2</sub> emissions between 2019 and 2021, according to the Corriere della Sera daily newspaper in collaboration with Statista GmbH (a German company specialising in market research and corporate data analysis). The criterion adopted for the rankings is primarily based on reducing the ratio between carbon dioxide emissions (both direct and indirect) and turnover.



### SUSTAINABILITY LEADER 2023

Among the 150 most sustainable companies in Italy, the “Sustainability Leader” award was given to LU-VE by Statista GmbH (a German company specialising in market research and corporate data analysis), in collaboration with “Il Sole 24 Ore”, Italy’s main financial daily. The LU-VE Group was selected as one of Italy’s most successful companies in incorporating environmental, social and economic decisions into their corporate practices. The research took into consideration more than 1,500 reports on companies operating in Italy, focusing on three sustainability macro-areas: environmental, social and corporate governance.





### CHINA AWARDS 2023

“Silk Road” category: awarded by the Italy China Council Foundation (ICCF) and Class Editori, this award is dedicated to Italian concerns that stand out especially for the long and significant growth and development path over the years in the Chinese market. This is the fourth consecutive “Silk Road” award for LU-VE (2020-2023), following the three already obtained in the “Top Investor” category (2015, 2018 and 2019).



### BUSINESS EXCELLENCE 2023

LU-VE Group received the prestigious Eccellenze d'Impresa 2023 Award, established by GEA-Consulenti di Direzione, Harvard Business Review Italia and Arca Fondi SGR, under the patronage of Borsa Italiana. The company was honoured with the highest accolade overall, as well as gaining credit in the Growth and Sustainability category.



### EXPORT PERFORMANCE AWARD (EEPC)

The company Spirotech received the “Export Performance” award for the two-year period 2018-2019 from the Engineering Export Promotion Council (EEPC), the Council set up by the Indian government to recognise and promote exports. The award ceremony was held in New Delhi, at the headquarters of the Ministry of Commerce of the Indian Government.



# PALMARÈS

## 2009

- Finalist in the 2009 Friend of the Environment Innovation Award - LU-VE S.p.A., awarded by Legambiente/Green Economy.
- 2009 "Etica&Impresa" Award - LU-VE S.p.A. "Special Mention" Category "Occupational Health and Safety" (for the "Zero Risks-Zero Accidents" and "Zero Risks-Safely Together" projects).

## 2010

- 2010 "Etica&Impresa" Award - LU-VE S.p.A. "Equal Opportunities" Category (Positive actions planned and/or contracted aimed at implementing and disseminating the use of tools designed to protect and enhance gender, ethnic and social diversity).

## 2012

- Company to Watch 2012 Award - Databank Cerved, for specific economic performance.

## 2013

- Mark Gardner Supplier Award from the company Dean & Wood.

## 2014

- "IGBC Green Factory Building - Gold" 2014 for achieving environmental standards at the SpiroTech facility in India.

## 2015

- China Awards 2015, "Top Investors in China" category.
- "From father to son" - Among the finalists of the 6th edition of the award

## 2017

- "Best social responsibility practices 2017" LU-VE S.p.A. Awarded by the Lombardy Region and Unioncamere Lombardia.
- Finalists in the 15th edition of the Sodalitas Social Award, recognition for companies committed to achieving a sustainable future (growth, development and inclusion), awarded by Sodalitas Foundation.

## 2018

- China Awards 2018, "Top Investors in China" category.
- IGBC Green Factory Building - Gold 2018 Spirotech India.
- Felix Industry Award 2018 "High Budget Honour," awarded by Cerved, LUISS, Confindustria Lombardia and ANSA.
- Supplier Quality Award 2018 - Ingersoll Rand.



# 2009 - 2022

## 2019

- “Best social responsibility practices 2019” LU-VE S.p.A. Awarded by the Lombardy Region and Unioncamere Lombardia.
- China Awards 2019, “Top Investors in China” category.
- Sustainability Award 2019 Spirotech (Bhiwadi, India) - Global Supplier Award Programme of Trane Technologies.
- National Awards for Export Excellence - Spirotech awarded in the Large category, General Machinery sector. Award sponsored by the Engineering Export Promotion Council (EEPC).

## 2020

- Eccellenze d'Impresa 2020 - LU-VE S.p.A. “Special Mention Internationalisation Category,” awarded by GEA, Harvard Business Review Italia and Arca Fondi SGR.
- Digital Stars Italia 2020 (Mechanical Industry category), attributed by ITQF (German Institute for Quality and Finance).
- China Awards 2020, “Silk Road” for growth and development in China.
- “Dynamic companies” Mediobanca - 55th edition of the study on “Leading Italian companies”.
- Top Job 2020 Best Employers - Companies where people work best in Italy (Mechanical Industry category), attributed by ITQF (German Institute for Quality and Finance) and La Repubblica Affari&Finanza.
- M&A Awards 2020: LU-VE among the Italian “champions” for the acquisition of Alfa Laval’s “Air” division.

## 2021

- China Awards 2021, “Silk Road” category for growth and development in China.
- Top Job 2021 - Companies where people work best in Italy (Mechanical industry category)
- L'impresa oltre l'impresa 2021 Award from the Lombardy Region for outstanding entrepreneurs in the fight against the Covid pandemic
- Sustainability Leader 2021, among the top 150 sustainable companies in Italy.
- Virtuous company for sustainable energy – awarded by Repower
- Green Star Sustainability 2021.
- Bronze Medal EcoVadis 2021 - Annual Sustainability Assessment.
- “KNVVK & Young Cool Innovation Award 2021” – Awarded to “Igea” (air sanitisation system) as one of the best technologies/innovations in the field of refrigeration.
- “Gulfood Manufacturing Industry Excellence Awards Winner 2021” to “Igea”, air sanitisation system.
- Engineering Export Promotion Council (EEPC) Award for the Expo performance of Spirotech/LU-VE, promoted by the Indian Ministry of Commerce and Industry.

## 2022

- Companies most attentive to climate in 2022
- Sustainability Leader 2022
- Green Star Sustainability 2022
- Felix Industry Award 2022
- Export Champions 2022
- China Awards 2022
- Enterprise of the month -LU-VE US



## 1.4 Our Sustainability Plan

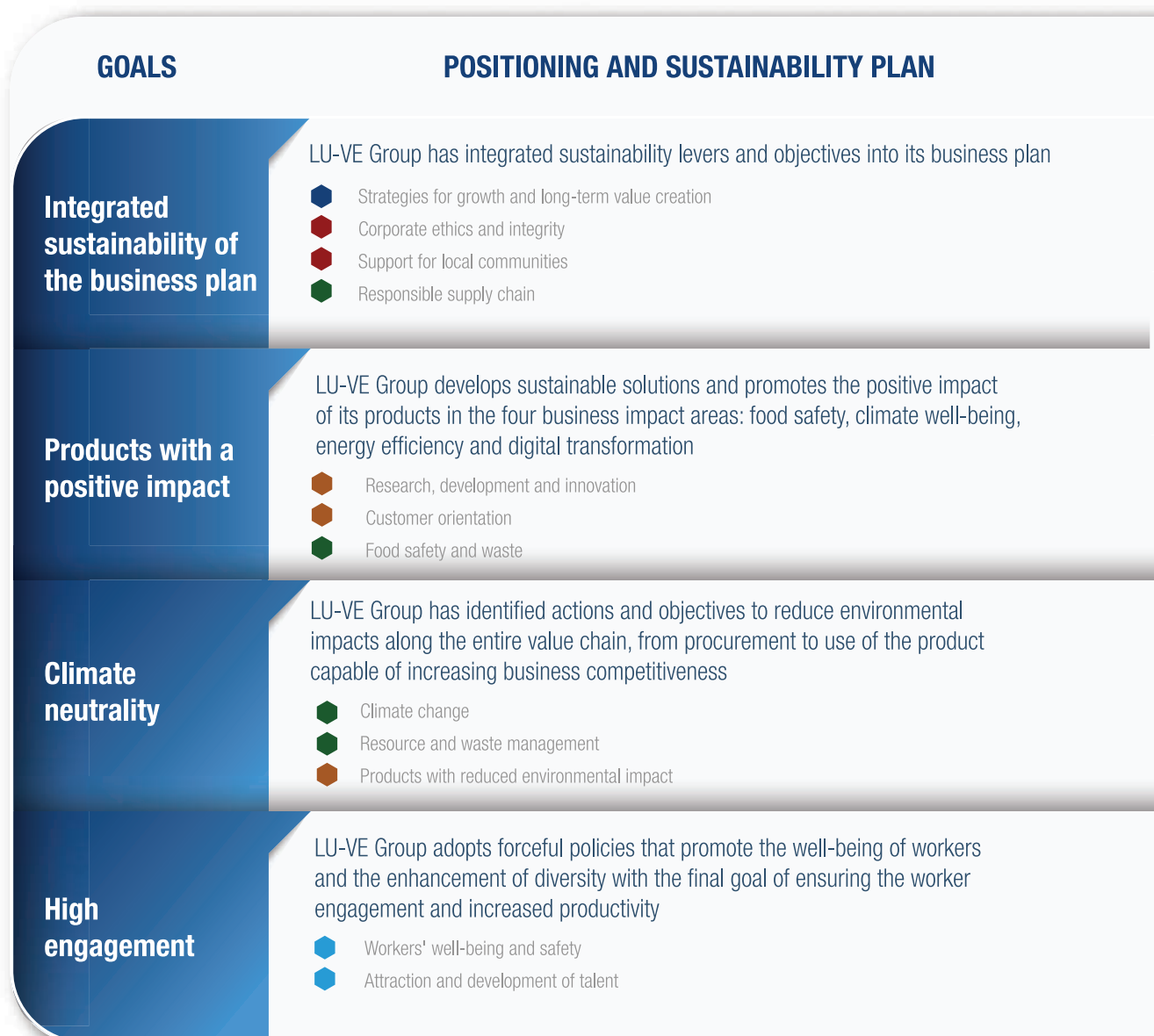
The year 2023 was the first year of implementation of LU-VE Group's 2023-2025 Sustainability Plan. It was prepared by the Corporate Sustainability Steering Committee, reviewed by the Control and Risk Committee, and approved by the Board of Directors in February 2023.

The plan was subsequently updated to include targets to 2026.

### THE SUSTAINABILITY PLAN

The Sustainability Plan sets out the actions to be pursued in line with the sustainability vision - aligned with some of the UN's Sustainable Development Goals (SDGs) - and the desired positioning of LU-VE Group, relating to four key dimensions:

1. Sustainability integrated in the Business Plan,
2. Positive-impact products,
3. Carbon neutrality,
4. High involvement of people.









 Advanced world
  Better world
  Balanced world



The vision, the desired positioning and the Sustainability Plan express the ambition and the ability of LU-VE Group in managing its material topics, i.e. the topics expressing the Group's current and potential impacts, whether positive or negative, regarding environmental, social and governance aspects.

in the graphic, some targets for 2024 and 2025 been changed from the original plan in accordance with the results already achieved in 2023.

The following is a snapshot of the status of the 2023-2025 Sustainability Plan. It shows the values of the key indicators for the four dimensions of LU-VE Group's positioning, as well as the related targets for the following years. **All the targets set for 2023 have been met.** It should also be noted that, as explained

KEY INDICATORS	2021	2022	2023	TARGET 2023	TARGET 2024	TARGET 2025	REFERENCE CHAPTERS
Turnover from sustainable products or businesses (% of total turnover)	47.3%	50.7%	<b>53.6%</b>	>52%	>54%	>56%	 The European Taxonomy for environmentally sustainable activities
Relevant suppliers who completed the Supplier Form (% of total relevant suppliers)	64%	57%	<b>67%</b>	>60%	>69% ➤64%	>71% ➤67%	 Supplier Form - Social & Environmental assessment
Supplier audits (no.)	7	4	<b>10</b>	5	11 +0	15	 Supplier monitoring and audits
Scope 1 and Scope 2 greenhouse gas emissions reduction (% of baseline 2022)	-	-	<b>-6.39%</b>	-6%	-10%	-19%	 Looking at our environmental impacts
Employees assessed in the Skills Assessment process (% of total eligible employees)	60%	-	<b>74%</b>	>70%	>75% ➤73%	>80%	 Training and development
Accident frequency index	5.59	5.21	<b>3.08</b>	<5.21	<4.14 previous-year- <sup>(*)</sup>	(**)	 Focus on occupational health and safety
Accident gravity index	0.20	0.20	<b>0.09</b>	<0.20	<0.15 previous-year- <sup>(*)</sup>	(**)	



Conscious world



Trasversal

(\*) Regarding the accidents, appropriate assessments were carried out by the competent departments and the target was adjusted for 2024.  
(\*\*) This target will be defined according to the performance of the previous year.

## MATERIAL TOPICS AND IMPACTS

LU-VE Group's material topics express the current or potential and positive or negative impacts relating to environmental, social and governance aspects, within the scope of its activities and business relations. The material topics are detailed below, ordered according to the number of associated impacts and their extent.

The impact analysis conducted in 2022 was updated in 2023 also based on input from some key stakeholder categories, such as customers and investors. In the light

of this analysis, all the material topics of 2022 confirmed.

The sustainability impacts were assessed by the Corporate Sustainability Steering Committee, the Remuneration and Appointments Committee and the Board of Directors.

For each impact, the impact analysis identified: the type (negative/positive, actual/potential), the scope, the actions taken to manage it (particularly in the case of negative impact), and the policies implemented by the Group.

The quantitative analysis for each impact was conducted

MATERIAL TOPIC	DESCRIPTION
<b>Climate change</b>	Actively contributing to climate change mitigation by closely monitoring the climate-altering gas emissions generated and identifying action plans to reduce them
<b>Research, development and innovation</b>	Promoting sector technological progress by investing in the research of innovative solutions, also in cooperation with highly qualified partners linked to the world of universities and research
<b>Workers' well-being and safety</b>	Promoting the well-being of our people and providing them with a workplace where they can fulfil their potential and perform their tasks with passion and safety
<b>Customer orientation</b>	Making our customers excited about our excellent products and services which meet their needs and the quality requirements defined at Group level, as well as supporting them throughout the product life cycle
<b>Products with reduced environmental impact</b>	Designing and manufacturing products that minimise their overall environmental impact: solutions with low energy consumption, limited use of refrigerant charge, increased use of natural refrigerant fluids and reduced material
<b>Resource and waste management</b>	Minimising the environmental impact of our production processes, enacting energy efficiency policies and reducing water consumption, the use of materials and the generation of waste
<b>Talent attraction and development</b>	Safeguarding and strengthening the know-how of our people through professional growth paths which make it possible to provide customers with a competent and professional service, while motivating personnel and promoting talent
<b>Business ethics and integrity</b>	Managing relationships marked by transparency with all Group stakeholders, ensuring compliance with regulations in force in terms of combating active and passive corruption and guaranteeing institutional communications and honest, truthful promotions based on factual information
<b>Support for local communities</b>	Supporting employees and their families and investing in the social and cultural development of local communities, as well as accelerating the journey towards an increasingly inclusive and meritocratic environment
<b>Responsible supply chain</b>	Promoting a responsible and sustainability-conscious supply chain and developing relationships of trust with partners
<b>Strategies for growth and long-term value creation</b>	Promoting growth strategies geared towards long-term value creation by maximising the positive value generated in the impact areas identified such as energy efficiency, food security, climatic well-being and digital transformation
<b>Food safety and waste</b>	Ensuring a proper cold chain, enabling people in all countries to benefit from safe and properly stored food, while also reducing food waste



on the basis of different parameters depending on the type of impact.

For negative impacts, the magnitude is determined by the severity and likelihood of the impact. Severity takes into consideration the scale of the impact, its scope and the irremediable character.

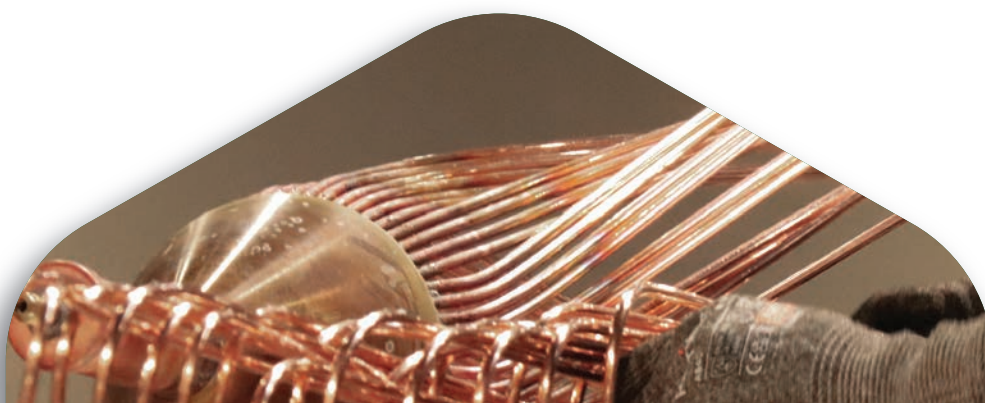
For positive impacts, the magnitude is determined by the scale of the impact, its scope and likelihood.

The magnitude established for each impact enabled the calculation of a significance score. A materiality threshold for the impacts was subsequently defined, grouped by material topic. The result of this grouping is detailed in the table below.

Type	Description	Positive/negative	Actual/potential	Related material topic
<b>ENVIRONMENTAL IMPACT</b>				
Climate change	Industrial production generates an impact in terms of emissions resulting from the use of energy vectors.	N	A	Climate change
	Industrial production generates an impact in terms of Scope 3 GHG emissions resulting from uncontrolled resources or not directly owned by the organisation, but which take place within the context of its value chain.	N	A	
	The design and development of increasingly innovative solutions from an energy efficiency point of view results in a drop in GHG emissions generated by the refrigeration and air conditioning sector.	P	A	
Energy consumption	Industrial production and related activities generate an impact in terms of energy consumption.	N	A	
Water resources and waste	Industrial production and activities connected to it generate an impact in terms of water consumption and waste.	N	A	Resource and waste management
Compliance and respect for environmental regulations in the supply chain	The violation of regulations governing environmental aspects within the supply chain can be damaging to the environment.	N	P	Responsible supply chain

**7** The in-depth assessment of these impacts in terms of the processes used to trace the effectiveness of the actions and indicators used to assess their progress is described in the specific sections of the document.

Type	Description	Positive/negative	Actual/potential	Related mat topic
<b>IMPACTS ON PEOPLE</b>				
Climate well-being	The development and commercial distribution of commercial and industrial air conditioning and cooling solutions is increasingly significant in a context where global temperatures are gradually rising.	P	P	Products with reduced environmental impact
Energy efficiency	The maximisation of energy efficiency in factories, buildings and systems is a key issue in a global scenario trending towards a gradual reduction in energy consumption.	P	P	
Digital transformation	The development and spread of data centres are fundamental elements in a country's digital transformation, exchange of digital knowledge and technological innovation.	P	P	Research, development and innovation
Innovation and customer orientation	The growth and progress in commercial and industrial refrigeration is promoted and supported by research and investments in technological innovation.	P	A	
Training	Training supports the personal and professional growth of our employees.	P	A	Talent attraction and development
Employment	Industrial growth and development enable a gradual increase in employment in different countries.	P	A	
Occupational well-being	The creation of healthy and stimulating working conditions for personnel offers them an opportunity to make their mark and grow both professionally and personally.	P	A	
Discrimination	Potential discrimination in the workplace related to factors of culture, gender, sexual orientation, region, etc.	N	P	Workers' well-being and safety
Health and safety	The activity involves a series of impacts in terms of occupational health and safety, mainly linked to accidents. It is the industry's responsibility to protect occupational health and safety.	N	P	
Value for the community	Local areas and communities benefit from the support and backing of industry.	P	A	Support for local communities
Compliance and respect for human rights in the supply chain	Potential violation of human rights regulations in the supply chain.	N	P	Responsible supply chain
Food safety	The development of solutions to ensure a correct cold chain for food preservation, with special reference to countries with a low level of food safety.	P	P	Food safety and waste





Type	Description	Positive/negative	Actual/potential	Related material topic
<b>ECONOMIC IMPACTS</b>				
Listening and customer satisfaction	Provision of services aimed at accompanying and listening to customers in the design, development and delivery phases.	P	A	Customer orientation
Product failure	Customer dissatisfaction with product defects due to errors and omissions during product development and control.	N	P	
Labelling	Possible dissatisfaction of the customer in case of range of products offered not in line with market needs or product characteristics communicated.	N	P	
Compliance and respect for regulations against unfair competition and corruption	Potential violation of regulations against unfair competition and corruption by the organisation.	N	P	Business ethics and integrity
Use of aggressive fiscal policies	Impacts on countries in which the Group operates that adopt more favourable tax regimes	N	P	Strategies for growth and long-term value creation
Value for stakeholders	The activity entails a range of economic impacts, generating value for stakeholders and business partners.	P	A	

With reference to regulatory developments, LU-VE Group has set up a number of activities and analyses to meet the requirements of the Corporate Sustainability Reporting Directive (CSRD) starting in the next reporting year, in accordance with the mandatory obligations.

The CSRD, which officially came into force in 2023 and replaced the previous “Non-Financial Reporting Directive - NFRD” (Directive 2014/95/EU), introduced new reporting requirements for non-financial information. In addition to expanding the number of companies involved, the new regulation requires reporting to be based on the principle of dual materiality and extended to all activities related to the entire upstream and downstream value chain.

**8** Dual materiality takes into account both the company's impacts on the environment and society, as well as the risks and opportunities related to sustainability factors that can influence company performance.

## THE EUROPEAN TAXONOMY FOR ENVIRONMENTALLY SUSTAINABLE ACTIVITIES

The Taxonomy – Regulation (EU) 2020/852 – **EU Taxonomy Regulation** of the European Commission (hereinafter called “the Regulation”) – has established a unified classification system for the definition of economic activities that can be considered environmentally sustainable. This Taxonomy intends to promote the implementation of the European Green Deal and make it easier for investments to be directed towards environmentally sustainable economic activities.

According to the Regulation, in order to be considered “environmentally sustainable”, an economic activity must:

- Substantially contribute to the achievement of at least one of the **six environmental objectives** defined in Article 9 of the Regulation: climate change mitigation and adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, prevention and reduction of pollution, protection and restoration of biodiversity and ecosystems;
- **Do No Significant Harm** (DNSH) to any of the above environmental objectives;
- Respect **minimum social guarantees**, recognising the importance of international rights and standards;
- Meet the **technical screening criteria** defined in the regulation for each type of activity. Identified on a scientific basis and specific to each of the objectives, these criteria describe the conditions to be met in order to make a substantial contribution to achieving the objectives.

At the end of 2023, the European Commission published EU Delegated Regulation 2023/2486 to explain the economic activities that contribute substantially to the objectives of: i) sustainable use and protection of water and marine resources, ii) transition to a circular economy, iii) prevention and control of pollution, and iv) protection and restoration of biodiversity and ecosystems, and EU Delegated Regulation 2023/2485 that introduced some updates to the economic activities with reference to the climate change mitigation and climate change adaptation objectives. These acts shall apply at the disclosures publish from 1 January 2024.

## TAXONOMY-ELIGIBLE AND ALIGNED LU-VE GROUP ACTIVITIES

Following the publication of the delegated acts concerning the new environmental objectives of the European Taxonomy for environmentally sustainable activities, new analyses were conducted in 2023 to assess the eligibility of LU-VE Group's economic activities. At the same time, new analyses were conducted to assess LU-VE Group's contribution to the objectives ‘Climate Change Mitigation’ (CCM) and ‘Climate Change Adaptation’ (CCA) in the light of new interpretations of the regulation.

In line with the requirements of the Regulation, for the financial year 2023 LU-VE Group reports the proportion of turnover, capital expenses and operating expenses (as defined by the EU Delegated Regulation 2021/2178, hereinafter also ‘the KPIs’) pertaining to:

- Taxonomy-eligible and aligned economic activities with reference to the objectives climate change mitigation and climate change adaptation,
- economic activities eligible for the Taxonomy with reference to the environmental objectives set out in EU Delegated Regulation 2023/2486, and
- new economic activities identified as eligible for the climate-related targets by EU Delegated Regulation 2023/2485.

In light of the evolution of the interpretations and the practical application of the regulations, LU-VE Group has evaluated, differently from the approach adopted in the previous reports, to exclude the share of production and sale of heat exchangers of the Components Business Unit, thus reducing its percentage share of admissible economic activity with respect to the criteria of the Taxonomy. Even though LU-VE Group's components contribute significantly to the high energy performance of the finished products, it was in fact prudently decided to exclude these components, pending any updates on the regulations.



KPI	2023 <i>in line with new criteria</i>	2023 <i>in line with 2022 criteria</i>	2022
Turnover	34.7%	53.6%	50.7%
CAPEX	29.3%	46.2%	37.3%
OPEX	36.4%	54.7%	52.1%

Overall, with respect to the lists of economic activities set out in EU Delegated Regulations 2021/2139, **EU 2023/24856** and EU 2023/2486, the following specific

economic activities of LU-VE Group were classified as 'eligible' with respect to the objective 'Climate Change Mitigation' (CCM).

LU-VE GROUP ECONOMIC ACTIVITIES	ECO-SUSTAINABLE ACTIVITIES OF THE EUROPEAN TAXONOMY
Products with high energy efficiency (with CE motors)	3.5) Manufacture of energy efficiency equipment for buildings
Products that use CO <sub>2</sub> as a refrigerant fluid	3.6) Manufacture of other low carbon technologies
Products that use other natural refrigerant fluids (hydrocarbons, ammonia, glycol water)	3.6) Manufacture of other low carbon technologies
Transport by motorbikes, passenger cars and commercial vehicles	6.5) Transport by motorbikes, passenger cars and commercial vehicles
Construction of new buildings	7.1) Construction of new building
	7.2) Renovation of existing buildings
Renovation and efficiency enhancement of buildings	7.3) Installation, maintenance and repair of energy efficiency equipment
	7.6) Installation, maintenance and repair of renewable energy technologies
Research and Development team and laboratory	9.1) Close to market research, development and innovation
Consulting activities	9.3) Professional services related to energy performance of buildings

With reference to activities 7.1 and 7.2, it should be noted that the values are also eligible for activities 3.1 and 3.2, respectively, of the objective '**Transition to a Circular Economy**' (CE).

Lastly, it should be noted that activity 4.17 'Combined heat and power generation from solar energy' has been

included in activity 3.6 'Manufacture of other low carbon technologies' with reference to the year 2023, following an update of the classification.

The tables show the turnover, CAPEX and OPEX KPIs, i.e., the percentage share generated by eligible and aligned activities.

