



# **1H2024 RESULTS PRESENTATION**

[WWW.ERREDUEGAS.IT](http://WWW.ERREDUEGAS.IT)

# SPEAKERS



**ENRICO D'ANGELO**  
FOUNDER



**FRANCESCA BARONTINI**  
CHIEF EXECUTIVE OFFICER



**ELIANA BOLLINO**  
COMMUNICATION & ESG DEPT.

# EXECUTIVE SUMMARY

ErreDue is a high-tech industrial company at the forefront of gas generation worldwide. It is able to deliver nitrogen, oxygen and hydrogen generation machines in both alkalyne and pem technologies and has been able to scale up to large hydrogen generation machines for the energy transition thanks to its vast experience.

ErreDue's technologies have been proven by several clients over the past 20 years and this represents a significant advantage over the competition and makes us a preferred partner in the large H2 plants that will develop over the next 5-10 years.

Parallel to the great H2 opportunity, Erredue continues to expand the industrial gas generation business, a market that continues to grow at 40% with EBITDA margin above 30%.

The combination of the two segments makes Erredue one of the few companies able to capitalise on the H2 opportunity while remaining highly profitable. To cope with demand and prepare for strong market demand trends, the company is building a new advanced plant that increases production capacity by 10 times, opening branches outside Italy, and hiring senior managers to help drive growth and introduce operational and financial best practices.







## **ABOUT US**

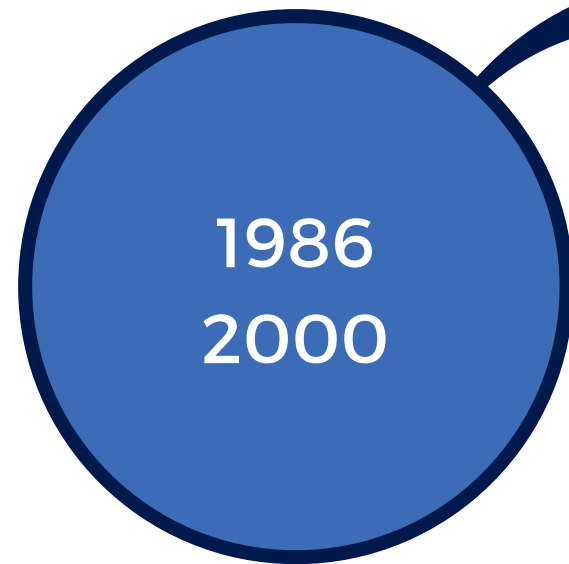
ErreDue is a vertically integrated company, able to design and build the components of its generators totally in-house. Its technology and know how, have permitted ErreDue to open-up new profitable business markets such as:

**LABORATORY & INDUSTRY DECARBONIZATION  
AND ENERGY TRANSITION**

## **BUSINESS PROPOSITION**

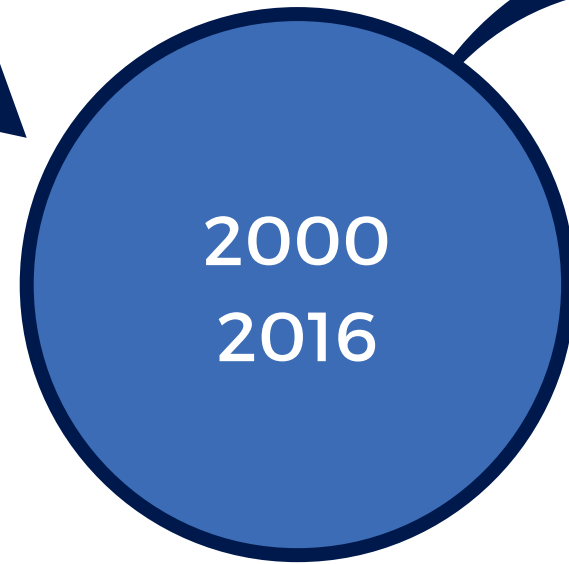
Today, companies and institutions are extremely concerned about ESG issues, and the geopolitical situation has underlined the problem of energy independence, so the market is turning from a minority sector into a mainstream sector whose future is linked to political purposes concerning de-carbonization. Thanks to more of 30's years experience Erredue will be able to became a key players of this emerging market

## THE PIONEERING YEARS



ErreDue was founded in 2000 by Enrico D'Angelo. The company was able to play a leading role immediately, thanks to the background of its founder, who as early as the mid-1980s began to take a strong interest in the hydrogen market, producing its first alkaline generators.

## THE GROWING YEARS



Erredue has grown organically over the past 20 years and is one of the companies ready to participate in the new market boom. In 2016, Erredue developed the Pem technology, thanks to which it was able to diversify its commercial offerings, increasing its product portfolio and readiness for the new market opening

## THE YEARS TO COME



The new production site will have an area designated for energy transition plants. The area will be 17,000 square metres covered will be able to produce 60 MW per year on one shift once the full capacity of the plant is reached. In addition the R&D department is concerned in important research project to optimize the Pem technology and to develop the Aem technology





