



**A SUSTAINABLE
VISION
SINCE 1922**

SAPIO



Breathing the future

With over 50 subsidiaries, production units and commercial branches, Sapiro operates throughout Italy and on the international market, as a centre of expertise for the continuous improvement of the productivity, performance and environmental sustainability of every customer.

629.1 TURNOVER 2020
(MILLIONS €)

57.7 INVESTMENTS 2020
(MILLIONS €)

2,277 EMPLOYEES

2 MAIN SECTORS
INDUSTRY | HEALTH

44/130 COMPANIES / AGENCIES

6 EUROPEAN COUNTRIES:
ITALY, GERMANY, FRANCE,
SLOVENIA, TURKEY, SPAIN



Breathing the future

OUR SITES

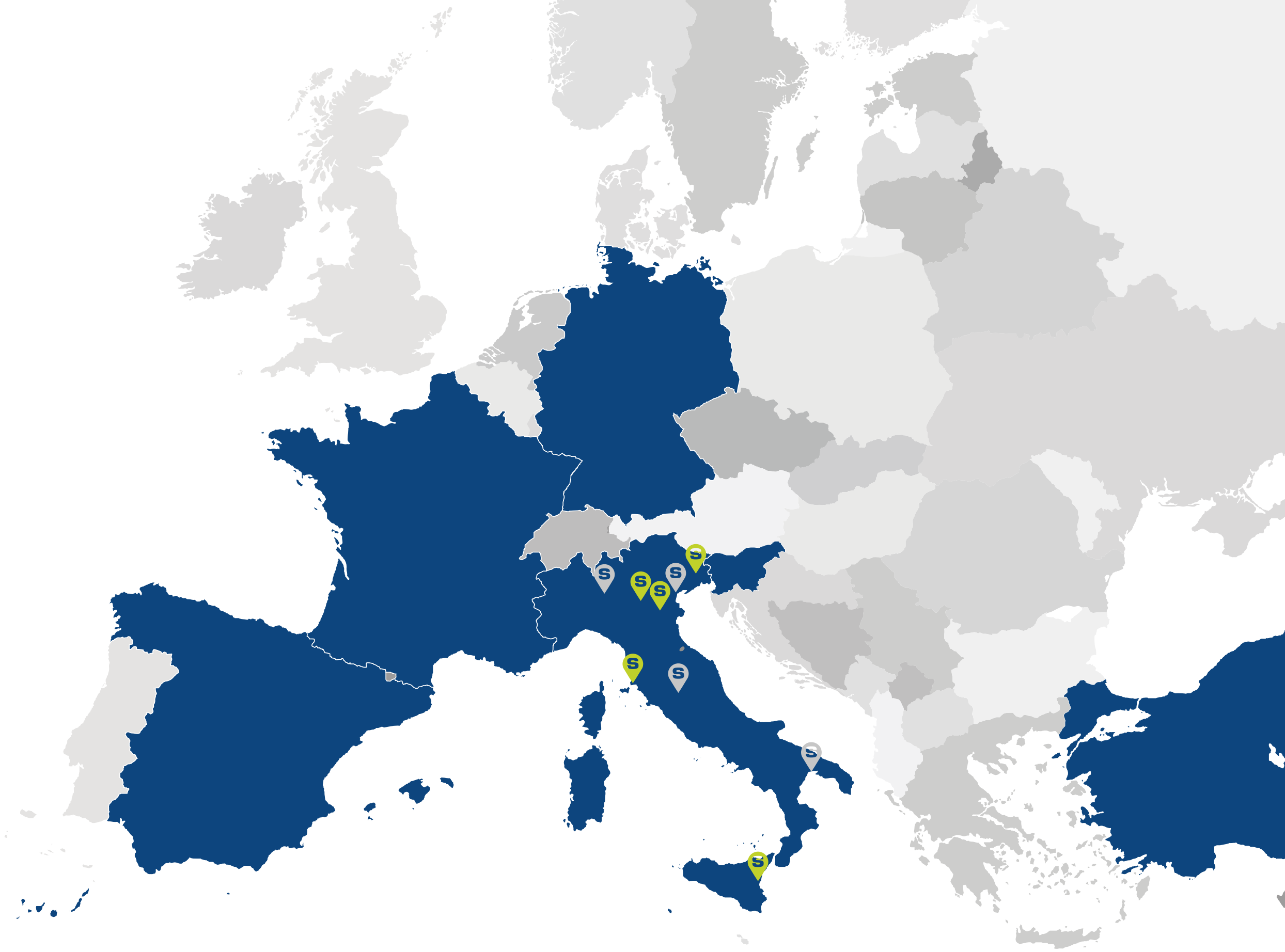
- France *Maxéville / Aix-en-Provence*
- Germany *Homburg / Hattingen / Glinde*
- Slovenia *Celje*
- Turkey *Degirmenbahçe*
- Spain *Madrid*
- Italy *Monza*

