2017

SUSTAINABILITY REPORT SOL GROUP

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

SOLGROUP
a breath of life
1927-2017

SOL Spa

Registered office
Via Borgazzi, 27
20900 Monza · Italy

Share Capital
Euro 47,164,000.00 fully paid up

C.F and company register of Monza e Brianza
n° 04127270157
R.E.A. n° 991655
C.C.I.A.A. Monza e Brianza

Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

2017

SUSTAINABILITY REPORT SOL GROUP

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CONTENTS

SOL GROUP: 90 YEARS OF HISTORY AND SUSTAINABLE DEVELOPMENT

This is the 9th edition of the SOL Group Sustainability Report.

This year we celebrate the **90th anniversary of our company**, which was founded in 1927 by Giovanni Annoni and Aldo Fumagalli Romario and a number of other partners from Monza. With a turnover of € 757 million euros in 2017, SOL has grown consistently over the last 90 years thanks to the work of its 3,556 employees in its 100-plus plants and sites in 28 countries across the world.

Over the years SOL has constantly sought to achieve **harmonious development compatible** with the needs of the **environment** through the correct management of resources. SOL's primary goal has always been the **safety** of its employees, customers and products. Finally, every day SOL seeks to fulfil its social responsibility to the **communities** that host it, offering them development and employment opportunities in return.

Italian Legislative Decree no. 254/2016 has established that listed companies must draft a non-financial statement as of this year. SOL has already met this obligation for some time by drafting its own Sustainability Report. The 2017 Report seeks to improve on past editions in terms of comprehensiveness, clarity and interest for all readers; for the first time Deloitte & Touche Spa carried out a limited assurance engagement on the document.

In 2017 the SOL Group focused specific attention on the themes of the **Code of Ethics** and the **Antitrust regulation**. In particular, the SOL Spa Board of Directors issued a new, more complete version of the Group Code of Ethics and extensive efforts were made to increase the awareness of the Code and its contents among all Group employees at all sites, in Italy and abroad, so it can be comprehensively and accurately implemented across the board.

In terms of the Antitrust regulation, an "Antitrust Compliance" programme was launched. More specifically, the SOL Spa Board of Directors drafted and introduced an Antitrust Code with an operating handbook, documents that were disseminated in both Italian and English on the company network. Specific informative and in-depth programmes are ongoing in all of the Group companies, in Italy and abroad.

In terms of the development of the business's operations, 2017 was notable for an **important series of acquisitions**. In the area of **home care services**, the Group acquired Swiss company Sitex of Geneva which specialises in palliative care, with highly qualified nurses, and is able to produce specific prescription drugs for its patients internally. During the year the Group also acquired a majority interest in Irish company Direct Medical, opening up new business opportunities for itself in the Irish market. At the end of 2017 it acquired the stakes of the minority shareholders in Turkish company Vivisol TK, which was then merged with Turkish company Respitek to create Vivisol Turkey, of which the SOL Group is the majority shareholder, with Turkish partners active and expert in the promising local respiratory care sector.

In the **technical gas area**, a majority stake was acquired in Turkish company Gebze Gaz, which has a filling site close to Istanbul. In Italy, SOL acquired a majority shareholding in Puglia-based family businesses Sterimed and Re.Vi., which operate in the clinical engineering and sterilisation sector, mainly for clinics and hospitals, enriching the range of hospital services of the Group which, for its part, provides the two companies with new growth opportunities in Europe.

Finally, in the biotech area, SOL acquired a controlling stake in Personal Genomics, a University of Verona spin off, which creates new opportunities in this area thanks also to the synergies with the Group's other biotech companies - Biotechsol, Diatheva and Cryolab in particular.

The Group's turnover grew by 8% compared with 2016, maintaining a good level of profitability, thanks also to its significant investments, which in 2017 came to 99 million euros.

The economic climate appears to be more positive in 2018 compared with 2017 and, as in the past, the SOL Group is ready to reap the fruits of the **tireless hard work of all of its employees** whose attention is focused closely on the customer and on meeting the ongoing needs of patients, fulfilling the expectations of the shareholders and all stakeholders with whom they interact on a daily basis.

Aldo Fumagalli Romario
Chairman

Marco Annoni
Vice Chairman

THE KEY NUMBERS

	2013	2014	2015	2016	2017
THE ECONOMIC DIMENSION (million euros)					
Net sales	595.4	636.4	674.2	703.4	**756.8**
EBITDA	131.8	142.9	148.4	167.6	**167.2**
Operating result	53.5	61.9	65.6	80.9	**76.2**
Net profit	21.6	29.2	32.4	44.1	**40.2**
Cash flow	92.4	106.2	112.9	127.5	**127.3**
Investments	92.0	98.0	89.8	103.7	**99.3**
Capitalisation	514.7	604.0	749.0	722.8	**964.1**
THE ENVIRONMENT					
Electrical energy consumption (GWh)	537.9	503.7	523.4	494.2	**537.4**
Specific consumption (base 2013=100)	100	109	118	115	**113**
Electrical energy produced (GWh)	43	83	77	108	**77**
Greenhouses gas emissions (t CO_2)					
- Direct GHG emissions	26,352	27,932	29,426	26,383	**39,765**
- Indirect GHG emissions	ND	ND	240,159	239,357	**256,467**
- GHG emissions for products transportation	ND	ND	31,000	50,611	**48,951**
Hazardous waste produced (t)	2,421	582	1,757	2,273	**1,117**
THE PEOPLE					
Number of employees at 31.12	2,580	2,806	2,995	3,127	**3,556**
- Italy	928	955	986	995	**1,136**
- Other countries	1,652	1,851	2,009	2,132	**2,420**
Turnover	7.3%	5.6%	4.7%	9.7%	**9.5%**
Training hours	ND	ND	30,000	38,700	**50,501**
Injuries at work					
- Injury rate	5.6	4.5	3.6	4.0	**2.9**
- Number of fatal injuries	0	0	0	0	**0**

OUR IDENTITY

28
countries

Over
3,500
employees

Over
400,000
patients served

756.8
million euro net sales

Over
500
major medical customers

Over
50,000
industrial customers

ABOUT US

Founded in Italy in 1927, the SOL Group operates in the areas of the production, applied research and marketing of **technical and medical gases**, in the **home care services** sector, in the **biotechnologies** sector and in the production of **renewable energy**.

It is present in 28 countries with over 3,500 employees and serves over 50,000 industrial customers, 500 major medical customers and 400,000 patients. In 2017 its net sales came to 756.8 million euros.

In the **area of technical gases (industrial and medical, pure and very pure)**, in addition to compressed and liquefied gases, the SOL Group also supplies equipment, plants and services and is therefore recognised as a qualified partner by customers in most industries: steel, chemicals and pharmaceuticals, food, oil, and environmental services.

The SOL Group is present in the **healthcare sector**, in public and private hospitals, providing medical gases and gases classified as medical devices, equipment, systems and services.

In the **home care sector**, the Group provides comprehensive services to patients who receive medical care and assistance at home: home oxygen therapy services, ventilation therapy, treatment of sleep apnoea, artificial nutrition services, integrated home care services and telemedicine.

These are joined by the **biotechnology sector** (diagnostics, services for the conservation and transportation of biological samples, research and development of biopharmaceuticals, genomics, etc.) and the **renewable energy production sector** (hydroelectric power plants).

Parent company SOL Spa has been listed on the Borsa Italiana since July 1998.

SOL

Technical and Medical Gases

VIVISOL

Home Care Services

BIOTECHSOL

Biotechnologies

HYDROSOL

Renewable Energy


WHERE SOL GROUP IS
EMEA
Germany
The Netherlands
Belgium
Ireland
United Kingdom
France
Switzerland
Portugal
Spain
Italy
Morocco
Croatia
Bosnia and Herzegovina
Albania
Greece
Czech Republic
Austria
Slovak Republic
Slovenia
Hungary
Romania
Serbia
Bulgaria
Turkey
Kosovo
Macedonia
SOUTH AMERICA
Brazil
ASIA
India

MISSION AND ETHICAL PRINCIPLES

The Group's mission is to provide its customers with **innovative and technologically advanced solutions** at all times and to offer patients the best possible home care services, contributing to **improving the quality of life** on the planet.

The values in which the SOL Group believes and from which it takes daily inspiration are:

Ethical behaviour: in interpersonal relations, towards employees, customers, suppliers and all stakeholders.

Safety: we regard the workplace safety of all employees, as well as the safety of the products and services we provide to our customers and patients, as priority issues.

Customer satisfaction: we are committed to providing our customers with innovative and technologically advanced solutions at all times and to improving the quality of life of our patients, guaranteeing them the best treatment and the best possible home care.

Balanced development: we work to create balanced economic growth and constant development in the long term, employing resources efficiently and constantly guiding them towards change.

Environmental protection: we seek to safeguard the environment by optimising processes, and therefore using energy resources in the best possible way, and by developing technologies and services that help our customers improve their environmental efficiency.

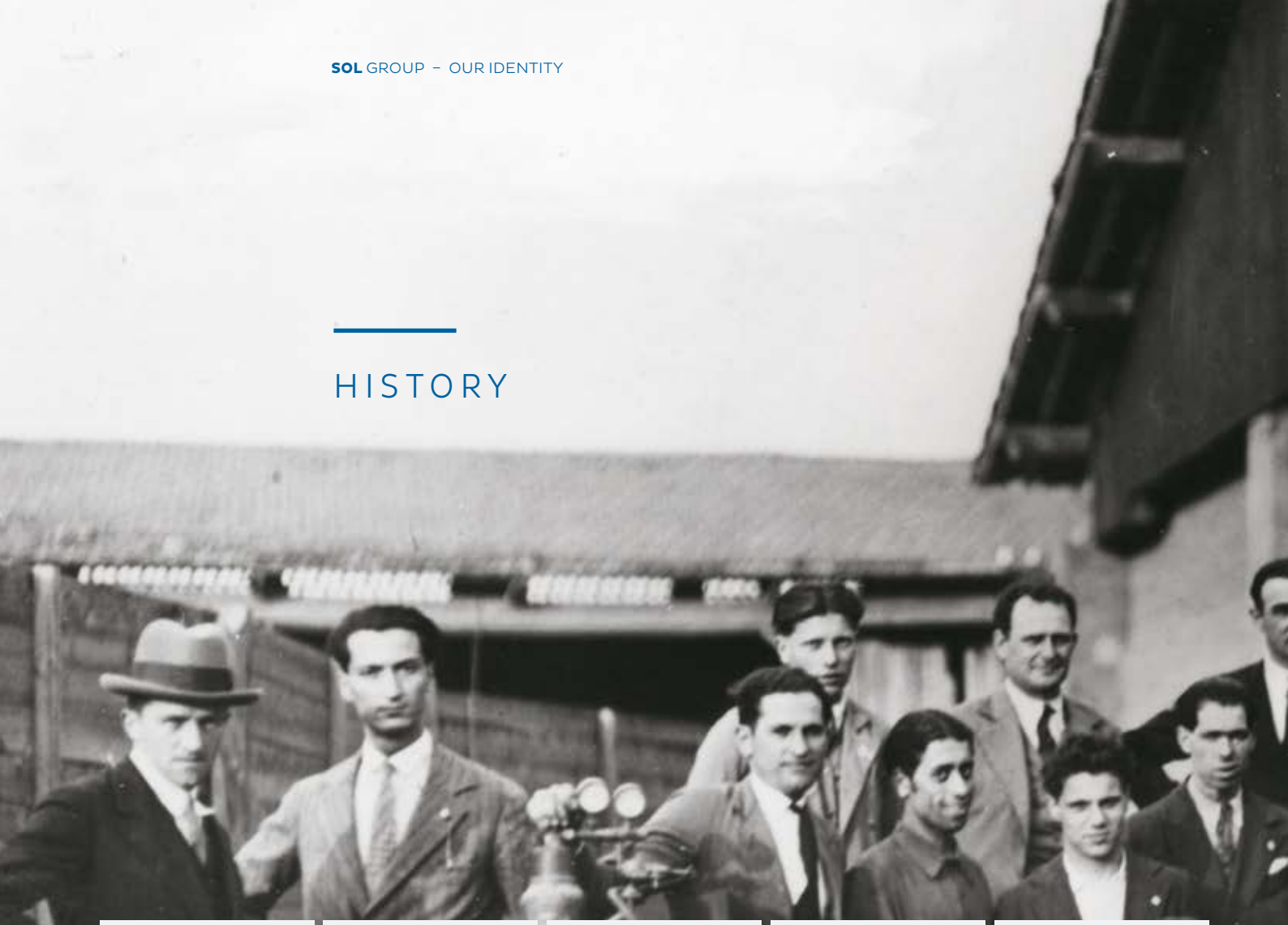
Human resource development: we view attracting and developing the loyalty of new talents and, in general, training and developing the capacities of individuals as key to the success of the SOL Group.

The SOL Group adopted a **Code of Ethics** in 2006 in order to clearly and transparently define the set of values and principles that inspire the SOL Group companies when pursuing their goals, observing national and international regulations with respect for the legitimate interests of the different categories of stakeholders.

The Code was reviewed in 2017 with the aim of further highlighting the principles and conduct that must characterise relationships with all stakeholders. A clear and simple style was adopted to make sure that the contents are immediately comprehensible.

The Code is a tool for governing the company and fostering sustainability in the SOL Group, representing a set of **guidelines for the day-to-day activities of its stakeholders**. Among the various issues addressed, of particular importance are the respect for human and individual rights, the prevention and fighting of corruption, and the safeguarding of workplace health and safety and the environment protection along the supply chain.

HISTORY



1927

Giovanni Annoni and Aldo Fumagalli Romario found the SOL Group with the **first two** oxygen and acetylene production **sites** in Livorno and Ancona.

1960

Alessandro and Renzo Annoni, Giulio and Ugo Fumagalli Romario, the second generation, launch an ambitious project for the **innovative development** of SOL: these are the years of the first technical gas production plants, located close to the Group's major key customers, such as steelworks and glassmakers.

1970

SOL switches from a regional to a national strategy, embracing the major transformations taking place in the technical gas industry at the time due to the development of technologies for the storage and distribution of the gases in cryogenic liquid state. This enables SOL to become a **leading operator on the Italian market**.

1984

As of 1984 the Group begins to **look towards Europe**, developing sites and branches and launching joint ventures in most European countries as well as taking advantage of the opportunities stemming from the opening of new markets in South-East Europe.

1986

SOL is one of the first companies in Europe to introduce a new form of treatment, developed in the US, for patients affected with serious respiratory disorders. This treatment involves significant quantities of oxygen and a highly specialist **home care** service. In 1986 the Group sets up a company specifically for the development of this market, **Vivisol**, which initially specialises in oxygen therapy before expanding its activities in the respiratory care sector and the area of home care services.

In 2017 the SOL Group celebrated its **90th anniversary**: S.I.O.L. (Società Italiana Ossigeno Livorno) was founded on **10 October 1927** in Monza. To mark the occasion the SOL Group shot a new corporate video with evocative images presenting the philosophy, values, activities and key numbers of the Group with our pay-off, "**a breath of life**", tying the whole thing together.

1998

In order to be more competitive on the international markets, in July 1998 parent company SOL Spa is floated on the **Milan Stock Exchange**. The arrival of the third generation of the Annoni and Fumagalli Romario families at the helm of the company, together with a young executive management team from outside the families, enables the Group to aggressively pursue its internationalisation and development strategy.

2002

The Group decides to enter the **renewable hydroelectric energy production** sector to cover part of its energy requirements, acquiring and developing hydroelectric power plants in Slovenia, Bosnia Herzegovina, Albania and Macedonia, for an overall installed capacity of around 30 MW.

2010

The SOL Group broadens its horizons **outside Europe** founding Sicgilsol in **India** in 2010 - a joint venture for the production and marketing of gas from air separation - together with Sicgil, a company owned by the Dadabhoy family, the main liquid carbon dioxide supplier in the Asian country.

Taking advantage of the experience, it has acquired in the creation and management of cryobanks for the storage of biological samples, **in 2010** the Group enters the **biotechnology sector**.

2012

In 2012 SOL enters the **Turkish** market with a joint venture in the home care sector and with the creation of a second company dedicated to the development of industrial activities.

2015

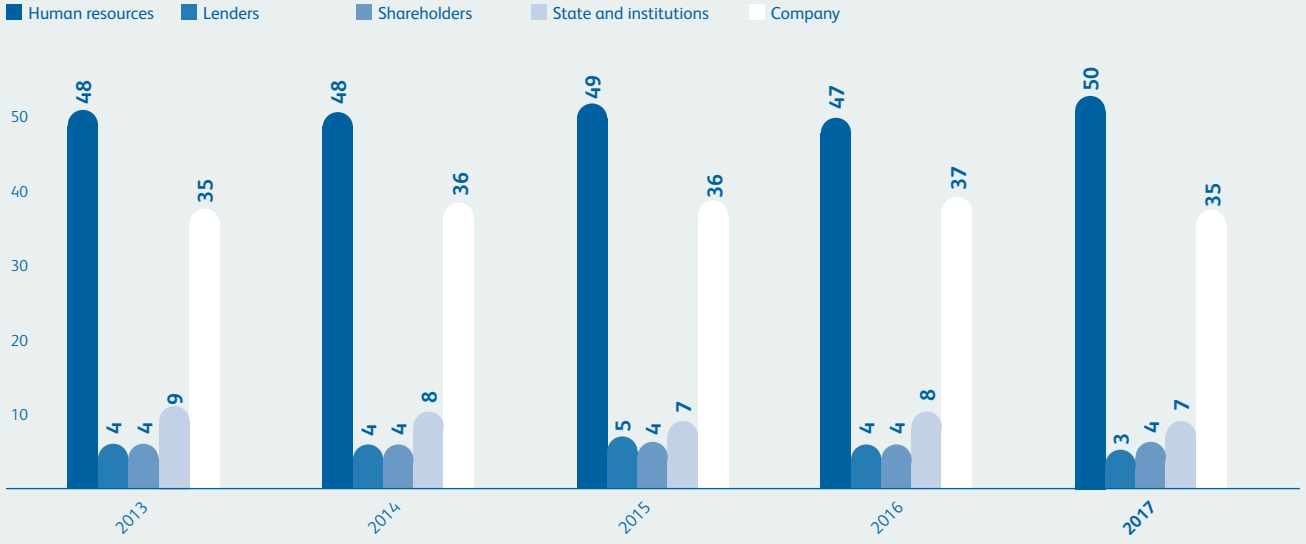
In 2015 SOL enters the **Moroccan** market, with the acquisition of a 100% stake in Flosit, and the **Brazilian** market, through a joint venture with a local entrepreneur, acquiring a majority stake in Vivisol Brasil (formerly Inspirar).

2017

SOL expands its activities in the biotechnology sector by acquiring a majority stake in **Personal Genomics**, a Verona-based company with a lab for DNA sequencing and genetic data interpreting services.

RESULTS AND CALCULATION OF VALUE ADDED

The economic value generated and distributed makes it possible to quantify how much value was produced by the company, how it was produced and how it is **distributed to its stakeholders**. In 2017 the economic value generated by the SOL Group came to around 333 million euro, distributed to the Group's stakeholders in the form of depreciation and amortisation and non-distributed profits (company system), employee wages (human resources), taxes (state and institutions), return on risk capital (shareholders) and returns on loans granted (lenders).



Values in %

The distribution of the economic value to shareholders for the 2017 fiscal year corresponds to the dividend that the Board of Directors will propose to the Shareholders' Meeting. The data related to 2016 and the previous years have been restated for greater alignment with respect to 2017.

DEVELOPMENT OF THE GROUP

THE ACQUISITIONS

The company concluded various important corporate transactions in 2017.

In the home care area, it acquired Irish company Direct Medical and the Turkish Respitek, both of which specialised in respiratory diagnostics, as well as Swiss company Sitex, which specialises in palliative care.