# ERREDUE PRODUCTS PORTFOLIO



LABORATORY



INDUSTRY



ENERGY  
TRANSITION  
PLANT



# KEY SUCCESS FACTORS



## CUSTOMIZATION

FULL SYSTEM  
OFFERING  
CUSTOMIZED FOR  
DIVERSIFIED  
END-MARKET  
APPLICATIONS



## SCALABILITY

ON-SITE GAS  
GENERATION  
SCALABILITY ACROSS  
MULTIPLE  
END-MARKETS



## RELIABILITY

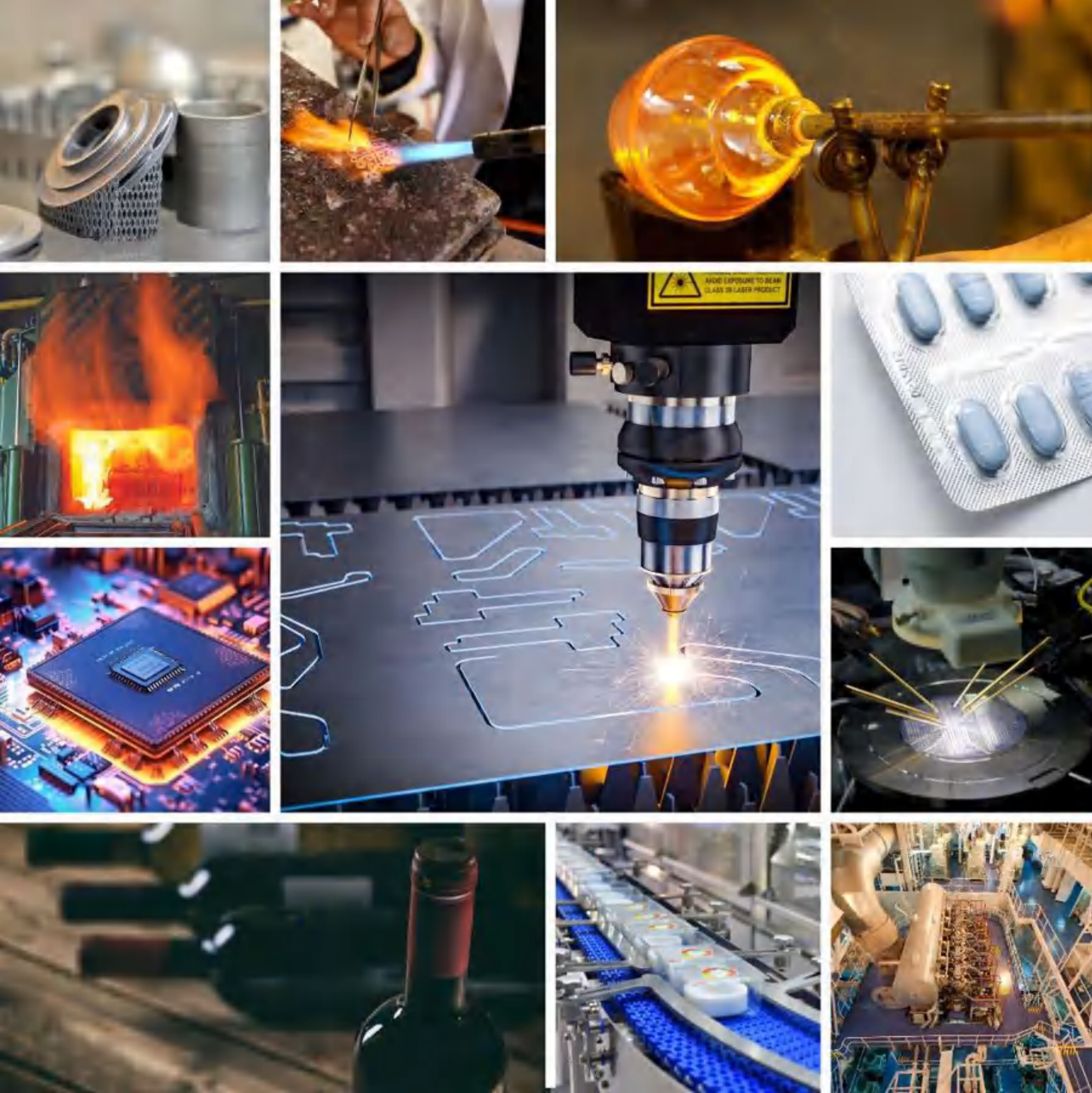
WHITE SPACE IN PILOT  
PROJECTS FOR H2  
PLANT TO ACHIEVE NET  
ZERO EMISSION



## VERTICALLY INTEGRATED BUSINESS MODEL

EVERY  
TECHNOLOGICAL  
COMPONENTS IS  
RESEARCHED,  
DESIGNED, PRODUCED  
AND ASSEMBLED IN-  
HOUSE





**FULL SYSTEM  
OFFERING  
CUSTOMIZED  
FOR DIVERSIFIED  
END-MARKET  
APPLICATIONS**



# TRADITIONAL BUSINESS GROWING STRATEGY END-MARKET APPLICATION

Retail hydrogen price for medium/small consumers makes on-site production very attractive

**COST SAVING**

Distance is a significant determinant of price. For instance, it could scale up to 50€/kg for sintering and jewelry companies

**LOGISTIC  
ADVANTAGE**

Industries need to become cleaner. Purchasing hydrogen from the SMR process does not contribute to this goal. On-site generation, even when powered by the grid, represents a much cleaner solution for companies, reducing emissions and improving their sustainability rating

**SUSTAINABILITY**





## **ON-SITE GAS GENERATION SCALABILITY ACROSS MULTIPLE END MARKETS**

- On site technical gas generation is quickly spreading across industrial, laboratory and medical applications, leading to end-market diversification
- On-site generated hydrogen currently represents less than 1% of global hydrogen production and consumption. It will need to increase by more than 100-fold by 2030 to align with the NZE goals
- Demand consistently higher than supply capacity
  - End markets diversification ensures volumes growth leveraging the same asset base





Energia: idrogeno, primo trattore portuale per movimento merci

# WHITE SPACE IN PILOT PROJECTS IN H2 PLANTS TO ACHIEVE NET ZERO EMISSION



La prima piastrella cotta con un forno 100% a idrogeno? È di SACMI



ErreDue consegna un elettrolizzatore da 500 kW a Snam per test su mobilità e industria

Redazione 21 Febbraio 2024



# VERTICALLY INTEGRATED BUSINESS MODEL

All design and production know how is internal. ErreDue's production department is capable of producing in a short time, gas generators of different sizes and related accessories.

## 01

### Electrolytic cell

The heart of the machine, it is made of plastic polymeric components then stacked together, produced with proprietary moduls

## 02

### Metal shell

Component without any specific know how, whose production is generally outsourced to clients in the metal cutting and treatment business

## 03

### Software

Internally developed and proprietary

## 04

### Process components

Tanks, tubes, manifolds, generator sealing plates (both for H2 cells and N2 generators); produced internally