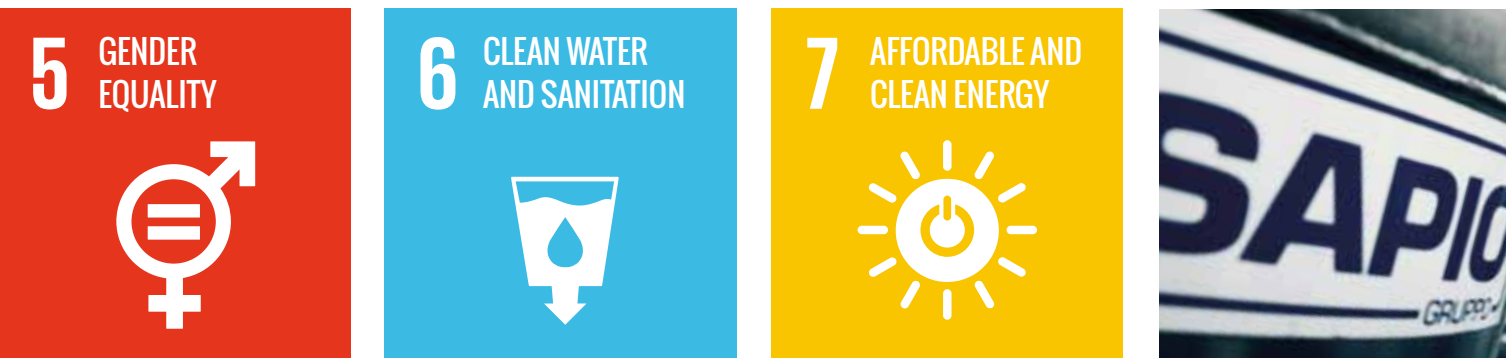
ASU

- Porto Marghera
- Orte
- Caponago
- Brindisi

H₂ PRODUCTION

- Castelmassa
- Catania
- Mantua
- Piombino
- Torviscosa





06

Sapio's sustainability plan is structured in three areas

CARE /
PROTECT /
DEVELOP /

that integrate the goals of the Agenda 2030 into an action plan designed to achieve 14 of the 17 goals of the UN Agenda.



SUSTAINABLE DEVELOPMENT GOALS



CARE /



TAKING CARE OF EMPLOYEES AND CUSTOMERS.

For Sapiro the company is an ecosystem in continuous exchange with the outside world. It has the duty to protect the health and quality of life of the people, employees, customers and the community in which it operates.

This is why it develops innovative industrial technologies and processes that guarantee the quality of the air and water and improve the working conditions in the plants.

THE ACTIONS EMPLOYED BY SAPIO:

- *Safety of employees and suppliers: pillar of Sapiro's activities*
- *Management and safety of products and services*
- *Customer satisfaction*
- *Innovation of products and services*
- *Protecting customers' data*
- *Support of the community and relations with the territory*



PROTECT /

PROTECTING THE ENVIRONMENT.

There can be no real development without protection of the environmental resources. Sapiro invests in increasingly sustainable processes and products to reduce the use of pollutants, to eliminate waste and to build innovative and efficient infrastructures and plants that don't impact the environment.

THE ACTIONS EMPLOYED BY SAPIO:

- *Development of solutions, technologies and offers for the sustainability of the customers*
- *Commitment to reducing the carbon footprint*



DEVELOP /

IMPROVING THE PERFORMANCE OF THE COMPANY, OF THE CUSTOMERS AND OF THE EMPLOYEES.

Sapiro supports the people, supply chain and society in which it operates to guarantee the right conditions for development and continuous improvement.

THE INSTRUMENTS APPLIED:

- *Economic performance of the Group*
- *Sustainability of the supply chain*
- *Governance, ethics and integrity*
- *Valorisation of employees, development of talent and diversity*

From the employees, with continuous training courses that stimulate, knowledge, skills and quality of the work and by developing virtuous practices for the production and consumption, eliminating waste and using resources efficiently.

100 YEARS FOR SUSTAINABILITY

1922

Sapio was founded
(acronym for: Hydrogen and Oxygen Production Joint Stock Company)

1998

Sapio is the first Italian company to test **hydrogen for mobility solutions**

2005

Sapio contributes to the birth of **H2IT**, the Italian Association for Hydrogen and Fuel Cells



2015

Presidency **Hydrogen Mobility Italy**

2018

Presidency **H2IT**

Launch of **Biomethane** initiative

Launch of **internal sustainability project**

2019

Disinvestment polluting refrigerants

2020

Sapio enters the **European Clean Hydrogen Alliance**

European Clean Hydrogen Alliance



Pioneers in hydrogen technologies.