In the technical gases sector Gebze Gaz, a Turkish company with a filling plant near Istanbul, and Italian companies Sterimed and Re.Vi., active respectively in the planning, development and management of sterilisation centres and clinical engineering services for electromedical apparatus (operating tables, neonatal incubators, ultrasound machines, defibrillators), became part of the Group.

Finally, in the biotech sector, Personal Genomics, a University of Verona spin off, became part of the Group, opening up new paths in this area.

MAIN INVESTMENTS

During the 2017 financial year 52.4 million euro of technical investments were made in the technical gases area, 19.3 million euro of which by parent company SOL Spa, and 41.3 million euro in the home care sector.

In particular, in Italy work continued on the development **of a new highly automated plant** for the **testing and maintenance** of compressed gas **cylinders**, which is expected to be completed by summer 2018.

Diatheva completed work on the development of a **new cell-factory** for the production of monoclonal antibodies and diagnostic kits.

In **Slovenia** SPG continued with its work to modernise and expand the production capacity of its plant for the primary production of gas. In **Bulgaria** SOL Bulgaria began work on the construction of a new plant for the production of carbon dioxide. In **France** work began at the SOL France plant in Cergy Pontoise to expand the production of dry ice.

In **Bosnia and Herzegovina** Megaelektrik completed work on the construction of a **new hydroelectric energy production plant.**

In India Sicgilsol completed the development of a new plant for the production of nitrous oxide in Ranipet in the state of Tamil Nadu.

The **programme for the improvement, modernisation and streamlining of SOL's production plants** in Europe continued. This activity mainly involved the primary production units of Mantua in Italy, Sisak in Croatia and Skopje in Macedonia, as well as the secondary production units of Ancona, Bari, Catania, Cremona and Pisa in Italy, Vitrolles in France, Wiener Neustadt in Austria, Cork in Ireland, Lessines in Belgium and Skopje in Macedonia.

Various onsite industrial and medical plants were developed and opened in Italy and abroad, and the vehicles for the transportation, distribution and sale of products were enhanced with the acquisition of cryogenic tankers, cryogenic liquid tanks, cylinders, dewars and electromedical apparatus in order to support the Group's development in all of its business areas and geographical regions.

Finally, the investments to improve the information systems also continued.

GOVERNANCE SYSTEM

119
certified units
ISO 9001

75
certified units
OHSAS 18001

25
certified units
ISO 14001/EMAS

CORPORATE GOVERNANCE

The SOL Group corporate governance and control system, founded on the central role played by the Board of Directors of parent company SOL Spa, revolves around the **balanced** representation and roles of the corporate bodies, **interaction with stakeholders** and **transparency**, both towards the market and in internal procedures.

The **SOL governance structure** comprises the following bodies: Board of Directors, Shareholders' Meeting, Board of Statutory Auditors and Independent Auditors. The Board of Directors directs and governs the business, pursuing the goal of creating value for its shareholders, in strict compliance with the law and the Group's mission and values.

All of the most significant projects, including those relating to sustainability performances, are assessed by the Board of Directors.

For further information see the "Investor Relations" section of www.solgroup.com.

THE INTERNAL CONTROL SYSTEM

The SOL Group internal control system is a series of processes designed to guarantee the honesty, transparency, efficiency, effectiveness and reliability of corporate management, as well as respect for laws, and to prevent fraud that damages the company. The system is guided by the Code of Ethics and all internal regulations and procedures, including those of the integrated Quality, Safety and Environmental management system.

Both SOL Spa and Vivisol Srl have adopted the **Organisation, management and control model** established by Italian Legislative Decree no. 231/2001 and subsequent amendments and additions, which forms an integral part of the internal control system.

The first versions of the two Models date back to 2006 and have been subsequently updated to take account of acquired management experience, the introduction of new offences and related laws. The two Models were last updated during 2016 following the introduction of new environmental offences and the crime of self-laundering.

The SOL Group's commitment to protecting and respecting **the principles of the free market and competition** was recently consolidated and strengthened through its adoption of the **Antitrust Compliance Program** and approval and dissemination of two new documents that clearly and succinctly outline the core principles of the regulation to observe: the **Antitrust Code** and a more practical **Handbook**.

The Antitrust Code ensures that the core values in terms of protecting competition are well known and constitute a standard of conduct for all SOL Group personnel when carrying out their respective activities. The Handbook summarises the main rules of conduct.

The **Antitrust Function** was created at the same time. Covered by the Legal Affairs Department for Italy and by the Country Managers for the Group's non-Italian companies. It is responsible for monitoring the implementation of the Antitrust programme and providing assistance in this area to everyone in the Group. Among its other duties, the Antitrust Function also organises training events to promote the awareness and understanding of the contents of the regulation.

The systematic monitoring of the correct application of the corporate governance principles takes place via a system that involves the presence of dedicated company structures which carry out monitoring, control and risk management activities.

The Board of Directors of parent company SOL Spa has created the Internal Control Function which is tasked with ensuring that internal operating and administrative procedures are correctly respected.

The person in charge of the **Internal Control Function** does not answer to any departmental manager but directly to the top management. Verification activities are performed both at the management offices of the Monza headquarters and at the sites of the Group's operating companies.

Both SOL Spa and Vivisol Srl have also formed their own **Supervisory Bodies** which, equipped with the appropriate instruments and the necessary independence, verify compliance with the Organisation, management and control model pursuant to Legislative Decree no. 231/2001 and, together with the Country Managers, respect for the Code of Ethics.

GOVERNANCE OF SUSTAINABILITY

On 28 November 2016 the **Corporate Social Responsibility (CSR) Committee** was set up with the Directors, General Managers and Central Managers appointed as its members.
The CSR Committee validates the sustainability goals and coordinates and stimulates the operating structures of all of the Group companies.

MANAGEMENT SYSTEMS

The SOL Group has chosen to organise its Quality, Safety and Environmental management system in an integrated way in order to guarantee coverage of all its activities, eliminating pointless duplications and emphasising synergies.

The governance of the management systems is entrusted to the **Quality, Safety and Environmental Management System Steering Committee** (Comitato Guida Sistema di Gestione Qualità, Sicurezza e Ambiente, CGSQ) made up of the Directors, General Managers and Central Managers. This has the task of reviewing the management system to ensure its efficacy and suitability over time.

In operational terms, the management systems fall under the responsibility of Quality, Safety and Environmental Central Management, Regulatory Affairs (DIQS), which reports annually to the CGSQ.

The DIQS presents its progress and any updates to the Directors and Central Managers at quarterly report meetings and the investment summit.

Matters relating to organisation, labour and industrial relations are handled by Personnel and Legal Affairs Central Management, which presents human resources management data annually to the CEOs and General Managers.

The management system is founded on the Policies, documents approved by the Chairman and General Managers of the Group that outline the principles behind the operations of the Group companies and define the objectives that the top management intends to pursue in the various business areas.

In 2017 the SOL Group updated its management systems to bring them into line with the new ISO 9001:2015, ISO 14001:2015 and ISO 13485:2016 standards.

RESPONSIBLE CARE

In 1995 SOL Spa was one of the first companies in Italy to subscribe to **Responsible Care**, the voluntary programme of the world chemical industry supported, in Italy, by Federchimica, in which it plays an active part, with its own representative on the managing Committee.

As part of this programme, several environmental and workplace safety performance indicators are collected each year, which are also used in this report.

On 7 January 2015 **SOL** signed up to the "**Responsible Care Global Charter**", thus pledging to promote the principles and content of the initiative in all countries where the Group is present.

On 23 April 2015 subsidiary **Flosit** also signed up to the programme, promoted in Morocco by the "**Federation de la Chimie et de la Parachimie**".

The implementation of the "Responsible care" Programme at SOL Spa was subject, in 2017, to an "Audit of the testing model established by Federchimica". This audit confirmed compliance with the principles and requirements of the Programme.

RISK ANALYSIS

SOL Group's activities, products, services and supply chain, as well as its commercial relations, are exposed to social and environmental risks.

SOL Group adopts a **risk mapping and assessment methodology** that assigns a relevance score to each risk according to the impact assessment, the probability of occurrence and the management system in place. The identification of the context in which SOL Group operates, including the expectation of the

Group's main stakeholders, was an integral part of the analysis.

The main risks regarding non-financial matters to which the Group is exposed are attributable to:

- **environmental matters:** potential risks related to electricity consumption of the Group's primary transformation plants, potential risks related to direct and indirect greenhouse gas emissions, potential risks related to outbound logistics, with particular reference to road transport.
- **social matters:** potential risks related to compliance with existing regulations regarding information to customers and patients, potential risks related to the supply of products and services that address customers' needs, potential risks linked to the traceability of the origin of products and services, potential risks regarding the suppliers of services of home care sector and in general the management of social and environmental risks along the supply chain, potential risks regarding the failure to respect human rights, with particular reference to the supply chain.
- **employees' related matters:** potential risks related to employees' health and safety and to compliance with legislation concerning occupational health and safety.
- **compliance with laws and regulations:** potential risks related to non compliance with laws and regulations, including bribery and corruption.

Given the abovementioned potential risks, the Group has assessed the existing internal control system for the different activities, possible gap to be filled and related measures to improve internal controls.

The company function that oversees the main **environmental and health and safety risks** is represented by Company Managers, under the oversight of the **Quality, Safety and Environment, Regulatory Affairs central Department**.

The same Company Managers, supported by any local or corporate designated functions, also oversee the risks related to employees' management and the issues covered by the Code of Ethics. The Code of Ethics applies to all those who, in various way, come into contact with the Group, including suppliers, partners, customers. The Code includes, among others, provisions regarding the protection of safety, health and environment, human rights respect and prevention and fight of corruption.

The Group has activated **processes and management systems in order to mitigate the most relevant risks**, so as to guarantee the correct control of the matters. In particular, the Group's most significate units have obtained certification such as ISO 9001, OHSAS 18001, ISO 14001, ISO 50001, ISO 13485, ISO 27001, ISO 22000. During 2017, the SOL Group progressively updated its quality and environmental management systems, respectively to the new ISO 9001:2015, ISO 13485:2016 e ISO 14001:2015 standards. This entailed the start of a process of analysis of company activities in order to identify risks and assess opportunities related to business processes. The analysis took into account the sustainability issues that are relevant to the SOL Group, in particular the risks potentially present in product making phases and service delivery, as well as in business relationships. The assessment was extended, where relevant, to the supply chain.

The Group has also adopted specific policies, documents signed by the Chairman and by the General Managers containing the statement of the principles that underlie the activities of Group's companies, in particular:

- Quality management policy of SOL Group companies;
- Food safety policy of SOL Group companies;
- Energy management policy of SOL Group companies;
- Information security management policy of SOL Group companies;
- Safety and environment principles of SOL Group companies;
- Principles and values on which personnel policies are based in SOL Group companies.

FEDERCHIMICA AWARDS SOL FOR ITS BIOMETHER PROJECT

In 2017 SOL won the Responsible Care award for the **BioMethER project**, developed in collaboration with Aster, the Region of Emilia-Romagna, CRPA Lab, IREN, IREN Rinnovabili, IRETI and HERAmbiente.

Financed by the European Commission LIFE+ programme and co-funded by the Region of Emilia-Romagna, the project was developed by the SOL Technical and Testing Department and involves the creation of **two pilot plants for the production of biomethane** destined to be fed directly into the grid or used as transport fuel.

The biomethane is produced by purifying biogas, a process known as "upgrading". The upgrading process removes undesirable components and makes it possible to obtain a gas with a methane content of 95% or higher.

Of the two pilot plants involved in the project, the first plant to be developed is at the treatment plant in Roncocesi, a district in the Municipality of Reggio Emilia. The pilot plant uses around 250,000-300,000 m^3 of biogas every year, which was previously burnt off using flares. The project makes it possible to produce around 140,000 m^3 of biomethane every year, the equivalent consumption of 150 methane-fuelled cars travelling an average of 15,000 km a year, **avoiding the emission of around 340 tonnes of CO_2**.

The project is an important example of the **circular economy** as it makes a resource out of a product that until yesterday was regarded as waste.

A new phase of the project was launched in 2017 with the arrival of ENEA and Volkswagen. Produced in Roncocesi, the biomethane will be used to fuel two cars made available by Volkswagen Italia, filled using an ENEA pump and used by IREN employees. The monitoring of the performances of these vehicles compared with those of the same model when fuelled using fossil methane will make it possible to assess the impact of the two different forms of fuel on the wear and tear of the engine.

The risk analysis is complemented by the assessment made in compliance with the requirements of laws, technical standards and best practice guidelines applicable, for instance, to drugs, medical devices, foods and pressure equipment.

CERTIFICATION

The SOL Group launched the certification process for its Units in 1994.

The main Italian sites were first certified according to ISO 9001 and other standards have gradually been implemented in relation to Group activities. The perimeter was then extended to other locations and other countries.

ISO 9001: starting from the certification of the first Units in 1994, the Group has subsequently extended the perimeter. Today this certification covers 119 units in the various European countries (114 in 2016).

OHSAS 18001: this certification becomes even more important, as a guarantee for the top management, with the entry into force in Italy of Legislative Decree no. 81/2008, which establishes the adoption of a Management system in line with the OHSAS 18001 standard as a necessary condition for being exempted from the application of the sanctions established by Decree no. 231/2001.

SOL Spa and Vivisol Srl certified the Safety Management Systems for all their Units in accordance with the OHSAS 18001 standard. The certified Italian Units were later joined by other Units in Albania, Bulgaria, Romania, the Netherlands, the UK, Slovenia and Spain.

ISO 14001 and EMAS: considering the importance attached to respecting environmental issues, even though the Group's production activities have a limited direct impact on the environment, the correct adoption of the Group Management System was verified with the certification of some particularly significant Units. Currently, 25 Units have ISO 14001 certification or EMAS registration, four more than in 2017 (TGP, Re.Vi., Sterimed and SPG).

Two Italian Units and one Slovenian Unit have also obtained EMAS Registration for their environmental management systems.

ISO 50001: the sites of SOL Spa's Branch Deutschland and SOL Kohlensäure in Germany and those of Slovenian companies SPG and TPJ have ISO 50001 certification. ISO 50001 is an international standard whose adoption helps organisations improve their performances in the energy sector, increasing their efficiency and reducing their impact on the climate and the environment.

ISO 27001: the ISO 27001 standard defines the requirements for establishing and managing an Information Security Management System (logical, physical and organisational security), with the aim of protecting data and information from all kinds of threats, guaranteeing their integrity, confidentiality and availability.

The table below summarises the certification obtained by the SOL Group, subdivided by country and company, at 31 December 2017.

CERTIFICATION AT 31 DECEMBER 2017

Country	Company	ISO 9001	OHSAS 18001	ISO 14001	EMAS	ISO 50001	ISO 13485	ISO 27001	ISO 22000
TECHNICAL GASES SECTOR									
Albania	GTS	1	1				1		1
Austria	SOL TG	1					1		
Belgium	SOL Spa Feluy	1		1					1
	BTG	1							
Bosnia and Herzegovina	TGP	1		1					1
	TGT	1							
Bulgaria	SOL Bulgaria	2	2						2
Croatia	UTP	2							
	Kisikana	2							
France	SOL France	1					1		
Germany	SOL Spa Frankfurt	1				1			1
	SOL Deutschland	2							2
	SOL Kohlensäure	1				2			1
	CT Biocarbonic	1							1
Greece	SOL Hellas	2					2		2
Ireland	Irish Oxygen	1							
Italy	SOL Spa	20	30	3			2	1	
	SGP	6	7	3	2			1	2
	ICOA	1		1					
	SOL Welding	1					1		
	CTS	1							
	Behringer	1							
	Personal Genomics	1							
	Medes	1					1		
	Tesi	1							
	Sterimed	2	1	1			2		
	Re.Vi.	1	1	1			1		
Macedonia	TGS	3							3
	SOL SEE	2							1
Morocco	Flosit	1							
The Netherlands	SOL Nederland	2	3						2
Romania	GTH	1	1						
Serbia	SOL Srbija	1							1
Slovenia	SPG	1	1	1	1	1			1
	TPJ	1	1	1		1			1
Turkey	SOL TK	1							1
	Gebze Gaz	1							

Country	Company	ISO 9001	OHSAS 18001	ISO 14001	EMAS	ISO 50001	ISO 13485	ISO 27001	ISO 22000
HOME CARE SECTOR									
Austria	Vivisol Austria	2							
Germany	Vivisol Deutschland	7							
	Pielmeier	1							
Greece	Vivisol Hellas	2							
Italy	Vivisol	20	20	1			2	1	
	Vivisol Napoli	1							
	Vivisol Silarus	1							
	Vivisol Calabria	1							
	App4Health							1	
The Netherlands	Vivisol Nederland	1							
United Kingdom	Dolby Vivisol	4	4	4				2	
Spain	Vivisol Iberica	4	3	4					
Switzerland	Sitex	1							
BIOTECHNOLOGIES SECTOR									
Italy	Biotechsol	1						1	
	Diatheva	1							
	Cryolab	1							

Because of the kind of gases they produce and the quantities they stock, 21 Group plants fall into the field of application of Directive 2012/18/EU ("Seveso Directive").

They are the Italian units in Piombino, Mantua, Cremona, Cuneo, Salerno, Ancona, Marcianise, Verona, Pisa, Bari and Augusta, as well as those in Feluy (Belgium), Frankfurt, Gersthofen and Krefeld (Germany), Cergy Pontoise and Saint Savin (France), Tilburg (The Netherlands), Jesenice (Slovenia), Devnya (Bulgaria) and Cork (Ireland).

Directive 2012/18/EC makes it obligatory to adopt a specific safety management system (which has much in common with the provisions of OHSAS 18001), and, therefore, to be periodically subjected to controls by the Authorities (three during 2017, all with positive outcomes).

Some Units of SOL Spa and SGP Srl fall into the field of application of European Directive no. 75 of 24/11/2010, "Industrial Emission Directive" (IED), which extends the scope of application of the IPPC (Integrated Pollution Prevention and Control) regulations and governs the granting, renewal and review of Integrated Environmental Authorisation.

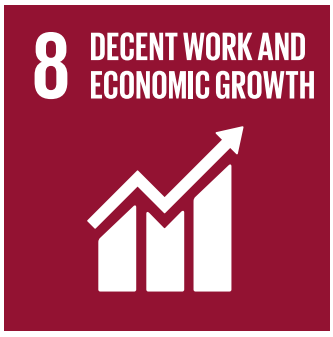
The company has authorisation for its hydrogen (Ravenna), nitrous oxide (Cremona, Marcianise and Tilburg) and acetylene (Ancona) production plants.

SUSTAINABILITY, A GLOBAL GOAL

In September 2015 over 150 international leaders met at the United Nations to define the **2030 Agenda for sustainable development** with the aim of contributing to global development, promoting human wellbeing and protecting the environment. The Agenda is based around 17 Sustainable Development Goals (SDGs) to achieve by 2030.

Conscious of its role in the area of sustainable development, the SOL Group has compared its goals with those of the UN Agenda to verify their consistency.

GOAL	THE CONTRIBUTION OF THE SOL GROUP
	
End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Technologies that make it possible to conserve food products (freezing of foods and conservation in protective atmospheres without preservatives)
	
Ensure healthy lives and promote well-being for all at all ages	Gases classified as medical devices that make it possible to carry out diagnostic exams guaranteeing greater safety for patients. Development of home care services in order to avoid hospitalisation. Commitment to guaranteeing the health and wellbeing of all its internal and external workers. Development of genomic diagnostic tests on the healthy population to prevent some illnesses.