## 05

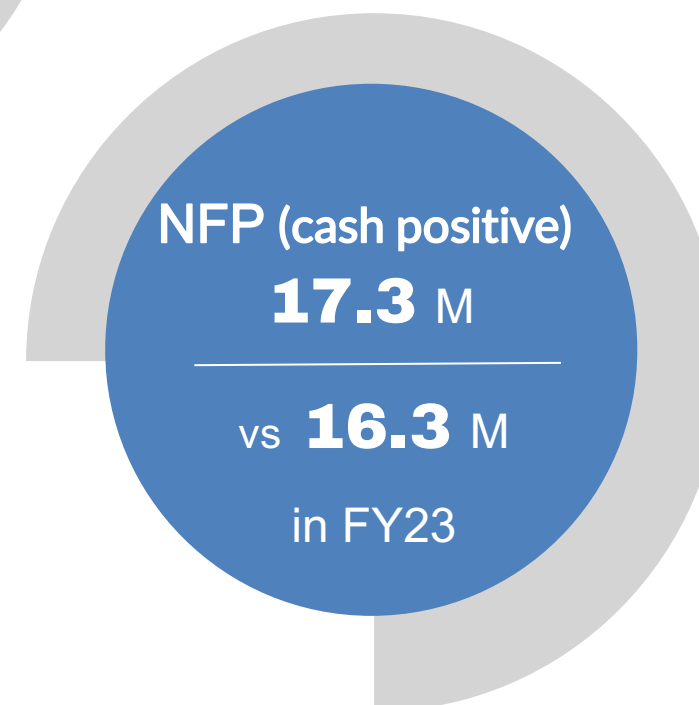
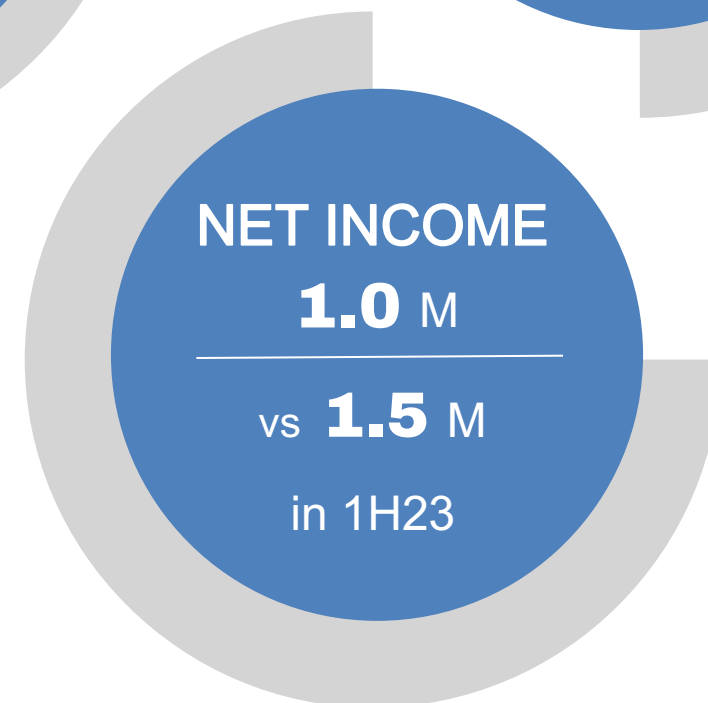
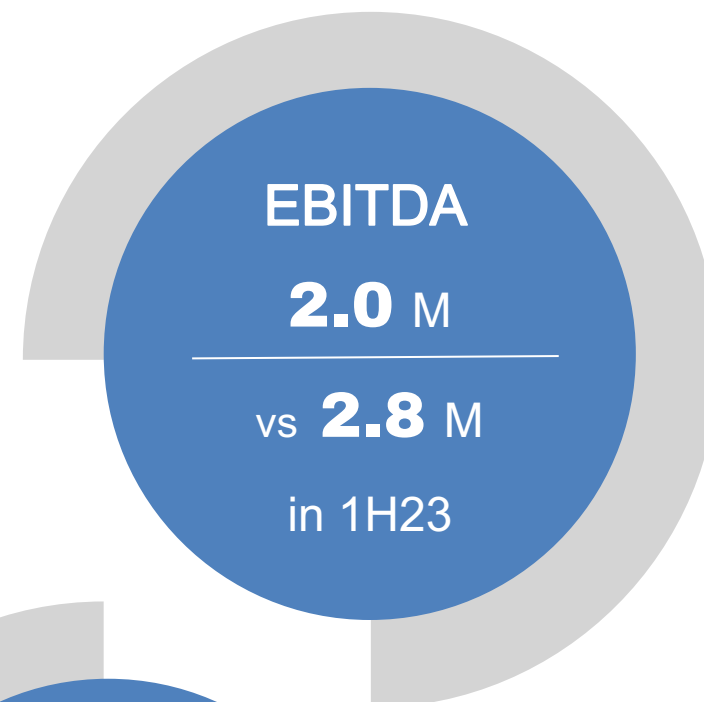
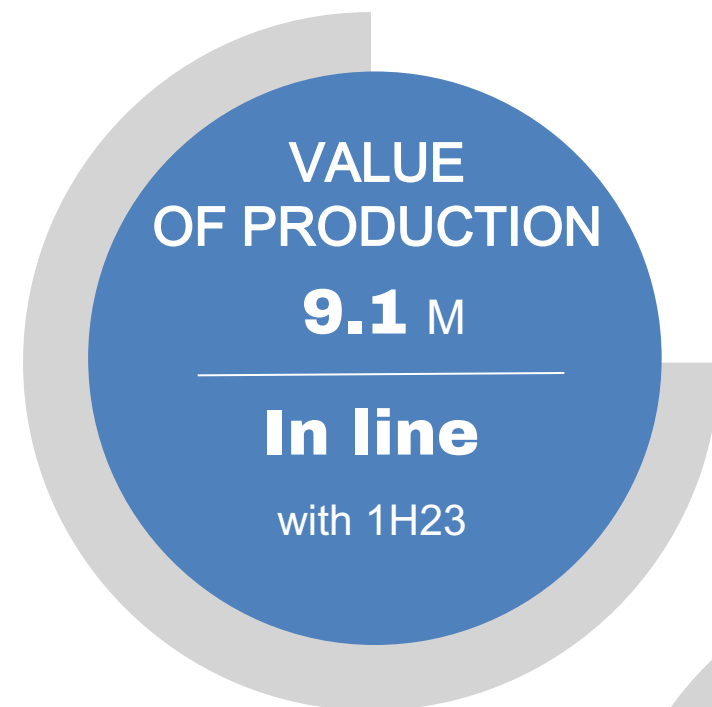
### Electric system

Internally designed and assembled





# KEY FACTORS 1H2024



## SALES REVENUES €7.7 M

compared to € 7.9 million in the same period of 2023. The reduction in sales was primarily due to two factors: the **postponement of generator deliveries** at the request of purchasing companies, and a sharp slowdown in domestic demand in the "traditional" on-site generator sector for industrial activities.

## EBITDA Margin 25.7%

The reduction can be attributed to several factors, including:

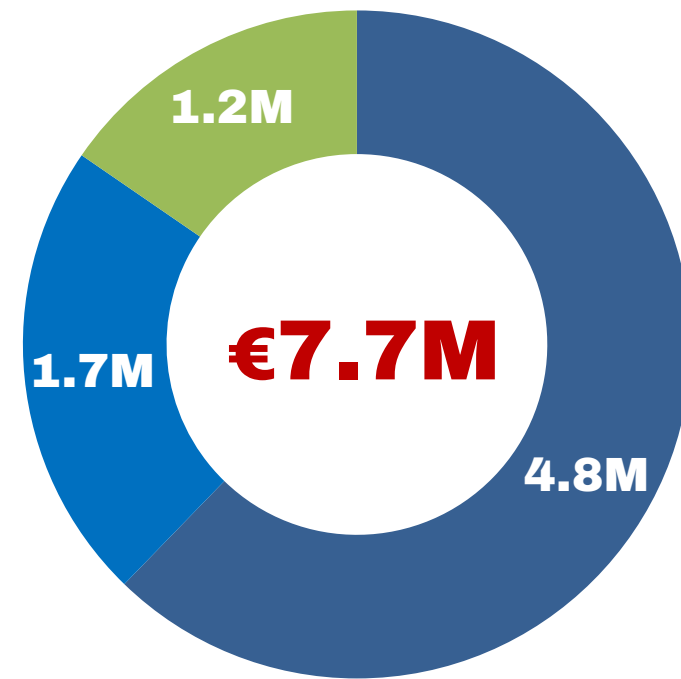
- the **deferred delivery of two major orders**, moved to the second half at the customers' request;
- a **shift in the product mix** toward larger generators for the energy transition;
- **increased personnel expense** due to the hiring of new employees.

## TOTAL BACKLOG €22 M

with **35%** related to the current year, comprising approx. €5 M from generator sales, approx. €2 M from spare parts and maintenance, and €1 M from leases. The remaining **65%** is related to the coming year, confirming the significant growth anticipated in 2025.

