

Sustainability Report 2019



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Foreword

It is impossible to publish a Sustainability Report for the year 2019 without taking into account the profound change in scenario that has taken place during the first six months of 2020. The coronavirus pandemic has dramatically altered the global equilibrium and the change has touched all levels of society, striking at the heart of every culture and affecting the habits of every individual.

RadiciGroup and all its companies and stakeholders – first of all, its workers in every part of the world – are experiencing a disconnect between before and after the arrival of the pandemic: a deep discontinuity in the perception of themselves and relations with others, which is the source of inevitable disorientation.

Nevertheless, after an initial hesitation, the Group knew how to react.

Sustained by its industrial and family history of almost 80 years, its solid but flexible business systems, its brave workers ready to take on the change, RadiciGroup was able to rise to the pandemic challenge by placing people and resilience at the centre of its strategy.

During the period when the data and case histories for Sustainability Report 2019 were being gathered, RadiciGroup:

- Implemented stricter and expanded health and safety protocols, while ensuring the protection of workers and all other people who could potentially access its companies' premises, in particular customers and suppliers.
- Promoted initiatives to strengthen the engagement of its employees, particularly regarding social distancing measures, including employee listening sessions and widespread internal communication on health and safety matters.
- Experimented, together with its workers, on digital solutions for smart and remote working to allow employees to operate safely and, in many cases, reconcile professional duties with new family responsibilities.
- Opted, wherever possible, for e-learning in order to continue worker training and education even during the emergency crisis period.
- Recognized community needs, particularly in the province of Bergamo, and donated materials and medical devices to help deal with the health emergency of unprecedented proportions.
- Understood how to contribute and help the community by getting involved in the production of personal protective equipment (PPE) for medical workers, either directly (medical gowns) or indirectly (face masks) by supporting the formation of business networks.
- Put into play the Group's transformative resilience, that is, its capacity to seize opportunities inherent in any change, by converting part of its business. R&D activities and production lines were set up for the design and manufacture of high-performance anti-Covid-19 clothing for healthcare workers in situations of the highest risk.
- In this context, RadiciGroup developed new production chains, in collaboration with other Italian entrepreneurial companies, for the manufacture and sale of protective medical clothing, thus helping an industry to survive during the lockdown.

The data in the 2019 RadiciGroup Sustainability Report must be read in light of a Group in transformation. The data were collected through remote working and were discussed by teleconferencing, which is proof of the Group's proactive spirit and testifies to its capacity to embrace change and its flexibility to adapt to fluctuating external conditions. The reporting process was entirely handled through remote working, because the method was determined to be solid, yet dynamic, like the whole RadiciGroup system.

Sustainability Report 2019 will also be published and distributed mostly in a digital format, a choice partly dictated by social distancing and partly to achieve the specific goal of making this document "lighter" and more available to a wider and more diversified audience.

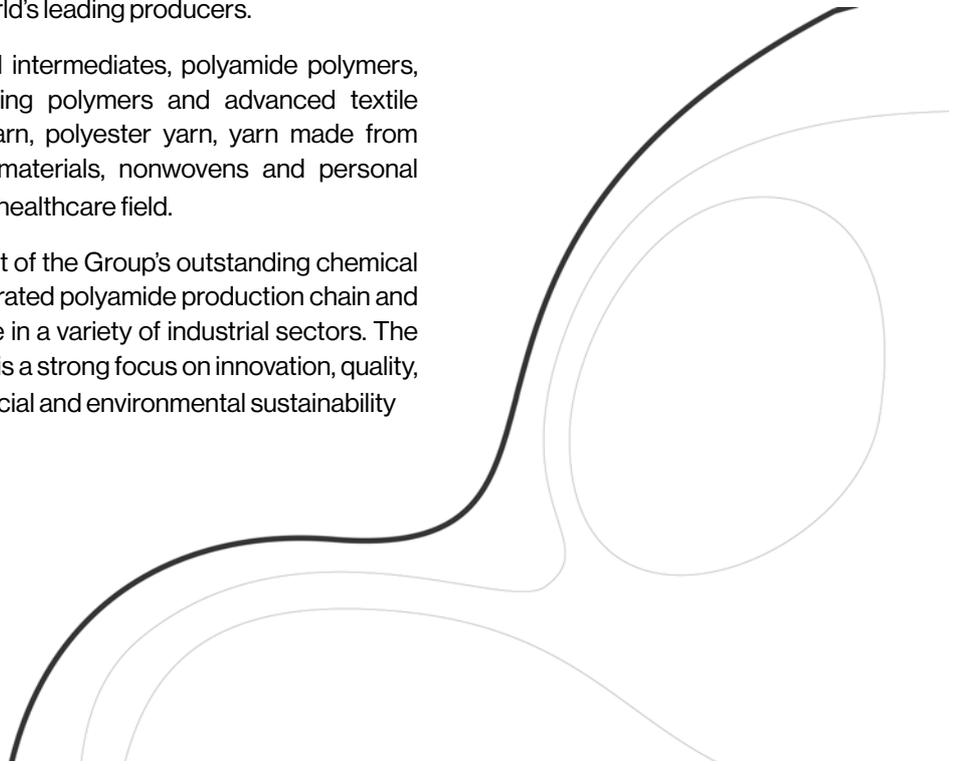
Who we are

DISCLOSURES 102-12, 102-16

RadiciGroup is one of the world's leading producers.

of a wide range of chemical intermediates, polyamide polymers, high performance engineering polymers and advanced textile solutions, including nylon yarn, polyester yarn, yarn made from recovered and bio-source materials, nonwovens and personal protective equipment for the healthcare field.

These products are the result of the Group's outstanding chemical expertise and vertically integrated polyamide production chain and have been developed for use in a variety of industrial sectors. The basis of the Group's strategy is a strong focus on innovation, quality, customer satisfaction and social and environmental sustainability



What guides us

Our Vision, our Mission and our Values, which define who we are. Moreover, the goals that the United Nations formulated in 2015 to create a better, more equitable and more sustainable future in collaboration with stakeholders.

These are the principles that have guided our work through 2019. They have motivated and inspired us to make our unique and irreplaceable contribution to the future of our planet.

Our Vision

To be one of the leading chemical groups in the polyamide, advanced textile solutions and high performance polymers production chain.

Our Mission

To promote the development of our businesses while pursuing our Group values and culture.

To pursue our vision by **valorizing and optimizing our resources**, establishing alliances and searching for new markets, including niche markets.

To embed sustainability into new product and application development.

Our Values

- **Putting people at the centre of everything we do** and respecting their right to physical and cultural integrity.
- **Efficiency and effectiveness of our management systems** to improve our business.
- **Fairness and transparency of our management systems** in compliance with all applicable laws and regulations.
- **Attention to the needs and expectations of our stakeholders** in order to create a feeling of belonging and satisfaction.
- **Reliability of our management systems and operating procedures** to ensure **the maximum safety of our employees, our communities and the environment.**
- **Our responsibility as a company for our workers, production sites and communities.**

United Nations Sustainable Development Goals

DISCLOSURE 102-12



Sustainability acquired new characteristics and further relevance in the framework of the 2030 Agenda for Sustainable Development, a plan of action for people, the planet and prosperity adopted on 25 September 2015 by the governments of the 193 country members of the United Nations.

“It incorporates the 17 Sustainable Development Goals, SDGs, in a grand plan of action with a total of 169 targets. The implementation of the 17 Sustainable Development Goals officially started at the beginning of 2016, guiding the world on the road to be travelled over the next 15 years.” (Agenda 2030 unric.org)

RadiciGroup shares the Sustainable Development Goals and contributes tangibly to their implementation in many ways, which are described in this Sustainability Report and identified in the various chapters with the relevant SDG icons.

Group Quality, Environment, Energy, Health and Safety Policy

DISCLOSURE 102-16 - DISCLOSURE 103-1

The Group Quality, Environment, Energy, Health and Safety Policy is the first important instrument adopted for the implementation of the values and principles governing the RadiciGroup sustainability strategy and the UN 2030 Agenda for Sustainable Development. This Group policy document, signed by President Angelo Radici and Vice President Maurizio Radici, incorporates, in its management systems and daily operations, care for people and their health and safety, commitment to fight against climate change, more efficient use of natural resources, searching for high quality processes and management in order to satisfy customers, and fostering the virtuous circle of continuous improvement.

The policy also sets forth the Group's specific desire to improve on the quality of its relationship with stakeholders through greater transparency and engagement, which have long been the characteristic traits of RadiciGroup's way of operating.

*"Looking at added value from a broad perspective, ensuring continuity and being inclusive of all stakeholders. This is how RadiciGroup brings to life its corporate values – putting people at the centre of everything it does, reliability, fairness and transparency – in its day-in and day-out operations. By following these guidelines, the Group ensures the **quality** of its products, promotes occupational **health and safety**, and carries on business with **respect and care for the environment**. A long-term commitment to the pursuit of truly **sustainable social, economic and environmental development** driven by **innovation and research** is the foundation for the engineering and advancement of the Group's technology, processes and products.*

*Within the above framework, RadiciGroup pursues the objective of increasing cooperation and synergy among the functions of the Group Business Areas to build a path towards the **optimization and excellence** of each process through the **continual improvement** of activities, **transparency** in operations and communications, and **quality and performance** of products and services – all in close collaboration with stakeholders.*

*Diligent compliance with the laws and regulations on the environment, occupational health and safety, and prevention of harmful incidents potentially affecting products and production processes is the fundamental basis of every Group business activity. To this end, RadiciGroup companies have adopted **Quality, Environmental, Energy, Health and Safety Management Systems**, duly certified by recognized certification bodies and based on a set of well-defined procedures, understood at all organization levels.*

*In order to ensure the **quality** of its products and services, the Group has numerous tools at its disposal that enable its companies to develop robust and reliable processes, meet the most exacting requirements and foster continual improvement. As regards the **environment and energy**, RadiciGroup is engaged in optimizing performance and working towards targets that can be seen and measured, by investing financial, human and technological resources to monitor and reduce environmental impact. At the same time, the Group is engaged in promoting commitment to the environment among its customers, suppliers and workers, in particular through activities aimed at getting all stakeholders involved. The Group's environmental agenda covers its entire production value chain, including the calculation of the environmental footprints of the main products and services and feasibility assessments of using ecodesign and circular economy principles, wherever possible.*

RadiciGroup management is aware of the fact that worker health and safety is always a top priority and of central importance. Thus, management ensures the application of the safety standards set out in the applicable laws and regulations, regularly verifies compliance with said standards and assesses their effectiveness, with the aim of improving accident prevention and reducing accident risk. Group management also promotes transparent and collaborative relationships with local authorities and communities, furthers the implementation of worker consulting mechanisms and encourages worker participation in corporate processes. Moreover, the Group invests sizeable resources in training workers to increase knowledge and raise awareness of how important the contribution of each single worker is in achieving the overall result."

June 2019

President
Angelo Radici

Vice President
Maurizio Radici

Letter from the President

DISCLOSURE 102-14

"I am writing this introductory letter to the Sustainability Report, which has become a custom for me, in a historic moment when everything is no longer customary. The pandemic has changed our vision of the world. RadiciGroup has also been hit by great changes, but, I am proud to say, we have been able to react. In this dramatic situation, resilience has become a primary necessity and a precious resource.