Proportion of **turnover** from products or services associated with Taxonomy-aligned economic activities

Fiscal year 2023				Substantial Contribution Criteria						DNSH criteria ('Do Not Significant Harm')						Minimum Safeguards	Taxonomy-aligned or eligible proportion of turnover, FY 2022	Category enabling activity	Category transitional activity	
Economic activity	Code	Absolute turnover (k€)	Proportion of turnover	Climate Change Mitigation (CCM)	Climate Change Adaptation (CCA)	Water (WTR)	Pollution (PPC)	Circular economy (CE)	Biodiversity (BIO)	Climate Change Mitigation (CCM)	Climate Change Adaptation (CCA)	Water (WTR)	Pollution (PPC)	Circular economy (CE)	Biodiversity (BIO)					
A. TAXONOMY-ELIGIBLE ACTIVITIES																				
A.1 Environmentally sustainable activities (Taxonomy-aligned)																				
Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)	-	0%	0%	0%	0%	0%	0%	0%	0%	N	N	N	N	N	N	N	0%			
of which "Enabling"	-	-																E		
of which "Transitional"	-	-																	T	
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
Manufacture of energy efficiency equipment for buildings	CCM 3.5	17,919	3.0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								2.3%			
Manufacture of other low carbon technologies	CCM 3.6	192,945	31.8%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								48.1%			
Cogeneration of heat/cool and power from solar energy	CCM 4.17	-	-	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0.3%			
Turnover of Taxonomy eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		210,864	34.7%	34.7%	0%	0%	0%	0%	0%								50.7%			
A. Turnover of Taxonomy eligible activities (A.1+A.2)		210,864	34.7%	34.7%	0%	0%	0%	0%	0%								50.7%			
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																				
Turnover of Taxonomy-non-eligible activities	395,979	65,3%																		
Total (A+B)	606,843	100%																		

Objective	Taxonomy-aligned per objective	Taxonomy eligible, per objective
CCM	0%	35%
CCA	0%	0%
WTR	0%	0%
PPC	0%	0%
CE	0%	0%
BIO	0%	0%



Proportion of **CapEx** from products or services associated with Taxonomy-aligned economic activities

Fiscal year 2023				Substantial Contribution Criteria							DNSH criteria ('Do Not Significant Harm')						Minimum Safeguards	Taxonomy-aligned or eligible proportion of CAPEX, FY 2022	Category enabling activity	Category transitional activity
Economic activity	Code	Absolute CAPEX (k€)	Proportion of CAPEX	Climate Change Mitigation (CCM)	Climate Change Adaptation (CCA)	Water (WTR)	Pollution (PPC)	Circular economy (CE)	Biodiversity (BIO)	Climate Change Mitigation (CCM)	Climate Change Adaptation (CCA)	Water (WTR)	Pollution (PPC)	Circular economy (CE)	Biodiversity (BIO)					
A. TAXONOMY-ELIGIBLE ACTIVITIES																				
A.1 Environmentally sustainable activities (Taxonomy-aligned)																				
CAPEX of environmentally sustainable activities (Taxonomy-aligned) (A.1)		-	0%	0%	0%	0%	0%	0%	0%	N	N	N	N	N	N	N	0%			
of which "Enabling"		-	-															E		
of which "Transitional"		-	-																T	
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
Manufacture of energy efficiency equipment for buildings	CCM 3.5	693	1.6%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								1.6%			
Manufacture of other low carbon technologies	CCM 3.6	6,615	15.0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								33.1%			
Cogeneration of heat/cool and power from solar energy	CCM 4.17	-	-	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0.1%			
Transport by motorbikes, passenger cars and commercial vehicles	CCM 6.5	591	1.3%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								2.2%			
Construction of new buildings	CCM 7.1	4,598	10.4%	EL	N/EL	N/EL	N/EL	EL	N/EL								-			
Renovation of existing buildings	CCM 7.2	261	0.6%	EL	N/EL	N/EL	N/EL	EL	N/EL								-			
Installation, maintenance and repair of energy efficiency equipment	CCM 7.3	62	0.1%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								-			
Close to market research, development and innovation	CCM 9.1	98	0.2%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0.4%			
CAPEX of Taxonomy eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		12,916	29.3%	29.3%	0%	0%	0%	11%	0%								37.3%			
A. CAPEX of Taxonomy eligible activities (A.1+A.2)		12,916	29.3%	29.3%	0%	0%	0%	11%	0%	37.3%										
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																				
CAPEX of Taxonomy-non-eligible activities		31,166	70.7%																	
Total (A+B)		44,083	100%																	

Objective	Taxonomy-aligned per objective	Taxonomy eligible, per objective
CCM	0%	29%
CCA	0%	0%
WTR	0%	0%
PPC	0%	0%
CE	0%	11%
BIO	0%	0%

Proportion of **OpEx** from products or services associated with Taxonomy-aligned economic activities

Fiscal year 2023				Substantial Contribution Criteria						DNSH criteria ('Do Not Significant Harm')							Taxonomy-aligned or eligible proportion of OPEX, FY 2022	Category enabling activity	Category transitional activity
Economic activity	Code	Absolute OPEX (k€)	Proportion of OPEX	Climate Change Mitigation (CCM)	Climate Change Adaptation (CCA)	Water (WTR)	Pollution (PPC)	Circular economy (CE)	Biodiversity (BIO)	Climate Change Mitigation (CCM)	Climate Change Adaptation (CCA)	Water (WTR)	Pollution (PPC)	Circular economy (CE)	Biodiversity (BIO)				
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1 Environmentally sustainable activities (Taxonomy-aligned)																			
OPEX of environmentally sustainable activities (Taxonomy-aligned) (A.1)		-	0%	0%	0%	0%	0%	0%	0%	N	N	N	N	N	N	N	0%		
of which “Enabling”		-	-															E	
of which “Transitional”		-	-															T	
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
Manufacture of energy efficiency equipment for buildings	CCM 3.5	197	2.0 %	EL	N/EL	N/EL	N/EL	N/EL	N/EL								2.3%		
Manufacture of other low carbon technologies	CCM 3.6	1,870	18.6%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								49.1%		
Transport by motorbikes, passenger cars and commercial vehicles	CCM 6.5	156	1.6%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								-		
Construction of new buildings	CCM 7.1	1,073	10.7%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								-		
Renovation of existing buildings	CCM 7.2	60	0.6%	EL	N/EL	N/EL	N/EL	EL	N/EL								-		
Installation, maintenance and repair of energy efficiency equipment	CCM 7.3	15	0.1%	EL	N/EL	N/EL	N/EL	EL	N/EL								-		
Installation, maintenance and repair of renewable energy technologies	CCM 7.6	-	-	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0.2%		
Close to market research, development and innovation	CCM 9.1	278	0.2%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0.5%	-	
Professional services related to energy performance of buildings	CCM 9.3	9	0.1%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								-		
OPEX of Taxonomy eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		3,658	36.4%	36.4%	0%	0%	0%	11%	0%								52.1%		
A. OPEX of Taxonomy eligible activities (A.1+A.2)		3,658	36.4%	36.4%	0%	0%	0%	11%	0%								52.1%		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
OPEX of Taxonomy-non-eligible activities		6,382	63.6%																
Total (A+B)		10,040	100%																

Objective	Taxonomy-aligned per objective	Taxonomy eligible, per objective
CCM	0%	36%
CCA	0%	0%
WTR	0%	0%
PPC	0%	0%
CE	0%	11%
BIO	0%	0%



During 2022, LU-VE had already undertaken a series of actions with a view to meeting the technical screening criteria required to consider its economic activities not only eligible, but also aligned with the requirements set by the Taxonomy. These criteria, among other things, prescribe the presence of a third-party carbon footprint certificate in accordance with international ISO standards. Specific Life Cycle Assessment studies continued in 2023; details of the analyses conducted are given in the chapter: '2.2 Pushing for Change.'

During 2022, the Group had also further studied the criteria linked to the management of chemical substances (relative to the 'Do No Significant Harm' – DNSH criterion) and began a series of assessments to establish how to manage and trace – on a voluntary and proactive basis – specific substances whose traceability is not required at regulatory level. The results achieved and the improved management of these processes is explained in the chapter: '5.2 Looking at the impacts of our suppliers - Chemical substance management.'

At the date of drafting this NFS, the Group has concluded that not all the technical screening criteria set out by the regulations are currently met and that as a result, the activities identified as eligible cannot also be considered aligned.

Please refer to the methodological note for more details on the calculation methodology.

It should be noted that in carrying out the analysis and preparation activities of the disclosures relating to the Taxonomy, top management adopted an overall prudential approach based on its understanding and interpretation, at the current state of knowledge, of the applicable regulatory requirements. Further

developments in the interpretation of the regulations could therefore lead to substantial changes in the assessments and KPI calculation process. Therefore, LU-VE Group reserves the right to update and modify, even substantially, the indicator calculation process and method in order to ensure their correct alignment with European regulations.

In particular, it should be noted that for the item 'turnover', the Group had already begun to assess the share of turnover relating to equipment using natural refrigerants (equal to 52.7% in 2021 and 54.8% in 2022) as part of the financing required in previous years. Keeping the calculation criteria in line with those applied in the past, the percentage of exchangers with natural refrigerants in 2023 would have been equal to 61.7%.



## THE VALUE GENERATED AND DISTRIBUTED

Looking at the economic distribution of the value generated by LU-VE Group in 2023, the economic value

generated reached € 623 million. This value decreased by 4.3% compared to 2022.

DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED (IN THOUSANDS OF EURO)			
	2021	2022	2023
<b>Economic value generated</b>	<b>545,684</b>	<b>650,615</b>	<b>622,804</b>
Revenues and operating income	492,008	618,612	617,257
Financial income	1,746	2,080	5,547
<b>Economic value distributed</b>	<b>496,882</b>	<b>592,604</b>	<b>572,961</b>
Operating costs	374,699	437,903	406,768 (*)
Value distributed to employees	106,683	125,552	129,413
Value distributed to capital providers	2,252	9,188	17,238
Value distributed to the public administration	6,718	11,630	10,009
Value distributed to shareholders	6,466	8,222	9,148
Value distributed to the community	63	110	385
<b>Economic value retained</b>	<b>48,802</b>	<b>58,011</b>	<b>49,843</b>

(\*) Changes in inventories are included, which are equal to 21,440 thousand of euro for year 2023.



## TAX STRATEGY

In line with the principles defined within its Code of Ethics, LU-VE Group acts according to values of honesty, lawfulness and fairness also when managing tax matters. The Group constantly monitors compliance with applicable tax legislation, acting responsibly in the jurisdictions where it is present, in accordance with the principle by which the contribution resulting from taxes paid is a key channel for contributing to the economic and social development of the countries and communities in which it operates.

The Group's Administration and Finance department is responsible for managing tax matters. The Group has not defined a formal tax strategy or policy at Group level, and individual companies operate in compliance with local tax regulations. Local Finance Managers are responsible for tax compliance, which is overseen by the Group's Administration and Finance department.

Tax risks are analysed and handled in accordance with the overall Enterprise Risk Management business model. Corporate whistleblowing channels may also be used to report any critical issues relating to unethical or illegal conduct and to the organisation's integrity in tax matters.

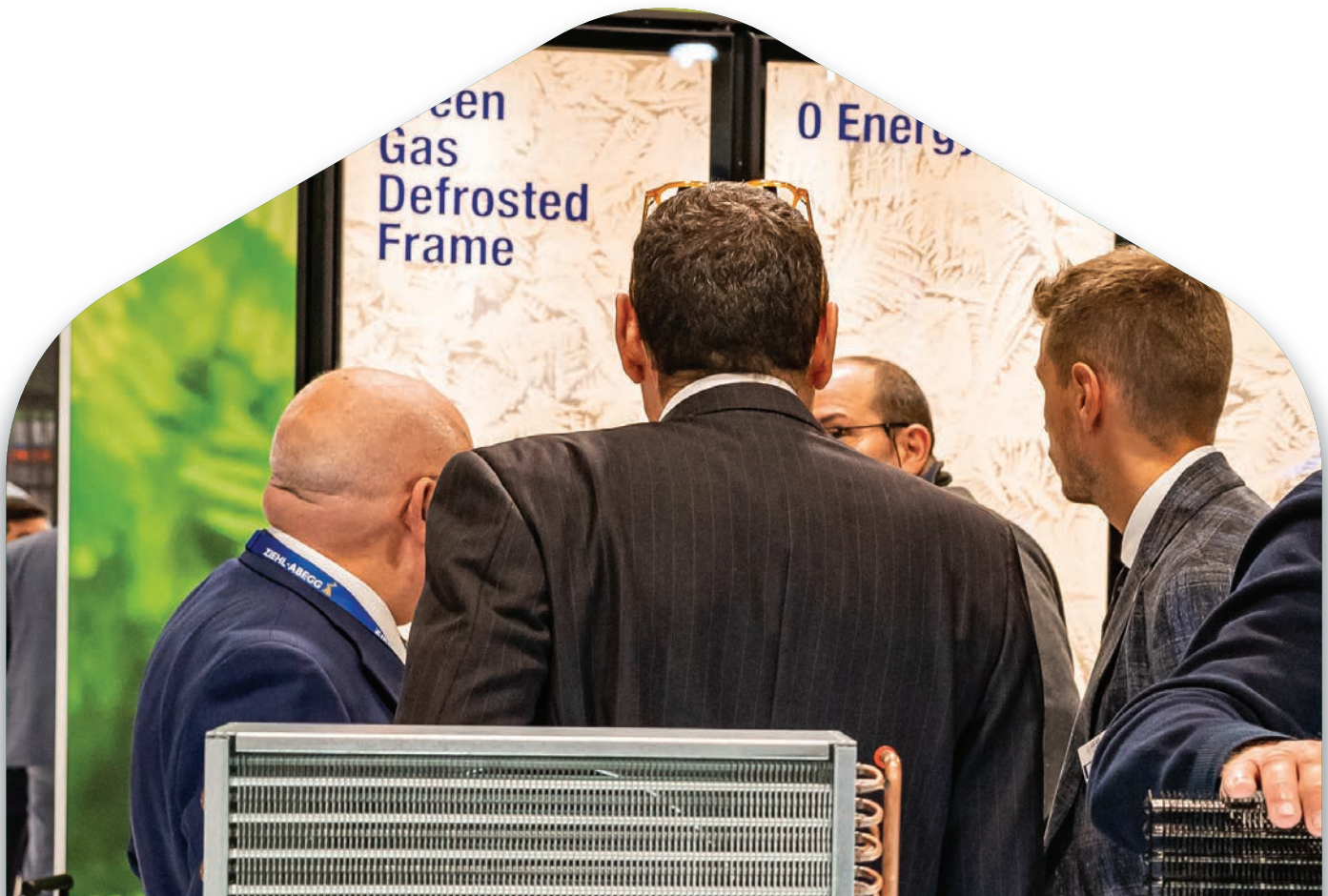
To date, the Group has not received any requests from its stakeholders with regard to tax issues. Should any such requests be received, they will be dealt with by the company departments in charge of tax compliance.

Relations with tax authorities are based on principles of fairness and compliance with the different regulations applied in the countries where the Group operates. It should be noted that the Group does not carry out tax advocacy activities.

During the year 2023, the Varese Revenue Agency initiated a general audit of the parent company for the 2019 tax year, which then focused particularly on transfer pricing issues. The verification activities were concluded with the issuance of a Formal Report of Findings in November 2023, to which the company did not deem it necessary to submit any further counter-arguments within the legal deadlines, awaiting subsequent developments.

Reporting by tax jurisdiction in the 2023 period is shown below.<sup>9</sup>

<sup>9</sup> The economic/financial data reported are audited by an auditing firm. Regarding any differences between the income tax accrued on profits and the tax due (GRI 207-4-b-x), please refer to the Notes to the Consolidated Financial Statements of LU-VE Group as at 31 December 2023.



COUNTRY	COMPANY	P/C <sup>10</sup>	REVENUES - THIRD PARTIES	REVENUES - GROUP	NUMBER OF EMPLOYEES	PROPERTY, PLANT AND EQUIPMENT	PRE-TAX PROFIT (LOSS)	INCOME TAXES PAID	INCOME AFTER TAX
			€/000	€/000	N	€/000	€/000	€/000	€/000
<b>Italy</b>	LU-VE S.p.A.	P							
	SEST S.p.A.	P							
	THERMO GLASS DOOR S.p.A.	P							
	MANIFOLD S.r.l.	P							
	LUVEDIGITAL S.r.l.	P							
	AIR HEX ALONTE S.r.l.	P							
	Refrion S.r.l.	P							
	RMS S.r.l.	P							
<b>TOTAL Italy</b>			212,068	52,705	1,297	85,036	19,576	1,910	(1,704)
<b>Austria</b>	LU-VE Austria GmbH	C	-	417	2	8	(71)	-	1
<b>Finland</b>	FINCOIL LU-VE OY	P	40,192	1,087	113	3,434	3,087	627	624
<b>France</b>	LU-VE France S.a.r.l.	C	23,065	364	12	236	719	184	192
<b>Germany</b>	LU-VE Deutschland GmbH	C							
	Refrion Deutschland GmbH	C							
<b>TOTAL Germany</b>			8,117	583	15	226	517	-	-
<b>The Netherlands</b>	LU-VE Netherlands B.V.	C	3,128	1,261	12	227	(60)	-	18
<b>Poland</b>	SEST LU-VE POLSKA Sp.z.o.o	P	111,068	22,618	790	62,966	20,230	2,534	852
<b>United Kingdom</b>	LU-VE UK LTD	C	-	204	1	1	(79)	-	-
<b>Czech Rep.</b>	HEAT TRANSFER SYSTEMS (HTS) S.r.o.	P	71,396	1,592	390	13,784	9,588	2,691	1,828
<b>Spain</b>	LU-VE IBERICA S.L.	C	14,425	26	10	231	295	62	76
<b>Sweden</b>	LU-VE Sweden AB	P	22,447	1,222	66	1,755	3,317	72	695
<b>China</b>	LU-VE HEAT EXCHANGERS (TIANMEN), CO. Ltd	P	14,242	782	60	1,699	1,780	724	497
<b>South Korea</b>	LU-VE South Korea LLC	C	-	94	2	1	(51)	-	-
<b>Hong Kong</b>	LU-VE Asia Pacific Ltd	C	-	-	-	-	(8)	-	-
<b>India</b>	SPIROTECH HEAT EXCHANGERS Private Limited	P	40,919	956	751	14,248	5,951	1,130	1,526
<b>Dubai - United Arab Emirates</b>	LU VE Middle East DMCC	C	-	810	5	137	33	-	-
<b>Russia</b>	"000" SEST LU-VE	P							
	"000" LU-VE Moscow	C							
<b>TOTAL Russia</b>			36,812	632	386	4,747	14,092	2,410	2,237
<b>USA</b>	LU-VE US, Inc.	P	19,376	22	112	13,227	(4,614)	-	1
<b>Consolidation adjustments</b>			2	(85,375)	-	3,449	(37,933)	-	(1,836)
<b>LU-VE Group</b>			617,257	-	4,024	205,412	36,370	12,344	5,007

<sup>10</sup> Company type: P production company; C sales company.



## SUSTAINABILITY LOANS

In 2023, the Group received a loan of €20 million (subscribed at the end of 2022), a second loan of €30 million (subscribed in 2023), and in the latter part of 2023 subscribed a further loan of €30 million (scheduled for disbursement in early 2024).

The 50 million received in 2023 (100% of the total) have improved conditions for the Group upon reaching specific ESG targets.

The securing of these loans acknowledges the Group's capacity to launch projects over time to improve its environmental, social and governance sustainability performance.

**100% ESG loans**, out of the total loans obtained in 2023.

Loan				Improved interest rate conditions on achieving the following ESG goals		Bank
Goal	Subscription year	Amount in euro	Maturity			
Reduction of total greenhouse gas emissions generated by the Group	December 2022	5 million disbursed in 2022 and 20 million disbursed in 2023	2027	E	Reduction of climate altering gases by 2% per year	Banco BPM
Support for financial needs related to the expansion of green-impact products on total turnover	October 2023	30 million disbursed in 2023	2028	E/G	Share of turnover dedicated to community support activities; Hours of training per individual worker on environmental / social sustainability issues.	Intesa Sanpaolo
Aimed at supporting general financial needs related to business activity	December 2023	30 million disbursed in January 2024	2028	-	-	Unicredit



*“There is no work, there is no capital that does not begin with an act of intelligence”*

*(Carlo Cattaneo - philosopher, political scientist, linguist and writer)*





# ADVANCED WORLD

**Ideas and passion for a cooler world**



# ADVANCED WORLD

**Ideas and passion for a cooler world**



## 3.235 m<sup>2</sup>

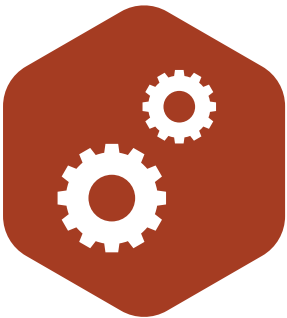
**Among the sector's largest R&D laboratories in Europe**



## 979 thousands

**Invested in Research and Development<sup>11</sup>**

for new technologies and experimental studies mainly relating to the development of natural refrigeration solutions, with high energy efficiency and reduced use of refrigeration fluids



## 29 universities and research institutes

partner of LU-VE Group since its foundation

<sup>11</sup> In addition to this value, there are a number of other research expenses that are not capitalised, in line with international accounting standards, but are expensed in the profit and loss account for each year. In 2023, this value was approximately €250,000.



”

## Protecting the environment is our duty

*We owe it to our generation, but above all to future generations. We see this as a fixed point, an essential principle, not a point of arrival but one of departure.”*

**Stefano Filippini**, Innovation & Applied Research Director at LU-VE Group

## *LU-VE performance are certified*

**SUSTAINABLE COMMITMENT  
NOT CERTIFIED?**



**THIS IS WHAT YOU GET!**

**POWER NOT CERTIFIED?**



**THIS IS WHAT YOU GET!**

**SOUND PRESSURE  
LEVEL NOT CERTIFIED?**



**THIS IS WHAT YOU GET!**



## 2.1 We are Eurovent certified

***“When you buy a product with uncertified performance, you increase energy consumption, harm the planet and damage the community”***

*Iginio Liberali – LU-VE Group founder*

For over 20 years, LU-VE Group has been a voluntary adopter of the Eurovent certification programme. Eurovent is the European association which certifies the performance of many components for heating, ventilation, air conditioning, process cooling and food cold chain technology.

This voluntary certification is a sign of transparency in LU-VE Group's business communications and an important factor in choosing the Group as a partner.

- **2022: LU-VE was the first company in the world with Eurovent certification for CO<sub>2</sub> gas coolers** (thermal performance, energy consumption, air flow and noise levels) marketed under the brands LU-VE Exchangers and Alfa LU-VE.
- **2020: LU-VE was one of the very first companies to obtain Eurovent certification for CO<sub>2</sub> unit coolers** (thermal performance, energy consumption and air flow rate), marketed under the brands LU-VE Exchangers and AIA LU-VE; as of 2022, also those under the brand Alfa LU-VE.
- **2016: LU-VE was the first manufacturer that Eurovent certified for their heat exchangers for refrigeration, never registering a single negative test** during three different test cycles (between 2011 and 2015).
- **2000: LU-VE was the first company in the world to obtain the new “Eurovent Certify All” certification** for all the ranges of condensers, dry coolers and unit coolers.

### Why it is important to be certified

The Group believes that having its products tested and checked by a recognised third-party entity such as Eurovent, enables tangible, accurate and transparent monitoring of the product's performance and provides its business partners and end users with reliable solutions in terms of energy efficiency and quality of the preserved product.

The “Eurovent Certified Performance” (ECP) certificate verifies that the products comply with specific standards related to the product's performance in terms of power, air flow, energy consumption, sound emissions and construction specifications.

A certified product will ensure that during operation it will comply with the performance parameters defined at design stage, while a product that does not perform well will force the system to compensate for this shortcoming by consuming more energy.

Specifically, a study conducted in 2023 showed that a plant with an effective capacity that is 25% higher than the performance parameters required and defined at the design stage will have an additional 4.2% higher energy consumption, and consequently a higher economic cost than expected.

The results of the study can be found in the document entitled *“The future of heat exchangers: CO<sub>2</sub> unit coolers and CO<sub>2</sub> gas coolers.”* The analyses take into account the results obtained at an innovative, state-of-the-art test bench of the TÜV SÜD Industrie Service GmbH Competence Centre for Refrigeration and Air Conditioning, which is capable of testing CO<sub>2</sub> evaporators up to 40 kW and gas coolers up to 100 kW, both under standard and off-the-shelf conditions, including for transcritical and subcritical situations.

### Why certified products?

Fully reliable performance:

- NO system inefficiency
- NO higher operating costs
- NO higher indirect CO<sub>2</sub> emissions

Certified products never lie!



## STATE-OF-THE-ART R&D LABORATORIES

LU-VE Group has four R&D laboratories, in Uboldo (Varese, Italy), Alonte (Vicenza, Italy), Flumignano di Talmassons (Udine, Italy) and Vantaa (Finland).

**The R&D laboratory in Uboldo is at the forefront in Europe in terms of size and competence, as it is one of the few in the world capable of conducting performance tests on appliances that use CO<sub>2</sub> as a refrigerant fluid.**

The laboratory has an area dedicated to the thermodynamic design of heat exchangers: the heart of the Group's products. A second section is reserved for experimental design, where medium and long-term research is conducted in collaboration with the Polytechnic Institute of Milan and other universities and scientific centres. Lastly, the laboratory has an area specifically dedicated to CFD - Computational Fluid Dynamics, which studies and analyses fluid-dynamic phenomena and heat exchange processes. The Group's R&D laboratories were the first in the sector to use this technology applied to the study of thermo-fluid dynamic processes in heat exchangers.

The use of CFD codes applied to finned exchangers has enabled a better understanding of fluid-dynamic phenomena and heat transfer processes. As a result, it has been possible to further increase the already very high exchange characteristics of the different geometries used, continuously renewing the layers of air in contact with the specialised fins and increasing the turbulence generated by the latter. The greater uniformity of the air flow obtained thanks to the design of the air cooler fins allows less humidity to be deposited on the fins and therefore less frost formation, reducing dehumidification. The results of the CFD analysis have been accurately confirmed by experimental tests.

For design purposes, the laboratory uses software specially developed by the Group and calibrated using data from the laboratory.

**The Refrion Climatic Chamber (R.C.C) at Flumignano di Talmassons is instead one of the largest proprietary climatic chambers in Europe and the first laboratory dedicated to performance testing of liquid coolers.** The R.C.C. is able to measure the performance of even the largest and most powerful air cooled equipment, and it can be split crosswise to match the size of the unit under test.

A specific area is dedicated to prototype testing, supporting the R&D department. Measurements can be taken in the laboratory not only according to EN 1048, but above all under the exact operating and environmental conditions defined by the customer when sizing the unit.

By being able to monitor both the temperature and relative humidity of the air inside the chamber, it is also possible to test units not covered by the Eurovent certification programme, such as those equipped with adiabatic saturation systems.

The temperatures at the inlet and outlet of the liquid circulating in the equipment, the volumetric flow rate and the relative pressure drop are measured in the R.C.C. Electrical voltages and currents and the power factor are then measured.

It is then possible to accurately calculate the heat exchange power, electrical power consumption and energy efficiency index of the unit being tested.

Lastly, it is possible to measure the sound power level of the air cooled equipment by means of an intensimetric probe according to EN 13487 and ISO 9614-1.

LU-VE Group faces a moderate risk resulting from the inability to offer technologically innovative products in line with market trends. Although being a potential source of damage in terms of competitiveness and failure to generate positive impacts, this risk is unlikely thanks to the Group's innovative capacity, its significant investments in R&D and also to the market's recognition of its role as a front runner.





## 2.2 Pushing for change

The design, research and development activities are led by the Technical Department. They are conducted with consideration for product performance and quality, as well as respect for and protection of resources and the environment and maximisation of energy efficiency, in accordance with the European ErP - Energy-related Products - Directive.

In 2023, LU-VE Group carried out a new **Life Cycle Assessment** study to calculate the carbon footprint of products throughout the entire life cycle (from raw materials procurement to manufacturing of the solution, their use and end of life cycle management).

This analysis considered a specific range of large air cooled products used in data centres and significant for future developments in the sector itself. The growing demand for data processing centres, cloud technologies

and the increasing focus on developments in artificial intelligence are creating a strong demand for cooling equipment.

The carbon footprint was verified by a third party, according to the **PEP Ecopassport** scheme.<sup>12</sup>

LU-VE Group had already conducted a Life Cycle Assessment study in 2022 on a specific range of air cooled products, certified by a third party according to the **international standard ISO 14067**, with the certificate being issued in March 2023.

The results of this analysis showed how a product using natural refrigerant fluid and a high efficiency motor, corresponding to 0.7% of the turnover in the reference year, generates throughout its entire life cycle **over 30% less climate altering emissions** compared to an equivalent using traditional fluids and a low efficiency motor.

### Scenario - Sustainable refrigerant fluids

At international level, there is a gradual shift towards sustainable refrigerant fluids, which are replacing traditional refrigerant fluids (or hydrofluorocarbons - HFC).

The revision to the F-Gas Regulation intends to achieve ambitious new targets for the phase-out of HFC gases. It sets specific dates for their phase-out in sectors where technologically and economically feasible alternatives can be found, such as air conditioning and heat pumps.

Historically, the commitment to gradually reduce the greenhouse effect caused by HFCs was defined by the Kigali Amendment (2016) to the Montreal Protocol, an operational instrument of UNEP (the United Nations Environment Programme) for the implementation of the Vienna Convention for the Protection of the Ozone Layer, ratified by more than 170 countries. In 2022, the US Senate also expressed its opinion in favour of ratification of the Kigali Amendment.

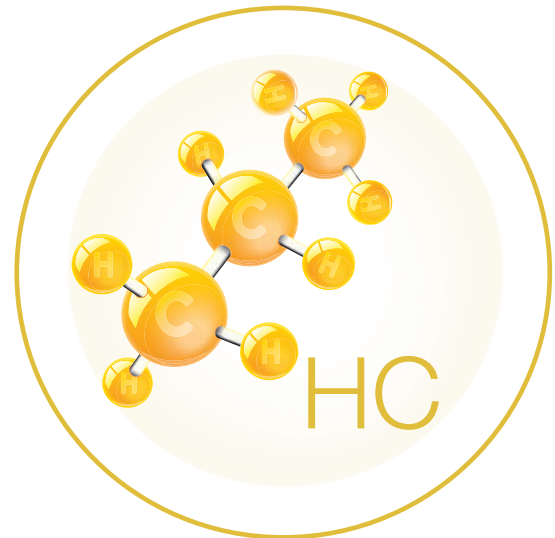
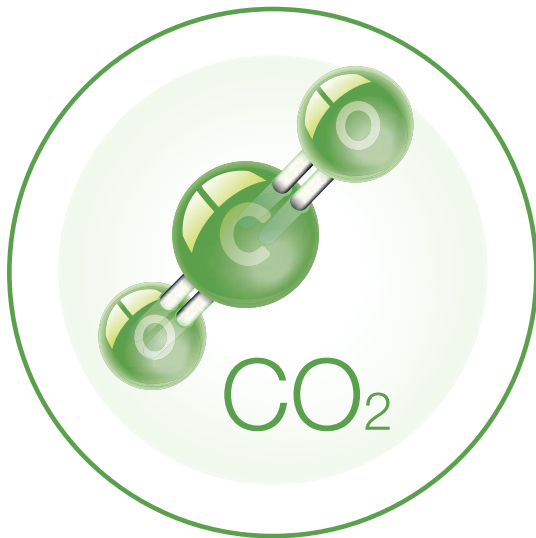
In this context, natural refrigerant fluids, together with the new A2L fluids, are an important tool for achieving environmental commitments, as they are characterised by zero ODP (Ozone Depletion Potential) and low or zero GWP (Global Warming Potential).

<sup>12</sup> PEP Ecopassport is an environmental product declaration (EPD) specifically for HVAC products that is based on the principles of the ISO standard for type III environmental declarations (ISO 14025) and therefore internationally recognised.





## NATURAL REFRIGERATION FLUIDS



**CO<sub>2</sub>** is a fluid that guarantees high system safety levels. This is thanks to its non-flammability that allows it to be used without quantity restrictions.

Moreover, CO<sub>2</sub> is characterised by high thermodynamic performance at medium and low temperatures and by low production costs compared to other refrigerant gases. The main system considerations for its application as a refrigerant fluid are the high operational pressures of the fluid and its inefficiency in the presence of high external temperatures.

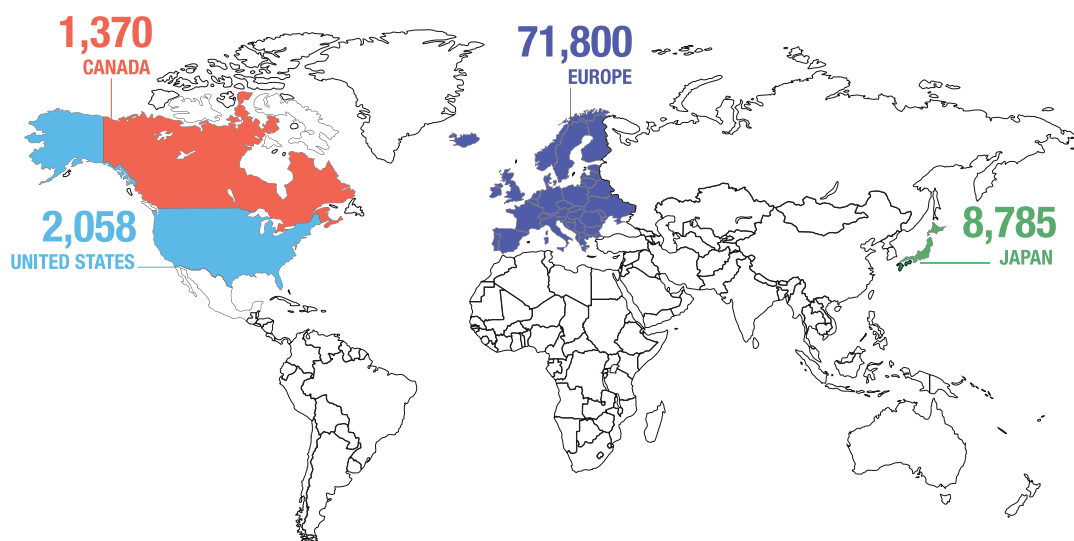
The most common applications are in large-scale retail outlets, followed to a small extent by industrial sites and commercial applications. According to the latest figures updated to December 2023, transcritical CO<sub>2</sub> installations exceed 80,000 units.<sup>13</sup>

**Hydrocarbons (HC)**, such as propane, have physical properties that enable their use in a wide range of applications.

However, problems such as flammability currently limit the use of hydrocarbons in small-scale refrigeration systems. In line with other natural refrigerants, hydrocarbons have also increased significantly in recent years. The applications are diverse in this case, too: from small cooling units to vaccine storage and heat pumps for domestic and industrial use.