# REVENUES BREAKDOWN 1H2024

RENTALS OF GENERATORS  
+8.5% VS 1H23



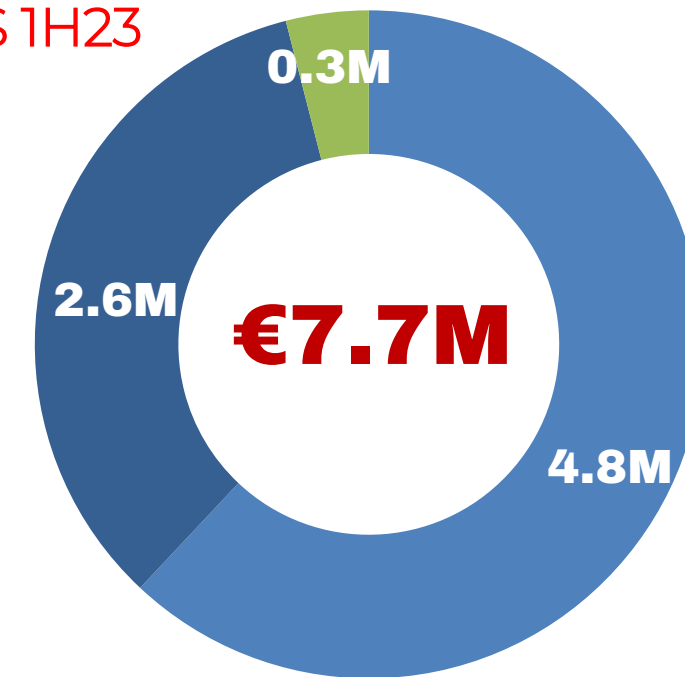
SERVICE & SPARE PARTS  
+10.8% VS 1H23

SALES OF GENERATORS  
-8.3% VS 1H23

REVENUES  
BREAKDOWN BY  
CONTRACTS  
1H2024

OTHER PRODUCTS  
-73.6% VS 1H23

OTHER GASES  
-21.7% VS 1H23



HYDROGEN  
+40.1% VS 1H23

REVENUES  
BREAKDOWN BY  
PRODUCTS  
1H2024



# RECURRING REVENUES

## Long Term Rental

The rental of the plant breaks down the wall of diffidence regarding new technology and its introduction in a production line

Rental contracts often have an average term of 65 months and are indexed to inflation

At the end of the contract, the generators still have a value (even if fully depreciated); they can be bought back or rented again by the same customer or sold to a third party with a capital gain.

## After Market

Highly specialised Technical Department takes care of clients along all the journey, from plant design to installation, and keeps following it in the after market.

Generators can only and exclusively be maintained by ErreDue technicians, using only and exclusively components developed in-house.

Erredue, in addition to revenues linked to sales, guarantees recurring revenues linked to maintenance contracts, both ordinary and extraordinary.



ErreDue s.p.A.  
Research and Development

**2.6 YEARS  
AVERAGE  
PAYBACK TIME**

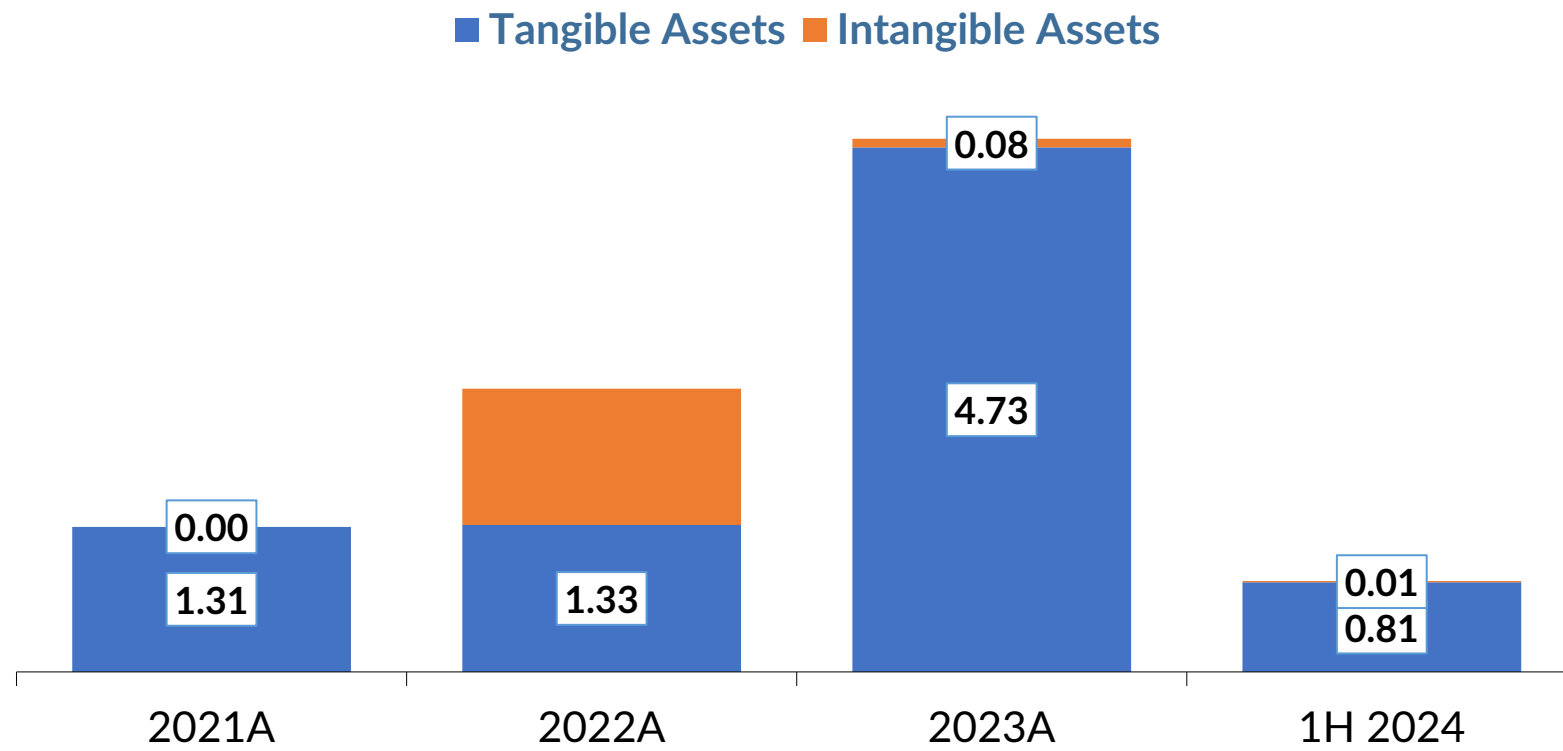
On the investment  
on internal  
construction cost  
( capitalized)

**60% OF INITIAL  
VALUE RESIDUAL  
AT EXPIRY**

On the generators'  
Rental contract  
(often up to 72  
months, 65 months  
on average)