	GOAL	THE CONTRIBUTION OF THE SOL GROUP
	**Achieve gender equality and empower all women and girls**	Commitment to overcoming all gender differences, particularly between its employees.
	**Ensure access to safe water and sanitation and sustainable management of freshwater ecosystems**	Development of processes for the purification of water using technical gases. Commitment to reducing water consumption at our sites.
	**Ensure access to affordable, reliable, sustainable and modern energy for all**	Production of energy from renewable sources, through hydroelectric power plants. Promotion of more sustainable transport through projects that promote the use of fuels like hydrogen, biofuels and liquefied natural gas (LNG).
	**Promote inclusive and sustainable economic growth, employment and decent work for all**	Development of integrated healthcare services that guarantee the safety of patients and health workers in hospitals. Home care services that enable patients suffering from chronic diseases to lead more serene lives in their homes, avoiding hospitalisation.
	**Build resilient infrastructure, promote reliable, sustainable and fair industrialisation and foster innovation**	Development of products, services and technologies that help industrial customers carry out their activities in a safer, more economical and more environmentally friendly way.

CUSTOMERS, PATIENTS AND SUPPLIERS

4,000
Safety Data Sheets

81
suppliers audits

Over
8,000
customers
and patients engaged

THE TECHNICAL GASES SECTOR

SOL

SOLGROUP

Over
50,000
customers

Gases produced and distributed:

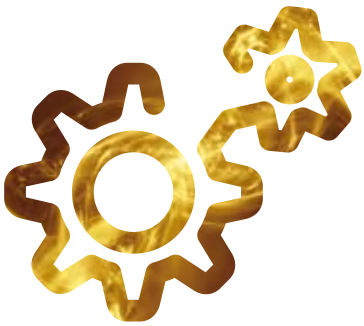
Oxygen, Nitrogen, Argon, Hydrogen, Carbon dioxide, Sulphur dioxide, Acetylene, Nitrous oxide, Gas mixtures, High purity gases, Food gases, Gaseous helium, Liquid helium, Gases for electronics, Ammonia, Combustible gases for industrial use and liquefied natural gas (LNG).

Focus on the customer

The development plan of the SOL Group focuses on continual research into **innovative technological solutions** which, through the use of the technical gases it produces in its plants and markets, enable its customers to pursue goals in the area of **energy and production efficiency**, the improvement of **environmental compatibility** and the **protection of the health** of their employees.

To achieve these objectives the proposed solutions not only concern the supply of technical gases but also the **development of applied technologies**, the construction of the plants and the provision of the services necessary for using the gases.

The products, technologies and services have been developed with a **focus on the needs of the customer** and are able to cover all industrial sectors potentially concerned.



FOOD & BEVERAGE

Industries served

- Agriculture
- Fish
- Red and white meat
- Fruit and vegetables
- Milk and derivatives
- Ready meals
- Bread and pastries
- Ice cream
- Beverages
- Wine and oil
- Catering

Technologies and solutions for:

- Carbonic fertilisation with CO_2: increase in production and in quality and look of the product
- Fumigation and pest control with CO_2 of biological agricultural products for which no chemical products, such as phosphine, can be used
- Fish and mussle farming with O_2: increase in production and quality of the finished product.
- Cooling, flash freezing, cryogenic freezing, IQF with Lin o LCO_2: improved quality of frozen product, taste characteristics maintained, better aesthetic aspect, reduced freezing times and space saving.
- Packaging in atmosphere modified with N_2 and CO_2: shelf life optimisation, improved aesthetic aspect, freshness maintained
- Transport at temperature controlled with Lin or dry ice: safeguarding of freezing chain to preserve quality of food and avoid spread of bacteria
- Gassing, pressing with nitrogen, water dosage: plastic bottle weight reduction.

METAL PRODUCTION

Industries served

- Carbon and stainless steel
- Aluminium
- Ferrous products and cast-iron
- Nonferrous products: zinc, lead, copper, magnesium
- Semifinished products and forges
- Mineral extraction
- Precious metal processing
- Glass and ceramics
- Cement and lime

Technologies and solutions for:

- Oxy combustion and hyper oxygenation with oxygen: reduction of exhaust gas volumes and methane used for combustion, helping safeguard the environment and at the same time increasing productivity
- Wall and fall burners, with conforming flame, low NO_x: plant designed to optimise emission reduction and limited environmental impact, adaptable to the various types of furnace present.
- Inertisation and degassing with argon, nitrogen and SF6: maintenance and improvement of quality of metals produced, reduced waste. Substitutes such toxic chemical compounds as chlorine
- Controlled protective and reactive atmospheres with nitrogen, hydrogen, Solmix: production of high-quality metal products in line with design specifications.
- After burners with oxygen: complete treatment of emissions, limiting quantity and environmental impact

METAL FABRICATION

Industries served

- Thermal treatments
- Carbon and stainless steel processing
- Aluminium and nonferrous metal processing
- Automotive industry
- Aeronautical and railway construction
- Shipyards
- Construction sites
- Boilers
- Tools

Technologies and solutions for:

- Controlled protective and reactive atmospheres with nitrogen and hydrogen
- Endothermic and exothermic atmospheres with solmix controlled carbon potential
- Keying with Lin: products made not using heat but cold, limiting fuel consumption.
- Lin soldering of electronic cards: reduced waste and manual elimination of defective cards, increasing production quality
- Cutting and laser welding with nitrogen and oxygen: increased productivity and product quality
- Oxy cutting and oxyacetylene welding, Mig/Mag, Tig and plasma welding and welders.
- Gas distribution automation and plant: reduced manual operations help reduce risk of accidents
- Pressure & fugitive tests with helium and nitrogen: guarantees tightness of components treated, reducing risks of leakage of products, also toxic products, from plant where they are used (e.g. offshore oil wellhead valves).

CHEMISTRY & PHARMA

Industries served

- Basic and inorganic chemistry
- Synthetic intermediates
- Polymers
- Fine chemistry
- Bulk pharmaceuticals
- Pharmaceutical specialities
- Cosmetics
- Herbalism
- Plastics and rubber

Technologies and solutions for:

- Inert and protective atmospheres with nitrogen: reduction of risk of accident from contact of products with oxygen, at the same time preserving their quality.
- Fluxing, pressurisation and stripping with nitrogen: plant cleaning with reduced use of polluting chemical additives.
- Grinding and micronisation with Lin and gaseous nitrogen: increased quality of ground product.
- Packaging in inert and sterile atmosphere of pharmaceutical products: preserving and guaranteeing product quality.
- VOC treatment and solvent recovery with Lin: reduced environmental emissions and at the same time recovery of the chemical products they contain
- Cryogenic cleaning with CO_2: replaces cleaning methods using water, solvents or sandblasting, thus limiting the environmental impact of residues.

OIL & GAS

Industries served

- Extraction
- Transport and pipelines
- Refining
- Raw materials and finished products stocking
- Off-shore
- Components and equipment

Technologies and solutions for:

- EOR processes with nitrogen and CO_2: increased extraction productivity avoiding the need for new wells
- Fluxing, pressurisation and stripping: plant cleaning with reduced use of polluting chemical additives.
- Controlled cooling with Lin: reduced plant maintenance times, faster cooling and less risk for operators.
- Inertisation and drying with nitrogen: plant maintained in controlled stand-by, limiting accident risks and permitting fast restart
- Cryogenic cooling with Lin: permits work on filled pipes without need for emptying.
- Claus processes with oxygen: improved and optimised recovery of sulphur from refinery flows and lower emissions.
- Control and regulation of technical and special gases, management and maintenance of emission control units: emission control units are kept efficient, reducing the risks of accidental emissions.

ENERGY & ENVIRONMENT

Industries served

- Multiutility
- Wastewater purification
- Purification
- Waste Management
- Special waste management
- Incineration
- Chemical, pharmaceutical, fabric and leather, food, paper, petrochemical and extraction industries.

Technologies and solutions for:

- Waste water treatment with O_2: makes purification more effective and increases purification capacity, reducing environmental impact and giving better control.
- Waste water treatment with ozone: reduction of colour, micro contaminants, nitrates: optimization of treatments, with reduced environmental impact
- AOP processes with ozone: on-site environmental clean-up, less removal of terrain and combustion treatments having higher environmental impact.
- Deodorising waste water with oxygen: reduced environmental impact.
- Disinfection with ozone: watercourses receiving treated wastewater are protected from bacterial pollution without the use of chlorine compounds.
- Reduction of surplus sludge with oxygen: less sludge to send for disposal, reduced environmental impact.
- pH control with CO_2: this substitutes mineral acids (sulphuric and hydrochloric) which leave pollutants in the water.
- Recarbonation and remineralisation of drinking water with CO_2: makes water drinkable meeting legal requirements using a certified food additive.
- Oxy-combustion of waste with O_2: reduction of aeriform emissions and increased control of incinerator plant with widely varying waste loads (tourist areas).
- Afterburners with O_2: complete treatment of emissions, limiting quantity and environmental impact.
- VOC treatment and solvent recovery: reduced environmental emissions and recovery of the chemical products they contain.

OXY-FUEL COMBUSTION IN THE ALUMINIUM SECTOR: A HIGH-EFFICIENCY SOL TECHNOLOGY

The recycling of scrap aluminium has become increasingly important because it makes it possible to save huge amounts of energy (up to 95%) compared with producing the same alloys obtained using bauxite (the mineral from which aluminium is produced). In addition, because it can be recycled ad infinitum without losing its properties, the production of aluminium from scrap represents an excellent example of the **circular economy**.

SOL provides its customers with cutting-edge aluminium melting techniques based on the technology of oxy-fuel combustion, which uses technical oxygen as a fuel. These techniques exploit the different types of scrap available on the market, drastically reducing gaseous emissions while having only a limited energy impact.

In 2017 SOL launched a new application in Italy at a melting furnace with high scrap aluminium capacity, which is also able to use low quality scrap, significantly limiting losses due to oxidation (additional waste) and atmospheric emissions.

This was feasible thanks to the use of **specially designed burners** for this type of application and the use of oxygen combustion, which makes it possible to recover the energy contained in the waste in the melting process itself (post-combustion), with consequent savings in fuel, a reduction in melting times, a reduction in the quantity of waste by-products, an increase in production capacity and an increased flexibility of the melting furnace.

THE MEDICAL GASES SECTOR

SOL

Over
500
major medical customers

38
pharmaceutical plants

Gases produced and distributed:

- Gases with Marketing Authorisation: Oxygen, Nitrous oxide, Synthetic and compressed air, Neophyr and Donopa mixtures
- Other Ph.Eu quality gases: Nitrogen, Carbon dioxide
- Gases classified as medical devices
- Mixtures for therapeutic use by prescription
- Gases and certified mixtures for diagnostic and instrumental use
- Special gases and mixtures to high levels of purity

SOL for the hospital sector

The SOL Group is aware that new health and therapeutic protocols require scientifically and technologically advanced products, services and devices in order to achieve the best possible performances and therapeutic results.
SOL therefore acts as a **partner for the supply of products, services and equipment**, allowing the healthcare system to focus on its core business of delivering the "health" product to a very particular customer - "the patient".

Design and development of medical devices

The SOL Group is able to design, manufacture and manage Medical Devices such as centralised plants for the production and distribution of medical gases, endocavitary aspiration and the evacuation of anaesthetic gases; devices for the administration of drugs, devices for the emergency management of gases; supplementary materials, accessories and consumable materials for the administration of drugs and the use of gases.
In this context SOL performs accredited analyses for verifying the quality of the medical gases administered at the terminal distribution units.

Total Gas Management services

The **Total Gas Management service** (TGM) offers health structures the possibility of minimising the risks connected with the handling of medical gas packages and containers and their procurement. The service is designed case by case in order to satisfy the requirements of different organisational models.

The integrated platform **InfoHealth®**, developed by Zucchetti, allows the traceability of medical gas containers and mobile medical devices, the management of the stock and the planning of the ordinary maintenance programme for mobile and fixed medical devices and technology systems. The traceability form is validated according to Good Manufacturing Practices, contributing to information security.

Preparation and distribution of antineoplastic drugs

Healthcare worker safety is a priority also in the **design and construction of laboratories for the preparation of antineoplastic drugs**, where personal exposure to hazardous chemicals must not exceed strict critical thresholds. The adoption of the most modern technologies guarantees precision in the dosing of treatments and eliminates the risk of identifying potential preparation errors, therefore guaranteeing the utmost safety of the patient.

Electromedical equipment management service

SOL also acts as a partner for the routine management, operation and emergency management of **electromedical apparatus**, from the simplest devices to diagnostic machinery and life-saving therapy devices.

Sanitising services

SOL offers **specialist hygiene programmes** that are able to meet the needs of public and private users: from the design, development and operation of sterilisation centres for surgical instruments and units for the treatment and sanitisation of water and air, to the supply of personalised integrated services.

Ambulance management services

Patient care begins from the moment they are transferred to hospital. For this reason, SOL is able to provide ambulance managers with medical and electromedical devices for their vehicles, maintenance and safety verification services, vehicle sanitisation services and structured and voluntary staff training.

Monitoring service

SOL is able to offer a complete range of services for environmental, particle and specific substance monitoring (e.g. anaesthetic gases in operating environments), custom-designed for each type of room in the hospital facility according to the actual risk of exposure.

Training services

Training in the safe use of medical gases, their containers and accessories is fundamental for the correct administration and handling of products.
Training is provided through ECM courses, which can be accredited upon the request of the customer. These can be held both residentially and remotely in order to satisfy the needs of structures and individual students.

AN INTEGRATED SERVICE FOR THE MANAGEMENT OF AMBULANCES

Thanks to the presence within the Group of companies specialising in sanitisation and the testing of electromedical equipment, SOL has been able to design an **integrated service** for the management of ambulances, the first point of contact between the patient and the hospital. This was also possible thanks to the experience the Group has acquired by providing its services to the various institutions that operate in this area.

When designing the service, the priority was guaranteeing the **safety of patients and healthcare workers**.

In particular, the integrated service involves **checks** on the mobile **Medical Oxygen distribution** device and Vacuum aspiration system to ensure they are undamaged and functioning correctly, **checks** on the electrical safety and correct functioning of **electromedical equipment** (defibrillator, ECG, medical ventilator, infusion pump) and the **sanitisation** of the entire mobile unit using hydrogen peroxide.

SOL also organises **training** sessions for healthcare workers on the correct management of the medical gas supply system, cylinders and apparatus on board the emergency vehicle.

In 2017 SOL signed an agreement for the supply of the first ambulances to Azienda Provinciale per i Servizi Sanitari, the regional healthcare provider in the Autonomous Province of Trento.

THE HOME CARE SECTOR

VIVISOL

Over
400.000
patients

18
pharmaceutical plants

Activities:

- provision of services, equipment and products for home oxygen therapy with liquid oxygen, gaseous oxygen and concentrators;
- provision of services and equipment for home mechanical ventilation;
- provision of communication aids for patients suffering from serious neuromuscular diseases;
- home treatment of the sleep apnoea syndrome;
- provision of products and equipment for home artificial nutrition;
- provisions of integrated home care services.

Home oxygen therapy service

Vivisol operates throughout Italy and in the main European countries, providing care for **patients with respiratory insufficiency**. Thanks to Vivitravel, patients can also continue to use the service even when away from home.

Ventilation therapy

Thanks to agreements with leading global manufacturers, Vivisol is able to supply the most **advanced mechanical ventilation devices**, which can also be interfaced with different remote monitoring systems.

The Vivisol service includes installation, ordinary and extraordinary maintenance, instruction and training for the patient and caregiver.

Treatment of sleep-related respiratory disorders

Sleep quality analysis is a science that makes it possible to intervene with suitable therapies on certain pathologies that are often hidden or latent. The Vivisol service makes it possible to a**ccurately analyse sleep quality** in order to identify the most suitable treatment and to remotely monitor the clinical data collected directly at the patient's home.

Aerosol therapy

Aerosol therapy is a natural, age-old and effective form of medical treatment with no contraindications and with recognised benefits. The service includes **installation of the apparatus** in the patient's home, **training**, which is also extended to the patient's family, and a **technical assistance service**.

Alternative communication

Vivisol is able to offer a **service dedicated** to those affected by pathologies that limit or prevent communication, for example neuromuscular pathologies. The possibility this innovative service offers of being able to communicate independently again leads to a real improvement in the patient's quality of life.

Artificial nutrition service

Vivisol assists artificial nutrition patients at home with the aim of guaranteeing their safety and peace of mind and ensuring they continue with their treatment. They do this by providing a complete service which includes verifying the socio-environmental conditions of the patient's residence, supplying the prescribed nutritional mixtures, selecting and installing medical devices suitable for domestic use, providing training to the patient and caregiver, providing ongoing technical assistance and communicating the patient's treatment to the relevant specialist centre.

Telemedicine

Telemedicine is both a goal and a launch pad that characterises the evolution of Vivisol's activities in patient home care. Through the selection and development of the most advanced communication technologies, it is possible to reduce times and distances, enabling doctors to monitor patients at home with a level of **effectiveness** and **immediacy** comparable to hospital care.

VIVISOL CONTINUES TO PROMOTE INNOVATION WITH RESMON PRO DIARY

Vivisol supported Restech S.r.l., a Milan Polytechnic spin off, in the development and production of Resmon PRO Diary, an **innovative system** for the remote management of patients afflicted with chronic obstructive pulmonary disease (COPD).

Resmon PRO Diary is the first medical device that is able to **anticipate** the exacerbation of COPD through **domestic monitoring** thanks to an innovative automatic algorithm that analyses respiratory parameters.

Resmon PRO Diary makes it possible to improve the quality of life of patients in a simple and immediate way: all they need to do is breathe into the device for a minute a day and this, through the Vivisol telemedicine platform, automatically sends the data to the patient's doctor, communicating the possible exacerbation of the disease. The doctor is therefore able to take prompt action, adjusting the treatment and thus preventing the patient's condition from worsening.

The device and its algorithm were tested between 2013 and 2016 in a multicentre clinical trial that demonstrated the efficacy of the monitoring action with an significant reduction in the rate of hospitalisation of patients and a consequent reduction in costs for the health system.

Resmon PRO Diary was presented during the most important European pulmonology congress, organised by the European Respiratory Society and held in Milan on 9 - 13 September 2017.