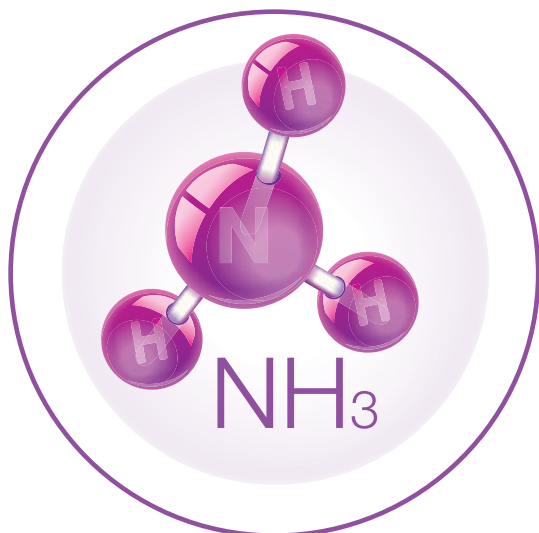
### Transcritical CO<sub>2</sub> Installations in Major Regions

(stores industrial sites, as of December 2023)



<sup>13</sup> Source: Business Case for Natural Refrigerants, ATMO Conferences, 2023.



**DRYCOOLERS AND WATER (H<sub>2</sub>O)**

**Ammonia (NH<sub>3</sub>)**, is another high-performance refrigerant fluid; however, it is toxic to humans and highly flammable, characteristics that limit its usage volume in many countries. Usually used in large refrigeration units, ammonia is the highest performing natural fluid but also requires various system adjustments and the introduction of technologies to minimise volumes. For this reason, the number of “low charge” systems with reduced quantities of ammonia has grown in recent years.



**Water and glycol water** are often used for refrigeration and conditioning and in industrial processes as a heat carrier fluid. Systems of this type typically consist of a machine that produces chilled water through a refrigeration cycle (chiller) and a chilled water distribution system.

The main advantages of water and glycol systems over direct expansion systems are easier installation and better control of cell humidity. Another important advantage of this type of system is the reduction in the amount of refrigerant used in the system, with important benefits for the environment.

In systems of this kind, a drycooler is often used, i.e., a heat exchanger that lowers the water temperature and increases the efficiency of systems using a chiller, or that allows the chiller to be replaced altogether (free-cooling) if the ambient temperatures are low enough.





# RELAX!

## We've taken care of **A2L**



Commercial unit cooler range  
**TOP SAFETY** for A2L applications





## THE "NEW" A2L FLUIDS

A2L fluids (slightly flammable) are an alternative to natural fluids and have a low global warming potential (GWP). On average, A2L fluids (R454A, R454C, R455A, R457A) have a global warming potential (GWP) ranging between 140 and 240, significantly lower than most traditional HFC fluids characterised by values even higher than 3,900 (R404A, R407C, R410A).



**In 2023, LU-VE Group's turnover from solutions with sustainable refrigerants and/or high-efficiency motors (EC) reached 53.6% of the total turnover, meeting the target set in the Sustainability Plan.**

The historical detail of the evolution of turnover reference to air cooled products (Cooling System Business Unit) is shown below.

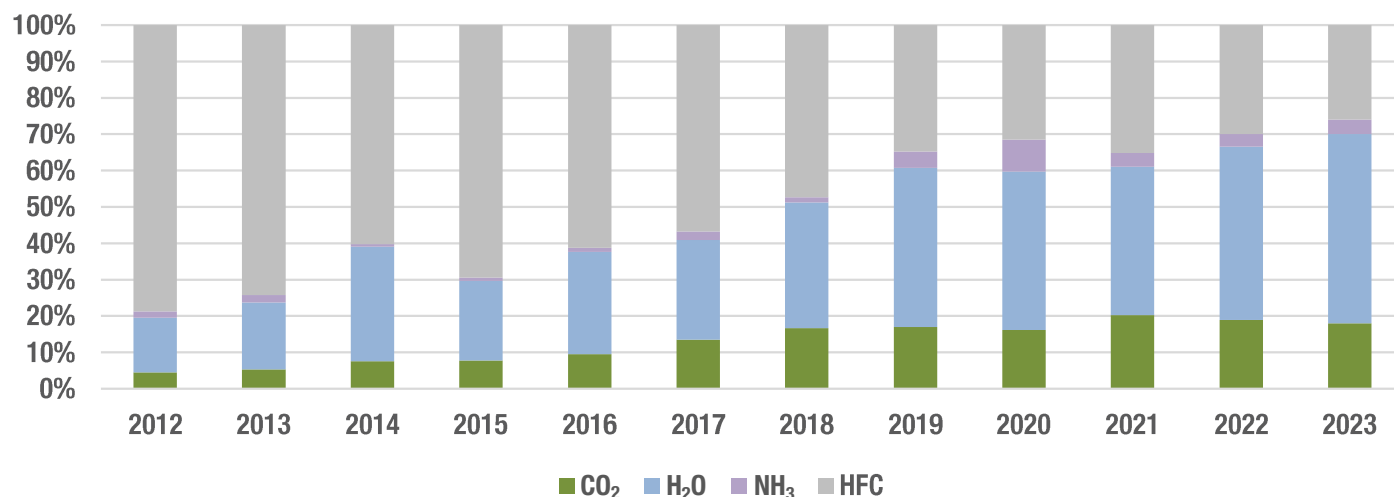
## SUSTAINABLE REFRIGERANT FLUIDS

Over time, the refrigeration industry has identified refrigerants that are increasingly sustainable: such as CO<sub>2</sub>, ammonia (NH<sub>3</sub>), propane (R290) and water (H<sub>2</sub>O) – that boast low Global Warming Potential (GWP) and Ozone Depletion Potential (ODP) values.<sup>14</sup>

For the air cooled product ranges, the share of sales of HFC (hydrofluorocarbon) solutions in total turnover fell from 79% to 26% between 2012 and 2023. At the same time, there was **strong growth in CO<sub>2</sub> applications, with the proportion of turnover rising to 18%, against 4% in 2012.**

In 2023, LU-VE Group recorded an increase in turnover connected to products that use natural refrigerant fluids, compared to traditional fluids (HFC).

**Percentage of product sales  
by refrigerant type**



<sup>14</sup> The Global Warming Potential expresses the contribution of the gas to the greenhouse effect, while the Ozone Depletion Potential expresses the value of ozone layer degradation that it can cause.



## LU-VE GROUP FOR CO<sub>2</sub>

Through its research projects on new refrigerants, LU-VE Group has had a track record of highly successful CO<sub>2</sub> installations in Europe, Latin America, the Middle East and Asia from 1986 to the present.

In 2023, LU-VE Group helped to set up a number of CO<sub>2</sub> refrigeration plants in the USA, where this technology is just beginning to enter the market, building on its experience acquired over time.

The first transcritical CO<sub>2</sub> system in Europe was manufactured and installed in Switzerland in 2004, in Wettingen (Coop Tägipark). The challenge to move “the CO<sub>2</sub> equator” and make this technology efficient even in countries where it was previously not possible, began in 2018 with two pilot plants in India (INDEE Project at the ITT - Indian Institute of Technology Madras in Chennai) and in Amman, Jordan. In detail, one of the most advanced CO<sub>2</sub> refrigeration systems for supermarkets in the region is in operation in Jordan, as part of a project developed by the United Nations Industrial Development Organization (UNIDO), with the support of the Jordanian Ministry of the Environment.

The first system was installed in Ukraine in 2020 for a supermarket (Silpo, in Kyiv, Ukraine), equipped with heat pumps, solar energy and a high-efficiency carbon dioxide cooling system.

## LU-VE GROUP for A2L FLUIDS

In 2023, the Group continued exploring the applications of refrigerant fluids classified as A2L, low flammability (ISO 817:2014 Refrigerants - Designation and safety classification) and with an overall reduced environmental impact in terms of GWP (Global Warming Potential).

In fact, LU-VE Group has introduced a new series of commercial evaporators specifically designed for these fluids (SFHC, SFHA, SFHD, SFMC, SFMS, SFMD series). To ensure safe use, an in-depth risk analysis has been carried out and a specific design methodology has been developed, also with the help of expert Notified Bodies.



## PRODUCTS WITH EFFICIENT MOTORS

Fans with electronic EC motors are one of the major innovations of recent years and mark an important step in the direction of achieving air cooled heat exchangers with improved efficiency and minimum energy input for ventilation. This has significant advantages from the point of view of reducing the energy consumption of refrigeration systems.

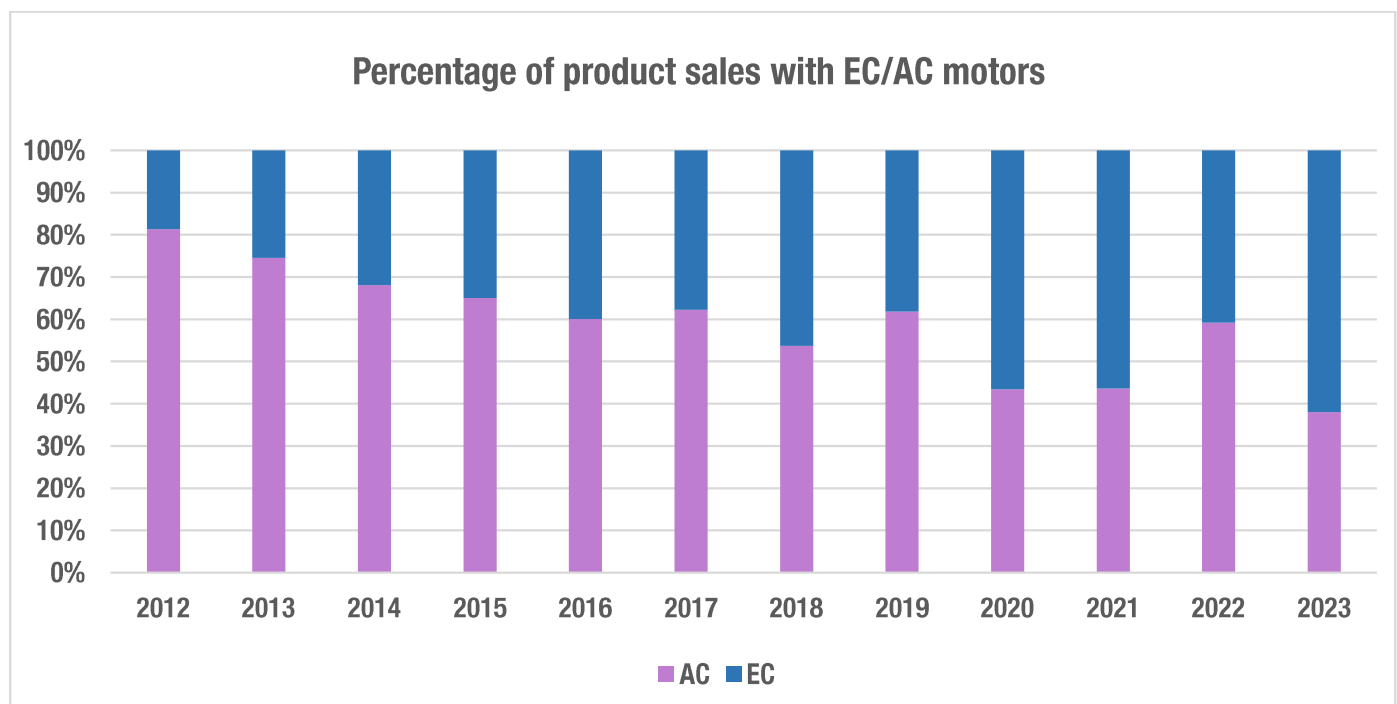
Axial EC fans are the result of joint development between LU-VE Group and the German manufacturer EBM-Papst. LU-VE premièred them to the world at the IKK trade fair in 2002 and they have been gaining market share ever since.

Unlike conventional asynchronous AC motors (in which the rotor has one coil), EC motors (Electronically Commuted or Electronically Controlled) have permanent magnets which, together with the current in the stator coil, generate torque on the rotor without dissipating energy. As a direct consequence, the efficiency of the electronic motor is higher.

Looking at the type of motor used, which has a significant impact on the energy consumption of the product in use, over the years the Group has increased the use of electronic EC motors, which are more efficient than traditional asynchronous AC motors.

Compared to 2012, taking into account total sales, the use of AC motors fell from 81% to 38%. The timely increase in sales of AC motor solutions in 2022 was generated by a contingent situation of a shortage of electronic components in EC motors.

**In 2023, EC motors accounted for 62% of total sales of air cooled products.**

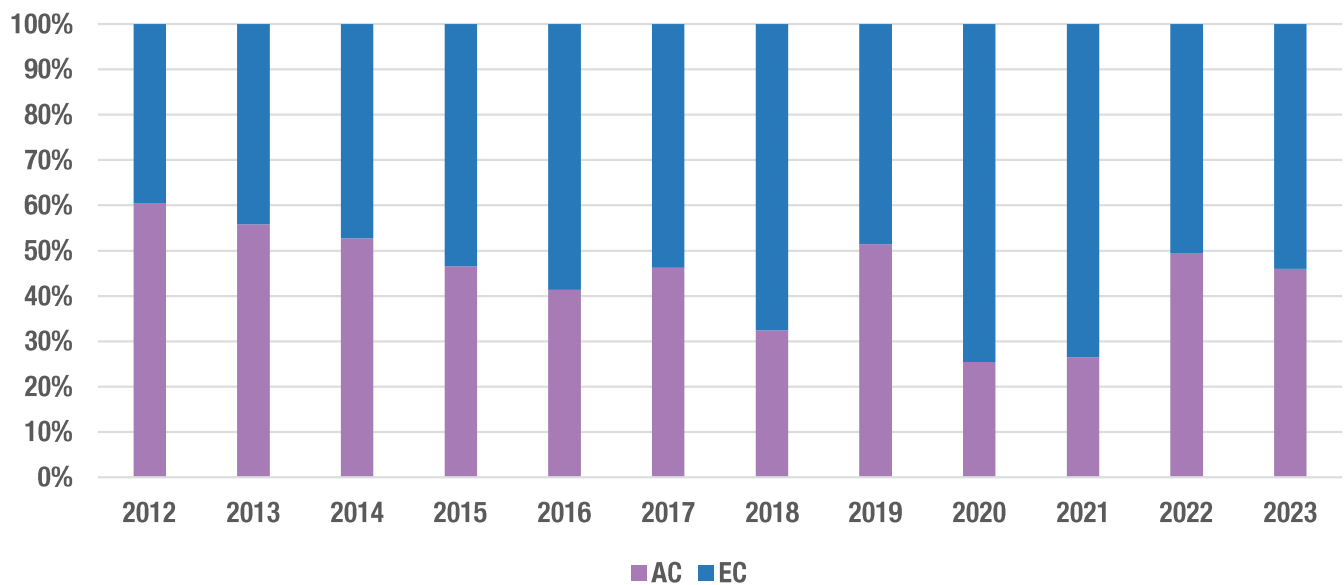





Focusing on the marketing of solutions with natural refrigerant fluids, the use of AC motors has fallen from 61% in 2012 to 46% today. The opposite trend applies to EC motors, which in 2023 accounted for 54% of air cooled product sales using natural refrigerant fluids.

It should be noted that the 2019 figure is anomalous due to the change in the analysis scope relating to the acquisition of Fincoil and Air Hex Alonte during that year.

Percentage of product sales with natural refrigerants and EC/AC motors



# Innovation is in our DNA



2022	<b>Helios</b>	CO2 gas cooler equipped with photovoltaic panels
2022	<b>4 mm tube</b>	Heat exchanger with 4mm diameter tube
2021	<b>Igea</b>	Antibacterial photocatalytic filter for dual discharge unit coolers
2021	<b>Mirabilia</b>	High-transparency doors
2019	<b>R-Fin</b>	Reinforced fin with high corrosion resistance
2019	<b>Image</b>	Digitally animated mirror for collective spaces
2019	<b>Magic Vision</b>	Glass door with a high resolution transparent screen for commercial refrigerators and freezers
2018	<b>Armonia</b>	Industrial unit coolers with low ammonia charge
2018	<b>Gateway</b>	IoT technology for "Magic Mirrors"
2016	<b>Nidea</b>	Intelligent and efficient electric defrosting system
2016	<b>Emeritus</b>	Combined adiabatic solution to maximize outdoor machine performance
2015	<b>Zero Energy Glass</b>	Energy Free glass for freezers
2015	<b>The Whisperer plus</b>	Compact high performance silencer 2.0
2014	<b>Plug&amp;save</b>	Integrated solution for unit coolers with expansion valve and controller
2012	<b>Minichannel</b>	Reduced refrigerant charge condensers
2011	<b>Lt 0Energy door</b>	High energy saving doors
2010	<b>The Whisperer</b>	Compact high performance silencer
2009	<b>BLS Titan door</b>	Titan model door with LEDs integrated in the double glazing to illuminate the product



2009	<b>LAS door</b>	Doors with luminous text and logos integrated in the glass
2008	<b>BLS door</b>	Door with LEDs integrated in the double glazing to illuminate the product
2008	<b>Jetstreamer</b>	Innovative aerodynamic grill to increase air throw
2006	<b>Dry and spray</b>	Advanced adiabatic solution to maximize outdoor machine performance
2006	<b>Smart system</b>	Patented structure for greater rigidity of outdoor machines
2003	<b>Wet and dry</b>	Advanced adiabatic solution to maximize outdoor machine performance
2001	<b>Jet-o-matic</b>	Innovative distributor for direct expansion evaporators
2000	<b>Water spray system</b>	Combined adiabatic solution to maximize outdoor machine performance
1999	<b>Safetubes System</b>	Coil suspension system
1997	<b>Superhitec unit coolers</b>	Unit coolers with louvered fins and tubes with internal helicoidal grooving 2.0
1991	<b>Hitec condensers</b>	Condensers with louvered fins and tubes with internal helicoidal grooves
1988	<b>Hitec unit coolers with Turbocoil</b>	Unit coolers with louvered fins and tubes with internal helicoidal grooves
1971	<b>STF</b>	Tubeless steel condensers
1969	<b>Alupaint</b>	Pre-painted aluminum fins for high corrosion resistance
1967	<b>Internal and external turbo-system</b>	Heat exchangers with special louvered fins and tubes with internal helicoidal grooves
1965	<b>Dual fin spacing</b>	Differentiated fin pitch
1961	<b>Electric defrosting</b>	Fin pack defrosting by electric heaters

\* Innovations prior to the founding year of LU-VE (1985) refer to Contardo

## 2.3 2023 Solutions and the evolution of applications

### 2023 SOLUTIONS

#### ARCTIGO ISD FOR CO<sub>2</sub> APPLICATIONS



As a pioneer in the application of CO<sub>2</sub> and refrigerant charge reduction, LU-VE Group released a new CO<sub>2</sub> geometry for its Arcitgo ISD series of industrial coolers.

The new geometry design allows higher pressures for CO<sub>2</sub> applications in industrial refrigeration, thereby reducing the refrigerant charge and consequent environmental impact.

#### OPTIGO FCC



LU-VE Group launched the new Optigo FCC range of industrial air coolers in 2023. Compared to the previous version, this innovative range offers more efficient performance and compact, low refrigerant charge design.

Like its predecessor model, Optigo FCC is Eurovent certified and available for the use of natural refrigerants, including CO<sub>2</sub>.



## ALFABLUE BC



The third generation of AlfaBlue BC condensers for refrigeration applications was launched by the Group during the year.

The latest version features optimised heat exchangers with high-efficiency turbulent fins, a feature of LU-VE Group's innovative technology.

The new range provides improved performance, low refrigerant charge and is easy to install.



## EVOLUTION OF APPLICATIONS

The evolution of applications is highly influenced by current environmental and energy policies. The climate policies adopted by countries in Europe, the United States, China and India define climate-neutral objectives for the coming years, with actions and targets to be achieved in various sectors, from agriculture to industry and technology.

The air conditioning segment deserves a special focus as regards **heat pump exchangers**.

In fact, after months of strong growth and even though it closed the year still up strongly compared to 2022 (+60%), this segment has suffered a strong and unexpected slowdown in sales since July. According to data published by the EHPA (*European Heat Pump Association*) for the first time after nine years of uninterrupted growth (with peaks in 2021 and 2022 well above 30%), heat pump sales in the major European markets fell by 4,5% with a particularly marked slowdown from the second half. In Italy, the second largest market in Europe, sales fell by about a third compared to 2022.

The reasons for this sudden decline in heat pumps, which are one of the pillars of the *REPowerEU plan*, can essentially be traced back to the suspension or growing uncertainty throughout Europe regarding the incentive system for replacing gas boilers, as well as the simultaneous extension of the terms within which they can still be installed (e.g., in Germany). The divergent trends in gas and energy prices in the last months of the year also contributed to further uncertainty, the effects of which are expected to extend into the early months of 2024.

In the medium term, however, all forecasts agree on seeing a strong recovery in demand in order to reach the ambitious targets set by the *REPowerEU plan*, which currently remains fully in force.

Specific LU-VE Group solutions and applications support the goal of zero “net carbon emissions.”

## DECARBONISATION AND HEAT PUMPS



Heat pump systems can be a good technological solution for the decarbonisation goals, as they allow heat to be extracted from a natural source (air, water or ground) and make it available at the desired temperature. At the same time, **heat pumps also allow recovery of the residual heat generated by the refrigeration systems**, which can then be used for heating and so increase the system's efficiency.

For these applications, LU-VE Group has designed and engineered special products to make the best possible use of heat sources for both district heating and residential heat pumps, thus supporting this market with broad development prospects.

More specifically, the pioneering approach adopted by LU-VE Group has enabled it to be at the forefront in the production of heat exchangers with natural refrigerant fluids, in partnership with the most well-known market operators. The Group boasts the broadest range of configurations which allows it to cater for the entire range of power ratings required on air/water application, both for monobloc and split configurations, so for both internal and external applications.



## HEAT PUMPS FOR RESIDENTIAL USE 4 MM TUBE



Thanks to its own R&D activities, years of laboratory research have led LU-VE Group to develop a **4 mm diameter** tube for its propane (R290) heat exchangers used in heat pump applications.

Presented in 2022 at Chillventa, the most authoritative international trade fair for natural fluids, this innovation makes it possible to **further reduce the propane charge** (R290) used and, combined with the most modern and high-performance surface treatments to be applied to the radiating body, gives LU-VE Group products maximum performance in terms of both yield and sustainability.

In detail, the specific volumetric power exchanged, i.e. the kW/volume ratio inside the 4mm diameter tube, is considerably greater (up to 40% under specific conditions for the heat pump segment) than the 5mm diameter tube, which the Group had previously pioneered. Obvious benefits are achieved, such as the reduction of the refrigerant charge which, combined with the use of surface treatments and a higher ratio of secondary to primary surface area, means that the defrosting frequency and duration can be reduced.

## PVT HEAT PUMP PANEL SOLUTION

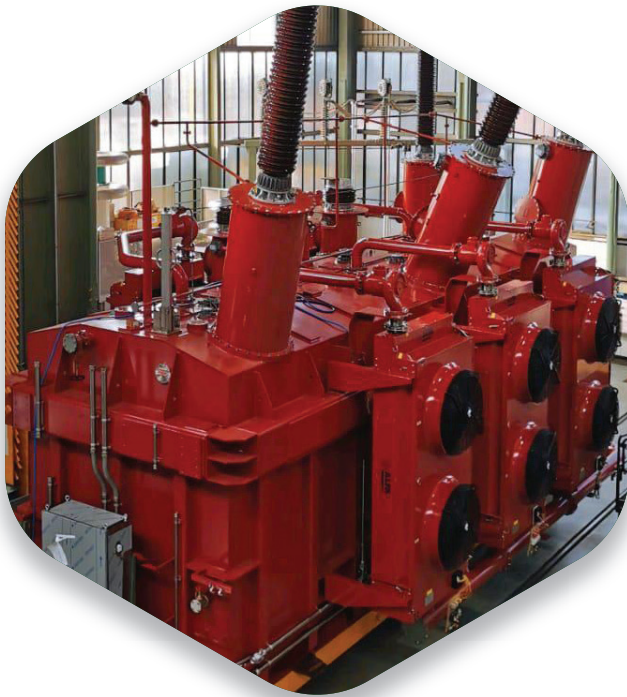


The collaboration between LU-VE Group and **Triple Solar BV** has enabled the development of the PVT heat pump panel solution for air conditioning, ensuring summer and winter comfort.

More specifically, the solution's heat exchanger - co-designed with LU-VE Group - is installed below the solar panels and recovers dispersed heat from the panels when generating electricity from the sun's rays.

The heat exchanger operates as a primary exchanger in the external section of a water-to-water heat pump and is developed in a modular manner, therefore applicable to systems of all capacities. The materials, configuration and circuitry are optimised to operate at maximum efficiency in all environments and at all latitudes. The new design developed in 2022 has helped to optimise material consumption and production and has facilitated the assembly of the final product.

## SUPPORTING ELECTRIFICATION



LU-VE Group offered its solutions in the field of power generation and transmission in 2023.

The Group has for many years designed and manufactured the AlfaTrafo range of air cooled heat exchangers which are used to cool dielectric oil in electrical power transformers. The transformation of energy (raising or lowering the mains voltage) leads to a significant increase in the temperature of the oil contained in the transformer, and AlfaTrafo heat exchangers dissipate this heat, ensuring total compliance with customer specifications.

## WIND FARMS



Refrion, a LU-VE Group subsidiary, collaborated with a leading Danish company in the design and construction of wind farms in 2023.

The Group supplied 15 coolers for the air-conditioning system of the off-shore platforms used for the wind farms' maintenance.





E  
03

La fabbrica è un  
luogo di lavoro  
dominato dal  
progresso, guidato  
dalla giustizia,  
ispirato dalla  
bellezza



## DATA CENTRES AND FREE-COOLING



Data centres are experiencing the fastest growth in energy consumption and carbon footprint in the entire ICT sector. In Europe, data centre energy consumption increased by 42% between 2010 and 2018 and is expected to increase by a further 28.2% by 2030, accounting for approximately 3.2% of final electricity demand.<sup>15</sup>

In this context, various policies, such as the European Energy Efficiency Directive, include new obligations for data centres, such as publishing information on their energy performance above a certain threshold of consumption.

LU-VE Group supported its partners in developing “free-cooling” projects especially for data centres in 2023, where the required cooling capacity remains constant and is not dependent on outside air.

These systems make it possible to cool an element (liquid, gaseous or solid) with the compressors off, even with positive outside air temperatures. In fact, when the outside air temperature is lower than the system’s return flow, cold is recovered from the outside environment and

transferred to the process water through the dedicated heat exchanger.

LU-VE Group is also engaged in further optimisation during the development stage: the dedicated free-cooling heat exchanger and the refrigerant version are united in a single heat exchanger to **minimise their use of materials and dimensions, thus also reducing the emissions linked to transportation**. Moreover, LU-VE Group contributes to the study and use of refrigerants with minimal or zero GWP to further reduce the environmental impact.

<sup>15</sup> European Commission, Directorate-General for Energy, Reporting requirements on the energy performance and sustainability of data centres for the Energy Efficiency Directive. Task A report, Options for a reporting scheme for data centres, Publications Office of the European Union, 2023, <https://data.europa.eu/doi/10.2833/304891>



## REFRIGERATED AND AIR-CONDITIONED TRANSPORT



Regulatory developments and the demand for low environmental impact solutions have had a considerable effect on the market for refrigerated and air-conditioned transport (road and rail).

The trend in the **refrigerated transport** sector is to electrify cold air production, disengaging it from the vehicle engine, and therefore from fossil fuels, to shift towards other energy sources.

LU-VE Group has developed state-of-the-art solutions for evaporators and condensers. The use of inner-grooved tubes in aluminium (instead of copper) is beneficial in terms of costs and easy end-of-life recycling (single material). The miniaturisation of the tubes brings further advantages (reduction in costs, weight, size and refrigerant charge), while maintaining product performance, which is essential for the correct and lasting preservation of foodstuffs.

Instead, as regards **vehicle air conditioning**, the trend seems to favour the use of natural refrigerants (propane R290 and CO<sub>2</sub> up to a design pressure of 140 bar).

Although a natural refrigerant of reference has not yet clearly emerged for these specific markets, LU-VE Group is in a position to support its partners with optimised solutions for both fluids and is also able to guarantee utmost product safety where special requirements are

to be met.

The safety and reliability of LU-VE Group's products is also a key factor in this sector. In the transition to hydrogen (instead of diesel) for passenger rail transport in the Berlin-Brandenburg metropolitan region, LU-VE Group's single-material aluminium products have been selected as the optimal solution.

## VEHICLE CHARGING STATIONS



With the gradual transition of the transport sector away from fossil fuels and towards solutions with a lower environmental impact, “refuelling” stations are also undergoing a process of radical transformation. Traditional petrol stations are increasingly being supplemented with charging stations for electric vehicles.

Fast-charging columns present several technical challenges, and one of these is undoubtedly cooling, not only of the column but also of the charging cable, which must be able to withstand very high current loads that make temperatures rise rapidly.

In this area of application as well, LU-VE Group products stand out for their remarkable compactness - which is essential when installing in extremely confined spaces -, combined with high performance, durability and reliability.

Remaining in the field of transport, another pioneering segment that mainly involves the commercial and public transport sector today is the use of hydrogen instead of fossil fuel.