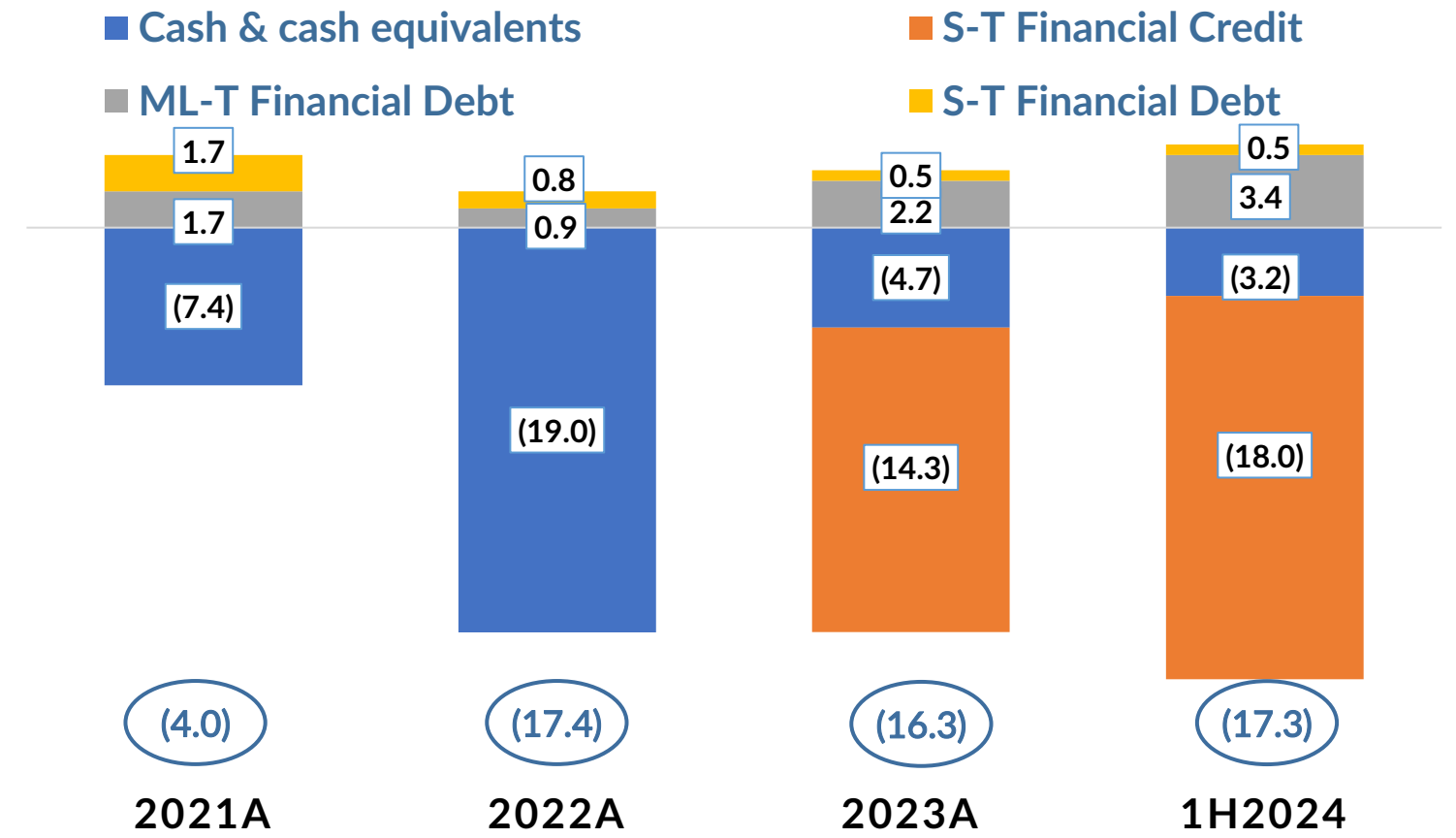
(€M)

### CAPEX



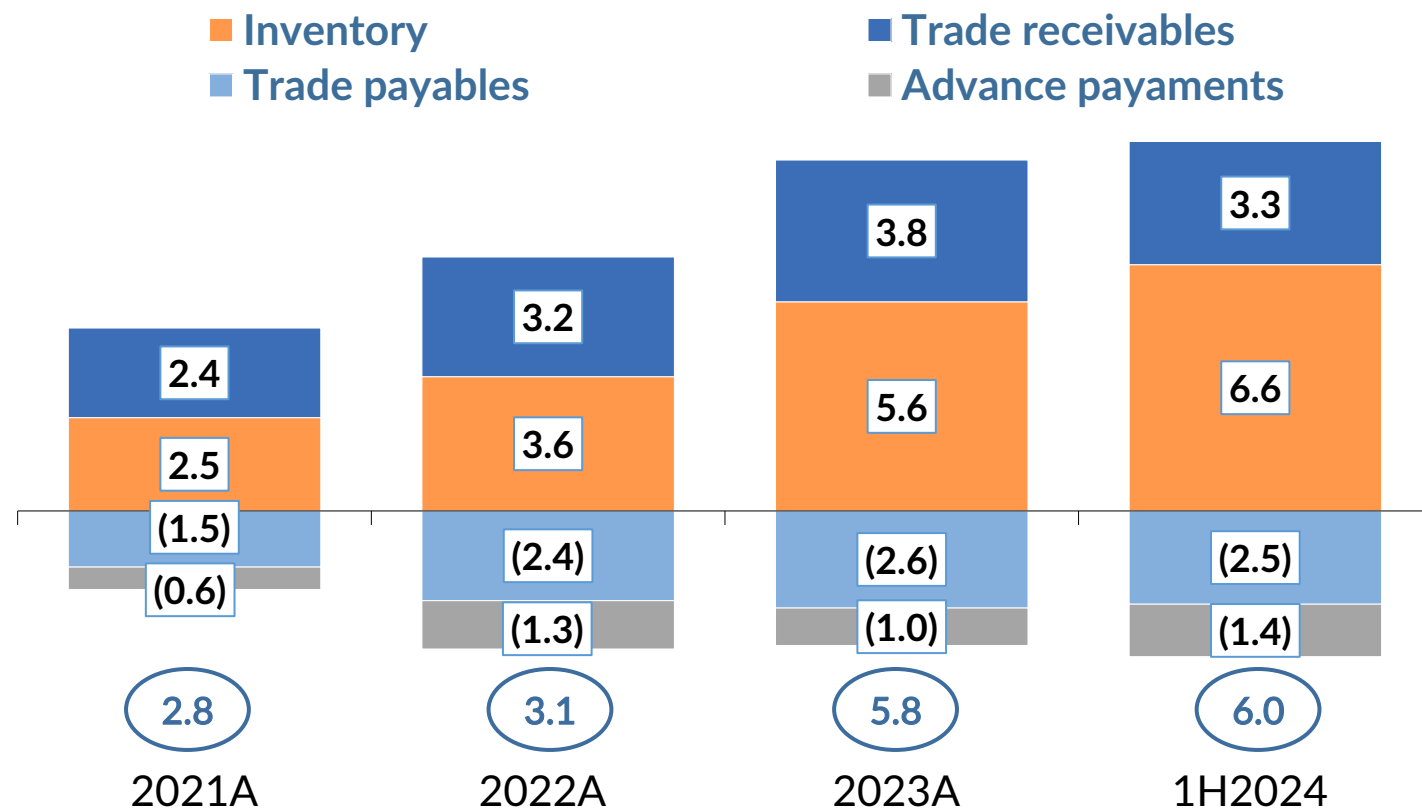
(€M)