Climate change is bringing us an important message and lesson.

It's teaching us to respect the environment and its rules. Sustainability is a fundamental thrust for the economic recovery thanks to the opportunities that hydrogen can provide and that will significantly impact our future.



Alberto Dossi
PRESIDENT OF THE SAPIO GROUP



Sapio sectors:

- ENVIRONMENT
- AGRICULTURE/FOOD
 - CONDITIONING AND REFRIGERATION
- CHEMICAL AND PETROCHEMICAL
 - ELECTRONICS
- ENERGY
- PHARMACEUTICAL AND BIOTECHNOLOGIES
 - RUBBER AND PLASTIC
- RESEARCH AND ANALYSIS LABS
- METALLURGY AND STEEL INDUSTRY
- TRANSPORT AND MOBILITY
- GLASS, CEMENT AND CERAMIC



The sustainability goals

involve all Sapio's sectors transversally.

THE TECHNOLOGIES AND GASES SUPPLIED BY SAPIO CAN:

- optimise production efficiency
- reduce waste, production costs and emissions from industrial processes.
- guarantee safety

**EFFICIENCY,
SAFETY,
CUTTING DOWN
COSTS AND
EMISSIONS**

AGRICULTURE FOOD



TECHNOLOGY

WATER DEPURATION

GAS USED: Gas O₂

PLANT: Oxy Dep

The technology uses pure oxygen to improve the biological oxidation in the depuration tank, contributing to rendering the process more effective and improving the quality of the water.

TECHNOLOGY

MAP FOOD PRESERVATION

GAS USED: Alipak Line

PLANT: gas mixtures, mixers and systems for food packaging

The technology increases the shelf life of food products without using synthetic chemical additives.



TECHNOLOGY

COOLING, FREEZING, BLAST-CHILLING, CRUSTING, GLAZING

GAS USED: LIN/CO₂

PLANT: cryogenic tunnels, cryogenic cabinets, cryogenic assets

The extremely low temperature of nitrogen cools, blast-chills, glazes, etc. very quickly, maintaining all the qualities of the product, without using refrigerants that contribute to the greenhouse effect.

AGRICULTURE FOOD



TECHNOLOGY

PRESSURIZING DRINKS

GAS USED: LIN

PLANT: LIN dispenser

Adding liquid nitrogen inside plastic bottles maintains the container pressurised even with very thin wall thicknesses, thus reducing the quantity of plastic used.

PHARMACEUTICAL AND BIOTECHNOLOGIES



TECHNOLOGY

ACTIVATED SLUDGE OXIDATION

GAS USED: O₃

PLANT: nitrogen generator at O₂

The ozonolysis of sludge reduces its volume, considerably lowering its transport costs with a consequent reduction of emissions linked to road haulage. Moreover nitrogen does not leave polluting residue in the sludge, that therefore do not have to be treated again.

TECHNOLOGY

INERTISATION/ BLANKETING

GAS USED: N₂

PLANT: Blanketing

Nitrogen is used for the inertisation of environments to reduce the risk of fire or explosion.

TECHNOLOGY

DISINFECTION WITH O₃

GAS USED: O₃

PLANT: nitrogen generator at O₃

Nitrogen is a very effective disinfectant that, unlike traditional products, is not residual and releases only oxygen as waste molecule. It does not generate polluting sub-products.

CHEMICAL



TECHNOLOGY

ACTIVATED SLUDGE OXIDATION

GAS USED: O₃

PLANT: nitrogen generator at O₂

The reduction of sludge reduces their transport costs considerably, with a subsequent reduction in emissions.

TECHNOLOGY

CUTTING DOWN ATMOSPHERIC EMISSIONS OF VOLATILE ORGANIC COMPOUNDS

GAS USED: LIN, GAN, O₂

PLANT: cryogenic condensers, activated carbon towers, postcombustors

Our technologies eliminate and recuperate the volatile organic residue before they are released in the atmosphere.

TECHNOLOGY

CONTAMINATED SOIL TREATMENT

GAS USED: H₂ / N₂

PLANT: Soilution / H₂ Remediation

The technology uses hydrogen as reducing agent to remove the CrVI and the chlorinated compounds from the soil.