We promptly took action and created a system of modes of action and interaction, never experimented with before. We found ourselves working in an environment that was more digitalized than we thought, and more flexible, too. Above all, the difficulty of the first few months of 2020 made us more united, made us rediscover the value of being a team. This is the subject closest to my heart: by sharing goals and common efforts, RadiciGroup can continue to grow. Like never before, we rose to the occasion acting as a Group, becoming a point of reference for the community, which we supported by doing what we do best: creating work and lasting value.

It is important that this Sustainability Report be read in light of the above considerations: our path ahead is sound and our capacity to cope with the inevitable difficulties is great, but we must be confident.

Browsing through the chapters, I would like to comment on many important points, starting with the fact that our Group is increasingly fostering a business model based on the circular economy. We optimize the use of raw materials and energy by improving our processes, reducing waste and promoting product recycling already at the design stage. These choices are all important for the protection of the Earth's natural resources.

In our plants, we rely on our Quality, Safety, Environmental and Energy management systems to attain the highest sustainability levels. With each passing year, our certifications – indispensable instruments for measuring sustainability – continue to evolve and grow in number.

We care a great deal about the sustainability of our products. Today, all our materials are recyclable. We can count on our optimized recovery systems for both engineering polymers and textiles.

For this reason, in 2019 we also increased our portfolio of recycled products, truly top-class products in terms of both performance and reduced carbon footprint. This was a practical choice made to benefit our customers, with significant repercussions on safeguarding our climate, as well.

Mindful of the fact that the resources of our planet are precious, we have turned, wherever possible, to renewable sources: in 2019, the Group energy mix continued to include a relevant portion of green energy. And that is not all. Making use of our know-how in the fields of chemicals, polymers and textile solutions, we worked on adding bio-based alternatives to our portfolio of conventional products.

But we are not content with words alone. We perform rigorous and regular measurements of the environmental impacts of production at each of our sites. We are well aware of the fact that climate change is upon us. Therefore, we carefully monitor our production processes and focus our efforts and investments on them in order to reduce emissions. The 2019 results, substantially in line with those of prior years, put pressure on us to set new and ambitious targets to improve our performance.

We draw our strength from the future for the present. This is why we created Radici InNova, our consortium dedicated to innovation driven by sustainability, a crucial decision for RadiciGroup.

Like every year, we devote much of our attention to the Group's employees, whom I also thank on behalf of my family for the commitment and passion they put into what they do every day. More than half of the value added goes to them once again in 2019.

We have always considered health and safety to be of fundamental importance. In the past year, employee training and education programmes dedicated over a third of total training hours to safety awareness raising events and produced encouraging results. Our success was confirmed by the injury-related performance indicators, all showing a positive trend. Credit for these results also goes to the various initiatives that, in every part of the world, brought our workers

together to share ideas, experiences and knowledge, with the objective of increasing occupational safety within the Group.

In conclusion, I would like to mention the special closeness we have with the communities where we are based,, a connection that has taken on greater meaning during the pandemic and acquires new nuances with each passing year. In this Sustainability Report you will read about our projects with schools, open day events organized by our companies for local communities and support for sports activities and social events.

We are here for you. Our social responsibility is rooted in the way we are.

I hope you enjoy your reading.”

President
Angelo Radici

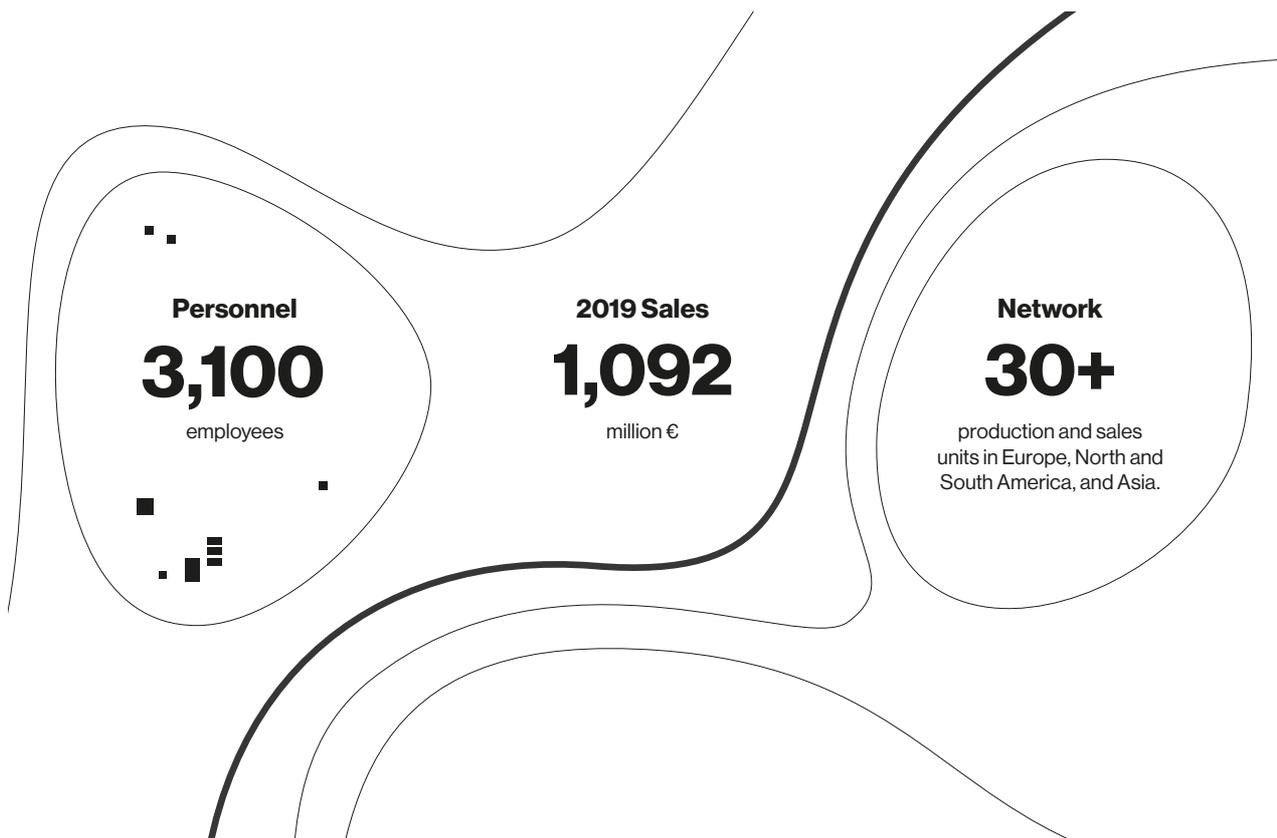
RadiciGroup

DISCLOSURES 102-2, 102-4, 102-6, 102-7

With approximately 3,100 employees, sales revenue of EUR 1,092 million in 2019 and a network of production and sales sites located throughout Europe, North America, South America and Asia, RadiciGroup is one of the world's leading producers of a wide range of chemical intermediates, polyamide polymers, high performance engineering polymers and advanced textile solutions, including nylon yarn, polyester yarn, yarn made from recovered and bio-source materials, nonwovens and personal protective equipment for the healthcare field. These products are the result of the Group's outstanding chemical expertise and vertically integrated polyamide production chain and have been developed for use in a variety of industrial sectors, such as: automotive – electrical and electronics – consumer goods – apparel – furnishings – construction – household appliances – sports.

The basis of the Group's strategy is a strong focus on innovation, quality, customer satisfaction and social and environmental sustainability.

Figures making a difference



A global presence

Americas

Argentina

Buenos Aires

Rio Grande

Brazil

Araçariçuama

São José dos Campos

Mexico

Ocotlán

USA

Wadsworth

Asia

China

Shanghai

Suzhou

India

New Delhi

Europe

Czech Republic

Podborany

France

Saint Priest

Germany

Lüneburg

Selbitz

Tröglitz

Hungary

Szentgotthard

Switzerland

Stabio

United Kingdom

Wakefield

Romania

Savinesti

Spain

Barcellona

Italy

Andalo Valtellino

Ardesio

Buronzo

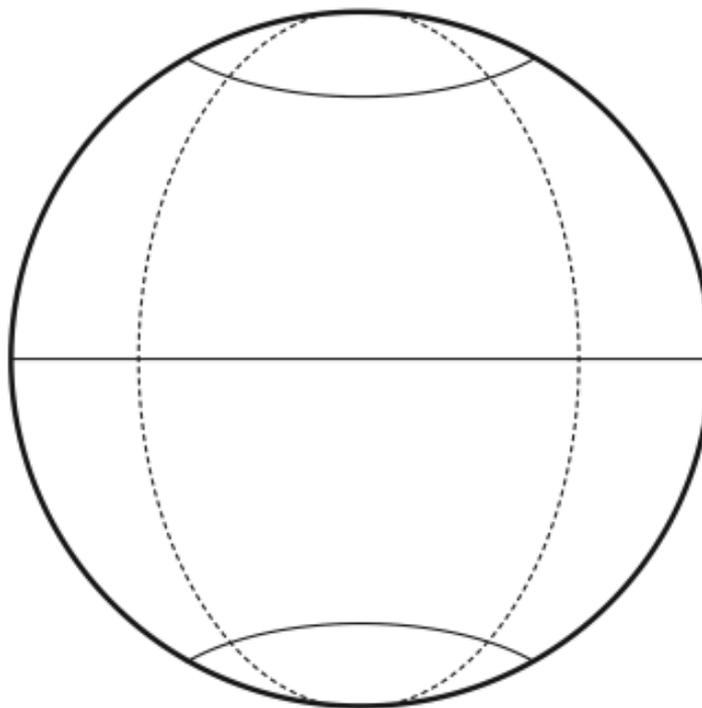
Casnigo

Chignolo d'Isola

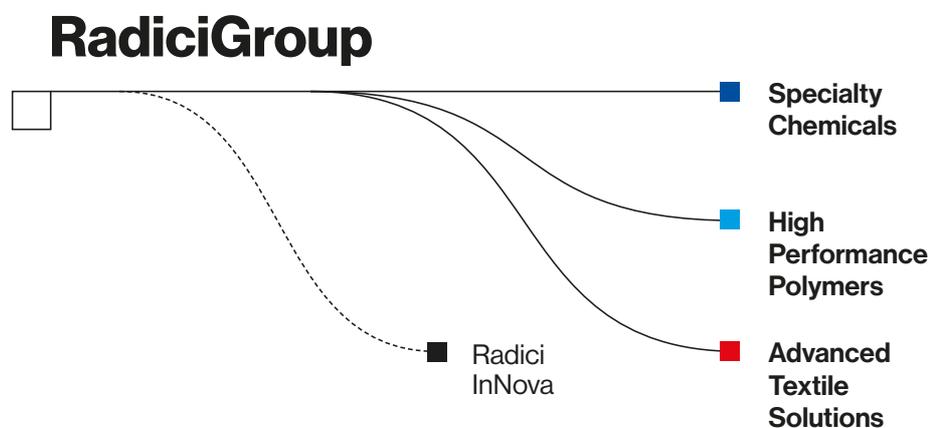
Gandino

Novara

Villa d'Ogna



Group's organizational structure: three macro business areas



Organizational structure updated as of June 2020

RadiciGroup is organized into three macro business areas:

Specialty Chemicals

The Specialty Chemicals Business Area is engaged in the production of chemical intermediates and polyamide 6, 6.6 and 6.10 polymers and specialty polymers, all of which serve as raw materials for the manufacture of a variety of products, both by customers and directly by Group companies for further processing of high performance polymers and fibres.