Charging stations for hydrogen vehicles also need cooling, and LU-VE Group's products are used as secondary cooling systems in this case. More specifically, the products currently used for this application (gas coolers) operate with CO<sub>2</sub> as the cooling fluid.

## GLASS DOORS



LU-VE Group's Line Up BT 2020 project for glass doors was designed to meet the need of manufacturers of commercial refrigeration units to certify the energy performance of the unit.

In particular, the new European regulation on energy labelling, introduced in March 2021 (see “Regulation (EU) 2019/2015 on energy labelling of light sources”, which integrates the provisions of Framework Regulation (EU) 2017/1369 and was meant to replace Regulation (EU) 874/2012 from 1 September 2021), has given considerable importance to the glass surface that increases the certification value the greater the surface area.

In view of this, the design work focused on reducing the perimeter profiles of the doors to a minimum, resulting in an increase in the glass surface and in excellent performance levels **without the need for additional energy for the frame and for the door.**





## 2.4 Working together on innovation

Numerous collaborations with universities and other research institutions enable LU-VE Group to enhance its studies and innovation processes.

Since its foundation, the Group has collaborated collaborating with around 30 Italian and international universities and research institutes on three continents. It has closely collaborated with the Polytechnic Institute of Milan since 1986.

PARTNER	PROJECT
Milan Polytechnic (Italy)	Heat exchange research activities
Federico II University of Naples (Italy)	Research activities on heat pump topics
Brno University of Technology (Czech Republic)	Development of new exchanger families
Danish Technological Institute (Denmark)	Experimentation on ammonia evaporators and heat pumps for district heating
Delft University of Technology (Netherlands)	Experiments on geothermal systems
Experimental Glass Station in Murano (Italy)	Thermal insulation performance of insulated glazing
Norwegian University of Science and Technology (Norway)	Experimental research activities into the application of CO <sub>2</sub> technologies in countries with tropical climates
Aalto University (Finland)	Research activities on energy efficiency and heat pump technology combined with district heating systems
LUT University (Finland)	Research activities on energy efficiency and heat pump technology combined with district heating systems

During 2023, the Group gave several technical presentations at various international conferences. Topics of

key interest to the industry, such as natural refrigerant fluids and heat pumps, were covered.

CONFERENCES AND PRESENTATIONS		
Event	LU-VE speech title	Topics
26th IIR International Congress of Refrigeration (Paris, France) <i>August 2023</i>	Solar assisted gas cooler integrated system, theoretical and experimental analysis; Geometry miniaturisation in fin-and-tube heat exchangers for refrigerant charge reduction	Air conditioning, heat pumps and energy recovery
High temperature heat pump seminar conference (Lathi, Finland) <i>November 2023</i>	Optimised Fan Design for Heat Collectors	Heat pumps
Refrigera Show 2023 (Bologna, Italy) <i>November 2023</i>	Gas Cooler CO <sub>2</sub> : fundamentals for correct selection	F-gas regulation, natural refrigerants



**REFRION**  
a better innovation



## EASYGO PROJECT FOR GEOTHERMAL SYSTEMS

The EasyGo project was created in 2020 within the Horizon 2020 programme. Its aim is to disseminate and improve the technologies, efficiency and sustainability of geothermal systems, with a focus on both electricity production and heating, ventilation and air conditioning (HVAC).

The collaboration includes four universities together with LU-VE Group - TU Delft (Netherlands), ETH Zürich (Switzerland), RWTH Aachen (Germany) and Milan Polytechnic (Italy), as well as a dozen other companies, each with specific expertise in the field.

The project is funded by the European Union and will last four years.

Each year a *Training Week* is organised involving all the project players, where the developments achieved by each participant in their respective field of research can be shared. Training and dissemination activities are also held by lecturers who are called to take part in the programme and identified among the top experts in Europe on the development of these issues. During the third *Training Week* in 2023, participants were able to visit Europe's largest geothermal power plant near Larderello, Italy. The project will continue during 2024, the year of its completion.



# EASYGO

Efficiency and Safety  
in **Geothermal Operations**



European  
Commission

Horizon 2020  
European Union funding  
for Research & Innovation







# QUALITY

## QUALITY CONTROL

All LU-VE Group products are tested before being introduced into the market. The controls are performed through end of line tests designed to guarantee mechanical resistance, airtightness and the correct operation of the products and their components. All the equipment is designed, manufactured and identified in compliance with Directive 2014/68/EU (PED). For the air cooled, insulated glazing product categories, manufactured in Italy, the Group conducts health and safety impact assessments. Specifically, risk assessments are carried out relating to electrical safety, and further safety testing is conducted in accordance with European directives, such as the "Machinery Directive 2006/42/EC", applicable to all machinery introduced to the European market.

Once the product planning and development phase is complete, the Planning, Research and Development Department produces a detailed guide (Installation and Maintenance Manual) that contains the technical specifications and instructions for the correct use of the solution. The document contains information on the possible presence of substances potentially harmful to the environment, on the safety of the product and how to dispose of it, and on environmental impacts, in accordance with applicable regulations. Customers have constant access to the Customer Services department of the Sales division for any subsequent maintenance requirements or requests for assistance.

Thanks to its partnerships with many suppliers, the Group is able to eliminate the majority of manufacturing defects, including those defined as "concealed", or which cannot be identified during the manufacturing and testing phase.

The recurrence of product defect events has historically been very limited, with a percentage impact considered natural for the business segment. The incidence of reports from the market worsened in 2023 due to the start of production of some products for new applications. In 2023, the incidence of returns was 0.322% on both gross and net revenues.<sup>16</sup> When product defects were identified, the Group company involved agreed on the corrective actions to be taken with the customer and if necessary, activated the insurance taken out for this purpose.









*“The universe is change:  
life is how our thoughts create it”*

*Marcus Aurelius (Roman emperor, philosopher and writer)*





# BETTER WORLD

**Live and work in better places**

# BETTER WORLD

## Live and work in better places



**+ 4,000**

Employees, of which more than 1,200 in Italy



**~ 40,000**

Training hours provided in one year



**80**

Sustainability Ambassadors trained in sustainability issues



”

## The human factor is fundamental for growth

*The company conceived as a place the purpose of which is related to the creation of values: safety for those working there and well-being for those using our products and components. Companies are first and foremost “women, men and ideas”.*

**Iginio Liberali**, LU-VE Group founder

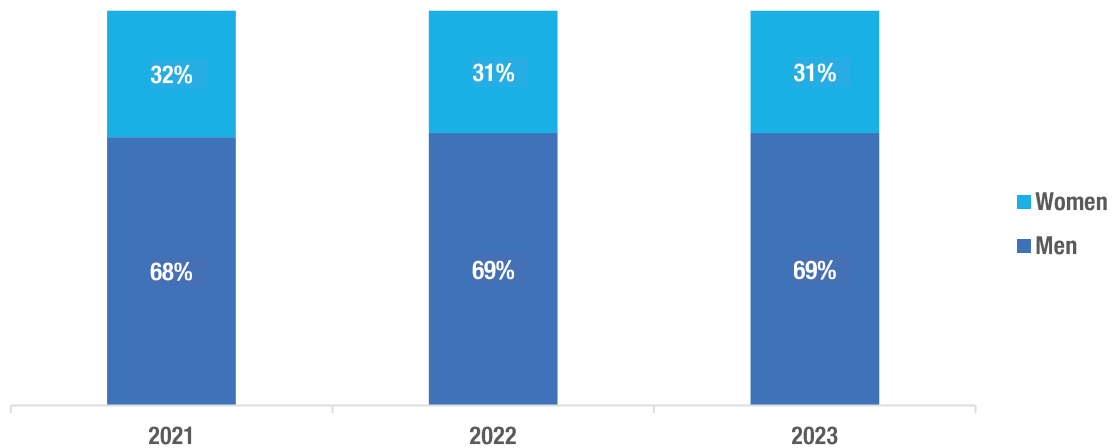
### 3.1 The LU-VE Group Family

As at 31 December 2023, LU-VE Group had a workforce of 4,024 people, 3,269 of which were employees. The Group also has a significant labour workforce which included workers from staffing companies and outsourced activities.

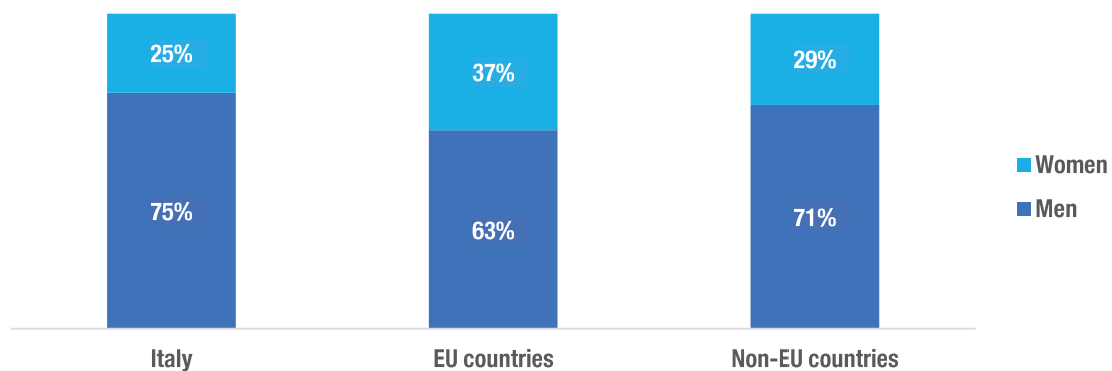
Of the employee population, around 31% were women. The gender difference is mainly due to the peculiarity of the metalworking industry which, especially in the past, mainly attracted men.



**Employees by gender at 31.12**



**Employees by gender and geographical area at 31.12.23**





## EMPLOYEES BY PROFESSIONAL CATEGORY AND GENDER

	2021	2022	2023
<b>Executives</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>
Men	97%	94%	93%
Women	3%	6%	7%
<b>Middle managers and white collar workers</b>	<b>30%</b>	<b>31%</b>	<b>32%</b>
Men	66%	67%	67%
Women	34%	33%	33%
<b>Blue collar workers</b>	<b>69%</b>	<b>68%</b>	<b>67%</b>
Men	69%	69%	70%
Women	31%	31%	30%

In 2023, the percentage of Group employees under the age of 30 was 18%.

## EMPLOYEES BY PROFESSIONAL CATEGORY AND AGE

	2021	2022	2023
<b>Executives</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>
Under 30 years of age	0%	0%	0%
Between 30 and 50	39%	41%	40%
Over 50 years of age	61%	59%	60%
<b>Middle managers and white collar workers</b>	<b>30%</b>	<b>31%</b>	<b>32%</b>
Under 30 years of age	18%	17%	15%
Between 30 and 50	64%	63%	64%
Over 50 years of age	18%	20%	21%
<b>Blue collar workers</b>	<b>69%</b>	<b>68%</b>	<b>67%</b>
Under 30 years of age	23%	22%	20%
Between 30 and 50	56%	56%	56%
Over 50 years of age	21%	22%	24%
<b>Total</b>			
<b>Under 30 years of age</b>	<b>21%</b>	<b>20%</b>	<b>18%</b>
<b>Between 30 and 50</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>
<b>Over 50</b>	<b>21%</b>	<b>22%</b>	<b>24%</b>

Looking at incoming and outgoing turnover, the tables below show the number of new hires and

departures by gender, age group and geographical and the relative percentage rates.

### NUMBER OF NEW HIRES AND DEPARTURES BY GENDER

	New Hires			Departures		
	2021	2022	2023	2021	2022 <sup>17</sup>	2023
Men	454	631	370	297	424	395
Women	326	292	174	166	214	205
<b>Total</b>	<b>780</b>	<b>923</b>	<b>544</b>	<b>463</b>	<b>638</b>	<b>600</b>

### NUMBER OF NEW HIRES AND DEPARTURES BY AGE

Under 30 years of age	324	337	215	142	207	201
Between 30 and 50	369	434	233	232	306	272
Over 50 years of age	87	152	96	89	125	127
<b>Total</b>	<b>780</b>	<b>923</b>	<b>544</b>	<b>463</b>	<b>638</b>	<b>600</b>

### NUMBER OF NEW HIRES AND DEPARTURES BY GEOGRAPHICAL AREA

Italy	121	313	109	73	157	106
EU countries	278	335	213	179	243	249
Non-EU countries	381	275	222	211	238	245
<b>Total</b>	<b>780</b>	<b>923</b>	<b>544</b>	<b>463</b>	<b>638</b>	<b>600</b>

<sup>17</sup> The departures of 2022 also included the employees of Tecnair LV S.p.A., a company that was sold last year.





### INCOMING AND OUTGOING TURNOVER RATE BY GENDER

	Incoming turnover rate			Outgoing turnover rate		
	2021	2022	2023	2021	2022	2023
Men	21.9%	27.6%	16.4%	14.3%	18.6%	17.5%
Women	33.7%	28.0%	17.2%	17.2%	20.5%	20.3%
<b>Total</b>	<b>25.7%</b>	<b>27.8%</b>	<b>16.6%</b>	<b>15.2%</b>	<b>19.2%</b>	<b>18.4%</b>

### INCOMING AND OUTGOING TURNOVER RATE BY AGE GROUP

Under 30 years of age	50.5%	49.6%	36.2%	22.2%	30.5%	33.8%
Between 30 and 50	20.8%	22.5%	12.3%	13.1%	15.9%	14.3%
Over 50 years of age	13.9%	21.1%	12.4%	14.3%	17.3%	16.4%
<b>Total</b>	<b>25.7%</b>	<b>27.8%</b>	<b>16.6%</b>	<b>15.2%</b>	<b>19.2%</b>	<b>18.4%</b>

### INCOMING AND OUTGOING TURNOVER RATE BY GEOGRAPHICAL AREA

Italy	11.8%	26.5%	9.2%	7.1%	13.3%	9.0%
EU countries	22.2%	24.9%	16.3%	14.3%	18.1%	19.0%
Non-EU countries	49.9%	34.4%	28.6%	27.7%	29.8%	31.6%
<b>Total</b>	<b>25.7%</b>	<b>27.8%</b>	<b>16.6%</b>	<b>15.2%</b>	<b>19.2%</b>	<b>18.4%</b>



**When considering the type of contracts stipulated with employees,** in 2023, 85% had

permanent contracts, while the remaining 15% were on fixed term contracts.

### EMPLOYEES BY TYPE OF CONTRACT AND GENDER

	Permanent contract			Fixed term contract <sup>18</sup>		
	2021	2022	2023	2021	2022	2023
Men	86%	88%	87%	14%	12%	13%
Women	77%	79%	82%	23%	21%	18%
<b>Total</b>	<b>83%</b>	<b>85%</b>	<b>85%</b>	<b>17%</b>	<b>15%</b>	<b>15%</b>

### EMPLOYEES BY CONTRACT TYPE AND GEOGRAPHICAL AREA

	Permanent contract			Fixed-term contract		
	2021	2022	2023	2021	2022	2023
Italy	97%	98%	99%	3%	2%	1%
EU countries	78%	75%	79%	22%	25%	21%
Non-EU countries	73%	81%	75%	27%	19%	25%
<b>Total</b>	<b>83%</b>	<b>85%</b>	<b>85%</b>	<b>17%</b>	<b>15%</b>	<b>15%</b>

### NUMBER OF EMPLOYEES BY EMPLOYMENT TYPE AND GENDER

	Full-time			Part-time		
	2021	2022	2023	2021	2022	2023
Men	99%	99%	99%	1%	1%	1%
Women	93%	93%	93%	7%	7%	7%
<b>Total</b>	<b>97%</b>	<b>97%</b>	<b>97%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>

<sup>18</sup> Fixed term contract also includes two employees for the year 2022 and three employees for the year 2023 of the Group with a contract without guaranteed hours.



**With reference to the remuneration indexes,** information on basic salary and total remuneration by gender and professional category is given in the specific tables.

When the ratio index equals 100, then there is parity between men and women in the basic salary and

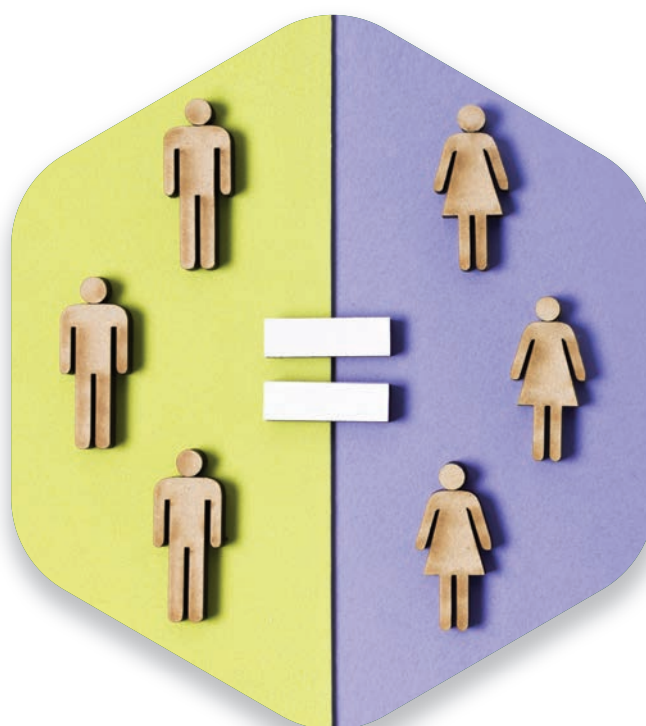
total remuneration. It should be noted that the table includes very different professional categories and positions which, along with the different number of men and women, makes the data difficult to compare. In particular, in the Indian company Spirotech, the women cover very different functions than their male colleagues in the same category.

#### RATIO BETWEEN BASIC SALARY OF WOMEN AND MEN (%)

	Executives			Middle managers and white collar workers			Blue collar workers		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
Italy	62.1	98.6	75.8	78.1	78.3	80.5	95.6	94.8	94.0
EU countries	-	-	-	67.9	69.1	67.7	71.0	74.2	80.7
Non-EU countries	-	-	-	96.7	99.1	83.8	120.9	112.5	119.9

#### RATIO BETWEEN TOTAL REMUNERATION OF WOMEN AND MEN (%)

	Executives			Middle managers and white collar workers			Blue collar workers		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
Italy	55.6	100.8	71.6	76.7	78	78.9	94.4	94.1	91.6
EU countries	-	-	-	67.0	68.7	64.9	74.0	78.4	79.0
Non-EU countries	-	-	-	90.6	93.4	83.6	110.6	98.2	115.3



## RELATIONS WITH TRADE UNIONS

The Group seeks constructive and collaborative relations with trade unions to support people and their needs. Formal health and safety agreements with trade unions are governed by the respective national laws of the countries in which the Group operates.

In **Italy**, 100% of employees are covered by the National Collective Labour Agreement and formal health and safety agreements. Similarly, in **Sweden, Finland** and **Germany** there are collective agreements covering 100% of the company population, signed by employers and trade unions.

The other countries in which the Group operates do not envisage this type of collective bargaining.

In **China**, there are no agreements with trade unions in the field of occupational health and safety, but the

local subsidiary signs an internal agreement with employees that deal with health and safety risk activities. Based on this, training is organised, the awareness of risks is raised and individual protective equipment is provided. The implementation of the agreement is monitored periodically, as are regular health checks.

Similarly, internal cooperation continued in **Poland** to discuss these issues, and industrial relations with trade unions began in 2023.

Overall, **industrial relations** continued in a spirit of cooperation. This made it possible to renew company agreements, where present, and to share action, programmes and measures to promote company objectives and the well-being of all workers.





# HUMAN RIGHTS

## RESPECT FOR HUMAN RIGHTS

Although LU-VE Group mainly operates in Europe, a region that is not considered at risk from a human rights protection perspective, the age of the employees hired at all of the Group's facilities is constantly monitored, and during the periodic internal audits performed by the Parent Company in the Italian and foreign facilities, any risks or cases of violation of human rights are investigated. The assessment activities carried out by the Group are supported by regular inspections and evaluations by its customers, some of whom belong to international groups which, like LU-VE Group, operate worldwide.

After updating the analysis of non-financial risks, the risks related to the inability to monitor, manage and resolve critical issues and complaints connected to the lack of respect for human rights are low, thanks to the activities carried out by LU-VE Group.

Cases of forced labour among employees are classified as moderate risk with a high severity but low likelihood of occurrence due to the timely monitoring of the overall workload of employees.

The risk of potential cases of discrimination, inequality or failure to respect equal opportunities has been assessed as moderate. The Group is committed to monitoring gender gap indicators on a monthly basis and remuneration indicators on an annual basis, as part of its non-financial reporting.

As part of the sustainability culture dissemination programme "*Sustainability Ambassadors' Journey*", four training sessions were held on the topic of human rights, which were attended by 80 LU-VE Group employees.

The lesson was given by a university professor, who is an international expert on international human rights law, international humanitarian law and international criminal law. Thanks to his intervention, it was possible to learn more about the origin of human rights, the institutions for their protection, as well as applicable practices and standards for industrial business contexts.

**The Group did not record any cases of violations of human rights regulations in 2023.**

The different needs of employees and cultures enable the creation of corporate welfare packages, specifically tailored to the various Group companies. These are managed directly by the individual HR Managers and the various packages are monitored by the Human Resource Department at Group level. In addition to corporate welfare packages, the company supports its

employees and their families with special arrangements for leisure time and personal expenses.

All Group employees have access to welfare systems, with the exception of some companies (LU-VE Tianmen, China; HTS, Czech Republic; Spirotech, India) which only provide benefits to full-time workers.

### MAIN LU-VE GROUP BENEFITS (2023)

	<b>Work-life balance</b>  <i>(e.g. flexible working hours, incentives for commuters)</i>	<b>Promotion of healthy lifestyles</b>  <i>(e.g. gym subscription)</i>	<b>Support for workers' families</b>  <i>(e.g. scholarships)</i>	<b>Healthcare<sup>19</sup></b>
LU-VE S.p.A. <i>(Italy)</i>				
AIR HEX ALONTE <i>(Italy)</i>				
FINCOIL LU-VE <i>(Finland)</i>				
HEAT TRANSFER SYSTEMS s.r.o – HTS <i>(Czech Republic)</i>				
LU-VE HEAT EXCHANGERS (TIANMEN) <i>(China)</i>				
LU-VE SWEDEN <i>(Sweden)</i>				
LU-VE US <i>(USA)</i>				
“000” SEST-LUVE <i>(Russia)</i>				
REFRION and RMS S.r.l <i>(Italy)</i>				
SEST <i>(Italy)</i>				
Poland - SEST LUVE-POLSKA <i>(Poland)</i>				
SPIROTECH HEAT EXCHANGERS <i>(India)</i>				
THERMO GLASS DOOR <i>(Italy)</i>				

<sup>19</sup> Note that this benefit refers to healthcare facilities for employees that are not legally required in the contractual regulations in force in the respective countries.





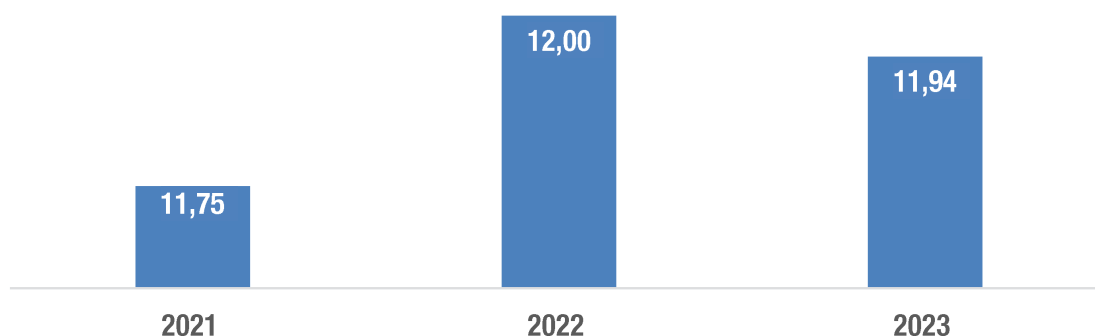
QUALITÀ E PREZZO  
QUALITÀ DA OGGI

**LU-VE**  
**ST**  
CONDENSATORI IN ACCIAIO SENZA TUBO

## 3.2 Training and development

A total of 39,047 training hours were provided to Group employees in 2023, in line with the previous year.

### Average hours of training per capita



### AVERAGE HOURS OF TRAINING PER CAPITA BY EMPLOYEE GENDER AND PROFESSIONAL CATEGORY

	Men			Women		
	2021	2022	2023	2021	2022	2023
Average hours of training per capita	11.4	13.0	12.7	12.6	9.8	10.2

	Executives			Middle managers and white collar workers			Blue collar workers		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
Average hours of training per capita	17.8	18.8	16.9	18.4	20.2	19.8	8.8	8.2	8.2



## SUSTAINABILITY AMBASSADORS' JOURNEY

The “**Sustainability Ambassadors' Journey**” is a global internal training programme launched in 2023 to increase the sustainability culture at LU-VE Group and accelerate sustainable change in the company.

From the various applications received, a total of 80 employees were selected from the various Group companies and from different functions and company departments. The programme thus also served as a platform for multidisciplinary exchange and dialogue on sustainability knowledge and practices between the various Group companies.

During 2023, the Sustainability Ambassadors explored three key sustainability topics in depth, with contributions from international guest speakers:

- **Climate crisis:** the scientific basis of the climate crisis, policies, and technological solutions for decarbonisation were presented.
- **Energy market and energy transition:** current and future energy generation scenarios were explored, with particular reference to the role of renewable energies. Business impacts were assessed, with particular reference to the heat pump market, which also plays a key role in decarbonisation in the HVAC (Heating, Ventilation and Air Conditioning) sector.
- **Protection of human rights:** the origin of human rights protection, the role of institutions, as well as corporate policies and practices to protect the welfare of people and their rights along the entire value chain were presented.

The programme will continue in 2024 with new training sessions on the circular economy and sustainability communication to promote correct and transparent communication.

During 2023, in collaboration with MIP, the School of Management of Milan Polytechnic, a course was held on the issue of cybersecurity **for all 4,000 employees of LU-VE Group**. Also taking into account the more recent events on the international stage, the training was aimed at understanding the importance of cyber security in terms of awareness of individuals and organisations. The corporate population was trained on the main threats and types of cyber attacks and best practices to prevent them.

The usual ad hoc courses for specific corporate positions also continued, in particular to support individuals in new managerial roles in the company and to raise awareness of health, safety and environmental topics.

The inclusion and growth of employees in the Group are based on principles of transparency and equal opportunities, starting from the search and selection process and continuing with the regular assessment of resources which is implemented using the specific SAP “Success Factor” module that involves all workers at Group level.

In 2023, the “**Skills Assessment**” process, which had started in 2021, continued. The performance

assessment, which varies according to the tasks performed and the functions held, involves monitoring skills in four sections: professional characteristics, professional abilities, personal aptitudes and, for personnel involved in production activities, operational skills.

LU-VE Group considers Skills Assessment a strategic and fundamental process to identify skills that are well-developed or that need to be further developed for each employee, empowering managers to develop people through constructive feedback.

**The Skills Assessment process was completed by 74% of the total people involved, exceeding the target set in the sustainability plan for the reporting year.<sup>20</sup>**

MBOs – Management By Objectives – are instead specific incentive instruments for executive and managerial functions. The Group's Human Resources Department developed the MBO system on the SAP SuccessFactors platform, providing 318 MBOs in 2023.

<sup>20</sup> The percentage was calculated by taking into account all those involved who were still active at 31/12/2023 in the denominator and all those who had seen the skills assessment process completed in the numerator. It should be noted that the criterion for launching the scorecards is based on a minimum seniority of the employee of six months at the time the process goes live.





## OUR INTERNAL COMMUNICATION: “ROSES & VALUES” AND WE.LUVE.IT

First introduced in 2019 in hard copy format, the **“Roses & Values” Newsletter** has evolved into a fully digital version in Italian and English (sent via e-mail and WhatsApp) and then into a blog ([we.luve.it](http://we.luve.it)) for Group employees worldwide.

The three sections of **we.luve.it** are divided into: news (corporate, fairs and events, products and sponsorships), fun facts from the world (stories written by or about employees, recipes, travel, books), and intranet, and are constantly evolving.

The layout will be changed during 2024.

In 2023, the blog had nearly 17,000 visits and almost 250,000 page views.



# ROSES & VALUES



### 3.3 Focus on occupational health and safety

LU-VE Group continued to share policies and strategies to increase the safety and protection of its workers in 2023. Continuous improvement throughout the Group was promoted by sharing management and control practices in the different facilities and collaboration between HSE site managers.

The **inter-site working group** continued its HSE audit activities with the new structured method valid at Group level. Already finalised in 2022, the audit method includes an **HSE Rating** to assess technical, organisational and risk management aspects (e.g., obtaining ISO 45001 certification for occupational health and safety management).

During 2023, a total of four **internal audits** conducted at Refrion and RMS (1), TGD (1), HTS (2).

Using this rating at the various facilities made it possible to assess differences between sites and develop targeted actions, and formed the basis of the HSE indicator package.

With particular reference to the facility in the Czech Republic, where two accidents with serious consequences occurred in 2022, immediate action was taken to reinforce training and increase awareness among employees, as well as several structural actions aimed at improving working conditions; then through audits - one initial and one follow up - it was possible to verify that risks had been minimised and rapid improvements had been achieved in performance, bringing the facility back up to the levels of the other European facilities.





**The health and safety indices referring to LU-VE Group employees show improved performance in 2023** compared to previous years.

In 2023, there were also two accidents involving external workers, none of which serious, for which a specific accident rate of 1.12 was calculated out of 1,789,696 total hours worked.

**LU-VE Group also accurately monitors the accident frequency index and accident severity index of all employees and non-employees at the Group's production sites and defines the relevant targets for improvement, as set out in the sustainability plan. The targets set for these indicators were met in 2023.** The MBOs within the framework of the remuneration policies are linked to

these values.

With respect to accidents, in the course of 2023 the following was observed for LU-VE Group:

- there were no fatalities at work;
- there were no charges concerning occupational illness against employees or former employees or cases of mobbing.

Following the update to the non-financial risk analysis, the difficulty in ensuring workers' health and safety emerges as a moderate risk; therefore the Group carries out specific activities at the facilities and standardises the management of HSE processes.