TECHNOLOGY

WATER DEPURATION

GAS USED: CO₂

PLANT: Neutra-Carb

The technology uses carbon dioxide as neutralising agent of waters with alkaline pH, instead of synthetic acids that, as well as being dangerous to handle, leave polluting residue in the treated water.

METALLURGY AND STEEL INDUSTRY



TECHNOLOGY

TOTAL OXY FUEL OXYGEN COMBUSTION, ENRICHMENT, LANCING, BOOSTING WITH O₂, HYDROGEN-ENRICHED COMBUSTION, MIX H₂ CH₄ COMBUSTION

GAS USED: O₂ / H₂

PLANT: Oxy-Fuel burners, Lancing

Using oxygen and hydrogen in differing percentages in the combustion can significantly reduce emissions such as CO₂, CO and NO_x.



METALLURGY AND IRON INDUSTRY: METAL CONSTRUCTIONS



TECHNOLOGY

ACTIVATED SLUDGE OXIDATION

GAS USED: O₂

PLANT: Oxy Dep

The technology uses oxygen in the tank to trigger the biological oxidation in the purifiers, improving the quality of the water.

TECHNOLOGY

CONTAMINATED SOIL TREATMENT

GAS USED: H₂ / N₂

PLANT: Soilution / H₂ Remediation

The technology uses hydrogen as reducing agent to remove the CrVI and the chlorinated compounds from the soil.

TECHNOLOGY

WELDING

GAS USED: integrated reducer

PLANT: Sicura[®], Integra[®]

The Sicura[®] and Integra[®] tanks increase the handling safety of the containers, reducing the connected risks.

ANALYSIS LABORATORIES



TECHNOLOGY

MONITORING ATMOSPHERIC EMISSIONS

GAS USED: mixtures

PLANT: cryogenic condensers, activated carbon towers, postcombustors

Our technologies eliminate and recuperate the volatile organic residue before they are released in the atmosphere.

TECHNOLOGY

BIP®

GAS USED: He / Ar / H₂ / N₂

PLANT: integrated purifier, protective valve

The BIP® technology in each tank filters harmful impurities before the gas is dispensed from the tank and removes them more effectively.

TECHNOLOGY

CALIBRATION MIXTURES

GAS USED: SPECIAL MIXTURES

Our range of calibration mixtures can meet the strictest requirements to ensure an accurate and traceable calibration in a vast range of sectors (automotive, chemical, pharmaceutical, natural and environmental gas, etc...).



ENERGY AND SUSTAINABLE MOBILITY

TECHNOLOGY

FILLING STATION

GAS USED: H₂

PLANT: filling station

Mobility solutions using hydrogen produced from renewable energies eliminates polluting emissions such as CO₂, CO and NO_x.

TECHNOLOGY

BIO LNG

GAS USED: CH₄

PLANT: upgrading plant and liquefier

The recovery and valorisation of methane produced from the anaerobic digestion of organic residue create a fuel without a carbon footprint.

TECHNOLOGY**FILLING
STATION**GAS USED: N₂PLANT: filling station

Nitrogen resupply of tanks of containers used to transport frozen or refrigerated products. The cold is generated with nitrogen instead of polluting fuel or refrigerants.



ENERGY AND SUSTAINABLE MOBILITY

FOR ALL SECTORS

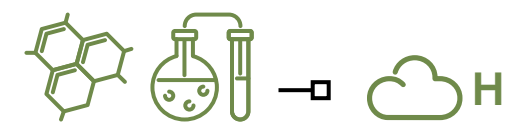
Sapio guarantees professional personnel and provides thorough training to its employees and customers in order to increase their awareness of a safe use of the gases and the technologies supplied.

As well as highly technological and high quality products, Sapio guarantees maximum safety and reliability.



THE FUTURE OF INDUSTRY IS HYDROGEN

01



GREEN hydrogen is produced from water through electricity generated from renewable energies, or from biomethane with the production of non-fossil CO₂.

02



BLUE hydrogen is from natural gas but the CO₂ produced is recuperated (Carbon Capture) generating hydrogen without any emission in the environment.

03



GREY hydrogen is from natural gas with fossil CO₂ emission.

HYDROGEN BY SAPIO

Sapio covers all production and distribution methods of H₂ up to the final applications

01 Production

- GREY hydrogen and BLUE hydrogen

02 Technology with electrolysers and ammonia

- to produce GREEN hydrogen

03 Mobility

- design and installation of hydrogen filling stations
- 250 filling stations in over 20 countries

04 Cutting down industrial emissions

- CCS – Carbon Capture and Storage
- Sapio and Air Products supply combustion gas and technologies to improve production performance, decrease fuel consumption and reduce emissions, in particular CO₂



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is a company by



Breathing the future