High Performance Polymers

High Performance Polymers specializes in the manufacture of high performance engineering polymers – materials that feature different chemical, physical and mechanical characteristics depending on the type of application for which they are used. Engineering polymers are raw materials for several industries, including traditional automotive and e-mobility, electrical/electronics, plumbing and heating, and industrial sectors. The BA also produces polymers from bio-source and recycled materials.

Advanced Textile Solutions

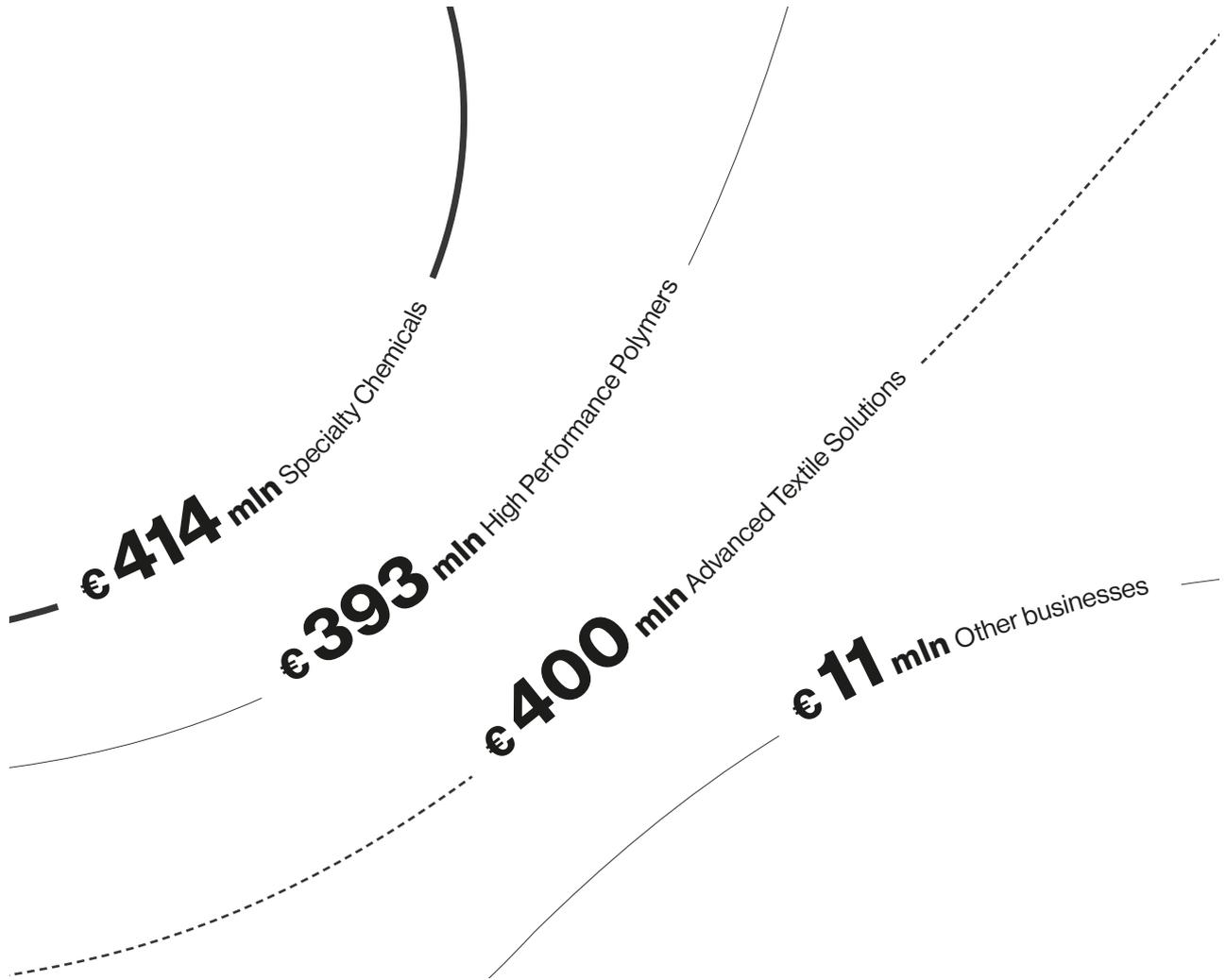
The Advanced Textile Solutions Business Area is engaged in the manufacture of numerous kinds of products, from polyester to nylon yarn and nonwovens, with different types of processing, finishing and functionalization. The BA also produces fibres from bio-source and recycled materials. These advanced textile solutions are used in several industries, including automotive, sportswear, fashionwear, furnishings and medical, wherever the applications require components featuring high performance in terms of mechanical resistance, comfort, protection, durability and safety.

Radici InNova

To support the three Group business areas, in December 2019, the non-profit company Radici InNova (Radici Consortium for Research and Innovation S.c.a.r.l) was created to pool the expertise of the entire RadiciGroup chain. The main object of the newly founded company is the development of new research and innovation projects for the chemical, high performance polymers, fibres, nonwovens and energy sectors, in accordance with the RadiciGroup sustainability strategy. An in-depth analysis of Radici InNova's work will be presented in the section of the Report specifically dedicated to system performance.

2019 Sales

Consolidated by business area

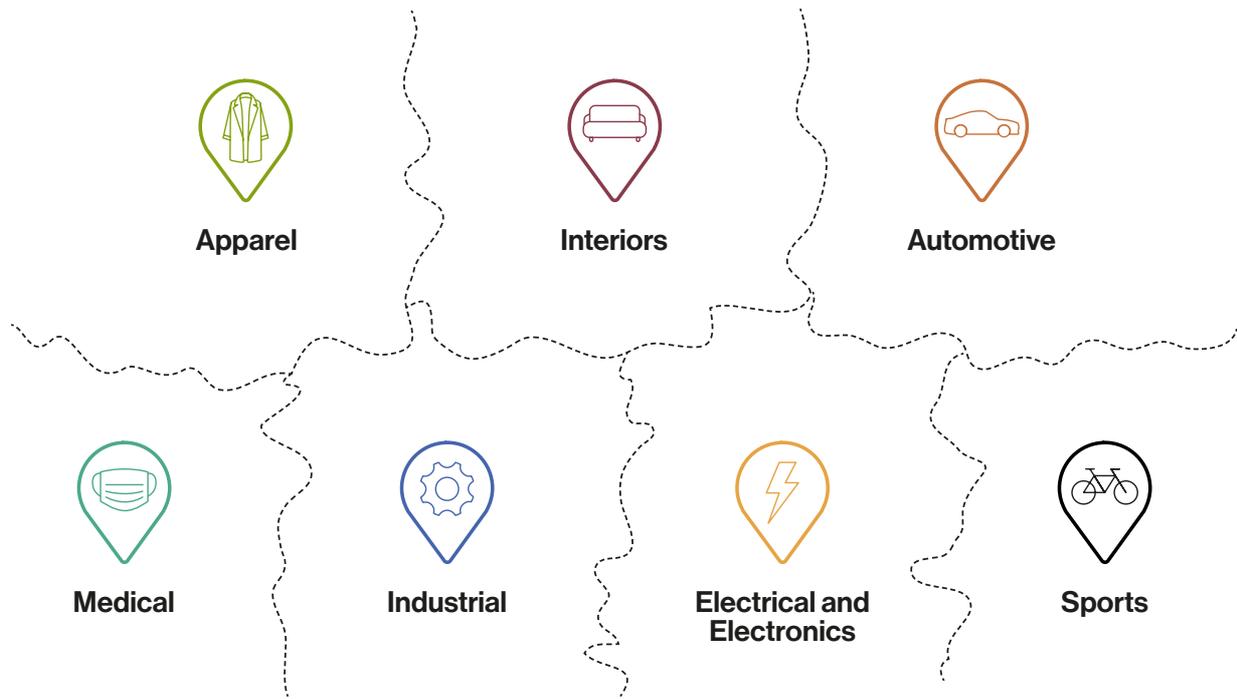


RadiciGroup products and sectors served

DISCLOSURES 102,6-12

RadiciGroup products are present in every aspect of everyday life. Their properties – durability, performance and, in many cases, sustainability – make them the ideal choice for customers all over the world.

Below is an overview of the main products and their respective application sectors.



Our markets and brands – Specialty Chemicals

Brand	Description	 Apparel	 Interiors	 Automotive	 Medical	 Industrial	 Electrical & Electronics	 Sports
	Adipic acid for the production of fibres and PA 6.6 engineering polymers. Hexamethylenediamine (intermediates for polyamides and coatings), AGS (intermediate for polyesters and solvents), Nitric acid, KA oil, esters and chemical intermediates.	●	●	●	●	●	●	●
	PA 6 / PA 6.6 polymers and copolymers. Long-chain PA 6.10 (bio-polymer) and PA 6.12 polyamides. Special polyamides for high temperature applications.	●	●	●	●	●	●	●

Our markets and brands – High Performance Polymers

Brand	Description	 Interiors	 Automotive	 Industrial	 Electrical & Electronics	 Sports
	Thermoplastic copolyester elastomers (TPE-E) and thermoplastic styrene elastomers (SEBS and SBS) for automotive, technical/industrial and consumer goods applications.		●	●		●
	Acetal copolymer (POM) resins.	●	●	●		●
	Low-environmental impact polyamide compounds, manufactured primarily with sorted and regenerated secondary raw materials (PA 6 and PA 6.6), obtained from the recovery of industrial scrap.		●	●		
	Polyamide and polyester flame-retardant engineering polymers, including a complete range of halogen- and red phosphorous-free products.		●	●	●	
	Polyamide engineering polymers (PA 6, PA 6.6, copolymers, PA 6.10, PA 6.12, PPA and other specialty PAs for high temperature resistant applications) for injection moulding, extrusion and blow moulding.	●	●	●	●	●

Our markets and brands – High Performance Polymers

Brand	Description	 Interiors	 Automotive	 Industrial	 Electrical & Electronics	 Sports
	Specialty PA 6.6 engineering polymers. The main distinguishing features are high mechanical properties, better property retention with moisture absorption and an excellent surface appearance. Suitable for injection moulding of high mechanical resistance parts.		●	●		
	High-performance PPS compounds, characterized by their exceptional chemical/thermal resistance and dimensional stability.		●	●	●	
	Polyester (PBT and PBT compounds) for injection moulding.		●	●	●	
	PA 6.6 compounds, including improved heat-resistance specialties (Torzen® Marathon).	●	●	●	●	●

Our markets and brands – Advanced Textile Solutions

Brand	Description	 Apparel	 Interiors	 Automotive	 Medical	 Industrial	 Sports
BIOFEEL™	A new bio-polyamide range of yarn and staple fibre made primarily of renewable source material (64%). The products feature high resistance, comfort and dyeability.	●	●	●			●
dorix™	Polyamide 6 staple fibre available in raw white and solution-dyed versions in a range of custom colours.		●	●			
dylar™	High-performance nonwoven spunbond available in 12 to 150 g/sqm, with a wide choice of colours, additives and technical properties.	●		●	●	●	
radifloor™	Polyamide 6 and 6.6 BCF yarn for carpeting, available in raw white and solution-dyed colours and in twisted, thermoset, frieze and air-entangled versions.		●	●			
radilon™	PA 6 and PA 6.6 textile yarn and staple fibre with excellent resistance, breathability and dyeability. Available in raw white and solution-dyed in a vast range of colours.	●	●		●	●	●
raditeck™	High-tenacity polyamide 6.6 yarn used for the production of technical items that require high performance in terms of resistance and reliability.			●		●	●