### ACCIDENT INDICES AND DATA 2021-2023

	2021	2022 <sup>21</sup>	2023
Total number of work-related injuries	34	30	21
Commuting accidents <sup>22</sup>	3	0	0
Total number of high-consequence work-related injuries <sup>23</sup>	2	2	0
Rate of work-related injuries <sup>24</sup>	6.69	5.54	3.79
Rate of high-consequence work-related injuries <sup>25</sup>	0.39	0.37	0.00
Severity rate <sup>26</sup>	235.76	259.53	117.44
Hours worked	5,085,600	5,413,563	5,534,857

**21** Following a reporting system improvement process, the data on i) total number of work-related injuries; ii) rate of work-related injuries; and iii) severity rate in 2022 have been restated from what was published in the previous Non-Financial Statement. For previously published data, reference should be made to the 2022 Non Financial Statement.

**22** Commuting accident refers to an accident that takes place during the commute between the workplace and a place relating to private life (e.g., place of residence, place where meals are usually eaten), only when the transport has been organised by LU-VE Group.

**23** A high-consequence work-related injury is a work-related injury that results in a fatality or in an injury from which the worker cannot, does not, or is not expected to recover fully to pre-injury health status within 6 months.

**24** The rate of work-related injuries is calculated as the number of work-related injuries/hours worked x 1,000,000. In calculating the rate of work-related injuries, commuting accidents were only taken into account when the transport was organised by LU-VE Group (e.g., bus or company or contractor vehicle).

**25** The rate of high-consequence work-related injuries is calculated as the number of high-consequence work-related injuries/hours worked x 1,000,000.

**26** The severity rate is calculated as the number of days lost due to a work-related injury/hours worked x 1,000,000. Days lost due to commuting accidents are also included in the calculation of days lost, only when the transport was organised by LU-VE Group (e.g., bus or company or contractor vehicle).

# SAFETY

## Safety training breaks

To provide education in factories and offices on occupational safety regulations and operating procedures, the LU-VE Group had already devised and applied the “training break” method in 2012.

During short training breaks (15-30 minutes), employees and their managers/supervisors analyse the risks associated with their jobs, the workplace, the equipment they use and relative safety operating procedures. They are carried out in small groups, in the places where industrial work is carried out, in departments or at workers’ workstations, and are led by the teacher or PPSM (prevention and protection service manager), together with the supervisor and the workers’ safety representative. This training method involves workers as actively as possible, which makes the training more effective, and is particularly helpful for the technical-organisational needs of small work groups because useful information is provided for the specific work carried out by each employee.

In 2018, **the Federmeccanica-Assistal National Health and Safety Commission, Fiom-Fim-Uilm, acknowledged “training breaks” as an innovative training method, including it the national Guidelines for the engineering sector.**



### Security Leadership - Third Edition

In conjunction with the ordinary health and safety courses for employees, the training project at the Group's headquarters on the topic of safety leadership continued. The aim was to reiterate and consolidate the direct and pragmatic approach to behavioural safety shared during the two-year period 2021-2022.

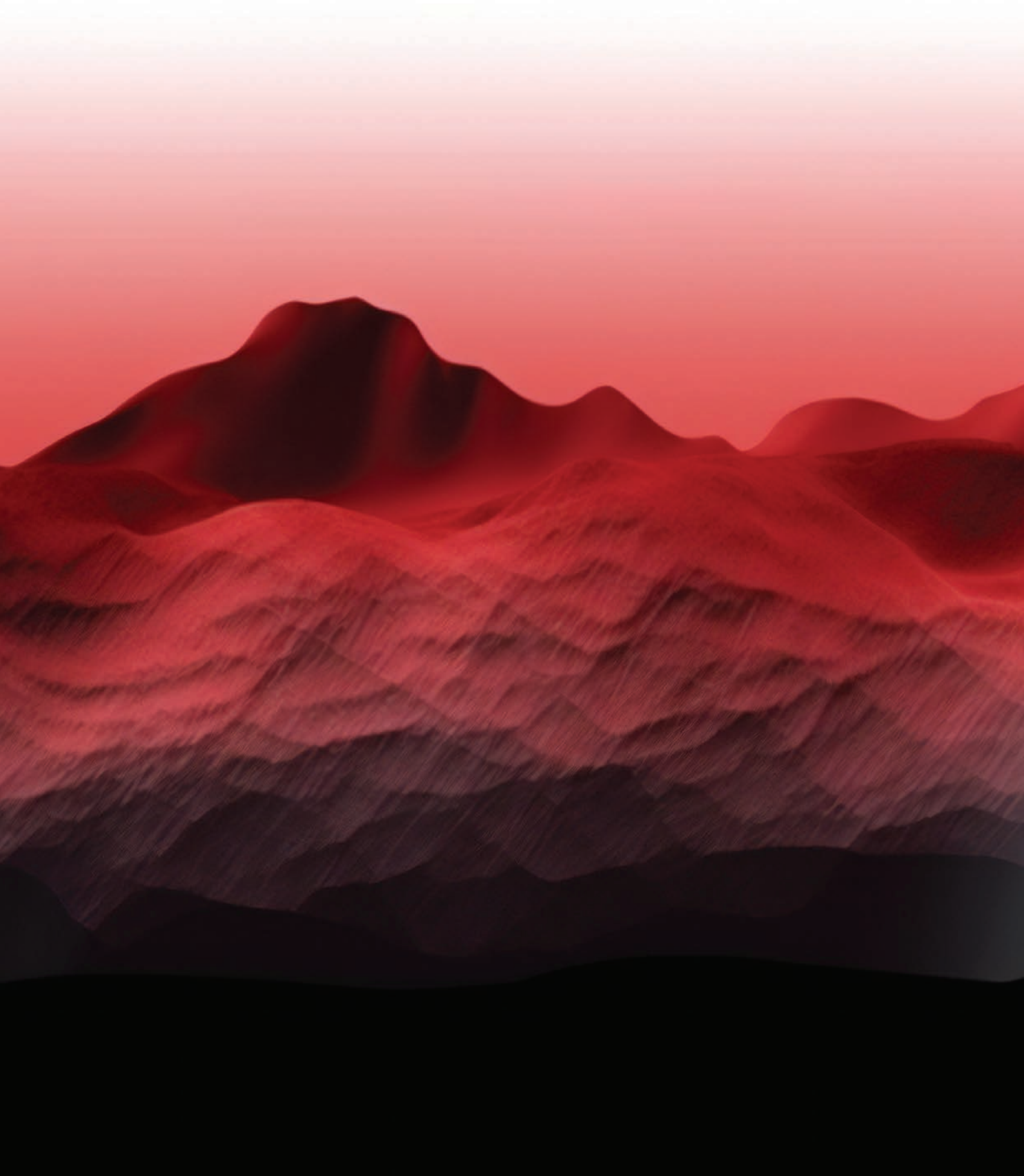
Continuity was therefore given to previous training in 2023 through the "We produce safely" project, which reinforced the existing culture through the appointment of "Safety Ambassadors."

As active promoters of safety values, the Ambassadors conducted - with the support of the teacher - "safety talks" with colleagues working on production lines, which led to sharing constructive and structured feedback.

Considering the history and culture of the facility in Uboldo, the most functional and performing approach is in fact represented by a practical activity carried out directly in the department, "*where conduct is seen on a daily basis*".

*“Imagination  
is more important than knowledge”*

*(Albert Einstein – Nobel Prize for Physics)*





The background of the entire page is a high-resolution image of a desert landscape at sunset or sunrise. The sky is a gradient of soft pinks and oranges, transitioning into a deep red over the rolling sand dunes. The dunes are illuminated from the side, creating strong shadows and highlights that emphasize their undulating shapes. The overall mood is serene yet powerful.

# BALANCED WORLD

**More opportunities for all**

# BALANCED WORLD

**More opportunities for all**



**€ 300,000**

**in support of the communities in Emilia Romagna  
affected by the floods**



**82**

**scholarships awarded to sons of employees in 2023**



**90%**

**Directors from local communities**



”

## Grey matter is our raw material

*This refers not only to products but is also the thought that guides us so that we can fulfil the commitments we have made to our employees and the communities in which we operate, to promote personal and professional growth.”*

**Fabio Liberali**, Chief Identity & Communication Officer LU-VE Group



## 4.1 We support employees and their families

to improve the economic, social and environmental conditions of the community in which it operates.

For years, LU-VE Group has set up initiatives for the well-being of its people and their families, with the desire





## “ERMANNO E CHIARA LIBERALI” SCHOLARSHIP

In 2023, the “Ermanno e Chiara Liberali” scholarship reached its 22nd edition, making funds available to the families of employees to help the most deserving students fulfil their potential at universities and high schools.

The scholarship is assigned through a selection process to support successful study programmes and guarantee equal opportunities to the sons of LU-VE Group employees. The allocation rules were established in agreement with the Joint Trade Union Representatives of the various facilities.

The number of young people with access to the scholarship grows year by year; **2023, student workers from Italian factories also participated in the initiative, and the initiative was extended to include people from LU-VE Group in Poland.** The initiative is expected to be progressively extended to other Group locations.

LU-VE Group has a long history of promoting the education and training of young generations. The Group has been providing scholarships to support the education of employees’ children since 2001 at the behest of the founder of LU-VE Group, Iginio Liberali, who has always recognised that scholarships are a meritocratic and concrete tool for promoting equal opportunities for growth and training among youth: *“I know the value of scholarships well: I myself was able to continue my school career, from middle school to university graduation, thanks to scholarships from the Necchi company in Pavia, where my father was a worker. One of the first choices I made when I founded LU-VE was to create the ‘Chiara and Ermanno Liberali’ Scholarship, named after my parents.”*

### 22nd Edition of the “Ermanno and Chiara Liberali”

The scholarships were awarded to **82** young persons with an outstanding educational performance during the 2022-23 academic year, for a total of almost **€145,000**.

During the 22nd edition, scholarships were awarded in Group companies in Italy and Poland. Continuing on from the previous year, an award ceremony at the Czech Republic location is also planned for the second half of 2024.

Since the competition was launched in 2001, 471 scholarships have been awarded for a total of approximately **€870,000**.



Aware of the importance of proximity to local communities, inclusiveness and multiculturalism, the Group has always undertaken to develop its organisation starting with local resources and professionals, especially the front line managers, and recruiting resources from the countries it operates in and where its facilities are based. In 2023, the percentage of Directors at the various locations of the Group recruited from local communities was 90% (27 out of a total of 30 are from local communities), in line with the 87.5% of 2022.

Since its inception, the Group has considered work a fundamental right, not only to provide families with

economic stability, but also to ensure inclusiveness and equal opportunities, both individually and collectively.

In particular, the work context is very important for people with disabilities. Difficulties in getting people with disabilities into work have an immediate effect on a family's economic situation, which is already burdened by care and nursing activities, and on the individual well-being of each individual. Providing stable employment means ensuring financial security and active participation in social life.

## ALFA COOPERATIVE: WORK AS THERAPY

**“Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment”.**

Art. 23.1 - Universal Declaration of Human Rights of the United Nations, 1948

Since 2006, at its Uboldo (Varese, Italy) facility, the LU-VE Group has partnered with the Alfa Social Cooperative of Lomazzo (Como, Italy) on the project “Like shoes in the fridge.”

The aim is to promote the employment of people with disabilities or social disadvantages in the company. This partnership falls within the parameters for the recruitment of personnel registered at job centres as differently abled persons. In accordance with the principles of the ILO (International Labour Organisation), full inclusion in the work environment allows for a diverse workforce and improves productivity and service.

The cooperative carries out various activities at the Uboldo site, such as handling and cleaning areas, raising workers' awareness of waste sorting, minor internal portering, and safety and ecology consultancy.

The Cooperative (in partnership with LU-VE Group's human resources department and corporate occupational medicine) helps to manage situations of work stress due to a disability.

LU-VE Group provides (free of charge) all means of transport for internal goods handling and equipment for

working at heights, as well as access to the canteen. It has also provided the cooperative with an internal secretariat, changing rooms and a telephone line. Among the various activities, the Group:

- includes cooperative members in its internal training courses (e.g., course for forklift truck drivers, first aid, waste management);
- provides company access to the area services institutionally operating in the field of job placement of disabled people and the social and health services which are part of hospital psychiatric services, so that the job placement path is transparent and also controlled by the public bodies;
- invites cooperative members to events organised by the company to mark Christmas or other anniversaries;
- allows cooperative members to use the company canteen free of charge together with LU-VE staff to create moments of socialisation.



*"Psychiatric patients that come to us are among those absolutely last in line, sick and poor: economically disadvantaged, devoid of social relations, intellectually and culturally impoverished, with no prospects for the future, poor families that often have other problems as well. The real therapy is finding oneself in a normal environment, even with a minor role, receiving a wage every month, and being considered workers. What LU-VE Group allows us to do is absolutely commendable. Alfa is trying hard, the "guys" are doing their best, but above all the company and the Liberali family are allowing us to pursue an initiative that is hard to find in other factories."*

**Dr Antonio Gervasio,  
doctor and head of the Alfa Social Cooperative**

During 2023, LU-VE Group recruited 31 individuals from the Alfa Cooperative (34 in 2022, 33 in 2021 and 30 in 2020), 19 of which had mental disabilities and three with physical disabilities. They work as forklift drivers or deal with waste collection, daily and weekly cleaning, gardening and outdoor maintenance during the last months of the year. In particular, four people, although not continually, gave their important help following the weather emergencies.

From 2005 to date, 133 members of the Alfa Cooperative

have worked at the LU-VE facility in Uboldo, 71 of whom have disabilities (79% mental, 2% physical and 19% socially disadvantaged). Of these, the company has hired six.

The personal stories of some of the people in the Cooperative have been collected in the book "Like shoes in the fridge" edited by LU-VE Group. A new volume is planned to be published during 2024.



## 4.2 We support local communities

### SUPPORT FOR LOCAL COMMUNITIES

#### ITALY

##### In support of Emilia Romagna

Following the extreme climatic events that involved Emilia Romagna throughout the first half of May 2023, LU-VE Group decided to support the community affected by the flood. It donated € 300,000 for the reconstruction of the “Il Girasole” nursery school in Sant’Agata sul Santerno (Ravenna), which suffered very serious damage and of which only the load-bearing walls were saved.

The Board of Directors’ choice focused on the La Stampa - Specchio dei Tempi Foundation, an organisation that has been collecting requests for help and reports of injustice since 1955 through the column of the same name published in the daily Turin newspaper, and intervenes to lend a hand to those in difficulty. The

Foundation has so far worked on the reconstruction of 26 schools from Nepal to Mexico and in central Italy. There are also many concrete projects that support the healthcare system, schools, small businesses and families overwhelmed by the Coronavirus crisis, Christmas cheques for the lonely elderly, and around 70 projects for highly vulnerable people in Turin, Italy and around the world.

LU-VE Group Chairman and CEO Matteo Liberali state: *“Our future is in the hands of the young, and that is precisely why LU-VE Group chose to support the rebuilding of a nursery. We felt it was particularly important to ensure that the children could return to their school, continue a normal life, in an environment familiar to them. We wish the children and teachers of Girasole all the best for the new school year!”*





## TANZANIA

### Malaika Children's Home



Since 2017, the Group has been supporting the “Malaika Children's Friends Onlus”, a children's home in Tanzania that has been welcoming orphaned, abandoned or medically needy children since 2011, with the aim of helping them grow in peace within their culture, trying to reunite them with their families of origin where possible and supporting their growth as independent adults. The Malaika (which in Swahili means “angel”) group home is located a few kilometres from Arusha, close to the village of Moshono. Food self-sufficiency is ensured thanks to a vegetable garden, a maize plantation, fruit trees and a chicken coop.

Today there are 31 residents in the House of Angels in Arusha, Tanzania. The staff consists of eight people, including a social worker, a nurse, four childcare workers and a night watchman. Malaika Children's Friends presented its first social report in 2023.

LU-VE Group's support allows the Malaika organisation to continue to help children and young people and to increase the care service.

Thanks to the support of LU-VE Group, in 2023 the home enabled around ten young adults to finish high school in a country where only a quarter of students have the opportunity to do so. Being able to complete their education and become full citizens of Tanzania is therefore a real achievement for Malaika and LU-VE Group.

## IVORY COAST

### Ayamé, the habit of hope



In 2021, LU-VE Group began to support the activities of APPA (Pavia Agency No. 1 for Ayamé) in the village of Ayamé, Ivory Coast, Africa.

The association, whose motto is “*To practise cultivating the habit of hope*,” has built a Pouponnière Shalom Soua (Kindergarten House of Peace) over time to accommodate children from zero to six years of age (around 60 in 2023) and thus meet the health and care needs of the local community. Social horticulture was set up years ago to provide fresh food for the pouponnière: it is now becoming an interesting social project thanks to the “agricultural strengths” of APPA.

In 2023, LU-VE Group helped to finance the first expedition of two students specialising in paediatrics at the University of Pavia, who moved to Ayamé for two months to work alongside the paediatrician who had been there for two years. Eye care is organised by a nurse and vice-president of World Medical Aid - a non-profit humanitarian association that carries out volunteer missions in Africa - through the coordination of teams of ophthalmologists in the field. Pavia's Agency No. 1 for Ayamé has upgraded its eye laboratory with state-of-the-art equipment.



## ITALY

### Radius: social promotion activities



LU-VE Group has contributed to the support of social and charitable activities aimed at fragile individuals with disabilities through the **project of sports trainer Alvaro Dal Farra who, with his specialised team, enables people with disabilities to ride motorbikes.**

The Radius amateur sports associations of Alvaro Dal Farra and Crossabili have been offering social programmes with motorbike therapy for more than 15 years now: ***"It's called Motorcycle Therapy and it offers everyone moments of joy and adrenaline."***

## RUSSIA

### Social initiatives



The Russian office in Lipetsk has been supporting the Tau Centre in Ussurijsk in the Russian Far East since 2015.

Coordinated by Franciscan friar Stefano Invernizzi, it provides shelter for homeless adults and a social canteen for the poor and disabled. Centro Tau's service also caters to children and young people by supporting after-school activities and various workshops, including for differently abled children.





## BRAZIL

### Remote adoption



In January 2019, Dr Antonio Gervasio (chairman and co-founder of the Alfa Cooperative) and Iginio Liberali, founder of LU-VE Group, agreed to remotely adopt two children on the condition that the volumes of waste sorting would increase and consequently the waste to landfill would decrease.

“We couldn’t get workers to be enthusiastic about sorting waste to improve the service offered,” Antonio Gervasio tells us. So we came up with a creative solution that could involve them, and we launched a challenge: if they improved the collection volumes, they could use the money saved from the disposal costs to remotely adopt two children, splitting the adoption costs 50/50 between the Cooperative and LU-VE Group.

The enthusiasm brought results: in 2023, the goal was reached and the adoption procedures were started through Father Aurelio, a Betharramite missionary who works with a Brazilian association and deals with school and pre-school children. Thus from overseas, Eloah and Bruna became witnesses to the partnership between LU-VE Group and the Alfa Cooperative.

## ITALIA

### Centro Universitario Sportivo Pavia



LU-VE Group continued to sponsor CUS Pavia (Italy) again in 2023, a multi-sports club linked to the University of Pavia and famous for being a breeding ground for Olympic, world and Italian champions in various disciplines. Highlights include gold, silver and bronze medals at the World Cup, World Championships, European Championships and Italian Championships (downhill canoeing) and 6th place at the World Rowing Championships.

In 2023, the CUS of Pavia consolidated its victory at the National University Canoe Championships in the general, women’s and men’s categories.



**ITALY**
**Speed skating World Championships**


LU-VE Group sponsored the World Skating Championships held in Montecchio Maggiore and Vicenza, Italy from 26 August to 3 September, under the aegis of the international federation *World Skate* in cooperation with the Italian Federation of Roller Sports. A total of 600 athletes took part in the 12-day event, competing for the 50 world titles.

**ITALY**
**Powerlifting vikings Veneto**


For the third year in a row, LU-VE Group sponsored the athletes of the Power Lifting Vikings Veneto (Italy), to the great satisfaction of LU-VE Group coach Alessandro Camparsi.

At international level, they won a total of nine world medals and 29 European medals (in the "Total" and "Speciality" categories), while at national level they won 12 best Italian club titles, 124 individual national medals and 56 Italian records.





# 2023 IPF World Classic & Equipped Sub-Junior CLUJ-NAPOCA/ presented by ELEIKO & SBD





*“The future should not be predicted but made possible”*

*(Antoine de Saint-Exupéry — writer and aviator)*





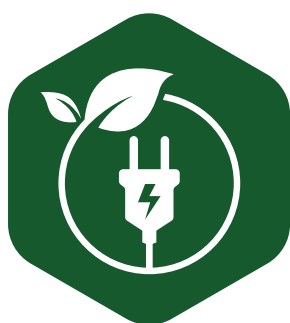
# CONSCIOUS WORLD

**Stewardship for a better future**



# CONSCIOUS WORLD

Stewardship for a better future



## 7,485 tonnes CO<sub>2eq</sub> avoided

Emissions avoided thanks to the production of electricity from photovoltaic systems and purchases of certified renewable energy



## 0.037

Intensity of GHG emissions (tCO<sub>2eq</sub>/k€ of turnover)  
Including GHG Scope 1 + Scope 2 emissions Market-based



## 67%

Suppliers that have filled in the "Supplier Form" on good practices and respect for human rights



”

## The focus on sustainability is one of our hallmarks

*Since our foundation, we have been researching and investing in environmentally-friendly solutions and the innovations we have introduced have since become a constant reference for the entire industry.”*

**Matteo Liberali**, Chairman and CEO of LU-VE Group

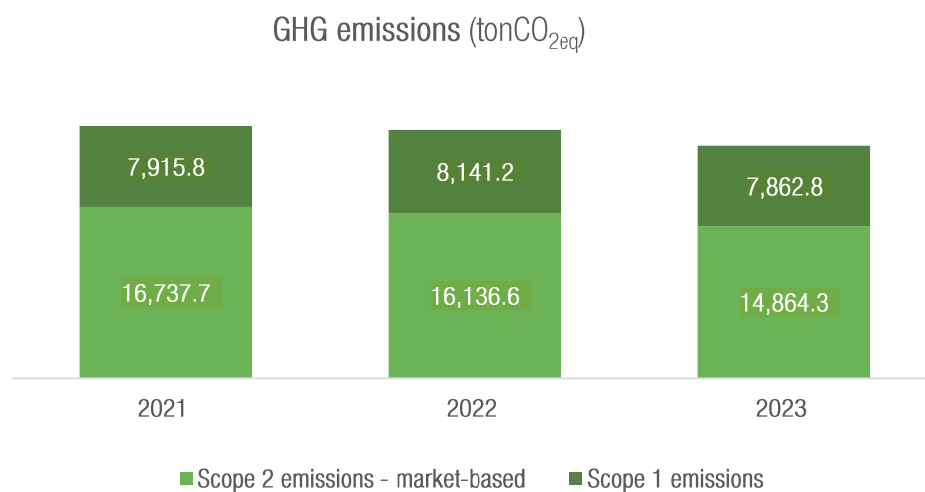
## 5.1 Looking at our environmental impacts

With the aim of carefully monitoring its energy consumption and emission impacts and identifying actions to reduce them, LU-VE Group implemented a specific monitoring system at all its production facilities in 2023.

Supplied by the Operations and Controlling offices at local level, the system allows monthly monitoring of energy consumption and evaluates point variations per month and incremental variations over time. The

consumption considered is attributable to **greenhouse gas emissions (Scope 1 and Scope 2)**, on which LU-VE Group has set reduction targets, in line with science-based targets methodology.

**In 2023, LU-VE Group reduced its emissions (Scope 1 and Scope 2 - market based) by 6.39%** compared to the 2022 baseline, reaching the target set in the sustainability plan.



This achievement was possible mainly thanks to:

- **Production of electricity from photovoltaic systems**

During 2023, the new photovoltaic plant at the facility in Bhiwadi (India) was operational for the entire year. Along with the photovoltaic systems already present at other Group facilities, i.e. Uboldo (Varese, Italy), Limana (Belluno, Italy) and Vantaa (Finland), the total energy production from the systems amounted to **5,372 GJ**, equal to **863 tCO<sub>2eq</sub>** avoided.

- **Purchase of energy from renewable sources (Origin Guarantee)**

In 2023, the facilities in Uboldo (Varese, Italy), Travacò Siccomario (Pavia, Italy), Limana (Belluno, Italy) and Asarum (Sweden) purchased 100% certified renewable energy through Guarantees of Origin, plus a share of certified energy for the Facility in Novosedly (Czech Republic). These actions allowed the Group to avoid emissions amounting to **6.622 tCO<sub>2eq</sub>**.

It should also be noted that as one of the most energy-consuming sites, the Uboldo (Italy) site has an energy management model certified according to the

international ISO 50001 standard. With regard to other environmental impacts, it should be noted that a management approach to environmental aspects that is aligned and compliant with the international standard ISO 14001 (see dedicated section) and a risk-based approach has been adopted at several facilities.

In the course of 2023, LU-VE Group also started some preliminary calculations of **Scope 3 greenhouse gas emissions** (with reference to data for the year 2022), i.e., indirect emissions generated upstream and downstream of the Group's production activities, such as the transport of purchased materials and the consumption of products during their use by end customers. The calculation was conducted in accordance with the categories of the international GHG Protocol framework. It allowed LU-VE Group to have an initial estimate of emissions for the categories considered applicable and, at the same time, identify the need to improve the accuracy and completeness of the data for some specific categories. The analysis activities have focused mainly on emissions related to the purchase of raw materials and components, inbound and outbound transport, the use of Group products by final customers (activities with the



significantly more significant impact in terms of emissions) and on the disposal phase of products at the end of their life cycle. On this issue, the Group undertakes to integrate the report on GHG Scope 3 emissions in its next Consolidated Non-Financial Statements.

With regard to environmental risks, the possible sub-optimal management of water consumption, waste and emissions into the atmosphere have been identified as moderate; however, the Group undertakes to keep them under control through scrupulous monitoring and development of specific initiatives to improve the use of resources at the various facilities.

## ENERGY CONSUMPTION AND EMISSIONS

As regards **energy consumption** in 2023, total consumption in the Group's production companies was **288,087 GJ**.

This figure includes self-produced electricity from photovoltaic systems at the facilities, fuel consumption for the company fleet, for premises heating and for production processes, as well as electricity supplied by the national electricity grid.

Detailed tables are given below.

TOTAL ENERGY CONSUMPTION (GJ)			
	2021	2022	2023
Energy consumption from fossil fuels	148,306.4	151,506.2	143,894.8
Energy consumption from acquired energy	136,337.9	139,456.8	138,819.6
Electricity from photovoltaics generated and consumed	3,088.1	5,785.4	5,372.2
<b>Total</b>	<b>287,732.4</b>	<b>296,748.4</b>	<b>288,086.6</b>

ENERGY CONSUMPTION FROM FOSSIL FUELS (GJ)			
	2021	2022	2023
Natural Gas	117,925.7	112,654.7	107,695.1
Diesel	8,323.0	10,636.4	11,772.8
Petrol	1,400.1	1,789.2	2,262.0
LPG and propane	20,657.6	26,425.9	22,164.8
<b>Total</b>	<b>148,306.4</b>	<b>151,506.2</b>	<b>143,894.8</b>

CONSUMPTION FROM PURCHASED ENERGY (GJ)			
	2021	2022	2023
Electricity from the national grid	125,105.0	128,655.0	128,589.3
District heating	11,232.9	10,801.9	10,230.3
<b>Total</b>	<b>136,337.9</b>	<b>139,456.8</b>	<b>138,819.6</b>



## ELECTRICITY SELF-GENERATED FROM RENEWABLE SOURCES (GJ)

	2021	2022	2023
Electricity from photovoltaics generated and consumed	3,088.1	5,785.4	5,372.2
Electricity from photovoltaics generated and sold	228.0	243.6	186.6
<b>Total</b>	<b>3,316.1</b>	<b>6,029.0</b>	<b>5,558.8</b>

DIRECT GHG EMISSIONS - SCOPE 1 (tCO<sub>2</sub>eq)

	2021	2022	2023
Fuel consumption	7,844	8,108.2	7,712.3
Refilling of refrigerant gas <sup>27</sup>	72	33	150.5
<b>Total</b>	<b>7,915.8</b>	<b>8,141.2</b>	<b>7,862.8</b>

INDIRECT GHG EMISSIONS - SCOPE 2<sup>28</sup> (tCO<sub>2</sub>eq)

	2021	2022	2023
Electricity (market-based)	16,205.0	15,624.3	14,353.9
Electricity (location-based)	16,715.7	17,169.2	17,058.2
District heating	532.7	512.3	510.4
<b>Total (market-based)</b>	<b>16,737.7</b>	<b>16,136.6</b>	<b>14,864.3</b>
<b>Total (location-based)</b>	<b>17,248.2</b>	<b>17,681.4</b>	<b>17,568.6</b>

In 2023, the Group's turnover and energy and emission

intensity decreased slightly compared to the previous year.

## ENERGY INTENSITY AND GHG EMISSIONS

	2021	2022	2023
Energy intensity (GJ / K€ of turnover)	0.58	0.48	0.47
Intensity of GHG emissions (tCO <sub>2</sub> eq / K€ of turnover) - relative to Scope1 + Scope 2 Location-based	0.051	0.042	0.041
Intensity of GHG emissions (tCO <sub>2</sub> eq / K€ of turnover) - relative to Scope1 + Scope 2 Market-based	0.050	0.039	0.037

<sup>27</sup> In 2023, the following refrigerant gases were recharged: R407C, R22 and R410A.

<sup>28</sup> Total emissions are expressed in CO<sub>2</sub>eq although the Scope 2 (location-based) emissions from the consumption of electricity are expressed in CO<sub>2</sub>, as the portion attributable to CH<sub>4</sub> and N<sub>2</sub>O gases is not significant.



Aside from greenhouse gas emissions, the main emissions of aeriform pollutants originating from the Group's production activities were also mapped. These emissions were calculated from the direct measurements taken by consultancy firms and certified laboratories and through estimates based on the

manufacturing activities of the various facilities. The increase in CO is attributable to the Uboldo site, which also affects the estimates of other facilities, such as India and China. The increase in NO<sub>x</sub> and VOC is mostly attributable to the change of scope related to the inclusion of the Mel facility, Italy, in 2023.