THE BIOTECHNOLOGY SECTOR

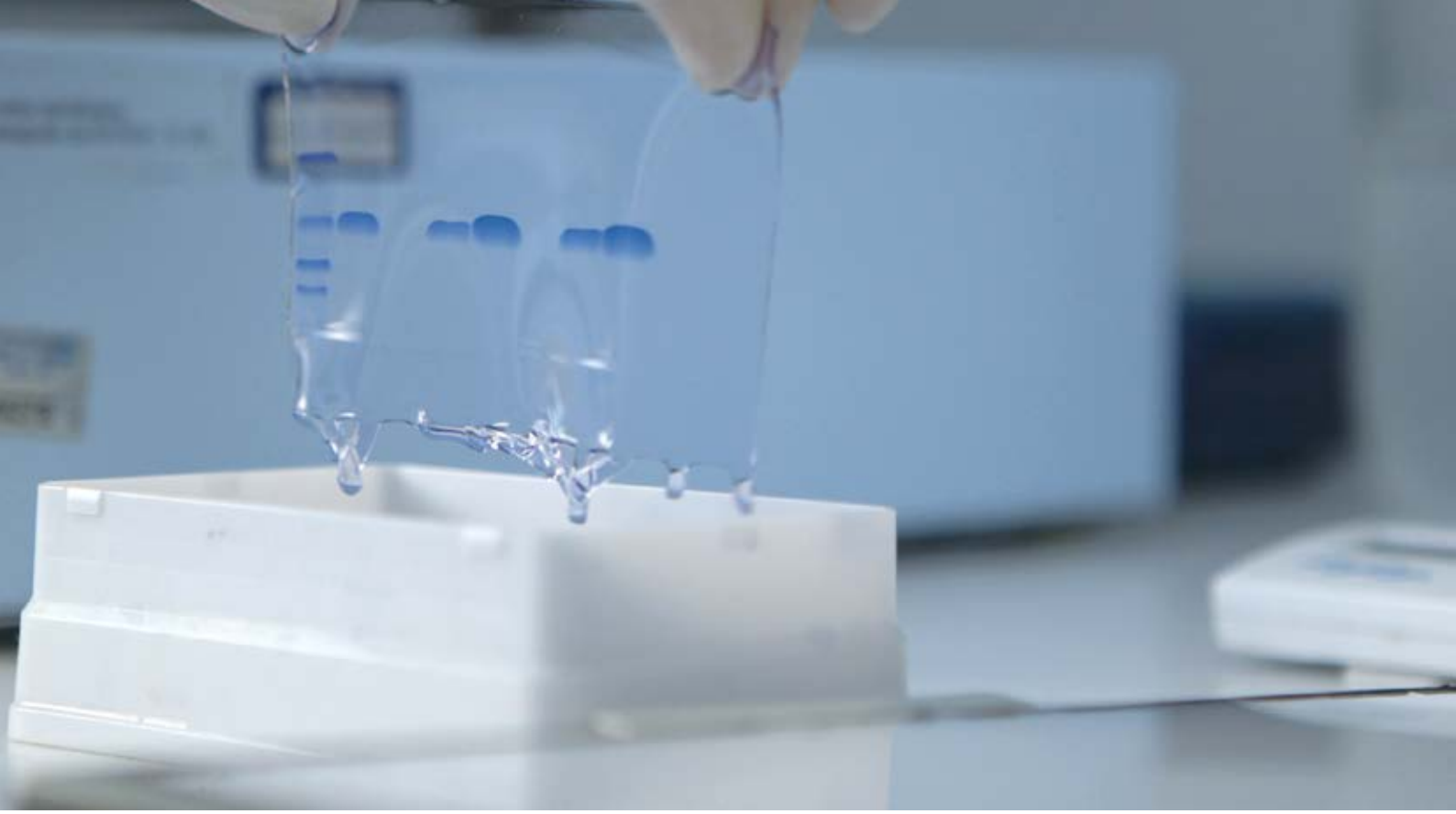
BIOTECHSOL

1
pharmaceutical plant

3
laboratories authorised by the Ministry of Health pursuant to Italian Legislative Decree no. 191/2007

Activities:

- Design, development and management of Clean Room Laboratories and processing and storage centres for cells and tissues;
- Design, development and management of crybiological rooms and of samples stored;
- Storage and transportation of biological samples on behalf of others;
- Pre- and post- natal diagnostic services;
- Genetic diagnosis services thanks to the Next Generation Sequencing and advances bioinformatics tools;
- Production in GMP monoclonal antibodies and recombinant proteins;
- Scientific research, pre- clinic and clinic of new biopharmaceuticals;
- Scientific research of new protocols of cell manipulation.



Design and development of biobanks

The service of designing and developing ISO 9001 certified cryobiological rooms is aimed at public and private structures that carry out scientific research and manipulation for cell, tissue and organ transplants and that need to preserve their biological samples for long periods of time in liquid nitrogen.

Disaster Recovery

The Disaster Recovery service guarantees public and private structures the transfer, in emergency situations, of biological samples to cryobiological rooms owned by the SOL Group. In particular, Cryolab is authorised by the Italian Ministry of Health and the Italian National Transplant Centre for the long-term and disaster recovery conservation of human gametes.

Bioshipping

The Bioshipping service provided by Cryolab makes it possible to transport biological samples between health structures in **completely safe and traceable conditions**, with the continuous monitoring of all parameters.

This service is becoming increasingly popular and important, and is also used for delicate and often unique samples such as gametes. Cryolab is able to satisfy the reliability and very high specialisation requirements established by applicable regulations for Medically Assisted Procreation structures.

Genomic diagnostics

Biotechsol provides pre- and post-natal diagnostic screening services which are important for ensuring the correct development of new-born babies as they enable the **early diagnosis** of numerous diseases which, if diagnosed in time, can be treated.

Diatheva diagnostic systems are innovative because they permit the **identification and quantification of pathogens** through DNA amplification techniques in any matrix and for any requirement.

Compared with traditional techniques, such as cultures, the new Diatheva systems can **reduce the time required to obtain results to just a few hours** and are aimed principally at the food and environmental control sectors where fast analytical results are critical for taking decisions that affect the safety of people and the environment.

Through its subsidiary Cryolab, the SOL Group is now active in the research and development of protocols for cell manipulation and in particular stem cells, the new frontier of regenerative medicine.

In 2017 these activities were joined by genetic and bioinformatic analyses thanks to the accredited Personal Genomics laboratory, which makes **Next Generation Sequencing technologies** and advanced bioinformatic tools available to preventive and precision medicine.

SMART PEOPLE, EVERYDAY GENOMICS

Personal Genomics, a SOL Group company, is participating in PANINI, a multi-disciplinary project that involves six universities from five countries (UK, The Netherlands, Portugal, Finland and Italy) and a Dutch research organisation. The goal of the project, which involved 11 PhD students hosted by the partners of the consortium, is to examine the **influence that physical activity and diets have on changes related to ageing**, considering both genetic and social factors.

The PANINI project is a European Marie Curie project developed as part of 'Horizon 2020'. The aim of PANINI is to carry out **cross-sectoral research** and to form a new group of researchers that take a radically innovative and intersectoral approach to the theme of healthy ageing.

Launched in 2016, the project will conclude in 2019.

ENERGY PRODUCTION FROM RENEWABLE SOURCES SECTOR

HYDROSOL

4
countries

15
hydroelectric power plants

The production of technical gases is highly dependent on electricity, which is mostly produced from fossil fuels like gas, coal and oil that have a considerable negative impact on the environment.

One of the objectives the SOL Group has pursued since 2002 is the **production of electricity from renewable sources** in order to mitigate the indirect environmental impact of its activities.

Thanks to the electricity generated in its power stations, in 2017 the forecast reduction in the Group's atmospheric CO_2 emissions came to over **40,157 t.** These tons are equivalent to those that a car running on petrol would emit to circle the Earth 5,100 times.

SUSTAINABILITY FOR CUSTOMERS AND PATIENTS

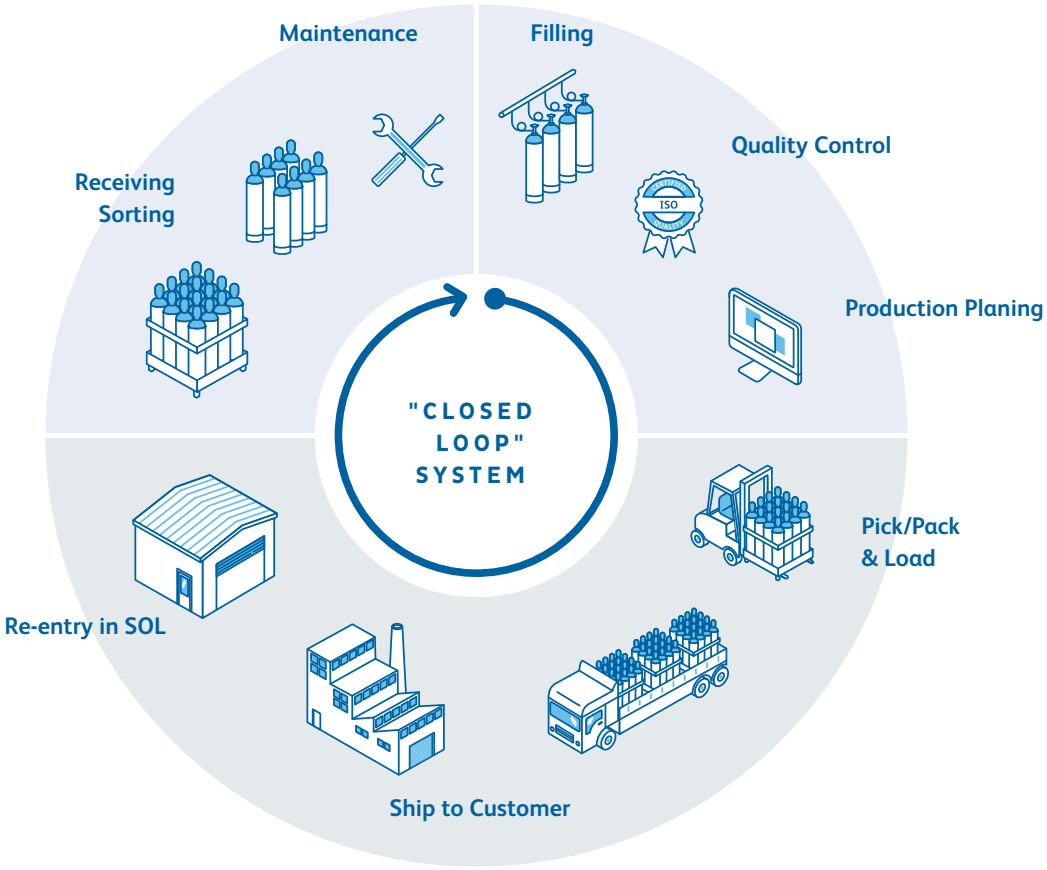
The SOL Group aims to satisfy its customers' needs in all of the sectors in which it operates and to contribute to guaranteeing the quality of life of the patients it serves.

It offers **industrial customers** products, services and technologies that help them do business is a **safer, more economical and more environmentally-friendly way**.

In addition to medical gases, it provides **hospitals** with support services for the administrative and technical management of gas supplies and sanitising services designed to **ensure the health security of patients** and more generally the services related to maintenance and management of high tech equipment and specialized non core activities for healthcare facilities.

Finally, the **home care service** allows patients suffering from chronic diseases to lead more serene lives in their homes, **avoiding hospitalisation**.

For the **distribution of bottled products**, cylinders, cylinder baskets, dewars and other mobile recipients are used. These can all be reused several times and last up to about 40 years. During their lifetimes these recipients remain the property of SOL, which makes them available to its customers. When the cylinder is empty it is returned by the customer to SOL so it can be refilled and reused as part of what is a **"closed loop" system.** SOL is responsible for all aspects connected with the maintenance and periodic inspection of the recipients, ensuring that they are safe as well as suitable and compliant with applicable regulations.



TECHNOLOGIES FOR INDUSTRY

Given the growing sensitivity of customers to environmental and safety matters, the SOL Group has invested in the **identification and development of innovative technologies** which, starting with an understanding of customers' needs and using the products supplied, make it possible to **improve working conditions from an environmental, economic and safety** point of view.

Improving water quality: the use of oxygen in wastewater treatment makes the purification process more effective, reducing environmental impact and ensuring better control over the treatment.

Disinfection with ozone protects the watercourses where wastewater is re-emitted after treatment from bacterial pollution and also avoids the use of chlorine compounds.

Reduction of energy consumption and emissions: in the metal and glass industries the use of oxy-combustible burners developed by SOL permits more efficient combustion than using only air, with a consequent reduction in energy consumption and atmospheric emissions.

On-site plants: Producing gas directly on industrial customer premises using on-site plants significantly contributes to protecting the environment because it makes it possible to:

- reduce the atmospheric pollution associated with road transport, typical of traditional supplies in cylinders or tanks;
- reduce energy consumption since the production process, specialising in just a single gas with specific characteristics, consumes less energy than a traditional centralised plant.

Promotion of more sustainable transport: the use of fuels with lower environmental impact, like liquefied natural gas, makes it possible to reduce emissions deriving from the circulation of cars, buses and lorries.

Increase in safety: the use of inerting nitrogen contributes to the safety of industrial installations.

Reduction of pollutants: controlling pH with CO_2 replaces the use of mineral acids (sulphuric and hydrochloric) which leave pollutants in the water. Modified atmosphere packaging protects food products while reducing the use of chemical preservatives.

HEALTHCARE SERVICES

The SOL Group is constantly looking for answers to the health management challenges that are posed both by hospitals and by patients who use home care services.

That's why SOL believes that it is necessary for hospitals to be supplied not only with traditional medical gases (oxygen and nitrous oxide), but also with the equipment to use them and, above all, services that enable customers and doctors to focus on the main purpose of their activities, namely patient care.

The **safety of patients, operators** and all those present for various reasons in the places where medical gases and services are supplied, managed and administered is a primary objective. The experience we have acquired and the continuous exchange of information enables SOL to introduce innovations to products and services with the aim, among other things, of making them inherently safer: examples include the integrated reducing valves for compressed gas packages, safety and protective devices for handling cryogenic gases and the safety and monitoring sensors for the rapid analysis of hazardous atmospheres.

We also seek to reduce the environmental impact of our activities by improving the **efficiency of transportation**, by **optimising stocks** through the use of management systems that keep track of packages distributed within healthcare facilities, and by **digitalising** accounting **documents** and reports.

Patients with chronic conditions such as sleep apnoea or respiratory insufficiency can rely on home care services which, conditions permitting, enable them to enjoy lives of the highest possible quality and independence, avoiding hospitalisation.

GENOMIC DIAGNOSTICS

There are several advantages of genomic diagnostics which the Group makes available to its customers:

- **Prevention**: by performing tests on a healthy population the probability of being able to take prompt action to prevent some illnesses is higher.
- **Early identification of problems**: by screening new-born babies and carrying out predictive tests on a population that is at high risk of a specific illness it is possible to identify anomalies in advance and, potentially, take early action.
- **Assistance for the ill**: by identifying DNA mutations it is possible to modulate personalised treatments to improve the effectiveness of healthcare.

SAFE PRODUCT MANAGEMENT

The safety of products is monitored both in the production phase and during transportation, right through until they are used by customers, using risk assessment processes.

The SOL Group takes part in national and international working groups on product safety matters in order to stay constantly updated on the evolution of regulations and to be able to operate in harmony with other companies in the sector.

The **management of the Safety Data Sheets** (SDS) of all substances and for all companies operating in the European Community is centralised at the Monza headquarters. There are currently around 4,000 available SDS in 19 languages. All of the sheets and all of the labels applied to mobile containers conform to Regulation 1272/2008 (CLP - Classification, Labelling and Packaging), which regards the European standardisation of the classification and labelling of hazardous substances and preparations.

As regards **REACh** (Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals), the process of registering the substances marketed by SOL will be completed in 2018.

Product traceability - and particularly that of medical gas containers which require the implementation of a pharmaceutical vigilance system - provides information on the location of products at all times, also permitting prompt withdrawal actions in the event of problems with the delivered products.

CUSTOMER SATISFACTION

Customer satisfaction is periodically monitored through ad hoc surveys.

In 2017, in particular, several monitoring activities were carried out by SOL in Albania, Bulgaria, Croatia, France, Greece, Ireland, Morocco and Slovenia, involving around 600 customers. In the home care area, Vivisol in Germany, the Netherlands, Spain, Direct Medical in Ireland, and Sitex in Switzerland have conducted surveys of more than 8,000 clients/patients.

In the United Kingdom, Dolby Vivisol collects customer feedback at each visit, involving approximately 32,900 patients in 2017.

Furthermore, some key performance indicators (KPIs) are constantly monitored (customer complaints, response times to customer orders and patient requests, etc.) in order to promptly activate the necessary corrective actions.

SUPPLIERS

The SOL Group implements a supply policy that guarantees all potential suppliers equal opportunities to propose their products and services. It also establishes that relationships with them are managed according to criteria of impartiality, honesty and openness to competition.

When selecting its partners for the supply of goods and services that are critical for safety, quality and the environment, SOL uses a **qualifying process** to establish whether a potential partner meets the requirements demanded by company procedures.

Possession of these requisites is verified by objective methods such as the filling out of questionnaires and, where necessary, the carrying out of audits at supplier premises.

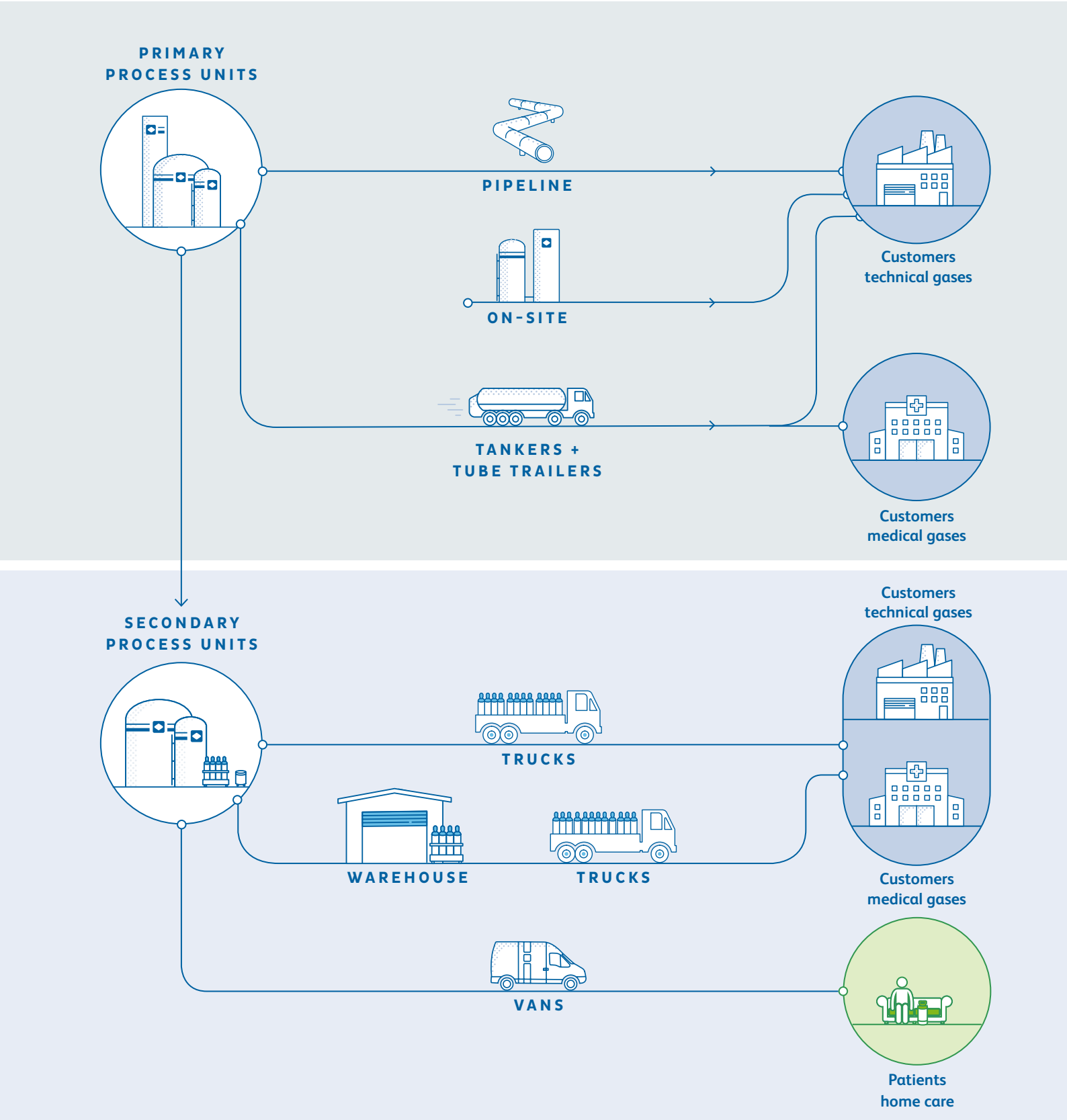
During 2017, 81 supplier audits were performed (30 in 2016), which concerned mainly aspects connected to quality, environment and health and safety.

Suppliers are required to read and adhere to the Group Code of Ethics and, in Italy, also the Organisation, Management and Control Model pursuant to Legislative Decree no. 231/01, as well as the Group's safety and environment policies.

The companies that are part of the SOL Group are essentially **'local' businesses.** Production facilities are built close to customers and distribution is usually carried out within the home country of the vendor company. The supply chain is therefore relatively simple and suppliers are mostly locally-based.