Our markets and brands – Advanced Textile Solutions

Brand	Description	 Apparel	 Interiors	 Automotive	 Medical	 Industrial	 Sport
rad yarn™	Raw-white and solution- or yarn-dyed polyester, available in additivated grades (flame retardant, bacteriostatic and UV protection) and in microfibre, supermicrofibre and bicomponent fibre (PA/PET).	●	●	●	●		●
RENYCLE™	Textile yarn obtained from recycled polyamide 6 with excellent characteristics, including resistance, dyeability, softness and versatility.	●	●	●			●
REPETABLE™	Polyester continuous filament yarn derived from recycled post-consumer polymer (PET bottles). It boasts notable versatility, thanks to its solution-dyed, bacteriostatic and UV stabilized versions.	●	●	●			●
RESPONSIBLE™	Nonwoven spunbond made of recycled polypropylene, featuring excellent chemical characteristics and remarkable versatility, resistance and durability. Available in a great variety of colours, additives and technical properties.	●		●	●	●	
starlight™	Raw, solution-dyed and additivated polyester yarn (flame retardant, bacteriostatic and UV protection), manufactured in a vast range of functionalities and custom colours.	●	●	●	●		●

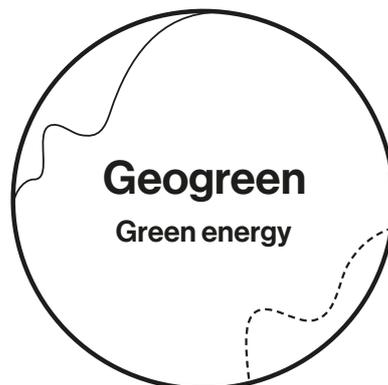
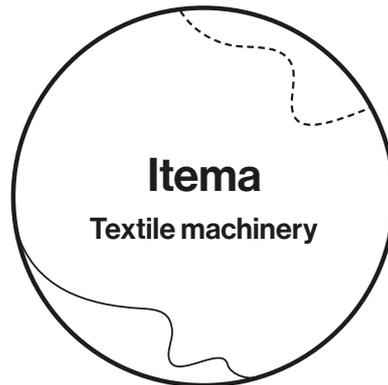
To learn more, visit: www.radicigroup.com

Radici World

DISCLOSURE 102-5

RadiciGroup is a structured and multifaceted reality that, in addition to its core businesses described above, is also part of a larger industrial organization that includes textile machinery (ITEMA), energy (GEOGREEN) and the hotel (SAN MARCO) businesses. RadiciGroup is also the Heart Sponsor of Atalanta B.C.

To learn more, visit: <https://www.radicigroup.com/it/documentazione/corporate/to-be-global>



Governance

DISCLOSURES 102-5, 102-18

The governance structure of the RadiciGroup organization is based on direct management control by the Radici family. The latter owns the entire share capital of the Group and sets Group strategy in accordance with the Board of Directors. Angelo, Maurizio and Paolo Radici, in their capacities as President, Vice President and Board member, respectively, have everyday operational control of Group operations.

Parent company and board of directors

DISCLOSURE 102-5

Radici Partecipazioni S.p.A. is the parent company that groups and controls the industrial businesses in the fields of chemicals, high performance polymers and advanced textile solutions, and is under the direct control of the parent company Radicifin S.A.p.A. Radici Partecipazioni S.p.A. manages and coordinates the activities of all its subsidiaries along the guidelines set forth by the Board of Directors. It also provides centralized services through corporate functions. For administration and control, the parent company has a Board of Directors, with strategic and administrative duties, and a Board of Statutory Auditors. The latter comprises 3 members, holding office for a period of 3 years, who perform a control function over administration. The Board of Directors holds office for 1 year and comprises 7 members, among which the majority shareholders and members with competencies related to industrial, economic, financial, administrative and legal matters.

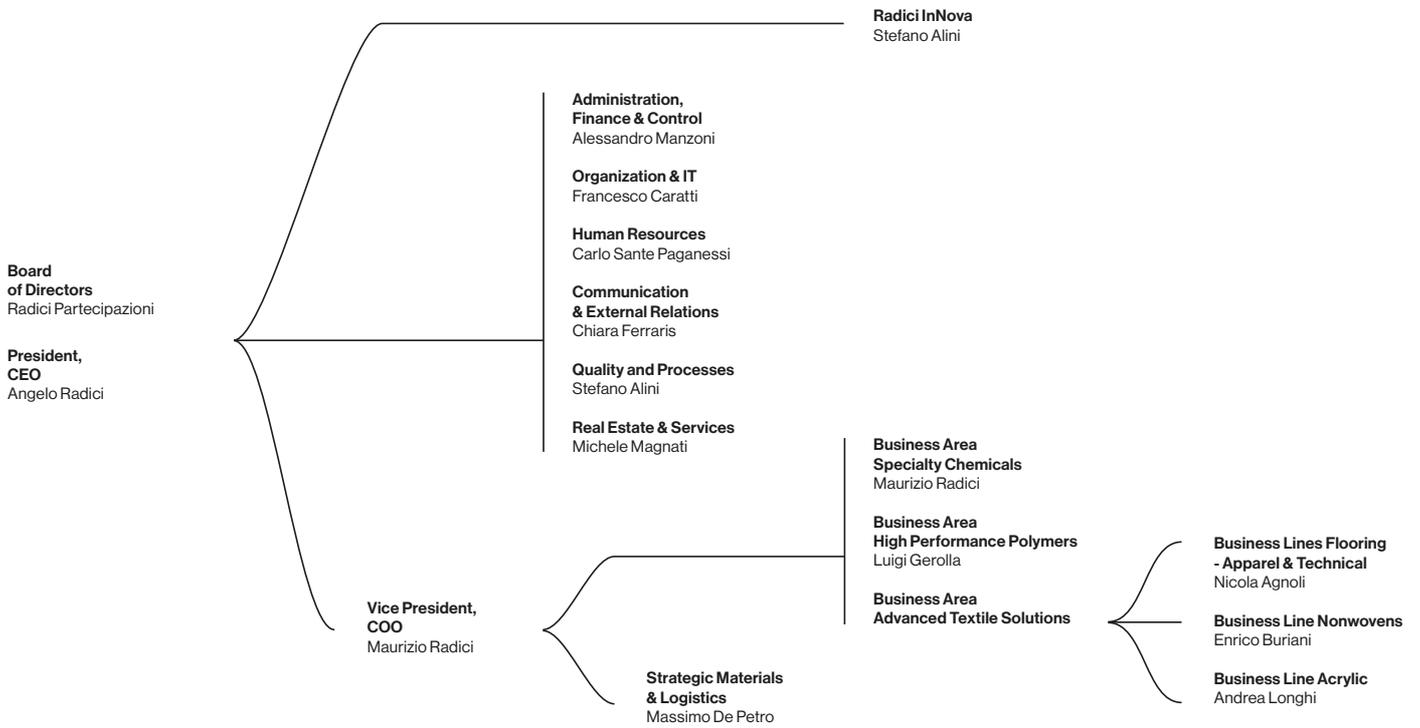
Business area managers

Group production and sales activities are entrusted to operational units, which, at the Radici Partecipazioni Board of Directors' behest, set down their business plans and carry them out, after submitting them to the Board of Directors for approval. The Business Areas (BAs) are defined according to the type of production or process technology, and each area, or part thereof, is headed by a manager appointed by the Board of Directors. Sometimes, BA Managers also hold the position of managing directors at their respective companies, vested with the power of ordinary administration.

With an eye on the future and with the purpose of increasing cooperation and capturing synergies among business area functions, between 2019 and 2020, the organization of the corporate functions was redesigned so as to bring out the excellence of each of the corporate functions and valorize the international dimension of the Group. The corporate functions are company-wide points of reference for the Group BAs and agree their objectives with the Board of Directors, in accordance with the objectives of the individual business areas.

This is the RadiciGroup Organization Chart

Updated as of June 2020



Stakeholders

DISCLOSURE 102-40 - DISCLOSURE 102-43

In this Sustainability Report, the following groups of stakeholders – defined by the RadiciGroup Sustainability team in 2018 and validated for the 2019 edition – were taken into consideration.

- **Environment**
- **Trade associations**
- **Group companies**
- **Shareholders**
- **Board of Directors and management**
- **Customers**
- **Communities**
- **Local communities and territories**
- **Competitors**
- **Suppliers**
- **Banks and insurance companies**
- **Workers**
- **Media**
- **Academic and research institutions**
- **Control and monitoring bodies**
- **Trade union organizations**

RadiciGroup and its Stakeholders

- **Collaboration to create durable value**
- **Sharing goals for social, economic and environmental sustainable growth**
- **Transparent relationships and respect for the roles of all stakeholders and their operating context.**

These are the principles underpinning the relationship between RadiciGroup and its stakeholders, as described schematically in the table “MAPPING OF STAKEHOLDERS, THEIR EXPECTATIONS, RISKS AND OPPORTUNITIES AND APPROACH TO STAKEHOLDER ENGAGEMENT”, in the section on “Building the Report” below. The table not only highlights the forms of interaction with stakeholders, but also analyses risks and opportunities arising from the engagement (or lack of engagement) and the proactive nature of the relationship between the Group and its Stakeholders.

The following sections will cover the characteristics of the relationships with some special stakeholders more in detail, with a view to sharing a vision of sound, long-term sustainability. Special 2020 updates to the Report have been inserted, where appropriate, to reflect any collaborations set up or actions put into place by the Group in response to the health, social and economic emergency caused by the coronavirus pandemic, making this Sustainability Report truly up to date. A detailed description of these Group actions will be added to the 2020 Sustainability Report.

Shareholders

DISCLOSURES 102-18, 102-43

RadiciGroup is a family business. Angelo, Paolo and Maurizio Radici are engaged in sustainability-related issues on a daily basis as an intrinsic part of their role as Group directors. Moreover, each of the shareholders is personally engaged in public sustainability initiatives. Angelo Radici supports and promotes youth sports activities through the RadiciGroup Ski Club and many other organizations. Maurizio Radici is personally involved in healthcare by supporting the Bergamo Oncological Association. For many years, Paolo Radici has worked on the recovery of vineyards, which are respectful of nature and its rhythms, through his decision to produce only bio-certified grapes.

Board of directors and management

DISCLOSURES 102-16, 102-18, 102-43

All RadiciGroup top corporate functions work together to embed sustainability into Group strategy and operations. Let us start with the Ethics Committee, which is entrusted with the promotion of the Code of Ethics and the surveillance of compliance with its provisions. The Ethics Committee also promotes the sustainability policies and initiatives of the Group, in particular the Sustainability Report.

The Board of Directors has the responsibility to establish the strategy to address sustainability on the basis of a materiality analysis, an analysis of risks and opportunities, the RadiciGroup general context and the programme indications of the Sustainability Team.

The Business Area Managers are delegated the task of adapting the corporate strategies to their sites and preparing the related executive plans, working in close collaboration with relevant function heads. The Business Area Managers can promote sustainability improvement and stimulate the development of a sustainability culture within their respective business areas.