#### OTHER ATMOSPHERIC EMISSIONS (kg)

		2021	2022	2023
	CO	3,872.3	1,821.0	4,300.3
	NO <sub>x</sub>	8,770.1	6,713.8	10,622.4
	Particulate	820.6	1,084.0	1,465.2
	VOC	8,970.9	7,319.9	12,292.0
	Oil mist	466.5	1,033.3	1,368.3
Heavy metals	Copper	174.2	44.6	78.5
	Iron	125.3	142.5	241.0
	Zinc	2.2	1.1	0.1
	Aluminium	0.3	1.5	0.2
	Tin	9.1	14.1	9.6
	Lead	7.6	18.0	10.9



## WATER RESOURCES

The Group constantly monitors its water withdrawals, seeking to adopt production practices and processes that can reduce requirements as much as possible.

In addition, the impacts on water resources, both in terms of withdrawals and discharges related to activities, are monitored using an approach that is in line with the regulations in force in the various countries in which the Group operates and using best practices.

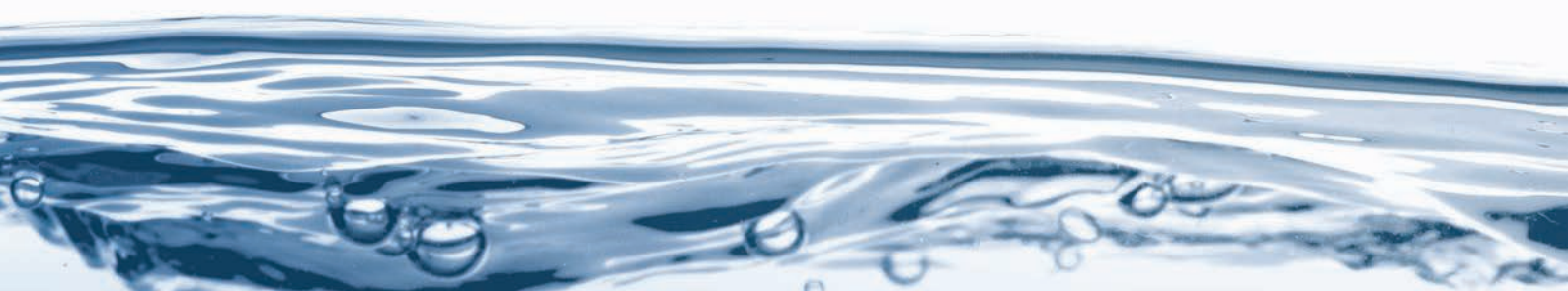
WATER WITHDRAWAL BY SOURCE (m³)				
		2021	2022	2023
Groundwater		159,444	147,169	152,133
of which freshwater ( $\leq 1,000$ mg/l of total dissolved solids)		9,300	10,204	38,640
other types of water ( $> 1,000$ mg/l of total dissolved solids)		150,144	136,965	113,493
Third-party water sources		88,693	109,949	109,166
of which freshwater ( $\leq 1,000$ mg/l of total dissolved solids)		88,693	109,949	109,166
other types of water ( $> 1,000$ mg/l of total dissolved solids)		-	-	-
Total withdrawal of third-party water resources by withdrawal source	Surface water	16,204	19,774	21,222
	Groundwater	72,489	90,175	87,944
<b>Total</b>		<b>248,137</b>	<b>257,118</b>	<b>261,299</b>

Of the water resources drawn from third parties in 2023, around 19% was drawn from surface sources, while the remaining 81% from groundwater.

Water discharges dropped compared to 2022, in line with the associated production processes. Water is

returned to the environment in compliance with local discharge regulations, adopting dedicated controls. In 2023, with the acquisition of the Mel (Italy) site, the presence of discharges into surface water (river) was noted.

WATER DISCHARGES (m³)				
		2021	2022	2023
Surface waters		-	-	7,040
Discharges to third-party water sources		230,474	253,456	223,386
freshwater ( $\leq 1,000$ mg/l of total dissolved solids)		226,411	248,500	224,998
other types of water ( $> 1,000$ mg/l of total dissolved solids)		4,063	4,956	5,428
<b>Total</b>		<b>230,474</b>	<b>253,456</b>	<b>230,426</b>





As regards water stress areas in 2023<sup>29</sup>

- India (Bhiwadi and Sarole) and China (Tianmen): extremely high risk.
- Italy (Limana, Mel, Flumignano di Talmassons, Villa Santina) and Russia (Lipetsk): medium-high risk.
- All other Group facilities: low or medium-low risk.

During 2023, LU-VE Group recorded an increase in groundwater withdrawals of freshwater ( $\leq 1,000$  mg/l total dissolved solids) attributable to the activity at the production facility located in Mel (Belluno, Italy). In fact, the plant uses a closed-loop system for cooling machine tools and a significant part of the water withdrawn evaporates due to the cooling tower process.

To mitigate these risks, the Group constantly monitors its withdrawals, seeking to adopt production practices and processes able to reduce its water requirements as far as possible. An example of this approach is the product testing phases that are conducted using helium, rather than water, in many of the Group's facilities.

#### WATER WITHDRAWAL FROM WATER-STRESSED AREAS BY SOURCE (m<sup>3</sup>)

	2021	2022	2023
Groundwater	9,300	10,204	38,640
Third-party water sources	44,300	59,807	57,106
of which surface water	0	0	0
of which groundwater	44,300	59,807	57,106
<b>Total</b>	<b>53,600</b>	<b>70,011</b>	<b>95,746</b>

#### WATER DISCHARGE FROM WATER-STRESSED AREAS (m<sup>3</sup>)

	2021	2022	2023
Discharge to third-party water sources	50,648	66,849	67,130
of which freshwater ( $\leq 1,000$ mg/l of total dissolved solids)	46,585	61,849	61,702
other types of water ( $> 1,000$ mg/l of total dissolved solids)	4,063	4,956	5,428
<b>Total</b>	<b>50,648</b>	<b>66,849</b>	<b>67,130</b>

<sup>29</sup> Source: World Resources Institute, *Aqueduct Water Risk Atlas*, [www.wri.org/our-work/project/aqueduct/](http://www.wri.org/our-work/project/aqueduct/)

Areas with extremely high or medium-high risk have been considered to determinate the volumes of water withdrawal and discharges to and from water stress areas.



## WASTE MANAGEMENT

LU-VE Group takes action to ensure adequate waste management. The objective is to prevent potentially negative impacts on the local area, such as the contamination of environmental matrices (e.g. water and soil), or any other indirect impacts on the environment, and to minimise the loss of material, which could instead be recovered or reused.

The applicable legislation on waste management and disposal are constantly monitored in the various countries and certified suppliers are used in order to comply with laws and regulations and to promote best practices.

At the individual facilities, the local contacts are

responsible for monitoring and collecting data on waste. Waste is preferably recycled, and only if recycling is not possible due to the characteristics or type of waste is it sent for disposal. **Overall, waste for recycling in 2023 reached roughly 91% of the total waste produced.**

With regard to hazardous waste, the main waste types resulting from the Group's activities are chemical compounds (e.g., lubricating oils and solvents), while the main types of non-hazardous waste are processing waste (e.g., aluminium, copper, iron, packaging cardboard). Furthermore, in some of the Group's Italian companies (TGD and in part Air Hex Alonte) the waste water resulting from production activities is disposed of as waste.

### WASTE BY COMPOSITION 2023 (t)

2023			
	Waste generated	Waste diverted from disposal	Waste directed to disposal
<b>Non-hazardous waste</b>			
Aluminium waste	2,098.9	2,098.9	0.0
Copper waste	512.6	512.6	0.0
Steel waste	742.2	742.2	0.0
Iron waste	1,744.0	1,744.0	0.0
Paper and cardboard	903.1	903.1	0.0
Plastic	135.3	135.3	0.0
Other <sup>30</sup>	2,946.2	2,445.8	500.4
<b>Hazardous waste</b>			
Oil-contaminated waste	219.0	70.1	148.9
Chemical	208.8	135.8	73.0
Other <sup>31</sup>	242.5	83.0	159.5
<b>Total</b>	<b>9,752.6</b>	<b>8,870.8</b>	<b>881.9</b>

**30-31** The category "Other" refers primarily to waste disposed of through chemical/physical treatment and biological treatment for both hazardous and non-hazardous waste.



## WASTE DIVERTED FROM DISPOSAL THROUGH RECOVERY OPERATIONS 2023 (t)

2023			
	In site	External site	Total
<b>Non-hazardous waste</b>			
Recycling	-	7,689.9	7,689.9
Other recovery operations	-	892.0	892.0
Preparation for reuse	-	-	-
<b>Hazardous waste</b>			
Recycling	-	244.8	244.8
Other recovery operations	-	44.0	44.0
Preparation for reuse	-	-	-
<b>Total waste diverted from disposal</b>		<b>8,870.8</b>	<b>8,870.8</b>

The table below shows waste-related data for 2021 and 2022.

## WASTE BY COMPOSITION 2021 and 2022 (t)

	2021			2022		
	Waste generated	Waste diverted from disposal	Waste directed to disposal	Waste generated	Waste diverted from disposal	Waste directed to disposal
<b>Non-hazardous waste</b>						
Aluminium waste	2,305.6	2,305.6	0	2,744.9	2,743.4	1.5
Copper waste	582.0	582.0	0	556.33	556.33	0.0
Steel waste	768.0	768.0	0	784.0	784.0	0.0
Iron waste	1,341.7	1,341.7	0	1,515.7	1,515.7	0.0
Paper and cardboard	978.0	978.0	0	922.7	922.7	0.0
Plastic	131.1	131.1	0	144.5	144.5	0.0
Other <sup>32</sup>	2,945.5	2,451.6	495.0	2,714.1	2,264	449.7
<b>Hazardous waste</b>						
Oil-contaminated waste	314.8	38.6	276.21	663.3	70.0	593.3
Chemical	230.3	216.1	14.2	246.4	224.9	21.5
Other <sup>33</sup>	186.7	171.3	15.4	221.4	168.6	52.8
<b>Total</b>	<b>9,783.7</b>	<b>8,982.9</b>	<b>800.8</b>	<b>10,513.3</b>	<b>9,394.6</b>	<b>1,118.7</b>

**32-33** The category "Other" refers primarily to waste disposed of through chemical/physical treatment and biological treatment for both hazardous and non-hazardous waste.

## WASTE DIVERTED FROM DISPOSAL THROUGH RECOVERY OPERATIONS

2021 and 2022 (t)

	2021			2022		
	In situ	External site	Total	In situ	External site	Total
<b>Non-hazardous waste</b>						
Recycling	-	7,880.1	7,880.1	-	8,279.7	8,279.7
Other recovery operations	161.6	515.3	676.8	-	651.4	651.4
Preparation for reuse	-	-	-	-	-	-
<b>Hazardous waste</b>						
Recycling	0	387.3	387.3	-	261.1	261.1
Other recovery operations	0	38.7	38.7	-	202.4	202.4
Preparation for reuse	-	-	0	-	-	-
<b>Total waste diverted from disposal</b>		<b>8,982.9</b>			<b>9,394.6</b>	

Again in 2023, in line with last year, the Group did not record any significant spills such as to impact the water,

soil and subsoil matrices.

# RE-CIG

## RE-CIG: CIGARETTE BUTT RECOVERY

Progetto Manifattura's Re-Cig® project transforms used cigarette filters into cellulose acetate to make everyday objects such as eyeglass frames and umbrella handles.

LU-VE Group had already adopted a set of collection columns for the recovery of cigarette butts at its Uboldo facility (Varese, Italy) in 2022. This project was also extended to the Limana facility (Belluno, Italy) in 2023.







## 5.2 Looking at the impacts of our suppliers

With the introduction of the new **European Carbon Border Adjustment Mechanism (CBAM) Regulation**, companies importing certain “carbon-intensive” goods into the European Union are required to report on the quantities and respective greenhouse gas emissions.

The new European regulation came into force in its transitional phase at the end of 2023; from 2026, it will impose a fair price on carbon emitted during the production of carbon-intensive goods entering the EU, while encouraging cleaner industrial production in third countries. More specifically, the new regulation aims to counter carbon leakage, which occurs when EU-based companies move carbon-intensive production abroad to countries with less stringent climate policies than the EU, or when EU products are replaced by more carbon-intensive imports.

In 2023, the LU-VE Group took steps to promptly comply with the legal obligations under the new regulation.

Looking at the overall procurement situation, the particularly complex procurement of components (especially electronics) that characterised the end of 2021 and the whole of 2022, gradually eased off in 2023, until it was completely restored in the second half of the year. Procurement lead times and the availability of goods appear to have normalised. Moreover, a greater offer of competitively priced shipping favoured a gradual recovery of procurement from Asia during 2023.

General inflation was also a factor in the dynamics of negotiations with suppliers, but appropriate plans for structured and planned cooperation with the main partnered suppliers enabled the LU-VE Group to address the unfavourable situation in a concerted manner.

There were no significant shortages at the Group's facilities, thus allowing their continuous production.

This was achieved thanks to four key elements:

- continuous alignment work between the Procurement Department and other company departments;
- preventive risk management implemented through specific analyses and regular global meetings;
- targeted procurement strategies;
- development of strategic supply channels.

The level of cooperation and mutual support the Group's main suppliers was intensified in 2023, especially with those considered strategic. The Group continued its virtuous path of creating value through partnerships and synergies within the Group which were created by rationalising the supplier base and increasing the use of global suppliers.

With a view to managing and mitigating “supply risk,” new suppliers were approved to reduce geographical dependence on individual countries and spread the purchase quotas over a larger number of counterparties, allowing for the distribution of any peaks in demand.

In 2023, the governance of the Procurement Department, led by the Chief Procurement Officer, was supported in managing the role of the various “Global Commodity Managers” (GCMs). This role was introduced in 2023 as an evolution of the Commodity Buyers. Supported by the Commodity Buyers, the GCMs operate at global level in procurement activities and enhance potential synergies and opportunities at international level thanks to their skills and experience in monitoring commodity buying.

The Group's coordinator, “Purchasing process development and compliance specialist”, has been responsible since 2021 for integrating and monitoring social responsibility (CSR) aspects within Group processes and procedures, collaborating on sustainability projects, monitoring the Purchasing Department's KPIs and following compliance issues.



## Supplier selection and qualification

The qualification process of selecting suppliers hinges on searching for topmost competitiveness, innovation, compliance with supply specifications, service quality and level, and on building solid, strategic and diversified partnerships. This approach has also proved to be an effective tool for protecting and managing supply risk, at least for a critical short to medium period.

Over the last years, LU-VE Group has formalised a qualification questionnaire for new suppliers. Its

purpose is to examine suppliers' management system and ensure they share the same values, business ethics and approach to social responsibility. The Group has integrated a procurement policy into its internal procedures that includes environmental considerations and covers the procurement of raw materials, components, transportation and energy supplies.



# SUPPLIER FORM

## SUPPLIER FORM- SOCIAL & ENVIRONMENTAL ASSESSMENT

Prior to the start of supply, the Group requires (via completion of the Supplier Form) that all locations and activities, whether national or international, be subject to a ban on child and forced labour, physical punishment and mental and verbal abuse, that there be full right to freedom of association, that a system of prevention of discrimination be set up, and that all regulations on working hours, pay and environmental issues be complied with.

In the event of non-compliance with these principles, the supplier is required to take the necessary corrective measures to improve the situation and to meet the requirements within a reasonable period of time.

**During the year, 67% of LU-VE Group's relevant suppliers completed the Supplier Form**, exceeding the target set in the sustainability plan. Relevant suppliers are defined annually on the basis of Pareto analyses - which take into account turnover thresholds - and analyses of critical supply issues.

20% of new relevant suppliers have signed the Supplier Form.

The uncertainty of the availability of supplies and the inability to ensure respect for human rights along the supply chain is a moderate risk for the Group, which must be carefully monitored and on which preventive actions should continue to be implemented.





## GENERAL PURCHASE CONDITIONS

When setting up the supplies or as soon as possible, LU-VE Group suppliers are required - upon signing of the General Purchase Conditions - to declare that they are aware of and share the fundamental principles on the basis of which the Group operates.

In addition to the clauses strictly linked to quality and work compliance aspects, these Conditions also contain a set of principles requiring the supplier to:

- operate with ethics and integrity;
- reduce its environmental impact by focusing on efficiency and by monitoring aspects such as waste, effluent, air pollution and noise;
- ensure a healthy and safe working environment for all its employees;
- comply with international human rights conventions, such as the International Labour Organisation and the United Nations Convention on Children's Rights.

In the event of non-compliance or inaction by the supplier to take appropriate corrective measures, the Group company involved may terminate the business relationship, even before the contractual deadline.



## SUPPLIER MONITORING AND AUDITS

Depending on developments in the external context, every six months the contact persons at certain facilities in the Quality, Supply Chain and Purchasing departments meet to review the performance of key suppliers over the previous six months, examine any points for attention in the supply and consequently define any appropriate improvement plans and update the audit plan to be carried out on the Group's new or long-standing suppliers. During these on-site audits the suppliers' management and performance systems are assessed in terms of quality, environment and health and safety.

These half-yearly meetings, already operational at the Italian facilities since 2021, have also included Finland and their implementation is planned for the rest of the Group in 2024. **In 2023, ten supplier audits were conducted, exceeding the target set in the sustainability plan.**

## CHEMICAL SUBSTANCE MANAGEMENT

LU-VE Group is involved in a project to continually improve the management of the chemicals found in the products used in its factories and those placed on the market. The project envisages cooperation with a specialised and dedicated consulting company in this field. The project aims are primarily achieved through proactive management of the traceability of hazardous substances, e.g., those classified as "substances of very high concern" (SVHC-CL) under Regulation (EC) No. 1907/2006 (REACH).

The collection and evaluation of information from suppliers continued in 2023, with a 36% increase in the number of suppliers involved in the campaign, and a 67% response. As a further improvement action, the scope of information collection was extended with reference to: REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals; ROHS - Restriction of Hazardous Substances in Electrical and Electronic Equipment; POPs - Persistent organic pollutants; PPWD - Packaging and Packaging Waste Directive; TSCA - Toxic Substances Control Act. In accordance with the objectives defined in 2022, the information collection campaign was planned and performed using a risk-based approach according to IEC 63000:2016 *"Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances."*

As regards training:

- an informative webinar introducing the regulatory issues REACH, RoHS, POPs, CONFLICT MINERALS was provided free of charge to all suppliers involved in the campaign in order to support them in approaching these issues. The event was attended by 22% of the invited suppliers.
- specific information was provided to internal sales personnel on the processes introduced for the chemical conformity of LU-VE products.
- specific information on REACH, RoHS, POPs was provided to the staff of LU-VE Spirotech Heat Exchangers.

The improvement targets set for 2023 are considered achieved.

Among its improvement objectives, LU-VE Group has planned the following activities for 2024:

- extending proactivity in the traceability of substances controlled by other European and non-European regulations by implementing a supply specification that defines the procurement requirements to be met in the context of supplies to each LU-VE Group company.
- Mapping Substances of Very High Concern (SVHC) not included in the Candidate List in order to verify the feasibility of a project for alignment with the European Taxonomy for sustainable activities.
- Induction of new resources to support the Supplier Quality Development Manager and strengthen the management of the implemented processes.
- Continuous application of cultural leverage in our supply chain through the provision of dedicated information sessions to suppliers on LU-VE Group specifications.

## RESPONSIBLE PROCUREMENT OF MINERALS AND METALS

LU-VE Group recognises the risks of negative impacts associated with the extraction and trade of minerals in conflict or high-risk areas. In particular, LU-VE Group is aware of the risk of serious abuses associated with the extraction, transportation or trade of minerals, of direct or indirect support to non-state armed groups linked to public or private security forces, of corruption and misrepresentation of the origin of minerals, of money laundering and of taxes, charges and fees to governments.



In 2012, the United States Securities and Exchange Commission (SEC) approved the procurement law for “Conflict Minerals” as defined in the Dodd-Frank Wall Street Reform and Consumer Protection Act, Section 1502 (“SEC’s Conflict Mineral Rule”). In 2017, the European Union adopted Regulation (EU) 2017/821 which establishes obligations regarding supply chain due diligence for EU importers of tin, tantalum and tungsten, gold and their derivatives that originate in conflict or high-risk areas. In the period covered by this report, LU-VE Group was not subject to the obligations defined by this legislation. However, LU-VE Group voluntarily chooses to adopt responsible metal procurement, adopting an approach based on the OECD document “Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.”

During the reporting period, LU-VE Group took due diligence in the procurement of tin, tantalum, tungsten, gold and their derivatives (“3TG”). The adopted procedure includes traceability management through the direct and periodic involvement of our suppliers, using the Conflict Minerals Reporting Template (CMRT) as a communication tool. LU-VE Group is not

currently a member of an industry organisation supports companies in this issue, but has referred to data published by the Responsible Minerals Initiative. In cases of identified risk, e.g., lack of information regarding the adequacy of due diligence implemented by an identified foundry in its supply chain, LU-VE Group has set up the complaint mechanism provided by the OECD Guidelines.

The table below shows the relevant data for 2022-2023. In particular, it should be noted that the data collection campaign showed an improvement in the response rate year on year despite the number of suppliers involved.

The assessment of the risk context led to opening 12 complaints, followed by feedback from the suppliers. However, it should be noted that in the actions aimed at risk mitigation, significant difficulties were encountered to effectively exercise its influence. These difficulties have persisted over the years: in fact, as may be seen in the relevant table, the number of control points identified as critical (assessment parameter d.) has remained virtually unchanged since the previous reporting period.

Assessment parameter	2022	2023
a. Number of suppliers interviewed	112	181
b. % of answers obtained from first level suppliers	46%	61%
c. Number of foundries or refineries identified		
<i>The foundries and refineries that are not first level LU-VE Group suppliers, but are considered control points for due diligence in the mineral and metal supply chain.</i>	406	375
d. Number of foundries and refiners not "Conformant" or not "Active", i.e., whose due diligence was not deemed adequate or verified by the RMI	135	136

Among its improvement objectives, LU-VE Group has planned the following activities for 2024:

- Extension of the scope of application to a broader set of metals, also including cobalt and mica, with the adoption of the Extended Minerals Reporting Template (EMRT) developed by the Responsible Minerals Initiative.

- The continuous application of cultural leverage in our supply chain through the provision of dedicated information sessions to suppliers on LU-VE Group specifications.

## METHODOLOGICAL NOTE AND FURTHER CONSIDERATIONS

This document is the Consolidated Non-Financial Statement (the “NFS” or “Sustainability Report”) pursuant to Italian Legislative Decree no. 254 of 30 December 2016, implementing Directive 2014/95/EU, of the companies belonging to the Group comprising LU-VE S.p.A. and its subsidiaries (the “Group” or “LU-VE Group”). As provided for by Article 5 of Italian Legislative Decree no. 254/16, this document constitutes a separate report marked by a specific wording to identify it as the Non-Financial Statement required by legislation. The NFS is drafted and published on an annual basis.

This NFS was produced to the extent necessary to provide a clear understanding of the Group’s activities, progress, results and impact, considering the material topics envisaged by Articles 3 and 4 of Italian Legislative Decree no. 254/16.

The topics reported in this document were confirmed following an analysis of the trends and the Italian and global context, both in terms of national and international trends and current non-financial reporting trends.

In line with the requirements of the Decree, the reporting scope includes all LU-VE Group companies consolidated line by line, with the exception of LU-VE Contardo Pacific Pty. Ltd., currently not operational. As regards the environmental data, in the three-year period only the Group’s manufacturing companies were taken into consideration, with the exception of LUVEDIGITAL S.r.l., as the environmental impacts of the sales offices and of LUVEDIGITAL were not deemed significant. Beginning with this NFS, the Mel plant (Belluno, Italy) of the company SEST S.p.A. was also included in the reporting scope for environmental data.

For details on the corporate structure, aside from the information reported in this document, reference may be made to the Group’s annual documents: the Consolidated Financial Statements and the Report on Corporate Governance and Ownership Structure, both available on the company’s website.

The data and information provided in this document refer to the activities carried out by LU-VE Group in 2023 (from January to December 2023), when not specified otherwise. Furthermore, to provide a fair representation of performance, the use of estimates was limited as much as possible; when estimates were used, they were based on the best methodologies available and duly identified. Any reclassification of previously published comparative data is clearly indicated as such.

The Statement was prepared in accordance with the GRI Sustainability Reporting Standards, published by the Global Reporting Initiative - GRI (with “in accordance” application level). The data may in some cases have rounding errors due to the representation in thousands/millions; please note that changes and percentages are calculated on point data. A table with the list of contents relative to GRI requirements, both general and topic-specific, is reported at the end of the document.

The principles for the definition of report content are suggested by the GRI and include:

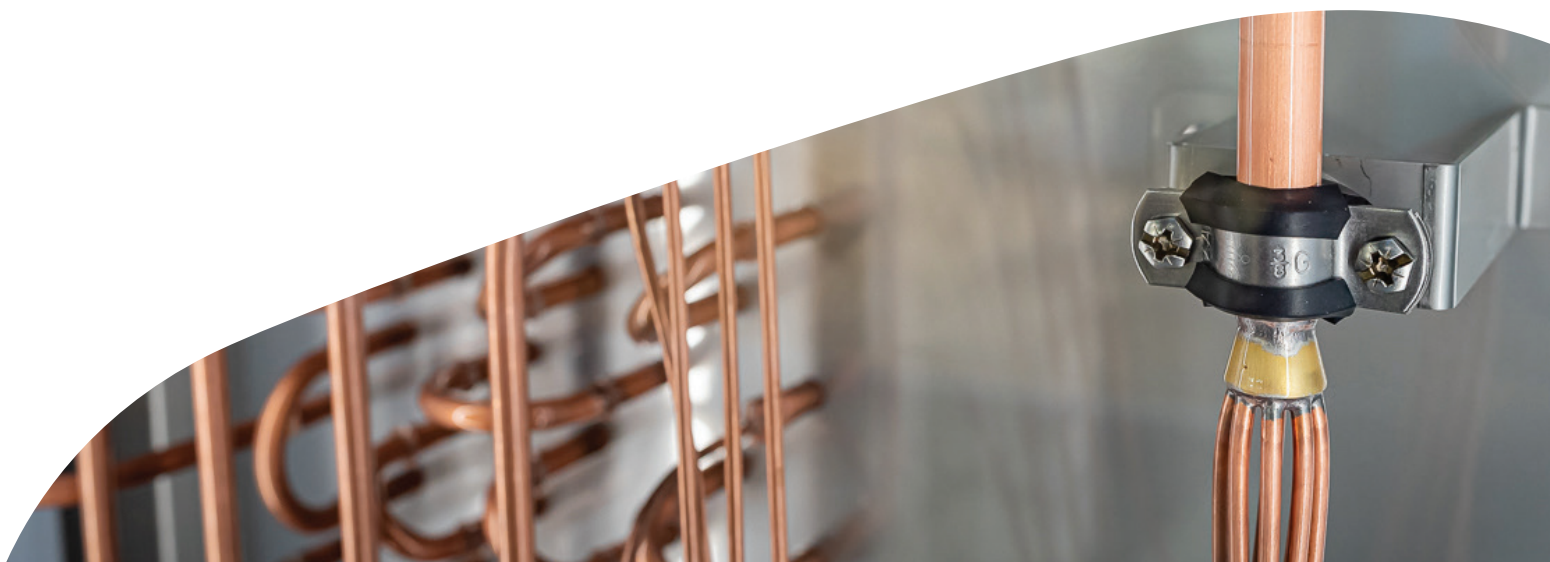
- **Accuracy:** the Group reports correct information and with sufficient detail to allow assessment of its impacts
- **Balance:** the Group reports the information objectively by providing a fair representation of its negative and positive impacts
- **Clarity:** the use of clear and accessible language and of graphs and tables to represent the Group’s performance make this Report easy to use and understand for stakeholders
- **Comparability:** the indicators presented in the Report refer to the three-year period 2021-2023 and are accompanied by a comment relating to their performance so as to allow comparability of Group performance over time
- **Completeness:** the material topics dealt with in the document are covered in their entirety and reflect the most material environmental, social and economic impacts for the Group’s activities, thus enabling stakeholders to fully assess the organisation’s performance in the reporting year
- **Sustainability context:** the LU-VE Group performance presented in this document is portrayed within the wider context of the sustainability of the Company’s business and reports the information relating to its impacts within the wider development context
- **Timeliness:** the Group reports the information on a regular basis and makes it available in due time to enable users of the data to make decisions



- **Verifiability:** the company must collect, record, compile and analyse the data so that the information can be examined to establish its quality

For any clarifications or details on the topics dealt with in this Sustainability Report, please write to us at the following address: [sustainability@luvegroup.com](mailto:sustainability@luvegroup.com)

As regards the value chain, the starting point and distinctive trait of the Group's activities is the design of marketed solutions. Based on the characteristics of the end solution, the Group sets up purchasing processes for raw materials - copper, aluminium, steel and iron - and semi-finished components such as motorised fans and other catalogue and special parts. As well as controlling the quality of the supplied goods, the Group can count on several production facilities located at or in the immediate vicinity of the main markets it serves. When the manufacturing process is complete, final testing is carried out before the product is transferred to the logistics department. This activity is meant first and foremost to verify the exchanger's seal against any leaks as well as to control the electrical components. The product is then sent to the Group's customers who operate on a global scale.