The main products and services purchased by the Group companies are electricity and transport, maintenance and technical assistance services. There is a wider choice of suppliers available for capital goods: sales media (cylinders, tanks, tankers, etc.), systems and equipment.

THE SUPPLY FLOW SCHEME




VIVISOL

THE ENVIRONMENT

40.157t

CO_2 avoided thanks to the production of renewable energy

87mil

of km travelled for the transportation of products

MAIN ENVIRONMENTAL ASPECTS

The most important environmental aspects for the SOL Group relate to the use of electricity in its production plants and fuel consumption during the distribution of its products by road.

The table shows the raw materials used for the main types of plants and the environmental aspects connected to these activities.

TYPE OF UNIT	N°	RAW MATERIALS	ENVIRONMENTAL ASPECTS
AIR SEPARATION UNITS (ASU)	**14**	The process of air separation for the production of oxygen, nitrogen and argon is a physical one. It is a process that uses atmospheric air as raw material.	The process has significant indirect environmental impacts because it uses a great deal of electricity. On the other hand, it does not use raw materials other than atmospheric air and emits negligible amounts of CO_2, sulphur oxides (SO_x) and nitrogen oxides (NO_x), already present in the treated air.
HYDROGEN PRODUCTION PLANTS	**1**	These use natural gas and water (steam) as raw materials, which chemically react with each other to produce hydrogen.	Hydrogen production plants emit CO_2 as a sub product of the chemical reaction and negligible quantities of nitrogen oxides (NO_x), and consume natural gas to produce steam.
NITROUS OXIDE PRODUCTION PLANTS	**3**	These use ammonium nitrate, either solid or in water solution, as a raw material in a thermal dissociation process.	N_2O production plants can emit the gas produced (greenhouse gas) from their vents, and consume electricity to bring the ammonium nitrate to reaction temperature.
ACETYLENE PRODUCTION PLANTS	**3**	These use calcium carbide as a raw material, a solid that decomposes in water.	One by-product of this process is calcium hydroxide which, where possible, is used in industry or agriculture.
PLANTS FOR PURIFYING AND LIQUEFYING CARBON DIOXIDE	**8**	The raw material is carbon dioxide itself, obtained as a by-product from chemical plants or from natural underground deposits. The carbon dioxide is purified and liquefied with the use of energy.	CO_2 production plants can emit the gas produced (greenhouse gas) from their vents. On the other hand, the carbon dioxide obtained in this way is reused in industrial applications instead of being emitted directly into the atmosphere.

The types of plants listed in the previous page represent the reporting scope of environmental data within the Sustainability Report, unless otherwise indicated.

The activities of the SOL Group have a fairly limited impact on **biodiversity** as the production units are relatively small and located in industrial areas.

Furthermore, the substances produced and handled by the SOL Group do not pose a contamination risk to the soil and subsoil. Some SOL Units have been constructed in locations that have soil and groundwater contamination problems, but these have other causes and predated the arrival of SOL.

ENERGY CONSUMPTION

The SOL Group's activities use **electricity**, **methane** and **steam** as energy vectors.

Its methane and steam consumption is negligible and, as such, this report only analyses the consumption of electricity, one of the critical factors in the air separation process for the production of cryogenic gases. In fact, both the compression and liquefying of gas are highly energy-intensive operations: as a result, it is estimated that **the energy consumption of the primary production plants accounts for about 90%** of the Group's energy consumption.

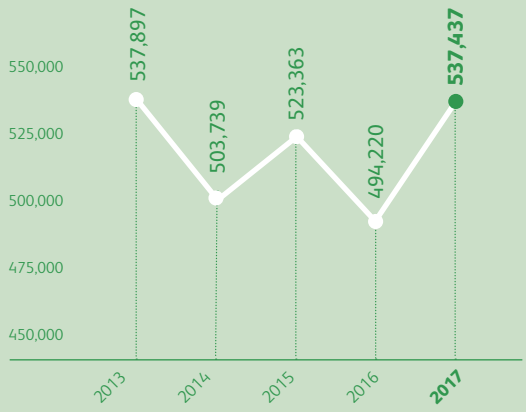
In light of its highly energy-intensive activities, since 2002 the Group has invested in the **production of energy from renewable sources**, acquiring 7 hydroelectric power plants and constructing 8 ones, of a total **installed capacity** of around **30 MW** distributed across 15 power stations in Slovenia, Albania, Bosnia and Herzegovina and Macedonia. In 2017 the electricity they produced was equal to 77 GWh, accounted for 14.3% of the Group's energy consumption, down 41% compared with 2016 due to the lower amount of rainfall recorded during the year.

The actions to reduce energy consumption are not limited to the optimisation of processes and careful plant management but also extend to the design and choice of plant solutions and the upgrading of the machinery used in plants, to which an important percentage of the investment budget is set aside each year.

Consumption is however considerably influenced by customer demand and the start-up (or shutdown) of production plants.

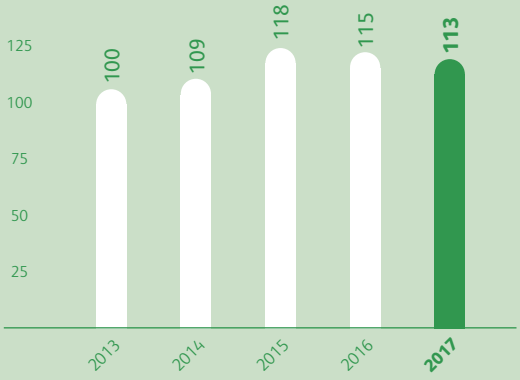
More specifically, the increase in energy consumption in 2017 is due to the start-up of the Augusta air separation unit which entered into regular operation at the start of the year. Nevertheless, there was an **improvement in the efficiency ratio** compared with 2016 due to the commissioning of new plants and the investments made to modernise the existing ones.

ELECTRICITY CONSUMPTION
(MWh)



The consumption of electric energy considers the main primary production plants of the Group.
Currently the Group has not signed specific contracts for the supply of electric energy from renewables sources.

ELECTRICITY CONSUMPTION PER MC OF GAS PRODUCED
(Base 2013=100)



The indicator relating to electricity consumption per gas produced is calculated on the basis of the electricity consumption of the air separation units.

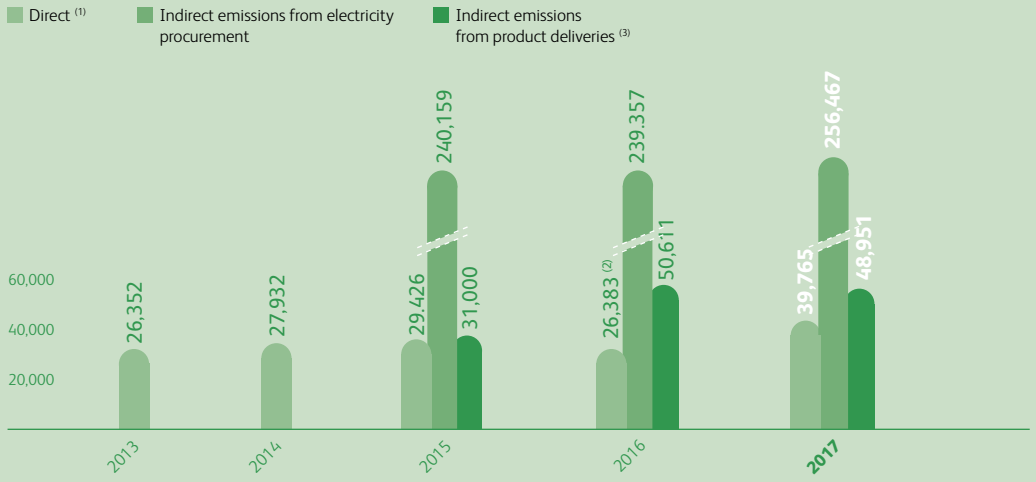
GREENHOUSE GAS EMISSIONS

The SOL Group's emissions can be separated into:
- **direct emissions** from its production plants;
- **indirect emissions** deriving from the consumption of electricity by the primary production plants;
- **emissions connected with deliveries** to customers and patients.

Direct emissions

The direct emission of greenhouse gases is made up of:
- carbon dioxide: a by-product in plants producing hydrogen through the steam reforming of methane, emitted from wells in plants producing CO_2 or vented during the dry ice production process;
- nitrous oxide: emitted from plants producing N_2O from ammonium nitrate;
- HFC (hydrofluorocarbons): used in plant refrigeration circuits.

GREENHOUSE GAS EMISSIONS
(tCO_2/anno)



(1) The direct emissions related to 2017 include emission data from the production of dry ice, which is not available for previous years. The emissions from company cars are not currently available. The emissions related to the transport of products using Group's vehicles are reported in more detail in the indirect emissions from product deliveries.
(2) Direct emissions related to 2016 have been recalculated following a more accurate data collection process.
(3) With regards to home care, the kilometers travelled have been estimated considering the number of patients.

In 2017 it was also possible to measure CO_2 emissions connected with the production of dry ice (around 10,500 tonnes). Excluding these, the remaining emissions are slightly higher than those of last year.

In 2017, as in 2016, no extraordinary maintenance was necessary on plant refrigeration units and, consequently, the emissions connected with HFCs were not significant.

Indirect emissions

Starting with an analysis of the energy supply mix we evaluated the indirect emissions generated by the production of the electricity used by the SOL Group. These emissions came to around 256,467 tonnes of CO_2, **higher than in 2016 due to the opening of the Augusta site**.

Emissions from deliveries to customers and patients

In 2016, the monitoring of emissions as a result of delivery activities was extended to all product types:

- products in tankers and tube trailers;
- products in mobile containers;
- home care products.

Attention to transport is of fundamental importance as regards environmental and safety aspects.

Products are distributed mainly by road and to an extremely widespread customer base.

The chemical and physical characteristics of the main products also make it necessary to use special vehicles for transportation (heavily insulated tankers for cryogenic liquids) or special containers (cylinders for compressed gases and base units for liquid oxygen for home care use). In both cases, the unfavourable ratio between the tare weight and the weight of the transported products results in a low level of fuel consumption efficiency per product unit sold.

Bearing these restrictions in mind, the SOL Group's actions to reduce fuel consumption and therefore its environmental impact have consisted of:

- **developing production units spread as widely as possible across the country** in order to reduce the journey lengths of vehicles;
- the **periodical upgrading of the company fleet**, particularly with the purchase of next-generation heavily insulated tankers, with a better ratio between the weight of the transported product and the total weight;
- the adoption of logistics management methods aimed at **optimising routes**.

Rainbow, the software for planning the distribution of liquid products adopted and fine-tuned in 2012 for companies operating in Italy, has gradually also been adopted by all of the other companies.

A total of 87 million kilometres were travelled. Based on the type of vehicle for the three main types of products transported, total forecast emissions came to around 49,000 tonnes of CO_2.

KILOMETRES TRAVELLED PER MC OF TRANSPORTED PRODUCT
(base 2013=100)

	2013	2014	2015	2016	**2017**
SOL Group	100	98	99	95	**90**

WASTE

The majority of the waste produced derives from activities:

- **in the primary production plants, connected with maintenance activities:** non-hazardous waste (mainly scrap iron, packaging and insulating materials) and hazardous waste (mainly used oil, used for the lubrication of machines, and ammonia solution from ammonia conditioning);
- **in the Group's specialist maintenance centres:** testing of cylinders and cryogenic containers, repair of electric and electronic equipment.

The only waste material directly generated by the production processes adopted in the Group's Units is calcium hydroxide, a by-product of the acetylene production process which, when it can't be sold as a sub-product, must be disposed of as hazardous or non-hazardous waste depending on its characteristics.

The distinction made between hazardous waste and non-hazardous waste in 2017 is due to the disposal of calcium hydroxide which, following an analysis of its characteristics, was possible to classify as non-hazardous waste in some plants.

The other types of waste produced vary from year to year depending on the number and type of maintenance activities carried out.

WASTE PRODUCED (t/year)

	2013	2014	2015	2016	**2017**
Non-hazardous waste	432	170	515	1,111	**2.223**
Hazardous waste	2,421	582	1,757	2,273	**1.117**

The destination of the waste produced is as follows:

LANDFILL (t/year)

	2013	2014	2015	2016	**2017**
Non-hazardous waste	16	36	24	332	**1,430**
Hazardous waste	2,309	482	1,660	1,723	**1,013**

TREATMENT (t/year)

	2013	2014	2015	2016	**2017**
Non-hazardous waste	30	16	148	104	**62**
Hazardous waste	70	99	40	518	**56**

RECOVERY (t/anno)

	2013	2014	2015	2016	**2017**
Non-hazardous waste	386	118	343	675	**630**
Hazardous waste	42	1	57	32	**44**

INCINERATION (t/year)

	2017
Non-hazardous waste	**101**
Hazardous waste	**4**

The data related to waste sent for incineration has been collected since 2017

THE CIRCULAR ECONOMY APPLIED TO HOME CARE

In 2017 the SOL Group took part in the **C.E.R.C.A.** project promoted by Assolombarda in collaboration with Bocconi University and IEFE. The goal of this project was to **quantify and analyse the environmental impact connected with the life cycle of an invasive mechanical ventilation kit**, purchased and marketed by Vivisol and used for the home treatment of patients that suffer from chronic respiratory insufficiency.

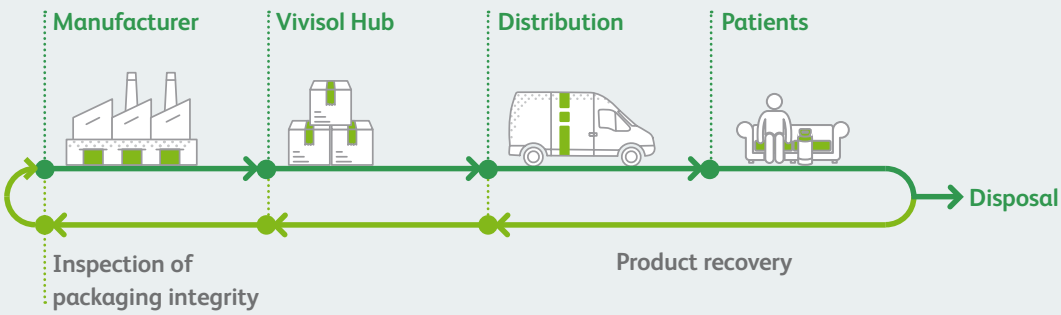
The project compared the current scenario, in which the items of the kit not used by the patient and therefore still sealed and sterile are sent for disposal in their entirety, with an alternative scenario in which these items are recovered and issued to a new patient following a quality check by the manufacturer.

The study was based on the **Life Cycle Assessment** (LCA) methodology, which examines environmental aspects and potential impacts throughout the entire life cycle of the product.

Considering all patients treated in Italy in 2017, the study demonstrated an advantage in terms of kg of CO_2 equivalent avoided in the circular economy scenario as compared with the variable current scenario of a maximum of 1,863 tonnes a year, depending on the rate of recovery of the kits. These tons are equivalent to those that a car running on petrol would emit to circle the Earth 240 times.

The project quantified the advantages of a circular economy scenario; these results will be shared with the main producers, who are the fundamental stakeholder in this process.

CURRENT SCENARIO



CIRCULAR ECONOMY SCENARIO

WATER CONSUMPTION AND WASTEWATER

For the SOL Group, managing water resources means:

- optimising the use of water in its plants by **reducing withdrawals to a minimum,** also through **investments in recycling**;
- research and application at customer sites of technologies which, by using technical gases, can **improve processes** such as the **treatment of wastewater or the purification of water for public use**.

Most of the withdrawn water is used in the cooling circuits of machinery in primary process units. These systems are closed circuit: the consumed water is the water reintroduced into the circuit to compensate for evaporation.

The quantities used in secondary process units and offices are negligible and are therefore not reported.

The 2017 figure is slightly up due to the launch of the Augusta plant.

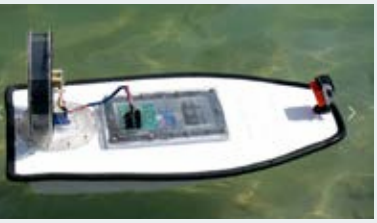
Production plant wastewater is periodically controlled. The analyses show that concentrations are well below the legal limits.

WATER WITHDRAWALS (mc x 10^3)

	2013	2014	2015	2016	**2017**
Municipal water					**126**
Well water					**1,271**
TOTAL	3,043	3,112	2,135	1,337	**1,397**

GENOMIC DIAGNOSIS FOR ENVIRONMENTAL MONITORING

INTCATCH 2020



It is possible to sequence the DNA not only of human beings, but also of all living organisms; hence the possibility of applying genomics to micro-organisms responsible for the pollution of water, air and soil.

The **INTCATCH** project, which involves Personal Genomics, aims to develop strategies and monitoring systems for surface waters, thanks to the use of innovative and user-friendly technologies, able to provide data and parameters in real time.

Physico-chemical, biological and genomic analysis will be conducted with a fleet of autonomous and radio-controlled aquatic drones, equipped with innovative sensors and DNA test kits. The subject of the study will be Lake Garda in Italy and the River Thames in the United Kingdom, while research and results obtained will be validated on Lake Yliki in Greece and on the Ter River in Spain.

The data collected will be made available to the communities and to the inhabitants living in the area under analysis, and to all the stakeholders interested in the project.

The business model will enable community groups and NGOs to improve water governance through a sustainable quality management, using cloud data linked to a decision support system and environmentally friendly technologies.

The project, funded by the Horizon2020 program, involves six European universities and fourteen institutions (including public and private European companies).

PLANT CERTIFICATIONS

The SOL Group views management system certification as a key element in the management and mitigation of environmental aspects. The table outlines the certification status of the primary production units or those that fall under the Seveso Directive.

Country	Unit	Plant type	AIA[1]	ISO 14001[2]	ISO 50001[2]	EMAS[2]	OHSAS 18001[2]	Seveso Directive[3]
Belgium	Feluy	Air separation (ASU)		X				X
Bulgaria	Devnya	Carbon dioxide production					X	
	Devnya	Air separation (ASU)					X	X
France	Cergy Pontoise	Cylinder filling						X
	Saint Savin	Cylinder filling						X
Germany	Frankfurt	Gas liquefaction from air separation			X			X
	Gersthofen	Cylinder filling						X
	Krefeld	Cylinder filling						X
	Zeitz	Carbon dioxide production			X			
Ireland	Cork	Acetylene production						X
Italy	Ancona	Acetylene production	X	X			X	X
	Augusta	Air separation (ASU)					X	X
	Bari	Cylinder filling						X
	Marcianise	Nitrous oxide production	X				X	X
	Cremona	Nitrous oxide production	X	X			X	X
	Cuneo	Air separation (ASU)					X	X
	Mantua	Air separation (ASU)		X		X	X	X
	Monza	Special gas production					X	
	Piombino	Air separation (ASU)					X	X
	Pisa	Cylinder filling					X	X
	Ravenna	Hydrogen production	X	X			X	
	Salerno	Air separation (ASU)					X	X
	Verona	Air separation (ASU)		X		X	X	X
The Netherlands	Tillburg	Nitrous oxide production					X	X
Slovenia	Jesenice	Air separation (ASU)		X	X		X	X

[1] **AIA** - The plant has Integrated Environmental Authorisation as it falls into the field of application of the IPPC directive
[2] **Certifications** - The plant has a management system that is certified according to one or more of the following standards: ISO 14001, ISO 50001, OHSAS 18001 or EMAS Registration.
[3] **Seveso Directive** - The plant falls into the field of application of Directive 2012/18/EU ("Seveso Directive")

PEOPLE AND THE COMMUNITY

92%
employees on permanent contracts

89%
of the companies in Italy and 82% of the companies abroad achieved the “zero accidents” goal

Over
50,000
training hours

14%
more employees versus 2016

OUR PEOPLE

PERSONNEL TRENDS

At the end of 2017, **3,556 people** contributed on a daily basis to the success of the SOL Group: 1,136 work in Italy and the remaining 2,420 in the other European countries as well as in Morocco, Brazil and Turkey. Of these, over **92%** have **permanent contracts**.