Group companies

DISCLOSURES 102-18, 102-43

Each of the business areas is engaged in building and strengthening a sustainability culture. The site sustainability teams work in close collaboration with their contacts on innovation, research and production towards the development and realization of products with reduced environmental and social impact using optimized processes within controlled and safe production chains. The sustainability project would not exist, if not for the concrete steps that companies take every day to implement sustainability. Additionally, site sustainability teams actively collaborate on collecting data for the Sustainability Report, provide input and suggestions to the Coordination Group and, in collaboration with the latter, develop action and improvement plans for their sites.

RadiciGroup Workers

DISCLOSURE 102-8

To work day in and day out in a sustainable way, avoiding practices that could be harmful to the environment and people. To be a positive influence through virtuous behaviour, demonstrating care for one's work and an aptitude for attaining high-quality, while respecting safety regulations. These are among the many irreplaceable tasks entrusted to RadiciGroup's more than 3,100 workers every day.

As repeatedly pointed out, the workers have the task of translating RadiciGroup long-term sustainability policies into practice by placing them in many different cultural, social and economic contexts and making their implementation effective. Thanks to their workers, the companies play an active and proactive role in sustainability. The workers do not confine themselves to applying mandatory provisions, but rather they think, experiment and elaborate new solutions on a daily basis. For these reasons, the Group considers its workers its main stakeholders and takes active steps to look after worker health and safety, professional training and the reconciliation between work-related and personal needs.

In the reporting year, the total number of workers fell slightly, while the number of employees rose. This is because part of the temporary workers were hired directly by the company. The total number of RadiciGroup employees in 2019 confirmed the positive trend of the last three years (+21 employees), with increases, particularly in Italy, Asia and North and South America, thereby substantiating the Group's resolve to grow by investing in people. A breakdown of employees by geographical area shows that about half of the employees work in Italy and half, in the rest of the world, thus demonstrating the Group's ongoing process of internationalization, not only commercially but also culturally. [Tables 01 - 06]

The most prevalent age group was "30 to 50 years old", as in the prior year. Employees with a permanent employment contract remained predominant, making up 94.8% of total employees, a higher percentage than in the prior year. Employees covered by collective bargaining agreements exceeded 90% and employees with full-time employment reached 95%, in line with the prior year and in accordance with the steady trend of the Group. [Tables 07 - 11]

It should be noted that the prevalence of temporary (fixed-term) employment in China can be explained within the framework of the Chinese labour market. The use of temporary employment contracts is a very common practice there and, only after two renewals, will the employer propose a permanent employment contract, which the worker is free to accept or refuse. RadiciGroup attaches great importance to cultivating the loyalty of its collaborators everywhere in the world. In the Chinese labour market, turnover is typically high and many workers choose to keep their temporary employment contracts. Thus, in order to attract and retain the best talent, the Group invests in training and the reconciliation of family and working life.

The data on RadiciGroup workers and employees are given as of 31 December for each year and are expressed in FTEs (Full Time Equivalents).

DISCLOSURE 102-8

RADICIGROUP WORKERS

Table 01	Men			Women			Total		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
n Total workers	2,345	2,367	2,318	842	834	842	3,187	3,201	3,160
n Total employees	2,227	2,240	2,249	826	824	825	3,053	3,064	3,074
n Total non-employee workers	118	127	69	16	10	17	134	137	86
% Temporary workers	5.0%	5.4%	3.0%	1.9%	1.2%	2.0%	4.2%	4.3%	2.7%

WORKERS BY REGION

	Men			Women			Total		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
n ITALY	1,342	1,373	1,333	312	318	327	1,654	1,691	1,660
n REST OF EUROPE	633	622	603	443	423	418	1,076	1,045	1,021
n ASIA	67	69	71	21	24	26	88	93	97
n NORTH AND SOUTH AMERICA	303	303	311	66	69	71	369	372	382

EMPLOYEES BY REGION

	Men			Women			Total		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
n ITALY	1,250	1,277	1,292	298	311	312	1,548	1,588	1,604
n REST OF EUROPE	624	614	597	443	423	418	1,067	1,037	1,015
n ASIA	65	69	70	21	24	26	86	93	96
n NORTH AND SOUTH AMERICA	288	280	290	64	66	69	352	346	359

FEMALE WORKERS BY REGION *

	Women		
	2017	2018	2019
% EUROPE	27.7%	27.1%	27.8%
% ITALY	18.9%	18.8%	19.7%
% REST OF EUROPE	41.2%	40.5%	40.9%
% ASIA	23.9%	25.8%	26.8%
% NORTH AND SOUTH AMERICA	17.9%	18.5%	18.6%

Note: The % of female workers refers to the geographical area in question.

EMPLOYEES BY AGE GROUP AND GENDER

	Men			Women			Total		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
n Employees <30 years old	272	265	262	165	113	108	437	378	370
n Employees 30-50 years old	1,130	1,115	1,106	454	496	474	1,584	1,611	1,580
n Employees >50 years old	825	860	881	207	215	243	1,032	1,075	1,124

EMPLOYEES BY GENDER, AGE GROUP AND REGION

		Men			Women			Total		
		2017	2018	2019	2017	2018	2019	2017	2018	2019
n	Employees <30 years old	58	107	123	24	25	27	82	132	150
n	ITALY									
n	Employees 30-50 years old	632	595	572	174	179	165	806	774	737
n	Employees >50 years old	560	575	597	100	107	120	660	682	717
n	REST OF EUROPE									
n	Employees <30 years old	122	60	60	109	55	54	231	115	114
n	Employees 30-50 years old	296	327	313	238	275	254	534	602	567
n	Employees >50 years old	206	227	224	96	93	110	302	320	334
n	ASIA									
n	Employees <30 years old	20	26	13	14	15	9	34	41	22
n	Employees 30-50 years old	44	42	56	7	8	16	51	50	72
n	Employees >50 years old	1	1	1	0	1	1	1	2	2
n	NORTH AND SOUTH AMERICA									
n	Employees <30 years old	72	72	66	18	18	18	90	90	84
n	Employees 30-50 years old	158	151	165	35	34	39	193	185	204
n	Employees >50 years old	58	57	59	11	14	12	69	71	71

DISCLOSURE 102-41

RADICIGROUP EMPLOYEES BY GENDER, EMPLOYMENT CONTRACT AND EMPLOYMENT TYPE

		Men			Women			Total		
		2017	2018	2019	2017	2018	2019	2017	2018	2019
Total Employees		2,227	2,240	2,249	826	824	825	3,053	3,064	3,074
Of which:										
n	Permanent contract employees	2,065	2,092	2,146	719	762	768	2,784	2,854	2,914
n	Temporary contract employees	162	148	103	107	62	57	269	210	160
%	Permanent employees to total employees	92.7%	93.4%	95.4%	87.0%	92.5%	93.1%	91.2%	93.1%	94.8%
n	Full-Time (permanent + temporary)	2,198	2,214	2,220	720	709	701	2,918	2,923	2,921
n	Part-Time (permanent + temporary)	29	26	29	106	115	124	135	141	153
%	Full-time employees to total employees	98.7%	98.8%	98.7%	87.2%	86.0%	85.0%	95.6%	95.4%	95.0%

EMPLOYEES BY BARGAINING AGREEMENT TYPE

Table 08	2017	2018	2019
n National collective bargaining agreement	2,146	2,137	2,148
n Corporate collective bargaining agreement	521	637	627
n Individual employment agreement	386	290	299
n Total employees	3,053	3,064	3,074
% Individual employment agreement	12.6%	9.5%	9.7%
% Collective bargaining agreement	87.4%	90.5%	90.3%

PERMANENT EMPLOYEES BY REGION

Table 09	Men			Women			Total		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
Total permanent employees	2,065	2,092	2,146	719	762	768	2,784	2,854	2,914
Of which:									
n ITALY	1,230	1,231	1,288	289	299	308	1,519	1,530	1,596
n REST OF EUROPE	553	573	554	367	396	388	920	969	942
n ASIA	7	9	14	2	2	3	9	11	17
n NORTH AND SOUTH AMERICA	275	279	290	61	65	69	336	344	359

PERMANENT AND TEMPORARY EMPLOYEES BY REGION - 2019

Table 10	Employees	Permanent	Temporary	% Permanent
Total	3,074	2,914	160	94.8%
n ITALY	1,604	1,596	8	99.5%
n REST OF EUROPE	1,015	942	73	92.8%
n ASIA	96	17	79	17.7%
n NORTH AND SOUTH AMERICA	359	359	0	100.0%

EMPLOYEES BY EMPLOYMENT TYPE AND REGION - 2019

Table 11	Employees	Part-time	Full-time	% Part-time
Total	3,074	153	2,921	4.97%
n ITALY	1,604	122	1,482	7.6%
n REST OF EUROPE	1,015	31	984	3.1%
n ASIA	96	0	96	0.0%
n NORTH AND SOUTH AMERICA	359	0	359	0.0%

Compensation

Concerning compensation, the minimum wage levels established by national agreements, corporate agreements and labour market conditions apply by default to all Group workers. RadiciGroup realizes that a rewarding compensation strategy is one of its main strengths. In fact, the 2019 economic data on the distribution of value added show that the largest portion, 55%, went to employee wages and salaries, which confirms that RadiciGroup believes compensation is one of the keys to attracting and retaining excellent employees. The compensation schemes adopted by Group companies take into account the responsibility level and individual contribution to achieving organizational goals. Male and female employees have equal pay rates for equal job duties, in accordance with the Group ethical principles and the national and corporate collective agreements, which provide for a pay scale with no difference between genders. Furthermore, the incentive plan for management is based on the Management by Objectives (MBO) approach and performance is evaluated in relation to Group objectives, company objectives and individual objectives.

DISCLOSURE 401-2

With regard to other employee benefits, where provided (company car, restaurant vouchers, canteen service and special discounts agreed on with stores, sport centres or travel agencies), in 2019 they were all made available and/or assigned to employees based on the company agreement and the job position of the individual employee, irrespective of the type of employment or employment contract (full-time or part-time, temporary or permanent employment).

Training and Education

DISCLOSURE 404-1

Whereas the continuity of employment has always been a key factor for RadiciGroup, as well as an indication of its specific commitment to protecting employment, the valorization of its workers at every stage of their career and in every part of the world remains an ongoing challenge.

As mentioned above, training and development are key elements of the Group's social policy and represent important tools for the engagement of all collaborators, irrespective of their cultural context, age group and job duties. A training event is a unifying moment for workers, an opportunity to share and discuss ideas in a positive way; the event literally shapes competencies and professional careers, and promotes the personal growth of the workers and the collective growth of RadiciGroup.