## LIST OF LU-VE GROUP COMPANIES AND LOCATIONS WORLDWIDE

### HEADQUARTERS

1	LU-VE S.p.A.	Uboldo (Varese) - Italy
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### MANUFACTURING COMPANIES

1	LU-VE S.p.A.	Uboldo (Varese) - Italy
2	LUVEDIGITAL S.r.l. (software house)	Uboldo (Varese) - Italy
3	SEST S.p.A.	Limana, Mel (Belluno) - Italy
4	MANIFOLD S.r.l.	Uboldo (Varese) - Italy
5	THERMO GLASS DOOR S.p.A.	Travacò Siccomario (Pavia) - Italy
6	HEAT TRANSFER SYSTEMS (HTS) s.r.o.	Novosedly - Czech Republic
7	SEST LUVÉ-POLSKA Sp.z.o.o.	Gliwice - Poland
8	LU-VE SWEDEN AB	Asarum - Sweden
9	"OOO" SEST LUVÉ	Lipetsk - Russia
10	LU-VE HEAT EXCHANGERS (TIANMEN) Co. Ltd	Tianmen - China
11	SPIROTECH HEAT EXCHANGERS Private Limited	New Delhi - India
12	LU-VE US, Inc.	Jacksonville - Texas, USA
13	AIR HEX ALONTE S.r.l.	Alonte (Vicenza) - Italy
14	FINCOIL LU-VE OY	Vantaa - Finland
15	Refrion S.r.l.	Flumignano di Talmassons, Villa Santina (Udine) - Italy
16	RMS S.r.l.	Flumignano di Talmassons (UD) - Italy



## SALES COMPANIES

1	LU-VE Austria GmbH	Vienna - Austria
2	LU-VE Asia Pacific HK Ltd	Hong Kong
3	LU-VE Deutschland GmbH	Stuttgart - Germany
4	LU-VE France S.a.r.l.	Lyon - France
5	LU-VE IBERICA s.l.	Madrid - Spain
6	LU-VE Netherlands B.V.	Breda - The Netherlands
7	“OOO” LU-VE Moscow	Moscow - Russia
8	LU VE Middle East DMCC	Dubai - United Arab Emirates
9	LU-VE SOUTH KOREA LLC	Seoul - South Korea
10	LU-VE UK LTD	London - United Kingdom
11	Refrion Deutschland GmbH	Bad Segeberg - Germany

## REPRESENTATIVE OFFICES

1	Fincoil LU-VE Oy Denmark	Aarhus - Denmark
2	Fincoil LU-VE Oy Norway	Drammen - Norway
3	LU-VE NL Belgium	Brussels - Belgium
4	LU-VE Vietnam	HCM city - Vietnam
5	LU-VE UK	Fareham - United Kingdom
6	LU-VE Thailand	Bangkok - Thailand





In consideration of the Group's value chain, for each material topic the scope of impacts and the GRI Disclosure applied is indicated.

RELEVANT TOPICS		SCOPE OF IMPACTS		GRI
	Topic identified as relevant	Parties generating impacts	Type of impact	Reconciliation GRI Material Topics
ALL 4	Strategies for growth and long-term value creation	Entire Group	Generated by the Group	201 – Economic performance 207 – Tax
ADVANCED	Research, development and innovation	Entire Group	Generated by the Group; To which the Group contributes	N/A
	Products with reduced environmental impact	Entire Group	Generated by the Group	302 – Energy 417 – Marketing and labelling
	Customer orientation	Entire Group	Generated by the Group	416 – Customer health and safety
BETTER	Talent attraction and development	Entire Group	Generated by the Group	401 – Employment 404 – Training and education
	Workers' well-being and safety	Entire Group	Generated by the Group	403 – Occupational health and safety 405 – Diversity and equal opportunity
BALANCED	Business ethics and integrity	Entire Group	Generated by the Group; To which the Group contributes	205 – Anti-corruption 206 – Anti-competitive behaviour
	Support for local communities	Entire Group	Generated by the Group; To which the Group contributes	202 – Market presence
CONSCIOUS	Climate change	Entire Group	Generated by the Group; To which the Group contributes	302 – Energy 305 – Emissions
	Resource and waste management	Entire Group	Generated by the Group; To which the Group contributes	303 – Water and effluents 306 – Waste
	Responsible supply chain	Suppliers of manufacturing companies	Related to the Group through its business relationships	308 – Supplier environmental assessment 414 – Supplier social assessment
	Food safety and waste	Entire Group	Generated by the Group; To which the Group contributes	N/A



For each material topic, the report identifies a company management and organisational model, a formalised policy including those of due diligence, the results achieved through them and several non-financial performance indicators, as well as the main risks, generated or suffered, connected to the material topics and which derive from the Group's activities, its products, services or commercial dealings, including, when relevant, the supply and sub-contracting chains. Specifically, the management of significant non-financial risks identified by the risk assessment is reported under the respective chapters.

The relationship between the areas of Italian Legislative Decree 254 and the material topics, subject to this non-financial reporting, is described below.

RELEVANT TOPICS		AREAS OF ITALIAN LEGISLATIVE DECREE NO. 254			
Topic identified as relevant	Environmental	Social	Related to personnel	Respect for human rights	Anti-corruption (active and passive)
Strategies for growth and long-term value creation					
Research, development and innovation					
Products with reduced environmental impact					
Customer orientation					
Talent attraction and development					
Workers' well-being and safety					
Business ethics and integrity					
Support for local communities					
Climate change					
Resource and waste management					
Responsible supply chain					
Food safety and waste					

Note that the issue of biodiversity is not currently considered significant by the Group, by virtue of the initial assessment made by the Parent Company's Departments and then reconfirmed in the subsequent dedicated tables in 2023. This issue is considered immaterial in relation to the activity carried out by the Group and the location of its production facilities. Therefore, it is not reported within this document.

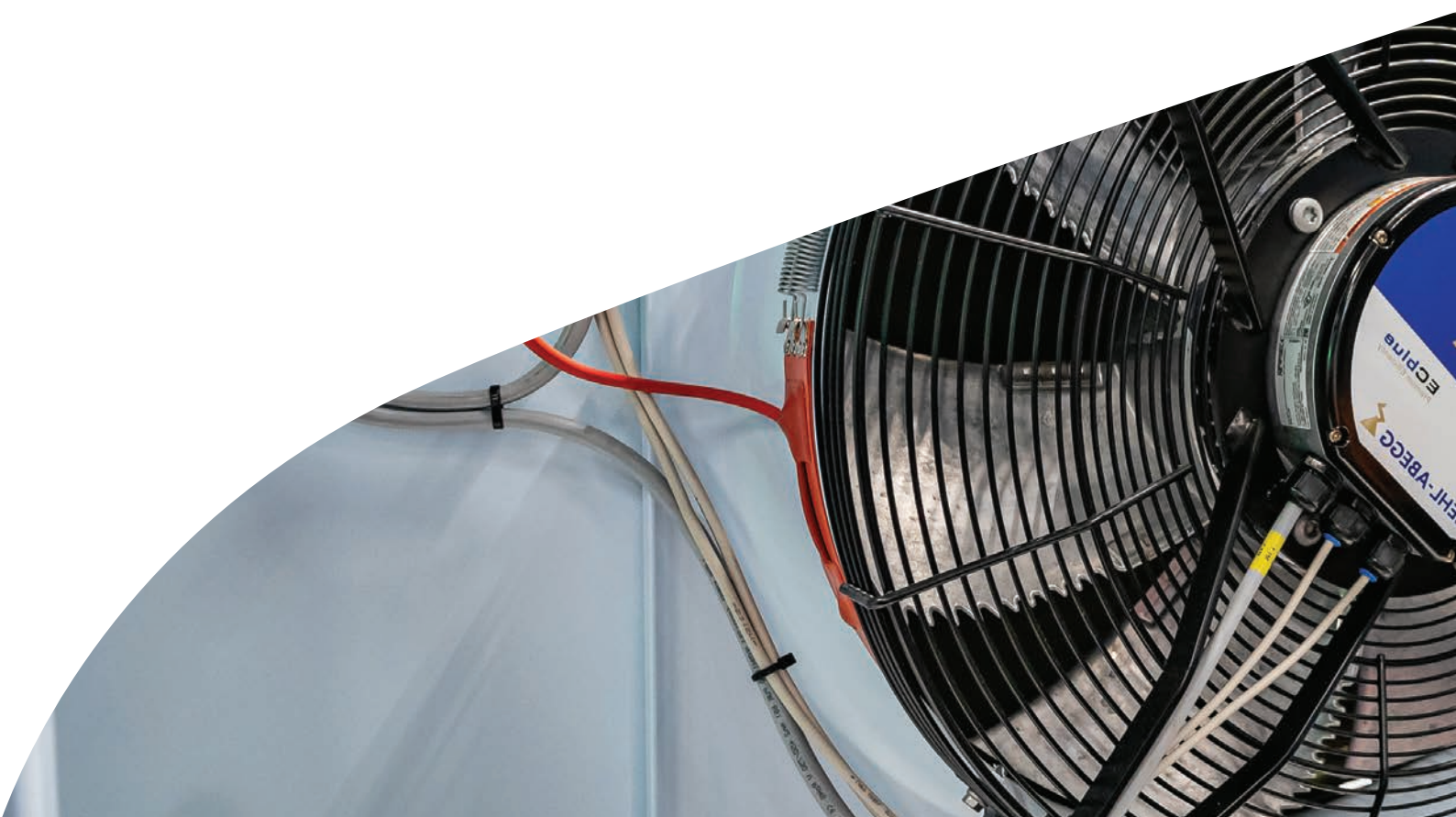
As from publications after 1 January 2022, LU-VE S.p.A. is required to include information in the NFS as required by the "EU Taxonomy Regulation" concerning the environmentally sustainable activities performed by the Group, in relation to which please refer to the paragraph *"The European Taxonomy for environmentally sustainable activities"*.

Pursuant to Art. 8 of EU Regulation 2020/852, this disclosure for the financial year 2023 relates to the proportion of the total of three indicators: Group turnover, capital expenses and operating expenses relating to (i) the economic activities eligible and aligned with the Taxonomy with reference to climate change mitigation and adaptation objectives, (ii) the economic activities eligible for the Taxonomy with reference to the environmental objectives referred to in EU Delegated Regulation 2023/2486, as well as (iii) the new economic activities identified as eligible for climate-related objectives identified in EU Delegated Regulation 2023/2485. Please refer to EU Delegated Regulation 2021/2178 for the definition of these indicators. It should also be noted that the disclosure required by Art. 8, paragraphs 6 and 7 of EU Delegated Regulation 2021/2178 is not applicable, as the Group does not operate in the nuclear/fossil gas business segments and therefore has not identified eligible/aligned activities in these areas.

In this regard, note that the limited assurance of this Consolidated Non-Financial Statement carried out by the auditing firm Deloitte & Touche S.p.A. does not extend to such disclosure.

This NFS has been subject to limited assurance by an auditing firm, which expresses in a separate report a declaration on the conformity of the information provided, as regards all significant aspects, with the requirements of Articles 3 and 4 of Italian Legislative Decree 254/2016, as well as with the reporting standards adopted by the Group (GRI Standards). This assurance was conducted according to the procedures identified in the "Report of the auditing firm" attached to this document.

This document was also approved by the Board of Directors of LU-VE S.p.A. on 13 March 2024 in consultation with the Control and Risk Committee responsible for sustainability topics since 2019. The document is published on the website of LU-VE Group in the "Investor relations" - Sustainability section.





## Calculation methodologies, notes and insights

Methodological information for certain indicators, as well as notes and insights on the topics reported in this NFS are provided below.

### General information

When the reporting standard requires non-financial information broken down by region, the following distinctions have been drawn:

- **Italy:** LU-VE S.p.A.; Air Hex Alonte S.r.l.; Luvedigital S.r.l.; Manifold S.r.l.; SEST S.p.A.; Thermo Glass Door (TGD) S.p.A.; Refrion S.r.l.; RMS S.r.l.
- **European Union countries:** Heat Transfer Systems (HTS) s.r.o. (Czech Republic); LU-VE Austria GmbH (Austria); LU-VE Deutschland GmbH (Germany); LU-VE France s.a.r.l. (France); LU-VE Iberica s.l. (Spain); LU-VE Netherlands B.V. (The Netherlands); LU-VE Sweden AB (Sweden); Fincoil LU-VE OY (Finland); SEST-LUVE-Polska Sp.z.o.o. (Poland); LU-VE UK LTD (UK); Refrion Deutschland GmbH (Germany).
- **Countries outside the European Union:** LU-VE Asia Pacific HK Ltd (Hong Kong), LU-VE Heat Exchangers (Tianmen) Co Ltd (China), LU-VE Middle East DMCC (UAE), LU-VE South Korea LLC (South Korea), Spirotech Heat Exchangers Private Limited (India), "OOO" SEST-LUVE (Russia), "OOO" LU-VE Moscow (Russia), LU-VE US Inc. (USA).



## Chapter ABOUT LU-VE GROUP

### Our ecosystem: products, applications, impacts

Sources of information can be found in chapter 1.2 “An Ecosystem of Products, Applications and Impacts”:

- Energy Efficiency: “Cooling” Report, IEA, 2020
- Food security: “Food loss and waste must be reduced for greater food security and environmental sustainability” FAO, 2020
- Climate well-being: Report “The Future of Cooling Opportunities for energy-efficient air conditioning” OECD and IEA, 2018
- Digital transformation: “Data Centres and Data Transmission Networks” Analysis, IEA, 2020

Furthermore, with regard to the value of LU-VE Group solutions, it is worth noting that a further category of products sold by the Group must be added to the turnover percentages published, grouped as a single category named “Other”, which includes the solutions for the white goods industry and other transport solutions.

### Sustainability governance

The governance of LU-VE Group has set itself the goal of maximising the value created for its shareholders and for all stakeholders. The aim is to ensure the full integrity and sustainability of its business.

The Group adopts a traditional governance model. In 2017, at the time of listing on the MTA market, LU-VE Group adopted the Corporate Governance Code for Listed Companies, approved by the Corporate Governance Committee and promoted by Borsa Italiana S.p.A., ABI, Ania, Assogestioni, Assonime and Confindustria. In December 2020, the Company resolved to adopt a new version of the Corporate Governance Code, which was again approved by the Corporate Governance Committee and became effective as of 1 January 2021. Subsequently, the Board of Directors adopted other resolutions to implement the principles and recommendations of the new Corporate Governance Code.

There are clear and transparent processes for managing and controlling specific aspects linked to the Group’s governance, as indicated below.

### Appointment, selection and composition of the Board of Directors and structure

When renewing the Board of Directors, the outgoing Board can express guidance to the shareholders by presenting lists for the renewal of the Board of Directors. The appointment of the Board of Directors takes place on the basis of a list vote, also with a view to guaranteeing minority representation, as regulated by the Articles of Association; based on current regulations, 2/5 of Board members must be from the least represented gender. The lists can be presented by shareholders who alone or together with others, can claim ownership of at least 2.5% of the share capital percentage. Each list for appointment to the Board of Directors, based on Borsa Italiana Regulations issued for companies listed in the STAR segment, must contain the names of at least three candidates that meet the independence requirements. On the LU-VE Board of Directors there are currently four directors who meet the independence requirements. The Chairman of the Board of Statutory Auditors and a member of the Board of Directors are chosen from the minority list.

The composition and date of first appointment of the individual board members follows:

- MATTEO LIBERALI – Chief Executive Officer, member of the Board of Directors since 15 May 2003 and Chairman of the Board of Directors since 23 January 2023.
- PIERLUIGI FAGGIOLI – Vice Chairman of the Board of Directors in office since 18 July 2014.
- MICHELE FAGGIOLI - Chief Strategic Development Officer, member of the Board of Directors since 18 July 2014.



- o RAFFAELLA CAGLIANO – Independent director in office since 29 April 2020.
- o ANNA GERVASONI – Independent director in office since 10 March 2017.
- o FABIO LIBERALI – Non-executive director in office since 23 October 2008.
- o LAURA OLIVA – Non-executive director in office since 10 March 2017.
- o STEFANO PALEARI – Independent director in office since 28 April 2015, appointed Lead Independent Director on 13 March 2017.
- o CARLO PARIS – Independent director in office since 28 April 2023.
- o ROBERTA PIERANTONI – Non-executive director in office since 10 March 2017.

Among the Board of Directors members:

- o One member holds the position of Independent Director in two other listed companies.
- o One member holds the position of Independent Director in two listed companies, as well as Lead Independent Director and member of the Nomination and Governance Committee in one of the two companies.
- o One member holds the position of Independent Director in two relevant companies.
- o One member holds the position of Independent Director in two listed companies.
- o One member holds the position of Independent Director in another listed company.

	NUMBER OF MEMBERS OF THE BOARD OF DIRECTORS BY GENDER (as at 31.12.23)			% OF MEMBERS OF THE BOARD OF DIRECTORS BY GENDER (as at 31.12.23)		
	2021	2022	2023	2021	2022	2023
Men	8	7	6	67%	64%	60%
Women	4	4	4	33%	36%	40%
<b>Total</b>	<b>12</b>	<b>11</b>	<b>10</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

	NUMBER OF MEMBERS OF THE BOARD OF DIRECTORS BY AGE (as at 31.12.23)			% OF MEMBERS OF THE BOARD OF DIRECTORS BY AGE (as at 31.12.23)		
	2021	2022	2023	2021	2022	2023
Under 30	0	0	0	0%	0%	0%
Between 30 and 50	1	0	0	8%	0%	0%
Over 50	11	11	10	92%	100%	100%
<b>Total</b>	<b>12</b>	<b>11</b>	<b>10</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

The three-year mandate of the Board of Directors currently in office will lapse on approval of the financial statements at the Shareholders' Meeting to be held on 31 December 2025.

The Chairman of the Board of Directors is Matteo Liberali, who is also the person chiefly responsible for managing LU-VE (CEO), with broad management powers.

During the 2023 financial year, and more specifically at its meeting of 23 January 2023, the Board of Directors deemed it appropriate to assign the role of Chairman to the CEO, Matteo Liberali, based on the consideration that his appointment as Chairman took place following the death of Iginio Liberali, the founder who had always been the Company chairman. This made it necessary to give the Group, all its employees and the market a strong message of unity, togetherness and continuity with the past, and to ensure the continued trust of all stakeholders in the Group's current executive management.

Subsequently, on 28 April 2023, on the occasion of the Shareholders' Meeting, Matteo Liberali was confirmed as Chairman of the new Board of Directors of LU-VE S.p.A.. He was appointed for the financial years 2023, 2024 and 2025 and will hold office until the Shareholders' Meeting convened to approve the Financial Statements at 31 December 2025.

In this regard, it is reiterated that on 28 April 2023, in the meeting held following the Shareholders' Meeting, the Board of Directors confirmed its willingness to maintain the office of company CEO in the hands of the newly appointed Chairman of the Board of Directors, Matteo Liberali.

This choice is based on the fact that since LU-VE's listing on the Stock Exchange, Matteo Liberali has held the position of Group CEO, decisively contributing to its national and international development in terms of dimensional growth and marginality through the promotion of extraordinary operations and the identification of strategic lines of growth; his many years of experience in the sector in which LU-VE Group operates allow him to play a key role within the Group in inspiring, guiding and coordinating actions and conduct to achieve the corporate objectives set by the Board.

Moreover, this decision is also based on the authoritativeness and credibility of Matteo Liberali towards external stakeholders and on his ability of exercising, within the Board, guidance and coordination powers and balanced steering of the Board's activities.

In this regard, it was decided that the role of company Chairman which Matteo Liberali is called upon to carry out, does not prejudice the continuation of his role as chief head of the company, which he has carried out since 2015, and this in view of the recent introduction in the company's governance of the figure of General Manager, called upon to support him in the conduct of all the Group's ordinary management activities. It should be remembered that the CEO must report to the Board, at least every quarter, on the transactions of greater importance implemented; furthermore, the Board of Directors has adopted the "Guidelines on particularly significant transactions" that regulate how decisions are reached and the involvement of the Board for transactions that exceed certain quantitative and qualitative thresholds.

Also note that LU-VE, a listed company, has adopted a "Procedure for transactions with related parties" compliant with the provisions of the related Consob Regulation, which require that such transactions (unless they are for negligible amounts or executed as standard business transactions and at arm's length) must be assessed by a specific committee.

Furthermore, in view of the fact that the Chairman of the Board of Directors of LU-VE has always held important executive powers, with effect from the Company's listing on the Euronext market in 2017 the Board of Directors appointed Stefano Paleari as Lead Independent Director, who has been assigned all the powers that the Corporate Governance Code envisages for this office.

It should also be noted that on 28 April 2023, the Board of Directors appointed Prof. Marco Claudio Vitale as Honorary Chairman of LU-VE S.p.A. for the entire term of office of the new Board of Directors (and, therefore, until the date of the Shareholders' Meeting that will be called to approve the financial statements at 31 December 2025).



## • Board of Directors performance assessment

At least upon its renewal, the Board of Directors engages in a board evaluation process on the size, composition and skills, operations and activities of the Board and its Board Committees.

The Control and Risk Committee, with adequate preliminary investigation activities, supports the assessments and decisions of the Board of Directors relating to the Internal Control and Risk Management System, as well as those relating to the approval of periodic financial and non-financial reporting. The Control and Risk Committee is also assigned responsibility for the supervision of processes and activities relating to sustainability, as described in the Corporate Governance Report.

The Remuneration and Appointments Committee is responsible for assisting and supporting the Board by carrying out tasks and making proposals on the subject of board evaluation and by establishing the optimum composition of the Board and the Committees. It assists the Board of Directors in drafting remuneration policies for members of the Board of Directors, the general managers and top management, formulating, among other things, proposals for the remuneration of executive directors and other directors who hold specific offices, and setting the performance objectives linked to the variable component of that remuneration. The Board of Directors defines the MBOs (Management by Objectives) on an annual basis while the Long-Term Incentives (LTI) are prepared every three years. The Report on Remuneration and Compensation Paid indicates the process by which the remuneration policies are defined and remuneration calculated.

Within the context of monitoring the Group's social impacts, the Board of Directors has, among other things, requested the periodic monitoring of work-related injuries, and all executive director MBOs envisage a target linked to the achievement of certain accident prevention targets as well as those related to greenhouse gas emissions.

## • Composition and term of office of other Committees

COMMITTEE	COMPOSITION	TERM OF OFFICE
<b>Control and Risk Committee</b>	Composed of Stefano Paleari (Chairman), Anna Gervasoni and Laura Oliva	All members have been in office since 29.04.2020; more specifically, the two Committees were set up on 29.4.2020, but on 21.12.2020, following the Company's adoption of the new Corporate Governance Code, their composition was reconfirmed. Lastly, the composition was also reconfirmed at the renewal of the Board of Directors on 28.4.2023.
<b>Remuneration and Appointments Committee</b>	Composed of Stefano Paleari (Chairman), Anna Gervasoni and Roberta Pierantoni	
<b>Independent Committee</b>	Composed of Stefano Paleari (Chairman), Raffaella Cagliano and Carlo Paris	Established on 29.06.2021. Two current members have been in office since 29.06.2021 (Stefano Paleari and Raffaella Cagliano), while the third member (Carlo Paris) was appointed when the Board of Directors was renewed on 28.04.2023.

## • Conflicts of interest

Conflicts of interest are prevented and mitigated within the context of the current governance model.

Pursuant to current regulations, a director who has an interest, on their own behalf or that of third parties, in conflict with the interests of the company regarding a certain transaction must inform the other directors and the Board of Statutory Auditors, specifying the nature, terms, origin and extent of the conflict; if it is the CEO, he/she must refrain from executing the transaction and refer it to the Board. The Board of Directors, if it decides to execute the transaction, must provide sufficient reasons and explain the benefits for the company. The decision regarding the transaction, if carried by casting vote of the director in conflict of interest, may be challenged by the other directors or by the Board of Statutory Auditors, if it could prove detrimental to the company.

Furthermore, the Consob Regulation on Transactions with Related Parties requires that the company adopt a specific procedure that establishes the rules to be followed whenever LU-VE or one of its subsidiaries enters into a transaction with a related party: this procedure was approved by the Board of Directors on 29 June 2021 and has been in force since 1 July 2021 (See website <https://investor.luvegroup.com/it/governo-societario/codici-di-condotta-procedure/procedure-societarie/>). For the purposes of applying this Procedure, Related Parties are identified every six months by the Company in

accordance with the International Accounting Standards in force from time to time and has established a register of related parties.

In the event of transactions with related parties that match specific requirements, the company must publish an information document. All transactions with related parties are also specifically indicated in the annual and half-yearly financial reports. In compliance with current regulations, the company's Board of Directors identifies annually the "ultimate beneficial owner", i.e. the natural person who is the ultimate beneficiary of the business activities.

Lastly, in accordance with current regulations, each year the Board of Directors verifies whether the direct controlling entity of LU-VE exercises management and coordination activities: this verification has thus far ruled out that the direct controlling entity exercises management and coordination activities over LU-VE.

## Our Sustainability Plan

**The sustainability plan** shows the accident frequency index and accident severity index for all employees and non-employees of the Group's production sites. The MBOs within the framework of the remuneration policies are linked to these values.

These indices are calculated as follows:

- Accident frequency index: number of work-related injuries/hours worked x 1,000,000
- Accident severity index: number of days lost per injury/hours worked x 1,000

For details on employee-only accident rates, see the section "Focus on occupational health and safety."

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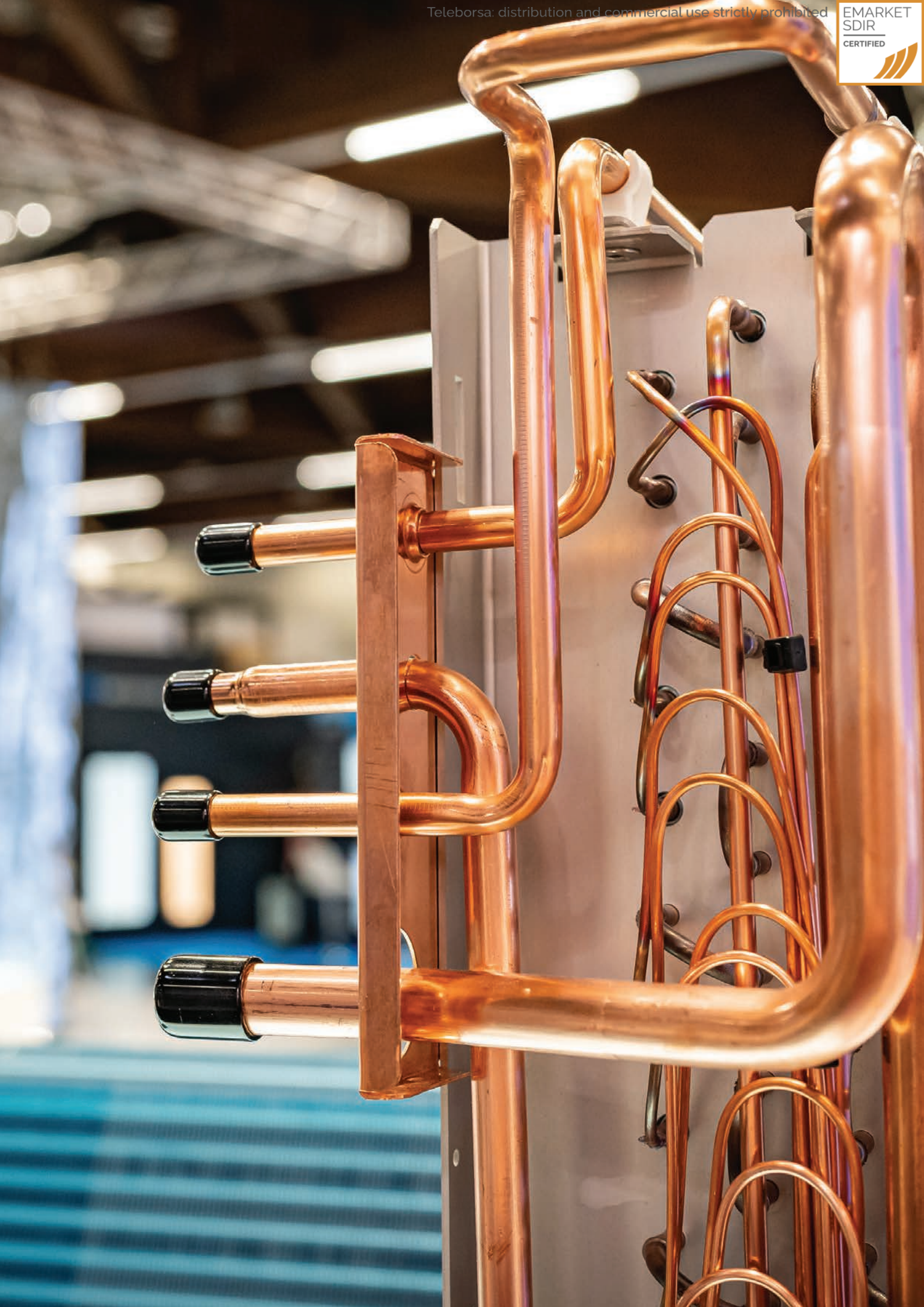
Detailed guidance for **calculating the KPIs of the European Taxonomy for Environmentally Sustainable Activities** is given below.

For the calculation of the turnover KPI, the denominator considers the sum related only to products revenues as reported in the document Directors' Report.

The KPI CAPEX takes into account the sum of all additions, occurring over financial year 2023, to tangible and intangible elements of the balance sheet including capitalized R&D assets and rights of use arising from IFRS 16. Specifically, increases were included related to: i) capitalized R&D, allocated to specific assets ii) software for business operation, for the portion of eligible turnover; iii) real estate, mainly allocated to specific assets, iv) rights of use, partly allocated specifically (with reference to cars allocated to asset 6. 5) and for the remaining part proportionally to the eligible turnover, v) machinery and other fixed assets for facilities that are used for the production of ventilated equipment, for the share of eligible turnover (on the total group turnover - if the production site makes both components and ventilated products, or on the turnover of the Cooling System Business Unit - if the production site makes mainly ventilated products).

The OPEX KPI takes into account the sum of operating expenses associated with R&D, maintenance of production facilities, day-to-day servicing of assets, and short-term leases. Specifically, eligible Opex was attributed to assets based on the percentages of eligible Capex associated with them.