Compared with 2016, there was a **14% increase in the number of Group employees** (177 due to internal staff increases and 252 following acquisitions).

Also of note is the fact that **32% of new hires** are under 30 years of age and almost 45% of these are women.

Underlining the close attention it pays to the work-life balance, the Group currently includes **379 people in voluntary part-time positions**, the equivalent of 10.7% of its total staff with 77% of these roles held by women.

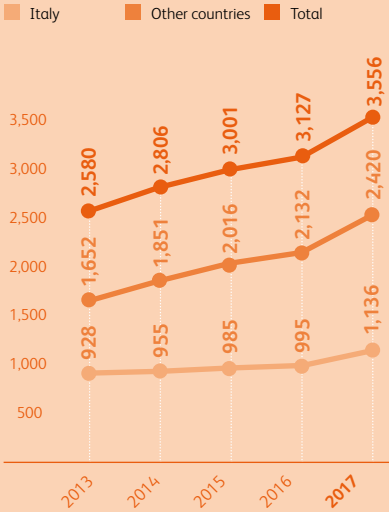
Women continue to play an increasingly important role within the Group, currently **accounting for around 35%** of the employees.

The overall **turnover** comes to 9.5% and is lower in Italy (5.1%) than abroad (11.5%) due to the different dynamics of the labour market and the composition of the workforces.

The **overall rate of absenteeism** was 3.7% in 2017 but the rates in Italy and abroad were quite different. In Italy it came to 2.5%, well below both the national average for the sector and the average for industry as a whole, while abroad it was 4.1%, still well below the Eurozone average of around 7.2%.

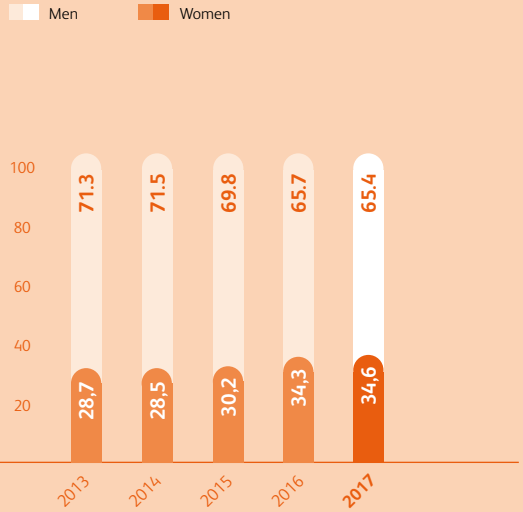
As well as its employees, the Group also uses external workers, particularly carriers for the distribution of gas and nurses for the home care area.

EMPLOYEES BY REGION
(n°)



Data as at December 31st, 2017

EMPLOYEES BY GENDER [1]
(%)



[1] Figures for 2013-2015 are only referred to Italy

EMPLOYEES BY GENDER AND EMPLOYEE CATEGORY

	Managers and clerks	% Managers and clerks	Factory workers	% Factory workers	Total
Women	1,139	46,9%	92	8,1%	1,231
Men	1,287	53,1%	1,038	91,9%	2,325
Total	**2,426**	**100,0%**	**1,130**	**100,0%**	**3,556**

Data as at December 31st, 2017

EMPLOYEES BY AGE GROUP AND EMPLOYEE CATEGORY

	Managers and clerks	% Managers and clerks	Factory workers	% Factory workers	Total	Total %
Up to 30 years	279	11,5%	140	12,4%	419	11,8%
30 – 40 years	822	33,9%	386	34,2%	1.208	34,0%
41 – 50 years	807	33,3%	307	27,2%	1.114	31,3%
Over 50 years	518	21,4%	297	26,3%	815	22,9%
Total	**2,426**	**100,0%**	**1,130**	**100,0%**	**3,556**	**100,0%**

Data as at December 31st, 2017

ABSENTEE RATE OF EMPLOYEES BY GENDER AND REGION

	Italy	Other countries	Total
Women	2.8%	5.6%	4.9%
Men	2.4%	3.5%	3.1%
Total	**2.5%**	**4.3%**	**3.7%**

Figures referred to 2017

HR POLICIES

HR management policies were defined and disseminated with the aim of adopting the same approach across the Group and to spread the common conduct principles of each Group company. These are the values that must inspire employees in the management of interpersonal relations, in the search, recruitment, training and development of staff, and in their assessment.

In 2017 the existing policies were joined by the **Social Media Policy**, a document designed to encourage SOL Group employees to use the social media in an informed and responsible way in order to protect the privacy, image and reputation of the Group.

SOME STAFF DEVELOPMENT INITIATIVES

People are the focus of the SOL Group's attention, particularly when it comes to initiatives designed to develop, enhance and incentivise personal performances: the Group strongly believes that the continuous updating of expertise and professional growth constitute strategic investments.

In order to manage expertise and promote progressive training to foster the loyalty of its employees, the SOL Group organises **specialist and executive technical training programmes**. A total of 50,501 training hours were supplied in 2017, the equivalent of around 14 hours per employee (13 hours per employee were provided in 2016).

AVERAGE NO. OF TRAINING HOURS BY GENDER AND EMPLOYEE CATEGORY

Men	Women	Managers and clerks	Factory workers
14.45	13.74	14.15	14.31

Figures referred to 2017

In countries where there is no system for collecting data on training hours by gender or role, these figures were estimated on the basis of the composition of the company population in that company.

The activities of the **Academies**, aimed at various "professional families" and organised to strengthen the professional training process, continued in 2017.

2017 saw the conclusion of the **Fly High programme**, the process launched in 2016 to identify and develop talent within the SOL Group. The project represented an important opportunity to align the expectations of individuals with the strategies and needs of the Group with the goal of fostering continuous growth. After an initial meeting involving team building activities and project management training, with the help of a few head office managers the participants developed a business plan on a project idea assigned to them. The projects of the two winning groups were later presented during the annual meeting of the SOL Group senior managers in December.

For the sales force of the foreign companies in the medical sector, the SOL Group organised four days of interactive management training involving simulations and business games, with the aim of strengthening loyalty and the ability to work as part of a team, and improving decision-making and problem-solving abilities.

In France, Vivisol carried out a training program involving approximately 76 employees for two days on the subject of road security and the promotion of gender equality with the participation of the management.

PROTECTING DIVERSITY

In the area of safeguarding equal opportunities, the SOL Group intends to **combat all forms of discrimination**, whether this is based on physical condition, disability, opinions, nationality, ethnic group, religion, gender, sexual orientation or gender identity.

The progressive extension of our activities in new countries requires us to pay increasing attention to the national and cultural differences present within the Group companies. The SOL Group's aim is to **promote local resources** at all levels of the organisation, giving priority to local managers and assigning control and monitoring tasks to central functions.

Of some significance is the fact that, when the top company positions were reviewed, the number of women who sit on the Board of Directors of parent company SOL Spa rose from four to five, representing 50% of the 10 members.

COMPOSITION OF THE SOL SPA BOARD OF DIRECTORS

	Age group	
	41-50	>50
Women	20%	30%
Men	0%	50%
Total	**20%**	**80%**

Data as at December 31st, 2017

INTERNAL COMMUNICATIONS AND ENGAGEMENT

The SOL Group's desire to engage and inform all of its people is manifest in its adoption of **various internal communication tools**: company house organ **SOL News**, the **intranet**, the **Sustainability Report**. **SOL News** was redesigned in 2017 to become a **newsletter that could reach out to the entire company population**. Thanks to the circulation of this publication, all employees can keep up to date on the Group's main initiatives throughout the year.

During last two years some of the Group companies (Vivisol in Belgium, The Netherlands and Germany) carried out **engagement surveys** with the aim of assessing the strengths of the organisational engagement and where it can be improved. The results of the survey were analysed and communicated to the employees involved, and specific internal meetings were held to assess the data and define any necessary improvement actions.


SOLGROUP NEWS

SOL News cambia veste

SOLGROUP

Il nuovo Codice Etico di Gruppo

Approvato il Programma Antitrust

Federchimica premia SOL

REMUNERATION AND SOCIAL BENEFITS

The SOL Group makes no distinction between the genders in the management of remuneration policies which, for each role, are based on merit, competences and results.

Where required by local legislation in the countries in which it operates, the SOL Group applies the **collective contracts for the relevant sector** or, alternatively, salaries above the minimum legal wage.

On average, wages and salaries, which are monitored by local managers and Personnel and Legal Affairs Central Management, are in line with or better than those established by the reference contracts.

In 2017 the overall salary paid to Chairman and CEO Aldo Fumagalli Romario was 13.53 times the average overall salary of Group employees in Italy. [1]

Every year, all managers are required to **evaluate the performances of their staff** and to refer wage increase and/or career development proposals to the relevant departments and Personnel and Legal Affairs Central Management.

In any case, the wage increases established by collective industry contracts or by law are guaranteed and, where union representation is present, supplementary contracts are negotiated that can include, as is the case in Italy, France and Macedonia, production and/or participation bonuses connected with productivity, company profitability and accident rate parameters.

In countries where there is collective bargaining, the Group strives to **incentivise tools that protect the health of employees and their families, and those that integrate the pension services established by local laws**.

INDUSTRIAL RELATIONS

Personnel and Legal Affairs Central Management directly manages industrial relations for all Italian companies in the Group and coordinates them for overseas companies, intervening when necessary.

SOL is an active member of the **chemical industry confederation** (Federchimica) and takes part in negotiations in Italy for the renewal of the chemical and chemical-pharmaceutical national collective labour agreements and in other joint schemes by the social partners.

At corporate level SOL maintains periodic relations with its unions based on the utmost cooperation and transparency.

67.5% of the SOL Group's employees are covered by collective labour agreements, including 100% of Italian employees and 52.2% of employees in other countries.

No labour disputes occurred in any of the Group companies and in 2017 there were no recorded hours of strike action. The difficult negotiations for the renewal of the company contract in the Group's Macedonian companies also concluded positively with the signing of a satisfactory agreement for both parties on 28/2/2018.

During the year the transfer of mobile container testing activities from a unit in Northern Italy to a new and larger centre built in the province of Caserta was completed. The repercussions on the employees were very limited thanks to the transfer of the majority of staff to other activities at the same unit and the incentivisation of personal enterprise initiatives.

[1] The overall salary includes gross annual remuneration plus the variable components. All employees of SOL Spa and of the other companies whose payroll is managed directly by the HR Department are considered.

HEALTH AND SAFETY

The SOL Group continued its efforts to consolidate an informed health and safety culture among its employees in 2017.

One key milestone in this process was without doubt the adoption in 2016 of the ten "**Lifesaving Rules**" whose application by all employees contributes to **achieving the goal of bringing all units to zero accidents**.

The Rules were disseminated in 2017 also via the company intranet and with the support of information materials (posters, leaflets, etc.) that were distributed to all Group employees.

The promotion and spread of the health and safety culture is guaranteed by the HSE Department, which serves all Group companies, and supported by the Safety and Environment Reference Person appointed for each Group company.

Employee training is of the utmost importance: all employees are involved in constant **awareness and training** activities aimed at reducing the possible impact of our activities on the environment and ensuring high levels of workplace safety. To this end, periodic meetings are organised, also with the contribution of external specialists, to enhance expertise but also to stimulate collaboration between units and share management methods.

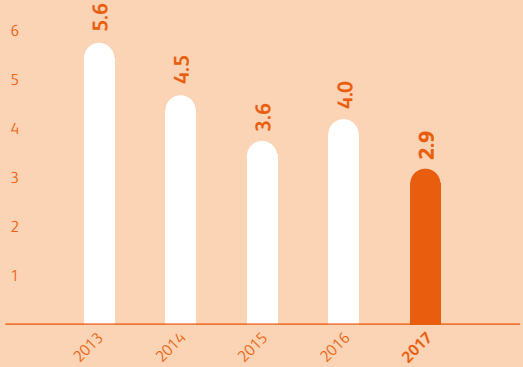
In 2017 the **annual update on employee safety** at the Monza site was organised: the course "**Little efforts for a safer environment**" focused on behaviours that could compromise safety outside the work environment. With an interactive and engaging game, it was explained how accidents, including those at home, can be avoided by paying just a little bit more attention.

The SOL Group has various specific communication instruments: these include the "**Safety alerts**", which by highlighting events that have taken place in the sector urge employees to respect correct rules of conduct, and the "**Quarterly Accident Reports**", which explain and analyse accidents that have occurred in the Group and in other companies in the sector that belong to Assogastecnici and EIGA.

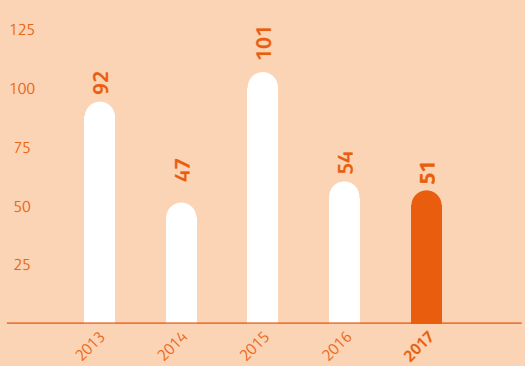
The Group's injury and lost day rate continue to fall, coming to 2.9 and 51 respectively in 2017.

In 2017 the "zero accidents" goal was met by 89% of the companies in Italy and 82% of the companies abroad.

INJURY RATE
(number of accidents/10^6 hours worked)



LOST DAY RATE
(days of absence/10^6 hours worked)



LIFE SAVING RULES

1 **LIFE SAVING RULES** SOL GROUP

ASPHYXIATION HAZARDS

Understand and search for potential asphyxiation hazards, in **enclosed spaces** as well as near to equipment containing **gases or cryogenic liquids**... take care and warn others.

SOLGROUP a breath of life

2 **LIFE SAVING RULES** SOL GROUP

OXYGEN HAZARDS

Be aware of fire hazards whenever dealing with oxygen... never deviate from the procedures and be sure to maintain **cleanliness for oxygen service**.

SOLGROUP a breath of life

3 **LIFE SAVING RULES** SOL GROUP

WORK PERMIT

Use the work permit process to identify hazards, to anticipate and prevent possible accidents... and if you don't feel safe, you should ask questions.

SOLGROUP a breath of life

4 **LIFE SAVING RULES** SOL GROUP

LOCKOUT - TAGOUT

Make sure that equipment is **isolated from energy sources** and de-energised before working on it... **prevent reenergising** by proper locking and tagging.

SOLGROUP a breath of life

5 **LIFE SAVING RULES** SOL GROUP

FALL FROM HEIGHT

Understand that the consequences of a **fall from height can be life changing**... and make sure that all specified precautions and equipment are properly used.

SOLGROUP a breath of life

6 **LIFE SAVING RULES** SOL GROUP

SAFETY EQUIPMENT

Never override safety equipment! Respect the original intent and importance of safeguarding devices, and the time required to work safely... make any suggestions for improvement formally.

SOLGROUP a breath of life

7 **LIFE SAVING RULES** SOL GROUP

MANAGEMENT OF CHANGE

Recognize the risks of making changes... and **follow all the steps of the Management of Change** (MOC) process exactly.

SOLGROUP a breath of life

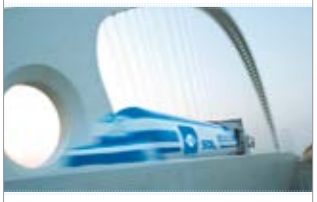
8 **LIFE SAVING RULES** SOL GROUP

PERSONAL PROTECTIVE EQUIPMENT

Know the correct **Personal Protective Equipment** (PPE) to use for each task or work area... and **use it properly**.

SOLGROUP a breath of life

9 **LIFE SAVING RULES** SOL GROUP



DRIVING HAZARDS

Be alert, rested and **focused on the traffic conditions** whenever driving... and if not, stop for a break.

SOLGROUP a breath of life

10 **LIFE SAVING RULES** SOL GROUP

PERSONAL RESPONSIBILITY

Take responsibility for your own actions, condition and decisions... whenever you feel unsafe you should speak up.

SOLGROUP a breath of life

INJURY RATE

	2013	2014	2015	2016	2017
Italy					
Technical and medical gases sector and biotechnologies	3.9	2.9	4.8	6.6	**1.8**
Home care sector	5.4	2.4	0.0	0.0	**0.0**
Other Countries					
Technical and medical gases sector and energy production	6.4	4.0	5.3	6.5	**6.1**
Home care sector	6.2	5.6	3.2	2.6	**1.8**

LOST DAY RATE

	2013	2014	2015	2016	2017
Italy					
Technical and medical gases sector and biotechnologies	21	87	165	142	**55**
Home care sector	184	7	0	0	**0**
Other Countries					
Technical and medical gases sector and energy production	169	25	109	74	**59**
Home care sector	71	50	72	19	**45**

Only accidents that led to at least one day of absence from work, excluding the day of the event, and which were strictly connected with production, logistics and office activities, were considered.

Only employees in some professional categories are exposed to health risks and these are largely limited to the handling of loads and those that work with VDUs.

In any case, all potential health risks are assessed and potentially exposed personnel undergo medical checks in line with the laws in the various countries and at intervals fixed by the company doctor.

Medical check-ups	Clinical analyses	Additional tests [1]
653	578	400

[1] Electrocardiogram, spirometry, audiometry, etc

OTHER INDICATORS CONCERNING THE EMPLOYEES

EMPLOYEES BY GENDER AND EMPLOYMENT CONTRACT

	Italy		Other countries		Total	
Gender	Fixed-term	Permanent	Fixed-term	Permanent	Fixed-term	Permanent
Women	21	281	102	827	123	1,108
Men	50	784	100	1,391	150	2,175
Total	**71**	**1,065**	**202**	**2,218**	**273**	**3,283**

Data as at December 31st, 2017

EMPLOYEES BY GENDER AND CONTRACT TYPE

Gender	Full-time	Part-time	Total
Women	941	290	1,231
Men	2,236	89	2,325
Total	**3,177**	**379**	3,556

Data as at December 31st, 2017

NEW HIRES

Gender	Number	Percentage
Women	270	21,9%
Men	330	14,2%
Total	**600**	**16,9%**

Region	Number	Percentage
Italy	127	11,2%
Other countries	473	19,5%
Total	**600**	**16,9%**

Age group	Number	Percentage
Up to 30 years	192	45,8%
30 – 40 years	239	19,8%
41 – 50 years	117	10,5%
Over 50 years	52	6,4%
Total	**600**	**16,9%**

Data as at December 31st, 2017

TURNOVER DUE TO RESIGNATIONS AND DISMISSALS

Gender	Number	Percentage
Women	145	11.8%
Men	192	8.3%
Total	**337**	**9.5%**

Region	Number	Percentage
Italy	58	5.1%
Other countries	279	11.5%
Total	**337**	**9.5%**

Age group	Number	Percentage
Up to 30 years	84	20.0%
30 – 40 years	128	10.6%
41 – 50 years	76	6.8%
Over 50 years	49	6.0%
Total	**337**	**9.5%**

Figures referred to 2017

EIGA AWARD FOR BTG

BTG, a Belgian Group company with head office in Lessines, was awarded the Peter J. Jackson Award by the European Industrial Gases Association (EIGA) for its safety performances in 2017.

Created in honour of Peter J. Jackson, former chairman of the EIGA Safety Advisor Group, the award is presented to the EIGA member company that produced the best results in terms of reducing workplace accident rates over a 5-year period.

When collecting the award, Andrea Sinigaglia, head of BTG, outlined the key principles that have enabled the company to achieve the goal of zero absences due to accidents since 2012: the understanding that safety comes before everything else, an understanding of the risks and constant communications at all levels, training and education, and the reduction of stress in the workplace.