In 2019, total annual training hours per employee (20 hours) remained substantially unchanged compared to previous years, with an increase recorded in North America and South America (+20 hours per employee) and a slight dip at the rest of the Group sites. Training involves many action fronts: updating of individual competencies, approach to leadership, problem solving, quality and certification of management system auditors. [Table 12]

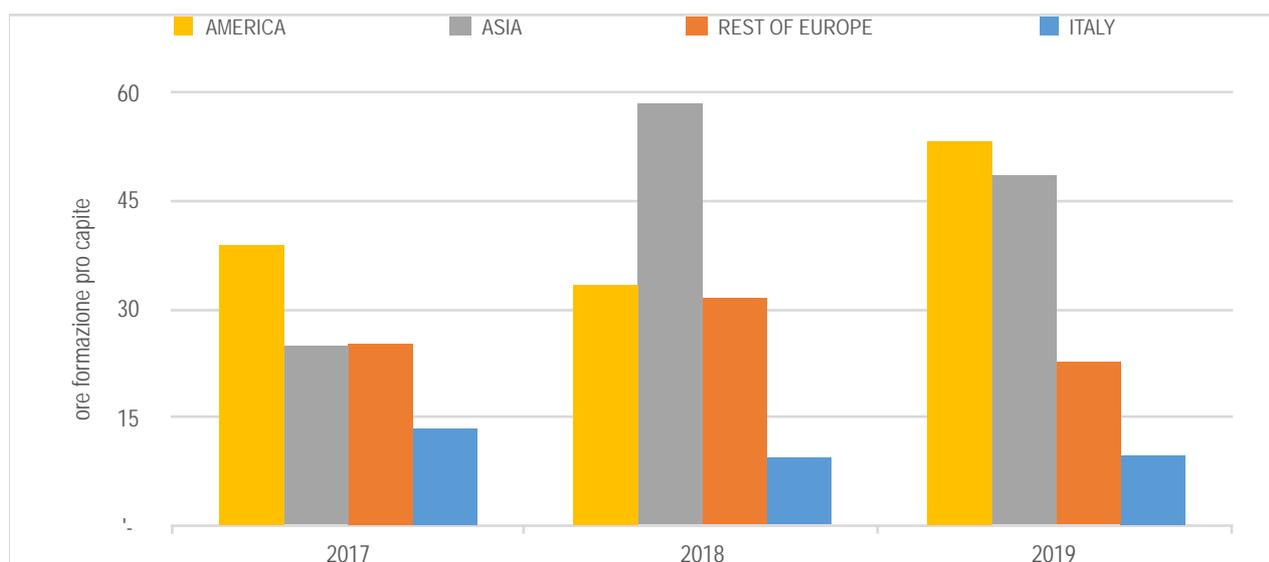
Moreover, in 2019, sustainability was included in the training programmes for employees in sales, communication, marketing and technical assistance, as well as for new hires, who learned the basics about the Group and the main aspects of its environmental, social and economic policies. Health and safety were given special attention; indeed, these topics accounted for 36% of the total number of training hours provided. [Table 12]

Despite the pandemic of 2020, training activities have not stopped. RadiciGroup has in fact started experimenting with digital and virtual solutions on a large scale, with the aim of expand the training options offered to its employees and contemporaneously reaching many people based everywhere around the globe.

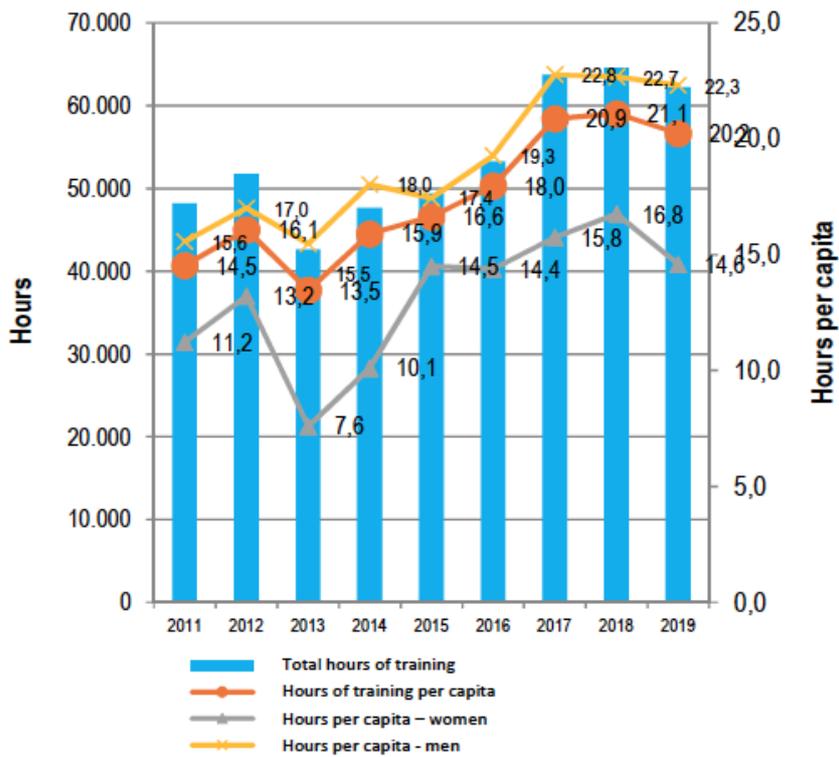
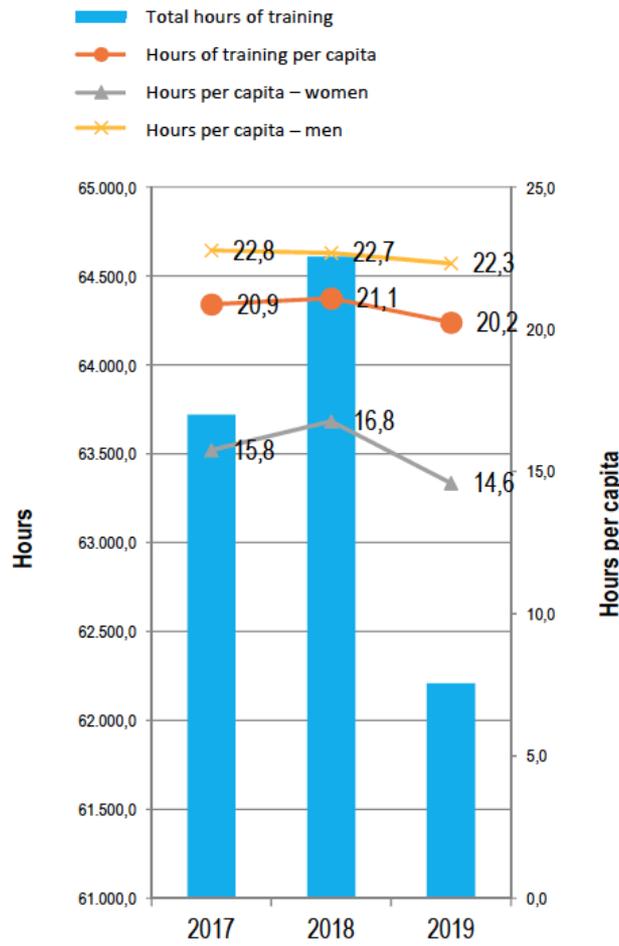
TRAINING FOR EMPLOYEES

Table 12		2017	2018	2019
Hours	Total hours of training	63,719	64,608	62,207
n	Total employees	3,053	3,064	3,074
hours/n	Hours of training per capita	21	21	20
Hours	Total hours of training - men	50,708	50,794	50,174
n	Total employees - men	2,227	2,240	2,249
hours/n	Hours of training per capita – men	23	23	22
Hours	Total hours of training - women	13,011	13,813	12,033
n	Total employees - women	826	824	825
hours/n	Hours of training per capita – women	16	17	15
Hours	Total hours of training for health and safety	36,212	34,569	22,695
%	Hours of training for health and safety to total hours of training	57%	54%	36%
hours/n	ITALY - hours of training per capita	14	9	10
hours/n	REST OF EUROPE - hours of training per capita	25	32	23
hours/n	ASIA - hours of training per capita	25	58	48
hours/n	NORTH AND SOUTH AMERICA - hours of training per capita	39	33	53

NORTH AND SOUTH AMERICA



TOTAL HOURS OF TRAINING



OUTLOOK 2020

DISCLOSURE 103-1

In the face of the coronavirus emergency, in the first few months of 2020, RadiciGroup took a series of actions focused on its people to ensure the:

- Safeguarding of worker health and safety.
- Continuity of production and employment in total safety.

Since February 2020, RadiciGroup has scrupulously adopted the urgent measures and safety protocols issued by national and local health authorities at all its sites.

The Heads of Health and Safety, in collaboration with Human Resources and external specialists, have worked non-stop to protect the health of workers.

Key measures implemented were: personal protection equipment, temperature monitoring devices, workstation sanitization, workforce management to avoid mass gatherings, and suspension of meetings and work-related travel not absolutely essential. Remote working was activated for all functions wherever practicable, by providing collaborators with all the tools needed to connect to corporate databases and applications.

A remote working guide and a booklet "Covid-19 – Fermiamo il Contagio" [Covid-19 – Let's stop the Contagion"] were published and posted on Italian sites, in particular, to help people working from home make the transition from office work to remote working as smoothly as possible and raise people's awareness about responsible behaviour to protect their own health and the health of others around them. For part of the workers, Covid-19 social shock absorbers were activated in order to get ready for the inevitable decrease in production due to the lockdown of work activities. In the interest of its Italian workers, RadiciGroup disbursed the social benefits in advance.

Customers

DISCLOSURES 102-6, 102-16

RadiciGroup has built a global customer base, which is served by an international production organization with plants located in the major world markets and a global sales network. Indeed, the Group's internationalization choices are to be read not as a delocalization strategy, but rather a strategy of proximity to customers.

RadiciGroup production sites and sales offices have followed the evolution of its target markets: on the one hand, the fibres market with medium and medium-small size players, and, on the other, the polymers and chemicals market where large and medium-size companies make up the preponderant share. All RadiciGroup customers are processing companies.

During 2019, as in previous years, the Group was able to effectively meet the needs of its customers and engage in collaboration projects by leveraging its strengths and advantages, which quite often were sustainability-oriented.

- **Solid upstream vertical integration**, which means process optimization and control, product and service quality guaranteed by highly consolidated know-how.
- **Global production, distribution and sales network**, which for customers means location proximity and supply continuity.

- **Largely sustainability-oriented product and process innovation.** The result has been a greater offering of reduced environmental impact products launched on the market.
- **Willingness to share its know-how in order to create shared value added.** Co-design capability, driven by customer needs and stimulated by the market quest for ever-better performance, but without ever compromising safety or the need for careful use of resources, and always mindful of the issue of climate change.
- **Strong commitment to ethical business management and transparency.** Over the years, this commitment has led to products whose environmental and social impacts are scientifically measured and reported. This factor means that customers can not only rely on the consistent technical performance of RadiciGroup products but also demonstrate active commitment to sustainability by purchasing them.

OUTLOOK 2020

During the first six months of 2020, the global scenario underwent radical changes. The diminishment of in-person customer relations corresponded to the strengthening of contacts through digital tools. On account of the delicacy and uncertainty of the situation, everyone's attention and listening became reliant on technological solutions that captured the real needs of customers, without overloading them with useless interaction. In this regard, a key role was played by communication, which the Group wanted to be relevant, transparent and calm, so that it would neither cause unmotivated alarmism nor underestimate the exceptional nature of the circumstances.

Furthermore, because of the lack of opportunities for face-to-face meetings (fairs, sales and service calls, and conferences), Covid-19 has become an opportunity to rethink relationships from the point of view of reducing the impact on the environment (less travelling, fewer emissions and less use of resources). What is more, the new needs in the field of health and safety have prompted collaboration projects to explore and develop products, such as polymers, fibres and nonwovens for the medical sector for the prevention of infection spread. The efforts RadiciGroup has made in collaboration with its customers has been repaid with loyalty and stimulus for growth and improvement.