### NET FINANCIAL POSITION (CASH)

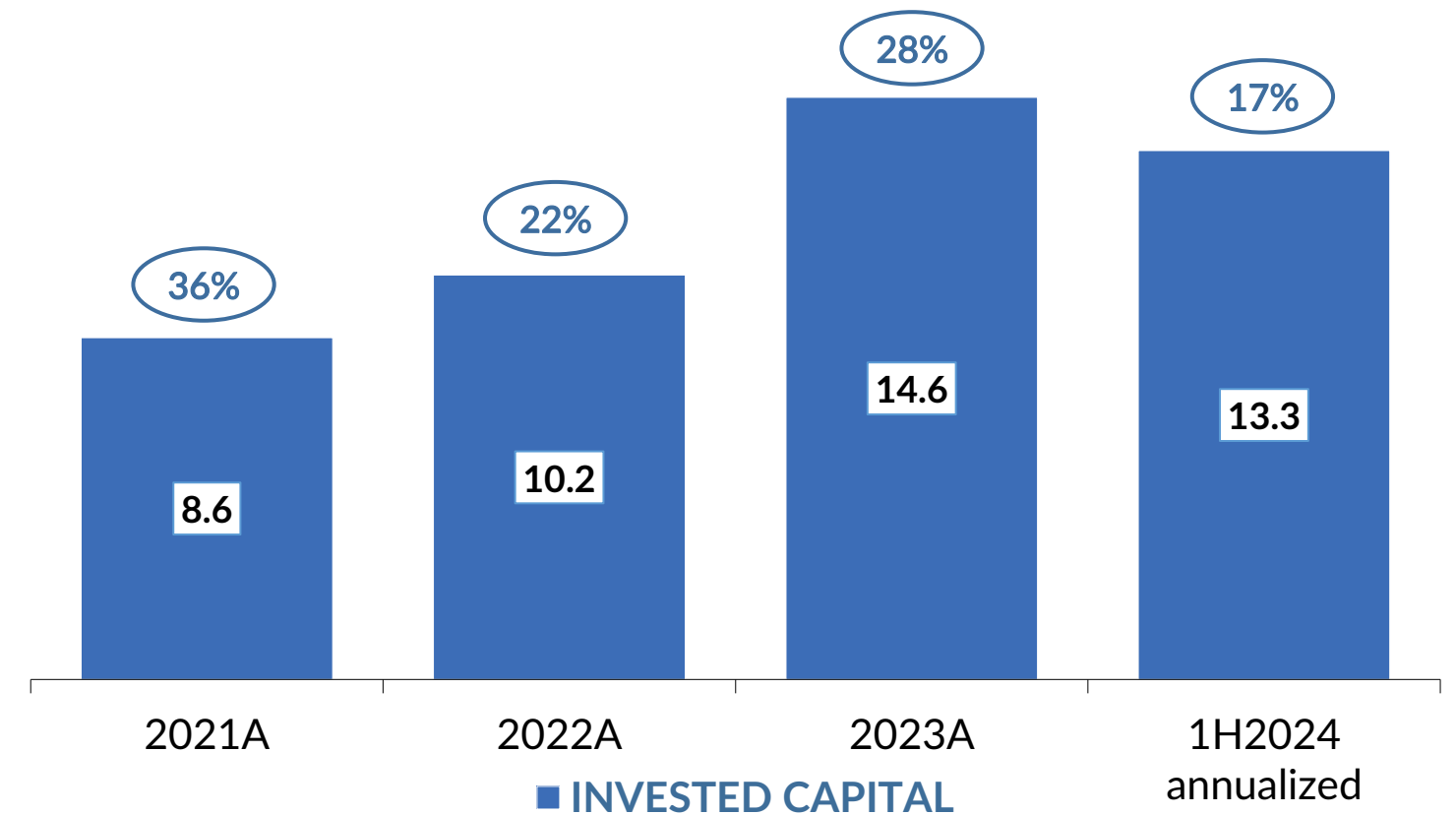


(€M)

### TRADE WORKING CAPITAL



### Roic<sup>(1)</sup>



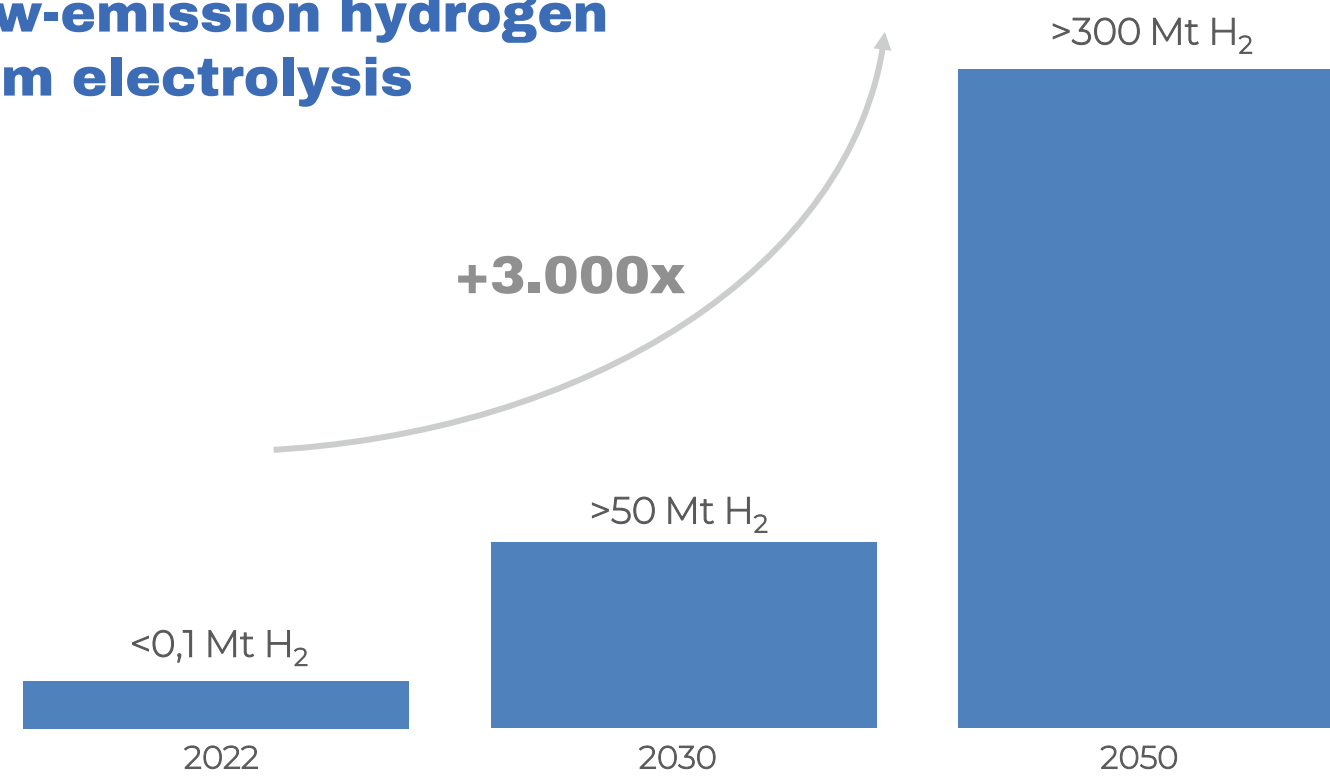
Note: (1) ROIC b.t.= EBIT/Invested Capital Source: Management elaboration on Group consolidated financial statements and Management Accounts