COMMITMENT TO THE COMMUNITY

The SOL Group has always supported bodies, institutions, associations and sports clubs that operate in harmony with its values, making financial contributions and offering them the benefit of its expertise.

In 2017 the Group took part in **Cinema d'Impresa**, a competition organised by Assolombarda aimed at young film directors from important Italian schools and universities (ALMED of Cattolica del Sacro Cuore University, Istituto Europeo di Design, Libera Università di Lingue e Comunicazione, Nuova Accademia di Belle Arti, Department of Design of Milan Polytechnic). For the 2017 edition competing directors shot videos that tried to represent the relationship between businesses and the environment, sustainability and the future.

The SOL Group is one of the partner companies of the **ISTUD Foundation**, the first independent business school in Italy that operates in the field of higher education and management research, with whom it organised various training activities. In addition, for several years the Group has hosted a training day for students from the ISTUD "Scientists in the company" Master's course, offering the benefit of the experience and skills of its resources who illustrate the Group's activities in the medical-biological and pharmaceutical sectors to the students.

SOL is also partner of the **Collège des Ingénieurs Italia** (formerly the Scuola di Alta Formazione Manageriale) of Turin and supports the Master's courses of some participants, guaranteeing them a six-month work experience with a view to eventually being hired by the company.

In **Italy**, SOL is a sponsor and partner of **Progetto SLAncio**, a project promoted by the La Meridiana Cooperative of Monza, which provides assistance to those suffering from invalidating neurological and neuromuscular illnesses.

Vivisol actively supports research by **financing research fellowships and study grants** (for example at the University of Catania and the Ospedale degli Infermi of Biella), as well as research programmes (like the research programme on patients subject to non-invasive ventilation, the study on the development and validation of the beliefs about ventilation questionnaire).

Vivisol supports the **Serena Foundation NPO**, an association for the protection, assistance and care of people with SLA and other muscular dystrophies; the **Vivi Down Association NPO**, which every day provides people with Down Syndrome and their families tools to alleviate the difficulties that this disability involves; and UILDM (Unione Italiana Lotta alla Distrofia Muscolare), the national association for those affected by dystrophy and other neuromuscular diseases.

In 2017, Vivisol worked with the **Centro Nazionale Opere Salesiane**, which every year organises the "Techniques for the maintenance, repair and testing of diagnostic devices" training course. As part of the course, students were able to learn about the reality of home care services and visit SOL Welding, the site in Vicenza that manages medical apparatus.

In **Bosnia and Herzegovina** SOL supported the community by helping to meet the needs of an infant school.

In **Spain** Vivisol sponsored the "Running for Health" event in Seville and contributed to organising the Day for complex chronic patients. Vivisol supports the "Barcelona Respiratory Network" and the pulmonology company in Seville.

In **France** Vivisol, France Oxygéne and MBAR supported organisations for clinical research into respiratory illnesses. SOL supported Saint Savin rugby club and ETP Chimio, an association that supports cancer patients.

In the **Netherlands** Vivisol supported various scientific studies and conferences on respiratory medicine. These include the "Homerun" scientific study which involves the remote monitoring of a sample of patients receiving pulmonary ventilation in order to demonstrate that home treatment is just as safe as hospital treatment, and costs less. Furthermore, for the annual Breathless symposium, Vivisol chose a reusable bottle ("Join the Pipe") as its gadget for participants. For every bottle purchased, the company that manufactures them sends one to a child in Africa. The children that receive these bottles can then take water from the village pump to school, a great benefit given that schools often do not have any drinking water.

Still in the **Netherlands**, SOL supports NGO Stichting MOS, which provides medical assistance during sports events.

United Kingdom: Dolby Vivisol supports various associations such as the British Heart Foundation and the BLF – British Lung Foundation. It works with the National Health Service to guarantee that the presence of asbestos in patient homes is communicated so that technicians can work safely during the installation phase.

ASSOCIATIONS

The SOL Group actively participates in the initiatives of the main associations of companies in the technical and medical gases, home care and biotechnology sectors in Europe and in various European countries.

Group experts are members of various working groups in these associations, contributing to the **exchange of technical knowledge and the drafting and updating of sector standards.**

International industry associations

SOL Spa and Irish Oxygen are members of IOMA (International Oxygen Manufacturers Association), which gathers together the world's leading operators in the technical and medical gases sector. The principal objective of the association is to coordinate the harmonisation of safety rules so that operational practices are the same throughout the world.

SOL Spa, SOL Nederland, BTG, SOL Deutschland, Irish Oxygen and Vivisol Austria are members of EIGA (European Industrial Gases Association), which gathers together Europe's leading operators in the technical and medical gases sector.

In 2017 the SOL Group further increased its association commitments and today has its own representatives

in the Board of EIGA, in the four Councils (Stefania Mariani is the Chairman of the MGC), in 14 working groups (12 in 2016) and in 23 ad hoc Groups (14 in 2016), contributing to the definition of standards and best practices in the sector.

SOL Spa is a member of the **European, Middle Eastern & African Society for Biopreservation & Biobanking (ESBB).**

National industry associations

Industrial and chemical and pharmaceutical industry associations: Confindustria, Assolombarda and Federchimica (Italy), UIC (France), Essenscia, Febeliec and Pharma.be (Belgium), Spectaris, VCI and BVMW (Germany), HACI (Greece), VNCI (The Netherlands), UGIR (Romania), CIA (Macedonia).

Technical gas industry associations: Assogastecnici (Italy), IGV (Germany), ÖIGV (Austria), VFIG (The Netherlands), BIMGA (Belgium), AFGC and APHARGAZ (France), HAIMG (Greece), GIZ TP (Slovenia), BCGA (UK), BIGA (Bulgaria); SIGA (Serbia); AMGIM (Morocco).

Associations for biotechnology development: Assobiotec (Italy).

Associations of home care sector operators: ÖGP (Austria); Deutschen Sauerstoff Liga LOT, QVH and BPA (Germany); FHI (The Netherlands); SYNALAM, FEDEPSAD and FFAIR (France); SEDISA (Spain); PEMFI (Greece).

Association of suppliers of medical devices to healthcare facilities: Assobiomedica (Italy).

Other associations: Unamec "Association of producers, importers and distributors of medical devices" (Belgium); ARTP "Association of Respiratory Technology and Physiology" (UK); Unternehmerschaft Niederrhein (Germany), RCVT "Hydrogen Technology Development Centre" (Slovenia).

Other associations

FBN-I - The Family Business Network gathers over 6,000 companies from 65 countries with the goal of helping family businesses to grow, succeed and prosper through the exchange of new ideas and best practices.

AIDAF - Italian Association of Family Businesses, which brings together Italian family companies that share the guiding values of business ethics, meritocracy, social responsibility and sustainability.

Aspen Institute Italia, which promotes and encourages the development of enlightened leadership that is open to dialogue and able to face the challenges of a global society.

ISPI (Istituto Studi di Politica Internazionale) – Institute for International Political Studies, one of the oldest and most prestigious Italian institutions specialising in international activities which, among other things, constitutes a point of reference for companies and institutions intending to extend their range of action abroad, offering materials and ad hoc meetings.

SHAREHOLDERS AND FINANCIAL INSTITUTIONS

99.3
million euro
investments

756.8
million euro
net sales

964.1
million euro
capitalisation

46%
sales in Italy

FINANCIAL DATA

In 2017, area of technical gases showed a 7.3% increase in sales compared to the previous year. This growth was more marked in other European countries than in Italy and it was greater especially in the mechanical engineering, food and chemical industries.

The hospital sector, on the other hand, has found stability, with margins shrinking due to both the policies to reduce spending and strong competition.

The home care business had a good growth (+7.9%) achieved more in foreign countries, thanks to a continuous commitment in the development of new products and services, which flanks and complements the oxygen therapy activities.

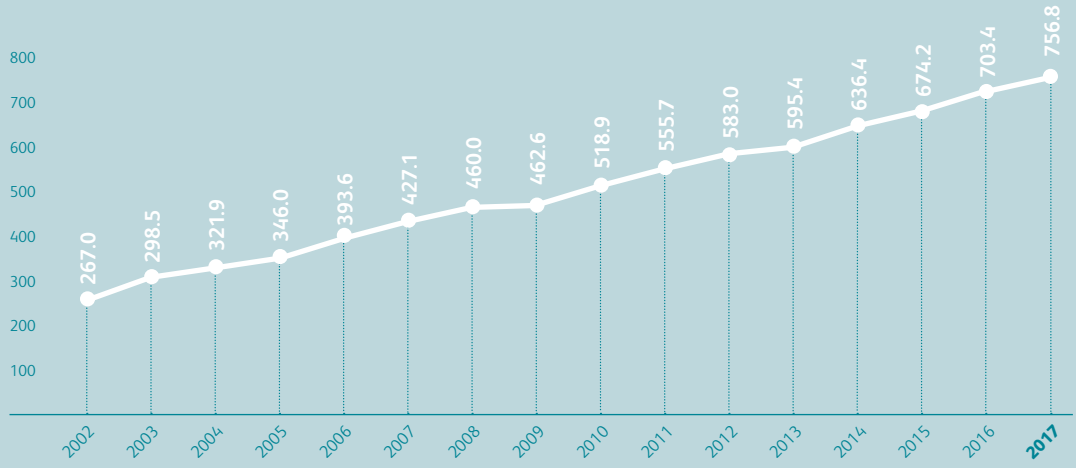
As far as cost are concerned, it should be noted that gross operating margin maintained the same absolute level as in 2016, despite having seen both a reduction in production and sales of hydroelectric energy following the very low rainfall in 2016, and higher maintenance costs for installations for unforeseen events.

The operating result decreased by 4.7 million euros compared to 2016, also due to higher amortization and provisions for 4.4 million euros.

The Group's net debt increased by 23.2 million euros against because of the technical investments and the acquisitions made in 2017.

Indebtedness indices remain very solid, with the debt/equity ratio of 0.50 and the cash flow cover equal to 1.52.

NET SALES
(million euros)



Financial data refer to the draft annual report approved by the Board of Directors on March 29th, 2018.

	2013	2014	2015	2016	2017
Number of countries	24	24	27	28	**28**
Capitalisation [1]	514.7	604	749	722.8	**964.1**
Group's net sales [1]	596.3	636.4	674,2	703.4	**756.8**
Technical gases area net sales [1]	342.7	351.7	363.6	337.1	**369.2**
Home care area net sales [1]	281.2	312.8	339.8	360.0	**387.6**
Gross operating margin [1]	131.8	142.9	148.4	167.6	**167.2**
Operating result [1]	53.5	61.9	65.6	80.9	**76.2**
Group's cash flow [1]	92.6	106.2	112.9	127.5	**127.3**
Net profit [1]	21.6	29.2	32.4	44.1	**40.2**
Group's investments [1]	92	98	89.8	103.7	**99.3**
% net sales in Italy	51.8	49.4	48.2	47.1	**46.0**

[1] million euros

FINANCIAL COMMUNITY

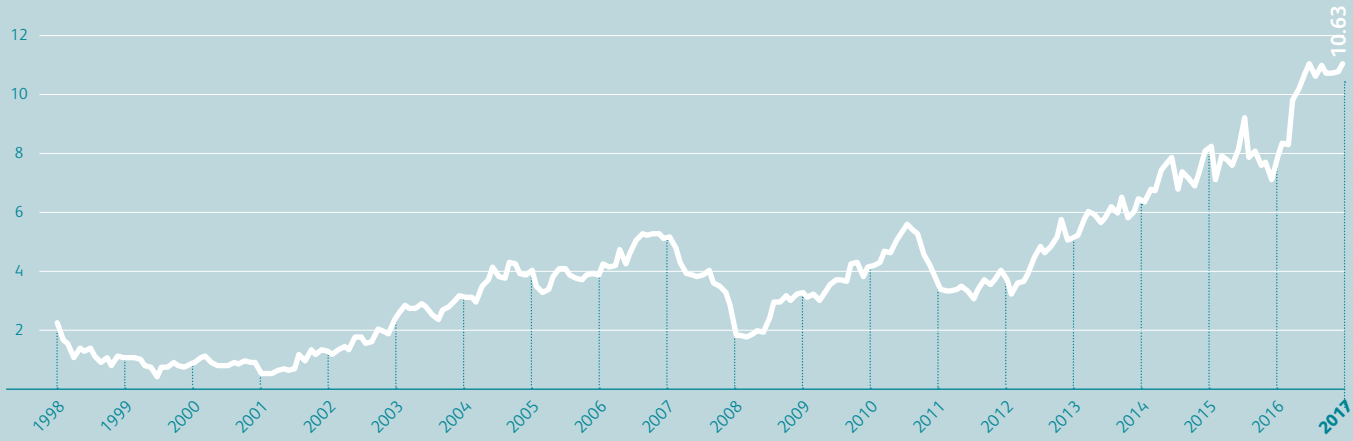
The main communication tools for shareholders are the Financial Statements and the Sustainability Report, published respectively in the Investor Relations/Financial Publications section and in the Sustainability/Sustainability Reports section of the Group's website (www.solgroup.com).

For this reason, in addition to complying with legal obligations, the financial statements have been enriched, in particular in the sections "Explanatory notes" and "Management report", with useful information for a better understanding of the activities carried out.

The communication activity with shareholders and investors is also powered by:

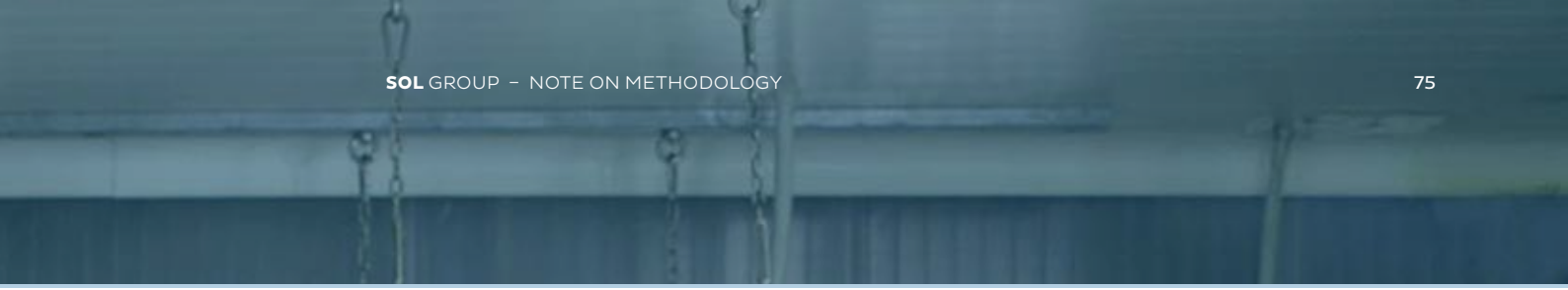
1. the periodic publication of press releases on the Group's website and their spread to institutional investors;
2. participation in conferences promoted by financial institutions;
3. meetings and conference calls with investors and analysts

PERFORMANCE ON THE STOCK EXCHANGE (in euros)




OSSIGENO
LIQUIDO F.U.
- UNITÀ BASE -
RIEMPIMENTO E
QUARANTENA

NOTE ON METHODOLOGY



The Sustainability Report has been prepared under the "**GRI Sustainability Reporting Standards**" established in 2016 by GRI - Global Reporting Initiative, in accordance with the Core option, with reference to the information reported in the GRI Content Index, included in this Report.

The Sustainability Report constitutes the Consolidated non-financial statement and fulfils the **requirements of Articles 3 and 4 of Italian Legislative Decree no. 254/2016**, which implements European Directive 2014/95/EU into Italian law. As established by Art. 5 of Legislative Decree no. 254/16, this document constitutes a separate report market by a specific heading. Where appropriate, the European Commission Guidelines on non-financial reporting were also taken into account.

The Sustainability Report reporting scope includes all companies consolidated on a line-by-line basis by SOL Spa. For environmental data and information more details are provided in "The environment" chapter, which explains any eventual variations in scope of reporting, which do not limit the understanding of the Group's activities or its impact. The reporting scope of the economic and financial data and information corresponds to that of the SOL Group's Consolidated Financial Statements as at 31 December 2017.

The information contained in the Report refers to **issues identified as material and the related indicators that reflect the significant economic, environmental and social impacts of the organisation** or that could substantially influence the evaluations and decisions of the Group's stakeholders. The materiality analysis, updated in 2017, is of key importance, acting as a guideline for defining the content to report, in line with the expectations of stakeholders.

Following the materiality analysis of the issues outlined in Article 3 of Legislative Decree no. 254/2016, the use of water resources and the emissions of other pollutants other than greenhouse gases are not deemed significant to be reported in this document.

The content of this Report refers to 2017 and, in particular, the activities carried out by the SOL Group during the year, unless otherwise noted. Data relating to previous years is reported where possible for comparative purposes, making it possible to assess longer-term trends in the Group's activities.

In order to guarantee the reliability of the reported information recourse to estimates was limited as far as possible. Any eventual estimates are based on the best information available or survey sampling. Restatements to previously published comparative data are clearly indicated.

The Report was subject to a limited assurance engagement according to the criteria set out by the ISAE 3000 Revised principle. This engagement was carried out by Deloitte & Touche Spa which, at the end of the work performed, issued a specific report with regard to the compliance of the information provided in the consolidated non-financial statement prepared by SOL Group as required by the Legislative Decree 254/2016.

The SOL Group has published an annual Sustainability Report since 2009.

The Sustainability Report was approved by the SOL Spa Board of Directors on March 29, 2018.

The Group has envisaged a **continuous improvement** process with regard to material sustainability issues in order to comply in an increasingly virtuous way with regulations and best practices in the sector. More specifically, with regard to the theme of respecting human rights, in 2006 the Group adopted a Code of Ethics (updated in 2017) which has specific provisions on human rights issues. In fact, SOL Group undertakes to support the protection and defence of human rights according to the principles laid down by the Universal Declaration of Human Rights (1948), and acknowledges the principles established by the basic Conventions of the ILO (International Labour Organization). The Code of Ethics applies to everyone who carries out work for the SOL Group (including all employees, interns, agency staff) and administrators of SOL Group companies. The Code of Ethics also

applies to all those who, in various capacities, come in contact with the Group (such as suppliers, partners, customers etc.), thus contributing to the achievement of corporate goals, in accordance with the SOL Group's mission.

Nevertheless, the Group recognises the importance of monitoring the supply chain increasingly closely as this is the area that poses the biggest risks to human rights. It is also committed to paying more attention to this issue in order to effectively protect freedom of association and the right to collective bargaining and to ensure that forced, irregular or child labour is banned, also guaranteeing the absence of any form of employment discrimination.

IDENTIFICATION OF PRIORITY STAKEHOLDERS AND MATERIAL ISSUES

The SOL Group believes that doing business in a sustainable way means creating value for all those involved in the economic, environmental and social spheres. To do this, it is necessary to take account of the opinions and expectations of all of its stakeholders, because it is they who guide the Group's actions and push it to improve on a continuous basis.

For this reason, we maintain open channels of communication with all those that can influence the decisions and actions of the Group and whose actions and decisions can be influenced by SOL.

The stakeholders considered important to the SOL Group are:

1. Associations
2. Environmental associations
3. Authorities and public bodies
4. Shareholders, investors and financial institutions
5. Patients
6. Customers
7. The community
8. Employees
9. Suppliers and partners

The definition of material aspects for the Group and its stakeholders took account of the analyses carried out by the Group in past years and involved comparing these material issues with best practices in the sector, also taking account of the expectations of stakeholders.

In preparation for the publication of the 2016 Sustainability Report, in early 2017 the Group carried out an analysis process which, following the identification of its stakeholders and possible material issues, involved the direct engagement of a sample of stakeholders in order to establish the viewpoints of both external stakeholders and that of the Organisation. [1]

As well as identifying the material issues to ensure that the company's activities, progress, results and impacts are easily understood, the results of the analysis constitute a guide for internal departments, enabling them to identify areas in which to focus their initiatives in order to improve the impact of the SOL Group on the environment and on society.