To learn more about the Customer Code of Conduct, which sets out the Group's ethical commitment to customers, please visit: <https://www.radicigroup.com/en/sustainability/ethical-guidelines/client-conduct-code>

Customer Satisfaction as an engagement tool

DISCLOSURES 102-43, 102-44

MANAGEMENT APPROACH DISCLOSURE 103-1

"For the purposes of continual improvement, RadiciGroup undertakes to conduct regular Customer Satisfaction Surveys with the Customer and to undertake improvement actions following the findings obtained in the surveys."

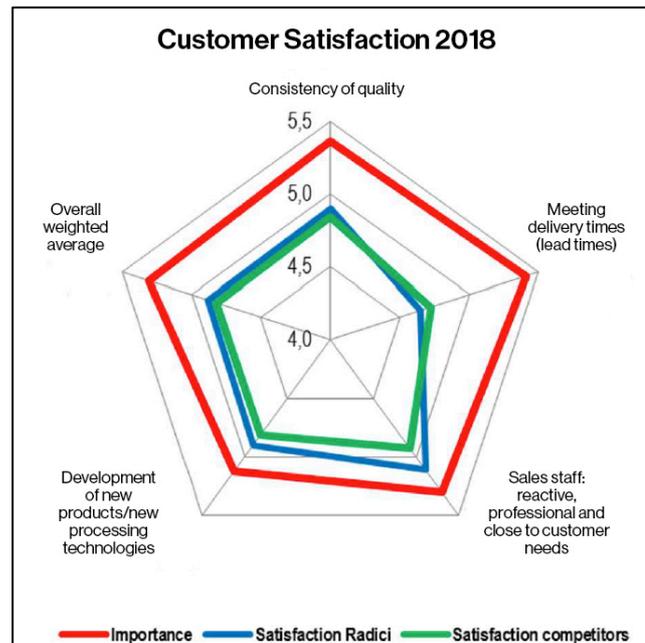
The RadiciGroup Customer Code of Conduct clearly points out the importance of the Customer Satisfaction Survey, which is conducted every two years – most recently in 2018, as a listening and engagement tool. Now in its 7th edition, the present structured format of the survey has undergone deep changes since its first edition in 2006. Today, besides measuring customer satisfaction, there are many other reasons for conducting the Customer Satisfaction Survey:

- A better understanding of customer operating context and the opportunity for RadiciGroup to redesign such context based on the results of the survey. The results are, in fact, a lever for major strategic and organizational change, because they are aligned with customer expectations.
- The search for structured methods to reveal the latent needs of these important stakeholders through listening and engagement, in order to capture any sign of change in the relationship, with the purpose of both identifying the opportunities and monitoring and managing risk.
- The desire to progressively reduce and fill the gap between expectations and performance based on objective and diversified data. The data expand on the regular internal assessments based on Key Performance Indicators (KPI) for customers and on the information from the Group Customer Relationship Management system.

The 2018 Customer Satisfaction Survey introduced numerous formal changes designed to speed up the compiling process and improve ease of use. The survey measures the level of importance assigned to a given topic and the level of satisfaction with both the Group and its competitors. The score is expressed on a scale from 1 (lowest satisfaction) to 6 (highest satisfaction).

The survey was sent out to 2,910 customer contacts and there were 642 respondents, a response rate of 22%. In general, the results of the 2018 edition of the Customer Satisfaction Survey show that the level of satisfaction with RadiciGroup stayed above the competition in several areas: development of new products and new technologies, quality, relationships with sales staff and, above all, the overall evaluation (score of 4.9 versus 4.8 for competitors).

Less flattering was the score for delivery time. As a result, risk assessment and management procedures concerning this aspect were activated by the logistics functions of the various business areas.



In line with the growing importance of sustainability for the market, the survey showed that the importance of sustainable business management had progressively gained ground, with 70% of the respondents assessing the topic as very important (score of 5) or extremely important (score of 6). In the 2016 edition, the corresponding percentage was 65%.

Especially relevant to customers were recyclable products, which received a top score for importance from 32% of the interviewees, followed by products obtained from recycle (22%) and the use of materials from renewable sources (21%). These results largely confirmed the soundness of RadiciGroup's sustainable development guidelines.

OUTLOOK 2020

The pandemic has accelerated digitalization options and the Customer Satisfaction Survey is no exception. In accordance with the ISO 10004 standard, the 2020 edition of the survey will further synergistically integrate the data collected for the survey with data from other sources of information, which are already available to the companies or are in the development stage. Inputs from the Innovation & Research function, data from visit reports in the CRM system, context and risk analysis, reputation and sentiment assessment, i.e., the external perception of the Group. All these elements will become interactive parts of a customer satisfaction survey process entirely managed through digital infrastructure.

In this way, the possible inputs – the potential stimuli coming from customers – will be multiplied and customers will acquire further tools to give their feedback to RadiciGroup. The results of the survey will be data coming from multiple sources, which are modular, easily accessible and shared, and useful to analyse customers, markets and product applications.

Suppliers

DISCLOSURE 102-9 and DISCLOSURE 102-10

The RadiciGroup supply chain is extremely complex, as it has to answer the needs of the Group in the chemicals, high performance polymers and advanced textile solutions sectors, offering a wide portfolio of products.

The collaboration relationship between RadiciGroup and its suppliers is distinguished by:

- **Transparency in the relationship and reciprocal commitment to honour contractual obligations** is a particularly critical issue in emergency situations, as noted herein below.
- **Sharing and application of the principles of respect for human rights and worker rights**, as expressed in the Code of Conduct that governs the relationships between the Group and its suppliers.
- Sharing of know-how to create shared value added, similar to the collaboration with customers.
- **Active collaboration in the search for low impact products and processes.** Without supplier involvement, for instance, it would be impossible for RadiciGroup to use green energy, purchase recycled polymers, avail itself of the most advanced production technologies in terms of performance and the environment, and develop and produce sustainable products to add to its portfolio.

RadiciGroup suppliers are mainly located in Europe, Asia and North and South America, where the Group's plants are located. The supply chain is managed by two distinct functions, *Strategic Materials and Logistics* and *Real Estate & Services*.

Strategic materials and logistics function

The Group production processes are extremely diversified and complex, starting with the raw materials: caprolactam, phenol, olone (cyclohexanol-cyclohexanone mix), ammonia, adiponitrile and chemical intermediates for the production of polyethylene and polyester polymers, which are materials needed for RadiciGroup processes.

The Strategic Materials and Logistics function is responsible for centralized coordination of the various procurement process phases and management of raw materials purchasing. The tasks of the function thus include: negotiating contractual conditions, procurement logistics and distribution to RadiciGroup sites, safe storage and monitoring the risk of big suppliers.

There are about 70 strategic raw materials suppliers worldwide on framework agreements. These suppliers account for about 70% of Group procurement costs and are essential for all RadiciGroup production processes.

Packaging and Transportation is another department of the Strategic Materials and Logistics function. Transportation is the second most important item purchased by the Group, after raw materials. The aim of the function is not only to optimize logistics flows, contributing to improvement in product lead times, but also to find lower environmental impact solutions, such as intermodal transport.

Real estate & services function

The Real Estate & Services function is assigned tasks that are part of supply chain activities, including coordinating at the corporate level and supporting individual business areas on matters concerning service procurement, such as telecommunications and information technology, domestic and international shipping, car fleet management, handling of trade fair events and trip arrangements, and other general services.

The suppliers related to this function are predominantly mid-sized domestic companies. For services used in the daily operations of Group companies, the suppliers may sometimes be local family-operated businesses. This deliberate choice has been made to retain value added within the local community by fostering the development of associated local businesses as much as possible.

During 2019, the function primarily worked on expanding the collaboration with Group companies, in search of the best management opportunities, in particular for the real estate sector, through two lines of activity: management of industrial and commercial properties and management of properties to be renovated.

With regard to industrial and commercial properties, for starters, an assessment of the investment needed in 2020 was made and a strategy was initiated for the preservation and valorization of the companies' properties in the years to come. Concerning the properties to be renovated, monitoring and repurposing activities are being conducted for the sites being decommissioned. In both cases, collaborations mostly with local companies and professionals were sought, favouring professionalism and excellence in carrying out the work assigned.

During the first months of 2020, the emergency imposed a forced stop on the above initiatives. In addition to carrying on routine management activities, the function mainly coordinated work among all the Group sites related to the management of the coronavirus emergency and, in particular, the procurement and distribution of personal protective equipment essential for company operations.

The tables below show a breakdown of Group suppliers by sales and region:

Table 13

RADICIGROUP SUPPLIERS BY 2019 SALES	
STRATEGIC RAW MATERIALS	From EUR 530 to EUR 590 million
PACKAGING AND TRANSPORT	About EUR 53 million
MAINTENANCE AND UTILITIES	About EUR 110 million
OTHER GOODS AND SERVICES	About EUR 41 million
RADICIGROUP SUPPLIERS BY REGION AND 2019 SALES	
EUROPE	About 85% of sales*
ASIA	About 10% of sales
NORTH AND SOUTH AMERICA	About 5% of sales

* Of which, about twenty key suppliers with sales over EUR 10 million.

DISCLOSURE 102-15

For its entire supply chain, RadiciGroup carries on continuous monitoring of the market and the organizational structure of suppliers, coupled with constant risk monitoring. The aim of the latter is to safeguard business continuity, protect the Group from sudden changes in the prices of raw materials and prevent potential disruption of service to customers. In 2019, no significant disruptions occurred in the RadiciGroup supply chain.

In 2020, health monitoring of all employees and suppliers accessing company sites was added to the monitoring of the economic situation.

DISCLOSURE 102-40

To learn more about the Supplier Code of Conduct, which sets out the Group's ethical commitment to suppliers, please visit: <https://www.radicigroup.com/it/sostenibilita/principi-etici/codici-condotta>

OUTLOOK 2020

The coronavirus emergency has placed unprecedented stress on the RadiciGroup supply chain. However, thanks to a series of factors – the Group's risk monitoring-oriented organizational structure, its economic and organizational soundness, and long-term partnership relationships with suppliers –, the situation, despite being very serious, had limited consequences and there were no interruptions in supply.

In this scenario, the term “engagement” has taken on an extremely concrete connotation: at the very beginning of the crisis, RadiciGroup sent out a protocol to all firms in the supply chain to stress the need to adopt appropriate solutions together to ensure supply continuity. During the first phase of the pandemic, the flexibility demonstrated by the suppliers allowed them to overcome problems, such as border closures and transport delays. On its part, RadiciGroup ensured its loyalty to suppliers, even small ones, by introducing health protocols at its various production sites and complying with the health protocols introduced by suppliers. Furthermore, despite the complex economic situation, RadiciGroup has guaranteed timely payment for all purchases out of respect for supply chain workers.

The coronavirus stress test has provided the Group with an opportunity to strengthen its relationships with suppliers, by highlighting the key role played by them in keeping RadiciGroup activities going while waiting to resume normal operations.

Case History

Open doors at Campignano hydroelectric power plant

An “Open Doors” event was held at the Geogreen hydroelectric power plant in Campignano, in the Upper Seriana Valley (Bergamo) on the occasion of the UN World Water Day 2019. The event was entirely dedicated to the local communities and was an occasion for RadiciGroup and Geogreen, a supplier of renewable source energy, to renew their partnership in the name of closeness to the territory.