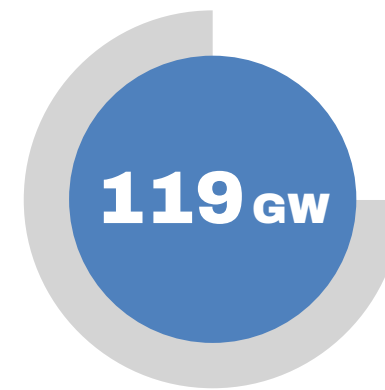
# MARKET OVERVIEW

The surging global demand for low-emission hydrogen opens up significant growth opportunities

## Low-emission hydrogen from electrolysis



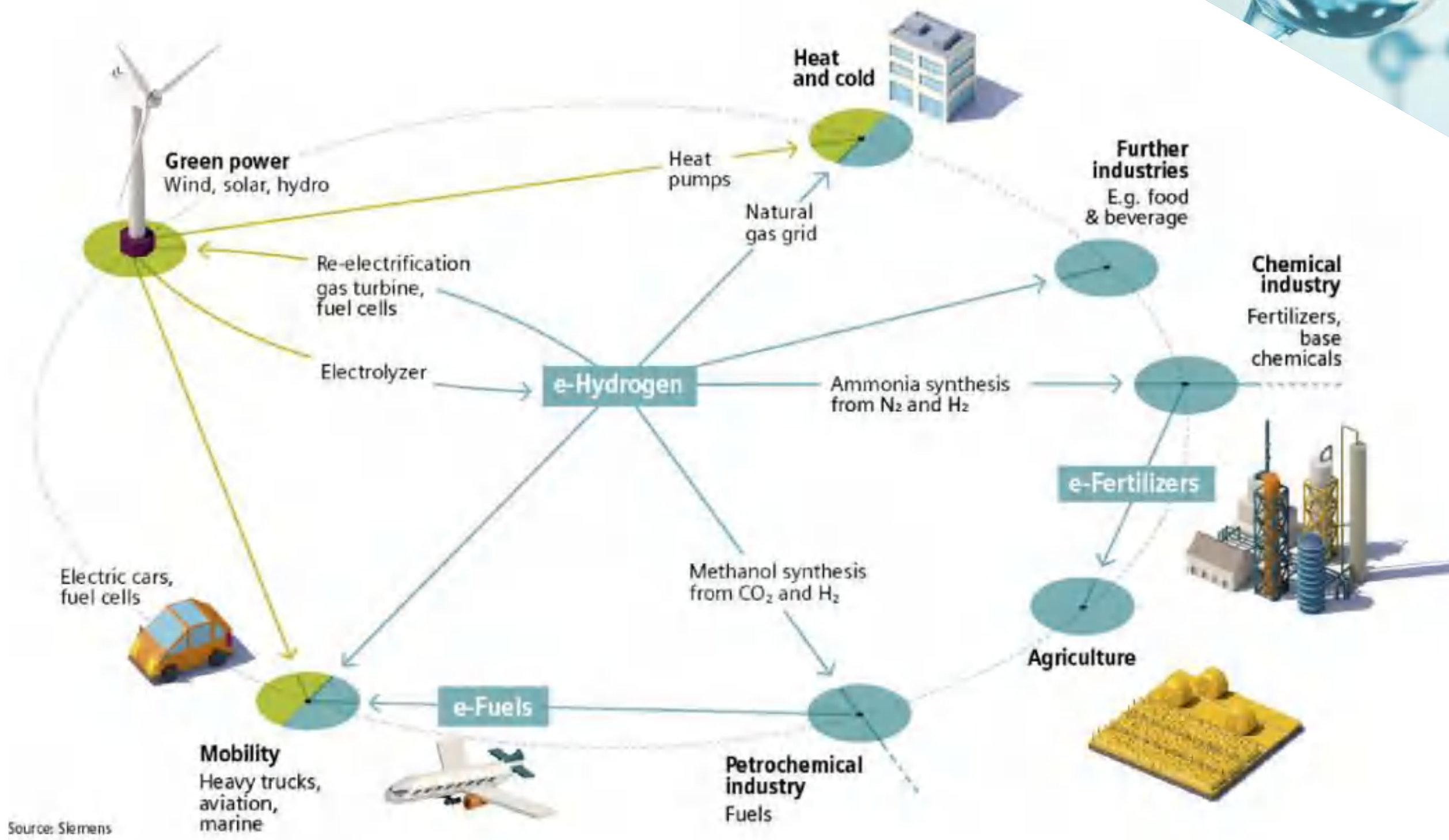
Government funding for hydrogen in 2023, **+46% vs 2022**



**Formalized 2030 targets** of countries' net-zero strategies

Source(s): IEA, Global Hydrogen Review 2023, chapter 3; IEA, Net Zero Roadmap, 2023 Update, Figure 3.23





Source: Siemens

# SECTORS GROWING DEMAND





## STRATEGIC POSITIONING

- Broader vision of the hydrogen market, which extends beyond the energy transition to embrace industries' decarbonization
- Extremely high quality and reliability of generators, thanks to over 30 years of experience, proprietary technology, and a fully-integrated business model
  - Large H2 plants will not pose a threat to ErreDue but rather an opportunity. The energy transition requires a trial period utilizing smaller MW-scale facilities. Leveraging its experience and reliability, ErreDue could become the ideal partner for this phase
  - By establishing itself in the niche of 1-5 MW plants within the broader electrolyzer market, ErreDue could benefit from the proliferation of larger facilities, which would drive growth across the entire market



# STRATEGIC GROWING

## NEW PRODUCTION SITE

- ErreDue will be able to produce up to 60 plants per year in a single shift; production will be doubled in the case of two shifts

## FOREIGN EXPANSION

- To strengthen its presence abroad, ErreDue is considering to open foreign branches with commercial and maintenance personnel





# NEW PRODUCTION SITE

**60**  
plants per year  
on one shift

**4**  
production lines

**17,000 sqm**  
new area

**increasing to**  
**27,000 sqm**  
total area



# FOREIGN EXPANSION

## Industrial

**+30 Dealers**

**+20 Countries**

## Laboratory

**+70 Dealers**

**+50 Countries**

To improve its presence in the global hydrogen market, ErreDue is considering the opening of new branches abroad or the participation in joint-ventures

**+40% of revenues abroad**

	1H 2024	%	1H 2023	%
Italy	4,537	59.1%	5,135	65.4%
UE	926	12.1%	977	12.4%
ROW	2,219	28.9%	1,744	22.2%
Total	7,682	100%	7,855	100%



# ESG AGENDA 2030

ErreDue pays a lot of attention to ESG policy and has therefore started a path towards obtaining the major certifications in this area

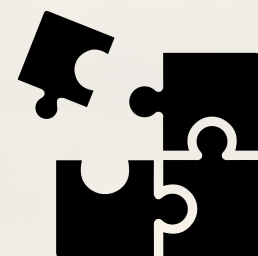
## Environment

The intrinsic nature of ErreDue's business is centred on respect, protection and improvement of the environment in which operates.