## Chapter - ADVANCED WORLD | Ideas and passion for a cooler world

### Pushing for change

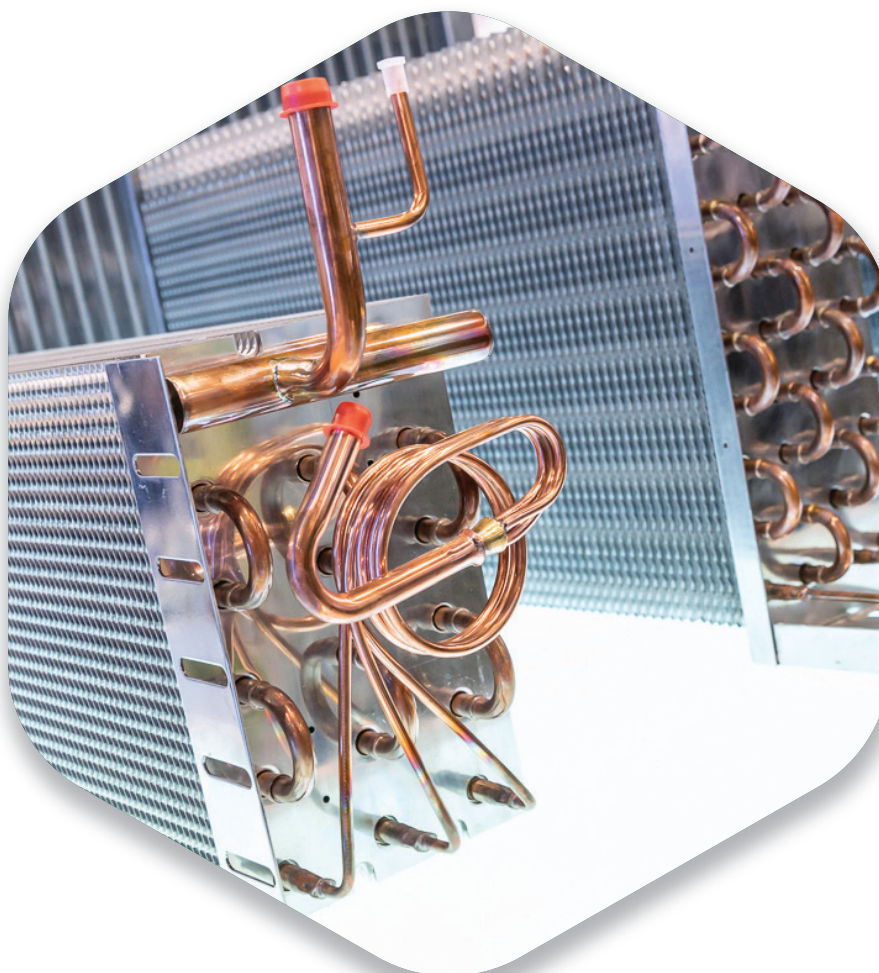
For GRI 302-5, the **reduction of energy requirements of LU-VE Group solutions** is expressed in relation to a specific product range, as a percentage decrease of climate-changing emissions generated by an air cooled product range with natural refrigerant fluid and a high-efficiency motor compared to an equivalent product with traditional fluids and a low-efficiency motor.

This emission reduction, closely linked to a reduction in energy consumption, was calculated in a third-party certified Life Cycle Assessment study, in accordance with international standard ISO 14067.

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With reference to the percentages on the trends of products marketed by the Group detailed in the paragraphs “Sustainable refrigerant fluids” and “Products with efficient motors”, note that these data were processed in 2021 with the support of a data analysis company that made it possible to correlate the various corporate datasets and have been updated with data for 2023.

The scope of the analysis covered the sales of “air cooled equipment” from 2012 to 2023 and assessed their sales figures over these 12 years.









## Chapter – BETTER WORLD | Living and working in better places

### General information

For each reporting year, the calculation of the Group's personnel (broken down by geographical area, gender, contract type and work type) is based on the data received from the various sales and manufacturing branches and on extractions from the centralised IT system. As in previous years, the figures are expressed in terms of headcount as at 31 December.

The term “collaborators”, where used, includes: employees, contract workers and apprentices.

For each year, the calculation of dismissed workers includes contract terminations as at 31/12 of the previous year, while it does not include employees dismissed as at 31/12 of the year in question, as these are considered as part of the workforce until said date.

The hiring and turnover rate, broken down by gender, age and geographical area, is calculated using the number of employees relative to the type of subdivision considered.

Transfers from agency workers to employees were also considered as recruitment.

### The LU-VE Group Family

**With reference to wages and remuneration**, the GRI 405-2 disclosure takes the following data into account:

- “Basic salary”: Gross annual salary + any potential monthly payments included in the contract
- “Total remuneration”: Basic salary + any other actual remuneration (MBO, Spot Bonus, overtime, benefits, allowances)

To calculate the ratio between basic salary and total remuneration of women and men, broken down by geographical area and professional category, please note that the salary of workers on secondment was considered with reference to the country to which the employees were seconded.

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**The ratio on total annual remuneration - GRI 2-21** - was calculated taking into consideration the employees on the payroll at 31 December 2023 within the Group's companies.

The ratio between the total annual remuneration of the organisation's highest-paid individual (CEO) and the median value of the total annual remuneration for all LU-VE Group employees amounts to 47.23, in 2022 the value was 37.86. With reference to the employees of LU-VE Group in Italy only, this value is 36.24; in 2022 the value was 29.55.

It should be noted that with reference to the change in ratios between 2023 and 2022, the assignment of the position of President to the CEO must be taken into account, resulting in a change in remuneration.

The ratio between the percentage increase in annual total compensation for the organisation's highest-paid individual (CEO) and the percentage increase in the median value of the total annual compensation of all employees in 2023 is 3.25.

It is specified that the denominator of point b) of the GRI 2-21 disclosure was calculated by taking into account the percentage increases in salaries of all employees in force as at 31 December 2023 and already present as at 31 December 2022.

It should also be noted that in the “Annual Report on Remuneration Policy and Remuneration Paid,” LU-VE Group reports the trend of the ratios between the remuneration of Executive Directors and the average gross annual remuneration of LU-VE Group Italy employees.

Employee remuneration takes into account basic salary and any other actual remuneration (MBOs, Spot Bonuses, overtime, benefits, allowances).

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Continuity in reporting compared to previous years, **detailed tables are provided below**. The body of the document contains tables with percentage formulas to improve readability of the data..

NUMBER OF EMPLOYEES BY CONTRACTUAL TYPE AND GENDER									
	Permanent contract			Temporary contract			Total		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
Men	1,786	2,000	1,956	287	281	300	2,073	2,283	2,259
Women	744	823	832	223	219	178	967	1,042	1,010
<b>Total</b>	<b>2,530</b>	<b>2,823</b>	<b>2,788</b>	<b>510</b>	<b>500</b>	<b>478</b>	<b>3,040</b>	<b>3,325</b>	<b>3,269<sup>34</sup></b>

NUMBER OF EMPLOYEES BY CONTRACT TYPE AND GEOGRAPHICAL AREA									
	Permanent contract			Temporary contract			Total		
	2021	2022	2023	2021	2022	2023	2020	2021	2023
Italy	997	1,158	1,174	27	23	10	1,024	1,181	1,184
EU Countries	977	1,015	1,029	276	328	277	1,253	1,345	1,309
Non-EU Countries	556	650	585	207	149	191	763	799	776
<b>Total</b>	<b>2,530</b>	<b>2,823</b>	<b>2,788</b>	<b>510</b>	<b>500</b>	<b>478</b>	<b>3,040</b>	<b>3,325</b>	<b>3,269<sup>35</sup></b>

NUMBER OF EMPLOYEES BY CONTRACT TYPE AND GENDER									
	Full-time			Part-time			Total		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
Men	2,058	2,260	2,235	15	23	24	2,073	2,283	2,259
Women	898	964	936	69	78	74	967	1,042	1,010
<b>Total</b>	<b>2,956</b>	<b>3,224</b>	<b>3,171</b>	<b>84</b>	<b>101</b>	<b>98</b>	<b>3,040</b>	<b>3,325</b>	<b>3,269</b>

### Focus on occupational health and safety

The **accident indices** shown in the table in the section “Focus on occupational health and safety” section include employees only, while staff on internships or project contracts are excluded.

Specifically, the injury rates were calculated as reported below:

- Frequency index (or rate of work-related injuries): number of injuries/hours worked\*1,000,000
- Severity index (or severity rate): number of days lost per injury/hours worked\*1,000,000
- High-consequence injury index (or high-consequence work-related injury rate): the number of high-consequence work-related injuries, namely that recorded total days of absence exceeding six months/hours worked\*1,000,000

The frequency and severity index calculations include commuting injuries only when the transport was organised by the Group.

The calculation of the injury rate and severity rate includes hours worked and (any) injury to employees on secondment in the country to which the employees are seconded.

**34-35** Note that the totals for 2022 and 2023 also include two employees and three male employees from a geographical area outside EU countries with a contract without guaranteed hours

## Chapter – BALANCED WORLD | More opportunities for all

With reference to **GRI 202-2 disclosure**, the percentage of Directors from local communities was calculated following this methodology:

- Definition of “Executive”: Officers who in the management systems are referred to as Employee-level Director
- Definition of “local community”: nationality with respect to the nation of the legal entity
- Definition of “locations”: all Legal Entities of the Group





## Chapter – CONSCIOUS WORLD | Stewardship for a better future

### Looking at our environmental impacts

With reference to energy consumption, the conversion factors used to standardise energy consumption come from the DEFRA table “UK Government GHG Conversion Factors for Company Reporting – Fuel properties” for the years 2021, 2022 and 2023.

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**Greenhouse gas emissions** were calculated according to the following methodology, depending on the type of emission:

- **Direct emissions (Scope 1):** emissions linked to refrigerant gas leaks, the consumption of natural gas and diesel for heating and fuel for the company car fleet, were calculated using the emission factors reported in DEFRA’s “UK Government GHG Conversion Factors for Company Reporting” in the 2021, 2022 and 2023 editions. The emissions were calculated in CO<sub>2</sub> equivalent, as they take into consideration CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O gases.
- **Indirect emissions (Scope 2):** indirect emissions correspond to the consumption of electricity and heat from district heating.

The calculation of emissions linked to electricity calculated according to the “market-based” approach used the factors presented in Figure 4 of the document “European Residual Mixes” (2020, 2021 and 2022 editions) published by the Association of Issuing Bodies for European countries, and the factors published by the Center for Resource solutions in “Green-e Energy Residual Mix Emissions Rates” (2021, 2022 and 2023 editions) for the United States of America. For the countries for which residual mix emission factors are not available, in accordance with the provisions of the reporting standards, the same factors as those in the “location-based” method were used.

For the calculation of emissions related to electricity according to the “location-based” method for the three-year period 2021-2023, the factors presented in “Table 49 - Main socio-economic and energy indicators” published by Terna in the International Comparisons section, and available in their most recent version at the time of publication of this document (Terna 2020, 2019 data) were taken into consideration.

Lastly, for the calculation of emissions relating to consumption from district heating, the coefficients used are those reported in DEFRA’s “UK Government GHG Conversion Factors for Company Reporting” in the 2021, 2022 and 2023 editions.

Both calculation methodologies were used to calculate indirect emissions. The market-based method is based on the CO<sub>2</sub> emissions emitted by the energy suppliers from whom the organisation purchases electricity through a contract. The location-based method is based on average emission factors related to energy generation for well-defined geographical boundaries, including local, sub-national or national boundaries. The indicators reported represent the best possible estimate on the basis of data available when this document was prepared.

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**With reference to water withdrawals and discharges** - GRI 303-3 and GRI 303-4, the water tables show the unit of measurement m<sup>3</sup> for reporting purposes.

## GRI CONTENT INDEX

Statement of use	The LU-VE Group has presented a report in compliance with GRI Standards for the period from 1 January 2023 to 31 December 2023
GRI 1 used	GRI 1 - Foundation 2021
Relevant GRI sector standards	N/A

General Disclosures					
GRI Standards	Disclosure	Location	Omission		
			Requirements omitted	Reason	Explanation
GRI 2: General Disclosures 2021	2-1 Organizational details	A large Group, pp.14-15 Methodological note and further considerations, pp.148-149			
	2-2 Entities included in the organisation's sustainability reporting	A large Group, pp.14-15 Methodological note and further considerations, pp.146-149			
	2-3 Reporting period, frequency and contact point	28 March 2024 Methodological note and further considerations, pp.146-147			
	2-4 Restatements of information	Focus on occupational health and safety, pp. 109 Methodological note and further considerations, pp.146			
	2-5 External assurance	Report of the auditing firm, pp.172-175			
	2-6 Activities, value chain and other business relationships	An ecosystem of products, applications and impacts, pp.18-19 2023 solutions and the evolution of applications, pp. 74-82 Looking at the impacts of our suppliers, pp. 140-145 Methodological note and further considerations, pp.147			
	2-7 Employees	The LU-VE Group family, pp.94-102 Methodological note and further considerations, pp.163			
	2-8 Workers who are not employees	The LU-VE Group family, pp. 94-102 Methodological note and further considerations, pp. 162			
	2-9 Governance structure and composition	Sustainability governance, pp.22-26 Methodological note and further considerations, pp.162-163			
	2-10 Nomination and selection of the highest governance body	Methodological note and further considerations, pp.154-156			
	2-11 Chair of the highest governance body	Sustainability governance, pp.24 Methodological note and further considerations, pp.154-156			
	2-12 Role of the highest governance body in overseeing the management of impacts	Our sustainability plan pp.38-39 Sustainability governance, pp.22-29			
	2-13 Delegation of responsibility for managing impacts	Sustainability governance, pp.22-25			
	2-14 Role of the highest governance body in sustainability reporting	Sustainability governance, pp.22-25			
	2-15 Conflicts of interest	Methodological note and further considerations, pp.157-158			
	2-16 Communication of critical concerns	Sustainability governance, pp.26			
	2-17 Collective knowledge of the highest governance body	Sustainability governance, pp.22-27			
	2-18 Evaluation of the performance of the highest governance body	Methodological note and further considerations, pp.157			
	2-19 Remuneration policies	Methodological note and further considerations, pp.157 <i>The Board of Directors and top management remuneration policies are detailed in the "Annual Report on remuneration and compensation policy"</i>			
	2-20 Process to determine remuneration	Methodological note and further considerations, pp.157 <i>In the "Annual Report on remuneration and compensation policy" the process by which the remuneration policies are established and calculated is indicated.</i>			



General Disclosures					
GRI Standards	Disclosure	Location	Omission		
			Requirements omitted	Reason	Explanation
	2-21 Annual total compensation ratio	Methodological note and further considerations, pp.162			
	2-22 Statement on sustainable development strategy	Leadership with passion, pp.5			
	2-23 Policy commitments	Sustainability governance, pp.28-29			
	2-24 Embedding policy commitments	Sustainability governance, pp.28-29 Our sustainability plan, pp.38-39			
	2-25 Processes to remediate negative impacts	Our sustainability plan, pp.38-43			
	2-26 Mechanisms for seeking advice and raising concerns	Sustainability governance, pp.26			
	2-27 Compliance with laws and regulations	Sustainability governance, pp.26			
	2-28 Membership associations	Eurovent (LU-VE SpA), Unindustria Varese (LU-VE SpA)			
	2-29 Approach to stakeholder engagement	Sustainability governance, pp.31-32			
	2-30 Collective bargaining agreements	The LU-VE Group family pp.100			
	3-1 Process to determine material topics	Our sustainability plan, pp.38-43			
GRI 3: Material Topics 2021	3-2 List of material topics	Our sustainability plan, pp.38-43			

Climate change					
GRI 3: Material Topics 2021	3-3 Management of material topics	Sustainability governance, pp.26-27 Looking at our environmental impacts, pp.128-133			
GRI 302: Energy 2016	302-1 Energy consumption within the organisation	Looking at our environmental impacts, pp. 130-132			
GRI 302: Energy 2016	302-3 Energy intensity	Looking at our environmental impacts, pp.132			
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Looking at our environmental impacts, pp.132 Methodological note and further considerations, pp.165			
GRI 305: Emissions 2016	305-2 Energy indirect (Scope 2) GHG emissions	Looking at our environmental impacts, pp.132 Methodological note and further considerations, pp.165			
GRI 305: Emissions 2016	305-3 Other indirect (Scope 3) GHG emissions	Looking at our environmental impacts, pp.130	Indirect (Scope 3) GHG gas emissions in tons of CO <sub>2eq</sub>	Information not available/incomplete	The information required to calculate the indirect (Scope 3) GHG emissions are not currently available due to the complexity of the value chain. The Group is committed to including this information in its next Non-Financial Statements, and to this end initiated an assessment project in that analysed the categories of the international "GHG Protocol" framework
GRI 305: Emissions 2016	305-4 GHG emissions intensity	Looking at our environmental impacts, pp.132			
GRI 305: Emissions 2016	305-5 Reduction of GHG emissions	Looking at our environmental impacts, pp.130			
GRI 305: Emissions 2016	305-7 Nitrogen oxides (NOx), sulphur oxides (SOx) and other significant air emissions	Looking at our environmental impacts, pp.133			
Research, development and innovation					
GRI 3: Material Topics 2021	3-3 Management of material topics	We are Eurovent certified, pp.59-60 Pushing for change, pp.62-73 2023 solutions and the evolution of applications, pp.74-82 Working together on innovation, pp. 84-88			
Customer orientation					
GRI 3: Material Topics 2021	3-3 Management of material topics	We are Eurovent certified, pp.59-60 Pushing for change, pp.62-73 2023 solutions and the evolution of applications, pp.74-82 Working together on innovation, pp. 84-88			
GRI 416: Customer health and safety 2016	416-1 Assessment of the health and safety impacts of products and service categories	Working together on innovation, pp.68			



Workers' well-being and safety					
GRI 3: Material Topics 2021	3-3 Management of material topics	The LU-VE Group family, pp.94-102 Focus on occupational health and safety, pp.108-111			
GRI 403: Occupational health and safety 2018	403-1 Occupational health and safety management system	Focus on occupational health and safety, pp.108-111			
GRI 403: Occupational health and safety 2018	403-2 Hazard identification, risk assessment, and incident investigation	Focus on occupational health and safety, pp.108-111			
GRI 403: Occupational health and safety 2018	403-3 Occupational health services	Focus on occupational health and safety, pp.108-111			
GRI 403: Occupational health and safety 2018	403-4 Worker participation, consultation and communication on occupational health and safety	Focus on occupational health and safety, pp.108-111			
GRI 403: Occupational health and safety 2018	403-5 Worker training on occupational health and safety	Training and development, pp.195 Focus on occupational health and safety, pp.110-111			
GRI 403: Occupational health and safety 2018	403-6 Promotion of worker health	Focus on occupational health and safety, pp.108-111			
GRI 403: Occupational health and safety 2018	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Focus on occupational health and safety, pp.108-111			
GRI 403: Occupational health and safety 2018	403-9 Work-related injuries	Focus on occupational health and safety, pp.108-109 Methodological note and further considerations, pp.163			
GRI 403: Occupational health and safety 2018	403-10 Work-related ill health	Focus on occupational health and safety, pp.109			
GRI 405: Diversity and equal opportunity 2016	405-1 Diversity of governance bodies and employees	Sustainability governance, pp.24-25 The LU-VE Group family, pp.93-94 Methodological note and further considerations, pp.155			
GRI 405: Diversity and equal opportunity 2016	405-2 Ratio of basic salary and remuneration of women to men	The LU-VE Group family, pp.99 Methodological note and further considerations, pp.162			
Products with reduced environmental impact					
GRI 3: Material Topics 2021	3-3 Management of material topics	We are Eurovent certified, pp.59-60 Pushing for change, pp.62-73 2023 solutions and the evolution of applications, pp.74-82 Working together on innovation, pp.84-88 Looking at our environmental impacts, pp.130			
GRI 302: Energy 2016	302-5 Reductions in energy requirements of products and services	Pushing for change, pp.62 Methodological note and further considerations, pp.160			
GRI 417: Marketing and Labelling 2016	417-2 Incidents of non-compliance concerning product and service information and labelling	Sustainability governance, pp.26			

Business ethics and integrity					
GRI 3: Material Topics 2021	3-5 Management of material topics	Sustainability governance, pp.22-29			
GRI 205: Anti-Corruption 2016	205-3 Confirmed incidents of corruption and actions taken	Sustainability governance, pp.26			
GRI 206: Anti-competitive behaviours 2016	206-1 Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	Sustainability governance, pp.26			
Food safety and waste					
GRI 3: Material Topics 2021	3-3 Management of material topics	A large Group, pp.18-21 2023 solutions and the evolution of applications, pp.74-82			
Talent attraction and development					
GRI 3: Material Topics 2021	3-3 Management of material topics	The LU-VE Group family, pp.94-102 Training and development, pp.104-105			
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	The LU-VE Group family, pp.96-97			
GRI 401: Employment 2016	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	The LU-VE Group family, pp.102			
GRI 404: Training and education 2016	404-1 Average hours of training per year per employee	Training and development, pp.104			
Support for local communities					
GRI 3: Material Topics 2021	3-3 Management of material topics	We support employees and their families, pp.116-119 We support local communities, pp.120-124			
GRI 202: Market Presence 2016	202-2 Proportion of senior management hired from the local community	We support employees and their families, pp.118 Methodological note and further considerations, pp.164			



Strategies for growth and long-term value creation					
GRI 3: Material Topics 2021	3-5 Management of material topics	Our sustainability plan, pp.38-53			
GRI 201: Economic performance 2016	201-1 Direct economic value generated and distributed	Our sustainability plan, pp.50			
GRI 207: Tax 2019	207-1 Approach to tax	Our sustainability plan, pp.51			
GRI 207: Tax 2019	207-2 Tax governance, control and risk management	Our sustainability plan, pp.51			
GRI 207: Tax 2019	207-3 Stakeholder engagement and management of concerns related to tax	Our sustainability plan, pp.51			
GRI 207: Tax 2019	207-4 Country-by-country reporting	Our sustainability plan, pp.52			
Responsible supply chain					
GRI 3: Material Topics 2021	3-3 Management of material topics	Looking at the impacts of our suppliers, pp.140-145			
GRI 308: Supplier environmental assessment 2016	308-1 New suppliers that were screened using environmental criteria	Looking at the impacts of our suppliers, pp.142			
GRI 414: Supplier social assessment 2016	414-1 New suppliers that were screened using social criteria	Looking at the impacts of our suppliers, pp.142			
Resource and waste management					
GRI 3: Material Topics 2021	3-3 Management of material topics	Looking at our environmental impacts, pp.134-138			
GRI 303: Water and effluents 2018	303-1 Interactions with water as a shared resource	Looking at our environmental impacts, pp.134-135			
GRI 303: Water and effluents 2018	303-2 Management of water discharge-related impacts	Looking at our environmental impacts, pp.134-135			
GRI 303: Water and effluents 2018	303-3 Water withdrawal	Looking at our environmental impacts, pp.134-135 Methodological note and further considerations pp.165			
GRI 303: Water and effluents 2018	303-4 Water discharge	Looking at our environmental impacts, pp.134-135 Methodological note and further considerations pp.165			
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Looking at our environmental impacts, pp.136-138			
GRI 306: Waste 2020	306-2 Management of significant waste-related impacts	Looking at our environmental impacts, pp.136-138			
GRI 306: Waste 2020	306-3 Waste generated	Looking at our environmental impacts, pp.136-138			
GRI 306: Waste 2020	306-4 Waste diverted from disposal	Looking at our environmental impacts, pp.136-138			

## Relazione della società di revisione

# Deloitte.

Deloitte & Touche S.p.A.  
Via Tortona, 25  
20144 Milano  
Italia

Tel: +39 02 83322111  
Fax: +39 02 83322112  
www.deloitte.it

### INDEPENDENT AUDITOR'S REPORT ON THE CONSOLIDATED NON-FINANCIAL STATEMENT PURSUANT TO ARTICLE 3, PARAGRAPH 10 OF LEGISLATIVE DECREE No. 254 OF 30 DECEMBER 2016, AND ART. 5 OF CONSOB REGULATION N. 20267 OF JANUARY 2018

To the Board of Directors of  
Lu-Ve S.p.A.

Pursuant to article 3, paragraph 10, of the Legislative Decree no. 254 of December 30, 2016 (hereinafter "Decree") and to article 5, paragraph 1, letter g) of the CONSOB Regulation n. 20267/2018, we have carried out a limited assurance engagement on the Consolidated Non-Financial Statement of Lu-Ve S.p.A. and its subsidiaries (hereinafter "Lu-Ve Group" or "Group") as of 31 December 2023 prepared on the basis of art. 4 of the Decree and approved by the Board of Directors on 13 March 2024 (hereinafter "NFS").

Our limited assurance engagement does not extend to the information required by art. 8 of the European Regulation 2020/852 included in the paragraph "The European Taxonomy for environmentally sustainable activities".

#### Responsibility of the Directors and the Board of Statutory Auditors for the NFS

The Directors are responsible for the preparation of the NFS in accordance with articles 3 and 4 of the Decree and the "Global Reporting Initiative Sustainability Reporting Standards" established by GRI - Global Reporting Initiative (hereinafter "GRI Standards"), which they have identified as reporting framework.

The Directors are also responsible, within the terms established by law, for such internal control as they determine is necessary to enable the preparation of NFS that is free from material misstatement, whether due to fraud or error.

The Directors are moreover responsible for defining the contents of the NFS, within the topics specified in article 3, paragraph 1, of the Decree, taking into account the activities and characteristics of the Group, and to the extent necessary in order to ensure the understanding of the Group's activities, its trends, performance and the related impacts.

Finally, the Directors are responsible for defining the business management model and the organisation of the Group's activities as well as, with reference to the topics detected and reported in the NFS, for the policies pursued by the Group and for identifying and managing the risks generated or undertaken by the Group.

Ancona Bari Bergamo Bologna Brescia Cagliari Firenze Genova Milano Napoli Padova Parma Roma Torino Treviso Udine Verona

Sede Legale: Via Tortona, 25 - 20144 Milano | Capitale Sociale: Euro 10.328.220,00 i.v.

Codice Fiscale/Registro delle Imprese di Milano Monza Brianza Lodi n. 03048560166 - R.E.A. n. MI-1720239 | Partita IVA: IT 03048560166

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The Board of Statutory Auditors is responsible for overseeing, within the terms established by law, the compliance with the provisions set out in the Decree.

#### Auditor's Independence and quality control

We have complied with the independence and other ethical requirements of the *International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code)* issued by the *International Ethics Standards Board for Accountants*, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

During the year covered by this assurance engagement, our auditing firm applied *International Standard on Quality Control 1 (ISQC Italia 1)* and, accordingly, maintained a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

#### Auditor's responsibility

Our responsibility is to express our conclusion based on the procedures performed about the compliance of the NFS with the Decree and the GRI Standards. We conducted our work in accordance with the criteria established in the *"International Standard on Assurance Engagements ISAE 3000 (Revised) – Assurance Engagements Other than Audits or Reviews of Historical Financial Information"* (hereinafter *"ISAE 3000 Revised"*), issued by the *International Auditing and Assurance Standards Board (IAASB)* for limited assurance engagements. The standard requires that we plan and perform the engagement to obtain limited assurance whether the NFS is free from material misstatement. Therefore, the procedures performed in a limited assurance engagement are less than those performed in a reasonable assurance engagement in accordance with ISAE 3000 Revised, and, therefore, do not enable us to obtain assurance that we would become aware of all significant matters and events that might be identified in a reasonable assurance engagement.

The procedures performed on NFS are based on our professional judgement and included inquiries, primarily with company personnel responsible for the preparation of information included in the NFS, analysis of documents, recalculations and other procedures aimed to obtain evidence as appropriate.

Specifically, we carried out the following procedures:

1. analysis of relevant topics with reference to the Group's activities and characteristics disclosed in the NFS, in order to assess the reasonableness of the selection process in place in light of the provisions of art.3 of the Decree and taking into account the adopted reporting standard;
2. analysis and assessment of the identification criteria of the consolidation area, in order to assess its compliance with the Decree;
3. comparison between the financial data and information included in the NFS with those included in the consolidated financial statements of the Lu-Ve Group;



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4. understanding of the following matters:

- business management model of the Group's activities, with reference to the management of the topics specified by article 3 of the Decree;
- policies adopted by the entity in connection with the topics specified by article 3 of the Decree, achieved results and related fundamental performance indicators;
- main risks, generated and/or undertaken, in connection with the topics specified by article 3 of the Decree.

Moreover, with reference to these matters, we carried out a comparison with the information contained in the NFS and the verifications described in the subsequent point 5, letter a);

5. understanding of the processes underlying the origination, recording and management of qualitative and quantitative material information included in the NFS.

In particular, we carried out interviews and discussions with the management of Lu-Ve S.p.A. and with the employees of Sest S.p.A., Sest-Luve-Polska Sp.z.o.o., Heat Transfer Systems (HTS) s.r.o. and Spirotech Heat Exchangers Private Limited, and we carried out limited documentary verifications, in order to gather information about the processes and procedures which support the collection, aggregation, elaboration and transmittal of non-financial data and information to the department responsible for the preparation of the NFS.

In addition, for material information, taking into consideration the Group's activities and characteristics:

- at the parent company's and subsidiaries' level:
  - a) with regards to qualitative information included in the NFS, and specifically with reference to the business management model, policies applied and main risks, we carried out interviews and gathered supporting documentation in order to verify its consistency with the available evidence;
  - b) with regards to quantitative information, we carried out both analytical procedures and limited verifications in order to ensure, on a sample basis, the correct aggregation of data;
- for the following companies and sites, Uboldo (Italy) headquarters and production site for Lu-Ve S.p.A., Limana (Italy) and Mel (Italy) production sites for Sest S.p.A., Gliwice (Poland) production site for Sest-Luve-Polska Sp.z.o.o., Novosedly (Czech Republic) production site for Heat Transfer System (HTS) s.r.o., and Bhiwadi (India) production site for Spirotech Heat Exchangers Private Limited, which we selected based on their activities, their contribution to the performance indicators at the consolidated level and their location, we carried out site visits or remote meetings, during which we have met their management and have gathered supporting documentation with reference to the correct application of procedures and calculation methods used for the indicators.





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### Conclusion

Based on the work performed, nothing has come to our attention that causes us to believe that the NFS of the Lu-Ve Group as of 31 December 2023 is not prepared, in all material respects, in accordance with articles 3 and 4 of the Decree and the GRI Standards.

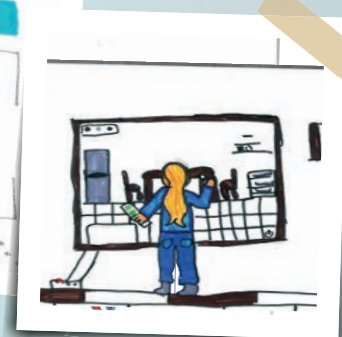
Our conclusion on the NFS of the Lu-Ve Group does not extend to the information required by art. 8 of the European Regulation 2020/852 included in the paragraph "The European Taxonomy for environmentally sustainable activities".

DELOITTE & TOUCHE S.p.A.

Signed by  
**Massimiliano Semprini**  
Partner

Milan, Italy  
March 28, 2024

*This report has been translated into the English language solely for the convenience of international readers.*



**LU-VE GROUP CHILDREN : "WHO WILL I BE WHEN I GROW UP?"**

**"CHILDREN KNOW SOMETHING THAT MOST PEOPLE HAVE FORGOTTEN" - KEITH HARING**





CALENDAR 2024







**LU-VE**  
**GROUP**  
*leadership with passion*



100%   
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