Thanks to a benchmark analysis, in 2017 the Group's material issues were reviewed, also taking account of the areas and topics listed by Legislative Decree no. 254/2016. The topics deemed to be material as a result of these analyses are summarised in the table in the next page.

[1] Further details are available in the 2016 SOL Group Sustainability Report.

SCOPE OF MATERIAL TOPICS FOR THE SOL GROUP AND RECONCILIATION WITH RELATIVE GRI TOPICS

Area	Material topics	Scope	Type of impact	Reconciliation with GRI topics
Economic responsibility and governance	Balanced economic development	SOL Group, suppliers	Direct and indirect	Economic performance
	Compliance with laws and regulations	SOL Group, suppliers	Direct and indirect	Anti-corruption
				Anti-competitive Behavior
				Customer privacy
	Internal control system and risk management	SOL Group	Direct	Key impacts, risks, and opportunities (102-15)
Product responsibility	Product information and responsible communication	SOL Group	Direct	Marketing and labeling
	Product and service quality and customer satisfaction	SOL Group	Direct and indirect	Customer Health and Safety
	Research and development	SOL Group	Direct	not a GRI topic presently
	Sustainability and traceability of products and services	SOL Group, suppliers	Direct and indirect	Customer Health and Safety
Corporate social responsibility and human resources	Management and development of human resources	SOL Group	Direct and indirect	Employment
				Training and Education
				Diversity and Equal Opportunity
	Worker health and safety	SOL Group, suppliers	Direct and indirect	Occupational Health and Safety
	Commitment to the community	SOL Group, suppliers, local communities	Direct and indirect	not a GRI topic presently
	Assessment of suppliers regarding social and environmental aspects	SOL Group, suppliers	Direct and indirect	Supplier Environmental Assessment, Supplier Social Assessment
	Cooperation with the authorities	SOL Group	Direct	Membership of associations
	Human rights	SOL Group, suppliers	Direct and indirect	Human Rights Assessment
Environmental responsibility	Environmental impact of production	SOL Group, suppliers and partners	Direct and indirect	Energy
				Emissions
				Waste
	Energy efficiency	SOL Group	Direct	Energy
	Environmental impact of products	SOL Group, suppliers and partners, customers, patients	Direct and indirect	Energy
				Emissions
				Waste
	Environmental impact of transport	Suppliers and partners	Indirect	Emissions

GRI CONTENT INDEX

UNIVERSAL STANDARDS

GRI Standard.	Page Number	Disclosure
GRI 102: General Disclosures (2016)		
Organizational profile		
102-1	SOL Spa	Name of the organization
102-2	7; 25-39	Activities, brands, products, and services
102-3	Back cover	Location of headquarters
102-4	7-8	Location of operations
102-5	15	Ownership and legal form
102-6	7; 25-29	Markets served
102-7	5; 71-72	Scale of the organization
102-8	57-58; 65	Information on employees and other workers
102-9	43	Supply chain
102-10	13	Significant changes to the organization and its supply chain
102-11	40; 42	Precautionary Principle or approach
102-12	16; 20-23; 42	External initiatives
102-13	61; 67-68	Membership of associations
Strategy		
102-14	3-4	Statement from senior decision-maker
102-15	16-17	Key impacts, risks, and opportunities
Ethics and integrity		
102-16	9 Code of Ethics of SOL Group	Values, principles, standards, and norms of behavior
Governance		
102-18	15	Mechanisms for advice and concerns about ethics
Stakeholder Engagement		
102-40	76	List of stakeholder groups
102-41	61	Collective bargaining agreements
102-42	76	Identifying and selecting stakeholders
102-43	76	Approach to stakeholder engagement
102-44	77	Key topics and concerns raised
Reporting practice		
102-45	75 SOL Group Annual Report 2017	Entities included in the consolidated financial statements
102-46	76-77	Defining report content and topic Boundaries
102-47	77	List of material topics
102-48	12; 50	Restatements of information
102-49	76-77	Changes in reporting
102-50	75	Reporting period
102-51	75	Date of most recent report
102-52	75	Reporting cycle
102-53	88	Contact point for questions regarding the report
102-54	75	Claims of reporting in accordance with the GRI Standards
102-55	78-82	GRI Content Index
102-56	83-85	External assurance

TOPIC SPECIFIC STANDARDS

GRI Standard.	Page Number	Omission	Disclosure
GRI 200: ECONOMIC SERIES (2016)			
Material topic: ECONOMIC PERFORMANCE **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	72		The management approach and its components
103-3	12; 72		Evaluation of the management approach
GRI 201: Economic performance (2016)			
201-1	12		Direct economic value generated and distributed
Material topic: ANTI-CORRUPTION **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	9; 15 Code of Ethics of SOL Group		The management approach and its components
103-3	9; 15		Evaluation of the management approach
GRI 205: Anti-corruption (2016)			
205-3	During 2017 there were not confirmed cases of corruption.		Confirmed incidents of corruption and actions taken
Material topic: ANTI-COMPETITIVE PRACTICES **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	9; 15 Code of Ethics of SOL Group		The management approach and its components
103-3	9; 15		Evaluation of the management approach
GRI 206: Anti-competitive practices (2016)			
206-1	The main legal actions concerning anti-competitive practices are described in the Management report and in the Explanatory notes of SOL Group.		Legal actions for anti-competitive behavior, anti-trust, and monopoly practices
GRI 300: ENVIRONMENTAL SERIES (2016)			
Material topic: ENERGY **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	16; 48 Energy management policy of SOL Group companies Principles and values on which personnel policies are based in SOL Group companies		The management approach and its components
103-3	16; 48-49		Evaluation of the management approach
GRI 302: Energy (2016)			
302-1	49		Energy consumption within the organization
302-3	49		Energy intensity
Material topic: EMISSIONS **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	16; 49-51 Safety and environment principles of SOL Group companies		The management approach and its components
103-3	16; 49-51		Evaluation of the management approach

GRI 305: Emissions (2016)			
305-1	50		Direct (Scope 1) GHG emissions
305-2	50; indirect emissions, calculated according to the location based methodology, are equal to 208,757 tons of CO_2		Energy indirect (Scope 2) GHG emissions
Material topic: EFFLUENTS AND WASTE **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	16; 51-52 Safety and environment principles of SOL Group companies		The management approach and its components
103-3	16; 51-52		Evaluation of the management approach
GRI 306: Effluents and waste (2016)			
306-2	52		Waste by type and disposal method
Material topic: SUPPLIER ENVIRONMENTAL ASSESSMENT **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	43		The management approach and its components
103-3	43		Evaluation of the management approach
GRI 308: Supplier Environmental Assessment (2016)			
308-1	43		New suppliers that were screened using environmental criteria
GRI 400: SOCIAL SERIES (2016)			
Material topic: EMPLOYMENT **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	57-58		The management approach and its components
103-3	57-58; 65		Evaluation of the management approach
GRI 401: Employment (2016)			
401-1	65		New employee hires and employee turnover
Material topic: OCCUPATIONAL HEALTH AND SAFETY **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	62-63 Safety and environment principles of SOL Group companies		The management approach and its components
103-3	58; 62-63; 64		Evaluation of the management approach
GRI 403: Occupational Health and Safety (2016)			
403-2	58; 64	Data referred to injury rates of worker who are not employees are currently not available. For a better presentation, data regarding occupational health and safety are disclosed by sectors of activity instead of by gender.	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities
Material topic: TRAINING AND EDUCATION **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	59		The management approach and its components
103-3	59		Evaluation of the management approach
GRI 404: Training and Education (2016)			
404-1	59		Average hours of training per year per employee

Material topic: DIVERSITY AND EQUAL OPPORTUNITY **GRI 103: Management Approach (2016)**		
103-1	77	Explanation of the material topic and its Boundary
103-2	60 Code of Ethics of SOL Group	The management approach and its components
103-3	57; 60; 65	Evaluation of the management approach
GRI 405: Diversity and Equal Opportunity (2016)		
405-1	57; 60; 65	Diversity of governance bodies and employees
Material topic: NON-DISCRIMINATION **GRI 103: Management Approach (2016)**		
103-1	77	Explanation of the material topic and its Boundary
103-2	60 Code of Ethics of SOL Group	The management approach and its components
103-3	60	Evaluation of the management approach
GRI 406: Non-Discrimination (2016)		
406-1	During 2017 there were not confirmed cases of discrimination.	Incidents of discrimination and corrective actions taken
Material topic: HUMAN RIGHTS ASSESSMENT **GRI 103: Management Approach (2016)**		
103-1	77	Explanation of the material topic and its Boundary
103-2	43 Code of Ethics of SOL Group	The management approach and its components
103-3	43	Evaluation of the management approach
GRI 412: Human Rights Assessment (2016)		
412-3	43	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening
Material topic: SUPPLIER SOCIAL ASSESSMENT **GRI 103: Management Approach (2016)**		
103-1	77	Explanation of the material topic and its Boundary
103-2	43 Code of Ethics of SOL Group	The management approach and its components
103-3	43	Evaluation of the management approach
GRI 414: Supplier Social Assessment (2016)		
414-1	43	New suppliers that were screened using social criteria
Material topic: CUSTOMER HEALTH AND SAFETY **GRI 103: Management Approach (2016)**		
103-1	77	Explanation of the material topic and its Boundary
103-2	16; 40-42	The management approach and its components
103-3	16; 40-42	Evaluation of the management approach
GRI 416: Customer Health and Safety (2016)		
416-1	40-42	Assessment of the health and safety impacts of product and service categories
Material topic: MARKETING AND LABELING **GRI 103: Management Approach (2016)**		
103-1	77	Explanation of the material topic and its Boundary
103-2	40-42	The management approach and its components
103-3	40-42	Evaluation of the management approach
GRI 417: Marketing and Labeling (2016)		
417-1	40-42	Requirements for product and service information and labeling

Material topic: CUSTOMER PRIVACY **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	19 Information security management policy of SOL Group companies		The management approach and its components
103-3	19		Evaluation of the management approach
GRI 418: Customer Privacy (2016)			
418-1	During 2017 there were not confirmed cases of privacy violations or loss of customers data.		Substantiated complaints concerning breaches of customer privacy and losses of customer data
Material topic: RESEARCH AND DEVELOPMENT **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	25-38		The management approach and its components
103-3	25-38		Evaluation of the management approach
Material topic: COMMITMENT TO THE COMMUNITY **GRI 103: Management Approach (2016)**			
103-1	77		Explanation of the material topic and its Boundary
103-2	66-67		The management approach and its components
103-3	66-67		Evaluation of the management approach

INDIPENDENT AUDITOR'S REPORT

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

**To the Board of Directors of
SOL S.p.A.**

Pursuant to article 3, paragraph 10, of the Legislative Decree no. 254 of December 30, 2016 (hereinafter the "Decree") and to article 5 of the CONSOB Regulation n. 20267, we have carried out a limited assurance engagement on the consolidated non-financial statement (hereinafter the "NFS") of SOL Group (hereinafter the "Group") as of December 31, 2017 prepared on the basis of article 4 of the Decree, and approved by the Board of Directors on March 16, 2018.

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 in 2016 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.

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 *Code of Ethics for Professional Accountants* 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. Our auditing firm applies International Standard on Quality Control 1 (ISQC Italia 1) and, accordingly, maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Deloitte.

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 entity'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 article 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 Group.

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 SOL S.p.A. and with the employees of VIVISOL S.r.l., Dolby Medical Home Respiratory Care Limited, SOL Deutschland GmbH, SOL France Sas, SOL SEE d.o.o., VIVISOL B Sprl, VIVISOL Deutschland GmbH, VIVISOL France Sarl, VIVISOL Nederland B.V. 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.

Deloitte.

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, divisions and sites, Monza Headquarters and Cremona (Italy) and Feluy (Belgium) industrial sites for SOL S.p.A., Sesto San Giovanni (Italy) industrial site for VIVISOL S.r.l., 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, 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.

Conclusion

Based on the work performed, nothing has come to our attention that causes us to believe that the consolidated non-financial statement of the Group as of December 31, 2017 is not prepared, in all material aspects, in accordance with article 3 and 4 of the Decree and the GRI Standards.

Other Matter

The data for the year ended December 31, 2016 presented for comparative purposes in the consolidated non-financial statement have not been subject to a limited or to a reasonable assurance engagement.

DELOITTE & TOUCHE S.p.A.

Signed by
Riccardo Raffo
Partner

Milan, Italy
April 17, 2018

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

GLOSSARY

Accident: a chance event that could lead to injury or material damage.

Air separation: process of separating out the gases contained in air by distillation, producing both liquid and gaseous products.

Audit: A systematic, independent and documented process for objectively evaluating to what extent the management criteria of reference have been satisfied.

BS OHSAS 18001: an international standard issued by the British Standards Institute that establishes the requirements of a health and safety management system. It allows organisations to be aware of and keep under control risks deriving from operations in normal and extraordinary conditions and to improve safety performance.

Cold converter: container with insulated vacuum chamber for highly refrigerated cryogenic gases, complete with interception, measuring and safety instruments.

Conditioning: a production operation that consists in taking gas from a secondary storage tank and compressing it in a gaseous or liquid state and transferring it to mobile containers. Conditioning also includes the sequence of operations carried out on the containers from when they arrive at the centre to storage of full containers ready for delivery.

Cylinder basket: steel structure containing a number of cylinders, normally 8 or 16, in a vertical position to facilitate their handling with normal forklift trucks.

Cylinder bundle: set of interconnected cylinders supported by a metal structure. The outlets of the cylinders are led to a single manifold.

Cylinder: container in steel or light alloy for compressed, liquefied or dissolved gases.

EMAS (Eco-Management and Audit Scheme): European Community regulation 761/2001. A voluntary instrument for implementing Community Environmental Policy aimed at continually improving environmental performance of the companies and businesses adopting it.

Food safety: the concept that food must not cause harm to consumers if prepared in accordance with its intended use.

Frequency index: ratio between the number of accidents and hours worked multiplied by 1 million. It measures the frequency of accident occurrence.

Global Reporting Initiative (GRI): a multi-stakeholder network instituted in 1997 and made up of companies, NGOs, associations of accountancy experts, business organisations and other international stakeholders involved in subjects relating to Corporate Social Responsibility. GRI's mission is to develop, supply and promote global reference guidelines for the drawing up of Sustainability Reports that describe the economic, environmental and social impacts that companies or organisations cause with their activities.

Injury: undesired event in the workplace that provokes bodily damage or objectively verifiable illness.

IPPC (Integrated Pollution Prevention and Control): Strategy instituted with Directive 2010/75/EU "Industrial Emission Directive (I.E.D.) for minimising the pollution caused by various sources throughout the EU. All types of installation listed in Appendix 1 of the Directive must obtain integrated authorisation from the authorities of the various countries. It is based on the premise that the failure to adopt a common approach for controlling emissions into air, water and terrain could lead not to a reduction of pollution but to its transfer from one compartment to another.

ISO 13485 standard (Medical devices – quality management systems): an international standard that aims to maximise the probability that organisations operating in the medical devices sector satisfy the legal requirements existing at world level on quality management, and so supply safe and effective medical devices.

ISO 14001 standard (Environmental Management): an international standard that lays down the requisites for an environmental management system. It allows organisations to be aware of that and keep under control activities that have significant environmental impact, and improve their environmental performance.

ISO 22000 standard (Food Safety Management Systems): an international standard that defines the requirements for a food safety and hygiene management system.

ISO 27001 standard (Information security): an international standard that defines the requirements for setting up and running an information security management system (logical, physical and organisational security), with the aim of protecting data and information from threats of all kinds, ensuring the integrity, confidentiality and availability.

ISO 50001 standard (Energy Management): an international standard aimed at helping organisations improve their energy performance, increasing energy efficiency and reducing climate and environmental impact.

Major accident: event such as a serious spill, fire or explosion due to uncontrolled developments in activities in the presence of dangerous substances, that could cause grave danger for human health or the environment.

Medical device (MD): any instrument, apparatus, equipment, machine, device, plant, reagent in vitro or for calibration, computer software, material or other similar or related product for use, alone or in culmination, on persons for one or more specific purposes of diagnosis, prevention, control, therapy or attenuation of an illness; for diagnosis, control, therapy, attenuation or compensation of a wound or handicap; for studying, substituting or modifying anatomy or a physiological process; for intervening on conception where the main desired action in or on the human body is not carried out with pharmacological or immunological means or through metabolism, but whose function can be aided by these means.

Medical gas: any medication consisting of one or more active gaseous substances that may or may not be mixed with excipient gases.

Mobile container: container for compressed, liquid, dissolved and cryogenic gases used for transporting products. Mobile containers are: cylinders, drums, gas cylinders, cylinder bundles, dewars, base units and portable units.

Policy (quality, safety, environment): general principles and guidelines of an organisation, formerly expressed by top management.

Primary process units: units where gases are produced from raw materials.

Primary storage: liquefied cryogenic gas container filled directly by the production plant. Quality, safety and environmental management system.

Quality, Safety and Environment Management System (SHEQ/MS): that part of the general management system that includes the organisational structure, planning, responsibilities, procedures, processes and resources for drawing up, implementing and maintaining active well-defined quality, safety and/or environmental policies.

Raw materials – primary process units: atmospheric air, for the production of oxygen, nitrogen and argon; natural gas, for the production of hydrogen and carbon dioxide; calcium carbide for the production of acetylene; ammonium nitrate for the production of nitrous oxide.

REACh: EC regulation n. 1907/2006 (Registration, Evaluation, Authorization and Restriction of Chemicals). Its main aim is to improve the awareness of the dangers and risks deriving from chemical substances, aiming to attain a high level of protection of human health and the environment.

Residual mix: refers to the average primary energy sources that were not intended for a specific entity or to an end consumer. If a consumer uses the power grid without having purchased a GO certificate, he then has to use the residual mix in the calculation of its footprint. The Residual mix is calculated for each year and country by organizations that are part of the European E-Track programme, such as RE-DISS.

Responsible Care: a voluntary program of the world chemical industry based on the implementation of principles and conduct concerning the safety and health of employees and environmental protection, and the commitment to communicate the results obtained aiming for continual, significant and tangible improvement.

Sale equipment: technical/technological equipment purchased from third parties and supplied for use to customers as part of a service, but destined to remain the property of SOL; for example mobile containers, cold converters etc.

Secondary process units: units where gases are conditioned, normally using gases coming from primary process units, into their physical form (which may be compressed gas or cryogenic liquid) in the containers (cylinders, cylinder bundles, drums or tanks) best suited for distribution to end users. Some units also produce pure and high purity gas mixtures.

Secondary storage: liquefied cryogenic gas container filled by tankers, normally installed in secondary process units.
Severity index: ratio between days of absence due to injury and hours worked multiplied by 1 million. It measures the severity of injuries.

Seveso Directive (2012/18/EU and later modifications): European regulation aimed at preventing and controlling the risk of serious accidents. It governs industrial activities that involve the stocking and/or use of certain quantities of dangerous substances.

Stakeholder: all categories of subjects, private or public, individual or collective, internal or external, that can influence the success of a business or whose interests are involved in business decisions: customers, suppliers, investors, local communities, employees, unions, public administration, future generations etc.

Steam reforming: process in which methane reacts with steam, in the presence of a catalyst, to produce hydrogen and CO_2.

Sustainability (see Sustainable development)

Sustainable development: development that can satisfy current economic, environmental and social needs, without compromising the chances of future generations being able to satisfy theirs.

ACKNOWLEDGMENTS

For several years now, the Sustainability Report has been a key instrument for keeping all of our stakeholders up to date on the commitments we have made and the initiatives we have carried out.

A sincere thank you goes to all those that contributed to creating this document whether by helping to collect the information published or, in particular, through their daily commitment to translating the values shared by the SOL Group people into appropriate behaviour.

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