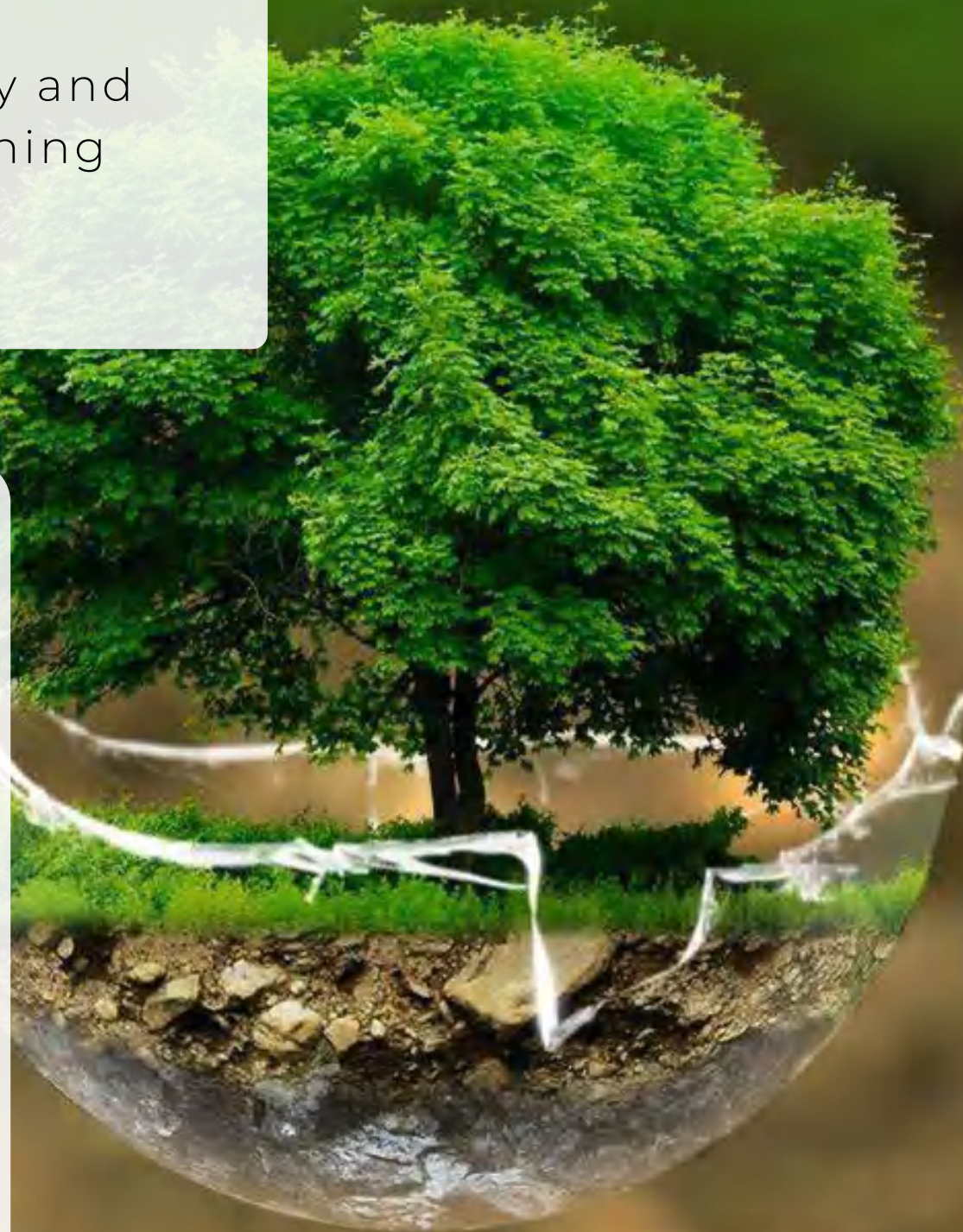
## Social

ErreDue 's success is thanks to the invaluable contribution of its people. Erredue invests in learning, promoting and rewarding proactive behaviour at all levels of the organisation.



## Governance

ErreDue is actively engaged in implementing governance, ethics and compliance best practices, aligning interests between stakeholders, supporting growth and long-term strategies





# ENVIROMENTAL ACHIEVEMENTS



7 AFFORDABLE AND CLEAN ENERGY



## RENEWABLE ENERGY

Installation of 650 Kw of solar panels on the roof. In addition, a hydrogen refuelling station will be located in the external area to serve its mobile transport and the gas produced during testing will be used to increase the efficiency of the plant. With the new factory, erredue begins the path to becoming a promoter of sustainability.

13 CLIMATE ACTION



## CARBON FOOTPRINT

Measurement of emissions (direct and indirect) of greenhouse gases (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, CFCs, etc.) due to company activities. Standard: ISO 14064:2019. Locations: Livorno and Lavaiano. Reference year: 2022. Certification: by the first half of 2024

11 SUSTAINABLE CITIES AND COMMUNITIES



## SUSTAINABILITY REPORT

The Company will produce and publish the Sustainability Report according to the European Sustainability Reporting Standards (ESRS) defined by EFRAG and the European Commission. By 1 half of 2024



# SOCIAL ACHIEVEMENTS



5 GENDER EQUALITY



## GENDER EQUALITY

Women make up 25 per cent of the employees, a great achievement for an industry specialising in manufacturing. Entire departments of the company are managed by women, such as the cell production department and the plant management. In addition, the the company CEO is a woman, Francesca Barontini.

4 QUALITY EDUCATION



## EDUCATION

The valorization of human capital has always been fundamental for ErreDue. The company continually invests in the personal and professional development of its employees. New employees' education includes both practical skills and physical and chemical concepts.

10 REDUCED INEQUALITIES



## WELFARE & BONUS

The valorisation of human capital has always been fundamental for ErreDue: every employee can benefit from a well-defined Corporate Welfare Plan. The range of services offered to workers include babysitting vouchers, purchase of text books, gym memberships, travel vouchers, reimbursements for school and canteen expenses. In addition, at the beginning of each year the board of directors decides to offer a meritocratic production bonus of up to € 2,000.

# GOVERNANCE ACHIEVEMENTS



8 DECENT WORK AND ECONOMIC GROWTH



## MICRO PUBLIC COMPANY

Erredue's focus on people is an integral part of the company's DNA.

The founders' philosophy was to share the benefit of the company with the key workers that proved to be of added value to the organization so the company turned into a micro public company with 22 worker members of Green Holding which holds the 54% of the share capital.



## ENVIROMENTAL MANAGEMENT SYSTEM

The part conforming to the ISO 14001 environmental standard will be added to the certified Integrated Quality and Safety Management System (ISO 9001 and 45001). Standard: UNI EN ISO 14001:2015. By April 2024





**Thank you**