The Campignano power plant fits harmoniously into the surrounding environment and makes its contribution to sustainable development by supplying green energy to a number of local manufacturers, chiefly RadiciGroup. The plant operates with full respect for the environment, in collaboration with local governments, and in a transparent manner with local communities. RadiciGroup often organizes educational tours for local schools, striving to instil in the students a commitment to water conservation and proper water management.

The 2019 Open Doors event, organized by RadiciGroup and Geogreen, was attended by many people, attracted by the opportunity to see in person how a hydroelectric power plant actually works. Participants enjoyed a day of guided tours and in-depth presentations on sustainability. Moreover, the occasion brought together several attendees from local authorities, municipalities, the province and other local entities.

Morning activities were reserved for schools and local institutions, while in the afternoon open access sessions, including guided tours of the power plant, were held for all citizens. Many people from neighbouring villages chose to stress the sustainability aspect of the initiative by reaching the plant on foot, after a long walk on the cycle/pedestrian path that runs alongside the Campignano power plant.

Local communities and territories

DISCLOSURES 102-40, 413-1 - DISCLOSURE 103-1

For a better understanding of RadiciGroup's relationship with the local communities hosting its companies, it is useful to know that:

- **RadiciGroup is a family-owned-and-operated business.** Some members of the Radici family, including the shareholders, reside and are physically present in the areas where RadiciGroup was established and operates.
- **The first Group company**, still in operation today, was established about 80 years ago in Val Gandino, one of the areas of choice of Bergamasque textile entrepreneurs. Over the years, the company has changed its type of production, market and technology several times, but it **has never moved its headquarters**.
- **All the historic RadiciGroup companies are located near urban areas, or are even part of the urban fabric itself.** In some cases, the name of the place has become synonymous with the name of the company, and vice versa.
- At the same time, **many of these companies are also located in mountain areas, or in close contact with rivers, woods, protected areas and cultivated fields.**
- An internal survey conducted regularly, most recently in 2019, found that about 80% of RadiciGroup workers in Italy actually reside within a 20 km radius from the Group company where they work. Therefore, the workers are the residents of the host community.

Since the 1990s, when our motto “global thinking, local action” was coined, the relationship between the Group and local communities has been solid and genuine, and in constant evolution. The result of a daily, mostly informal dialogue, this relationship is nourished by the entrepreneurial tradition and pragmatism of the people of Bergamo and by mutual respect.

The same respect has characterized RadiciGroup throughout its history of internationalization, playing out in an approach to cultural diversity that includes progressive integration and exchanges with foreign cultures. Today, RadiciGroup is present in many countries and communicates through its official channels in five languages. It has international management, an unobvious choice that reflects and values the cultural and social specificity of the local contexts – a social sustainability choice ahead of its time.

RadiciGroup's contribution to local development can be measured not only in terms of economic growth, but also in terms of a production culture that its companies have spread throughout the world with their high health and safety standards. RadiciGroup promotes local social sustainability through welfare policies in the various countries, as explained in the Health and Safety section of this Report. It serves as an engine of development in emerging countries. In the areas where its first companies were established, the Group has been and continues to be a solid employment opportunity for the younger generation in mountain areas.

DISCLOSURE 415-1

Although it maintains political neutrality and does not support any political party, RadiciGroup is constantly in contact with the local authorities in the areas where its companies are located and keeps up transparent partnership relationships with them, as evidenced by the frequent formal and informal exchanges with local entities and administrative bodies, according to their different fields of competence.

Local communities show RadiciGroup their support and express their feelings of closeness in a variety of ways, also through their excellent attendance at public events organized by the Group. RadiciGroup can also take advantage of the manufacturing know-how that exists locally, a vocation that local schools have cultivated,

enriching it with new ideas, tools and methods. RadiciGroup can rely on the fact that the local communities have always been characterized by an inclination for organizational and production flexibility. For a substantial portion of services purchased, the Group uses local suppliers with whom it has established a relationship of trust and loyalty, as described in the section of the Report dedicated to the supply chain.

The identity of RadiciGroup has thus been profoundly shaped by its local roots. In particular, the Group gives special attention to the younger generations who are the ones that will bring life to local communities and foster dialogue and relations with companies in the future.

In particular, in 2019 RadiciGroup focused its attention and support on:

- Nurseries and kindergartens, financially supported by the various companies in their respective areas, with a view to reconciling their employees' private and working life.
- Primary and secondary schools, supported through the Education Project, a programme designed to build a bridge between business and education. Lessons in the classroom and in the company, internships and joint projects: five years from the start of the project, all these elements have contributed to increasing the quality of the relationship between RadiciGroup and the local schools.
- Universities, also part of the Education Project, are given recognition by collaborations on student thesis work and opportunities for talented students to enter the RadiciGroup business world.
- Amateur sport associations that teach young people the value of sport, financially supporting them and closely following their activities. Four of the associations sponsored have an explicit reference to the Group in their club name: Radici Nuoto, Recastello RadiciGroup, Sci Club RadiciGroup and Juvenes Gianni Radici. With regard to the last two associations, Angelo Radici and Maurizio Radici are personally involved by sitting on their boards of directors.

Different sports disciplines with similar objectives: to train young people not only to perform but also to work in a team, to teach commitment and personal and collective responsibility – all values that RadiciGroup has made its own and wishes to actively promote among local youth.

Furthermore, RadiciGroup is the official Heart Sponsor of Atalanta BC, the Bergamo football club very close to the heart of the people in the Province of Bergamo and to all Group employees, who are invited to special engagement events featuring the participation of the team and its players. In particular, in 2019 numerous Group workers were given the opportunity to attend some of the most important games of the Italian championship, visit the team's summer retreat and meet the players in person during party events at the Atalanta store in Bergamo.

As a matter of fact, the Group is very attached to the team, as they have many values in common, including determination and perseverance. These important values allow for reaching unexpected goals and are motivated by the necessity to work as a team in business as well as in sports, and the desire to best represent the City of Bergamo and the entire Bergamo Province.

OUTLOOK 2020

Teamwork, resilience and solidarity. These key words have guided RadiciGroup through the many actions undertaken by the Group in the fight against the coronavirus during the first few months of 2020, both in the Province of Bergamo, the area most affected by the crisis, and within the local communities hosting Group sites around the world.

Promptly reacting to the needs of the community, Tessiture Pietro Radici, a RadiciGroup company specialized in the production of nonwovens, launched a project in record time to manufacture antibacterial, breathable and anti-infective material certified for medical use. Furthermore, RadiciGroup set up a network in collaboration with local clothing makers to manufacture protective medical garments – gowns, shoe covers and caps – which were then donated to the Papa Giovanni XXIII Hospital in Bergamo and other healthcare facilities in the Province of Bergamo. RadiciGroup also actively participated in the protective face masks project “#molamia” (“Don’t give up” in the local Bergamasque dialect) by providing its nonwovens to the local production chain, which was coordinated by Confindustria Bergamo (the Bergamo chapter of the Italian Industrial Association).

Fabric and more. Injection moulding as an alternative to 3D printing for a quicker response to health worker protection needs: this was the objective of Radici Novacips SpA in donating its polyamide 6 material for the production of 3,000 frames needed to make protective visor face shields for medics.

Polymers were also the main players in the charitable initiative of the Brazilian Radici Plastics Ltda, which participated in the GAMA project by donating the material needed to manufacture 250,000 protective visor face shields for doctors and nurses of the public hospitals in the South American country.

Lastly, a strong sense of solidarity was shown by Chinese colleagues of Radici Plastics Suzhou, who personally took action to raise funds and donate materials and protective devices to the healthcare facilities of the City and Province of Bergamo, the areas hardest hit by the pandemic.

Case History

The Education Project

25 scholarships for the children of RadiciGroup employees in three different countries.

23 work experience projects for as many students.

6 visits and company initiatives that gave students the opportunity to discover the reality of RadiciGroup production sites or receive a visit in their classroom by a teacher from RadiciGroup.

6 internships for college students at 4 different universities.

4 career days.

2 coaching projects, under the supervision of RadiciGroup, to guide young people to plan their professional future.

1 school-work alternation project over a three-year period, focusing on topics covering the circular economy, recycling and sustainability reporting.

2 public recognition awards for the excellence of the project mentioned above: the IOeLODE award from Confindustria Bergamo [Bergamo Chapter of the Italian Industrial Association] (8 May 2019) and the Premio Storie di Alternanza [School-Work Stories Prize] awarded by the Bergamo Chamber of Commerce (27 November 2019).

This is the business card of the RadiciGroup Education Project 2019, an initiative born out of the Group's desire to communicate with the world of schools, considered to be a hotbed of talent and an invaluable place for growth. Additionally, in 2019, sustainability played a preeminent role among the topics of Education 2019. The Group gladly met the teenagers to discuss this topic, as per tradition, drawing inspiration from their vision of the future. Smart working and remote working, reconciling family and work life, the circular economy, the role of polymers, the importance of recycling and environmental certification according to the ISO 14001 standard: these were the main topics of the last edition of the Education Project, which was not interrupted even by the coronavirus emergency.

Mindful of the seriousness of the situation for the young people forced to suspend regular classroom lessons, RadiciGroup did not want to deprive them of its support and decided to rethink the training and orientation sessions and go digital, with overwhelmingly positive feedback from the students.

Media

Media play the role of narrators of reality, and, as such, offer the public ideas and facts to reflect on, discuss and keep informed on. Whether traditional or social media, they are essential for every aspect of RadiciGroup's life, as they represent the main way to amplify – and the main channel to disseminate – news intended for stakeholders: from customers to banks, local communities and suppliers.

The authoritativeness of the source and the relevance of the information provided, transparency, qualitative in-depth analysis, a calm tone and willingness to discuss issues have always been the principles underlying RadiciGroup's relationship with the media.

In 2019, as in previous years, RadiciGroup collaborated with more than 300 local, national and international newspapers, both general and trade publications. The Group also regularly communicated through the dedicated social media sites – Facebook, LinkedIn, Twitter and Instagram – to illustrate results achieved and communicate product news, presence at trade fairs and conferences concerning industries of interest.

A significant part of the content published in the media was about sustainability and its many facets: from reduced impact applications in the fashion industry, to e-mobility, water management, the circular economy, bio-materials and, in contrast, marine litter.

Through stories, interviews and videos, RadiciGroup also shared with its stakeholders the commitment to enrich the relationship with local communities, describing the initiatives for students and local communities. Special attention was given to the communication and dissemination of the Sustainability Report, which RadiciGroup presented at a special press event with numerous journalists present.

With the aid of daily press surveys and reputation analyses conducted on a regular basis, RadiciGroup was able to keep track of the effectiveness of its relationships with the media and their audiences, by mapping articles and conversations that, directly or indirectly, concerned the Group. That allowed for identifying the most appropriate issues and the best strategies to respond quickly and adequately to external inputs, enhancing both communication and the quality of the relationship with stakeholders. An analysis of social media site performance, which exhibited constant improvement in both quantitative and qualitative terms in 2019 compared to previous years (more followers and more interactions), provided further proof of the effectiveness of the strategy adopted by the Group.

In order to implement a more incisive corporate positioning strategy and improve brand awareness, during the last quarter of 2019, RadiciGroup started a collaboration with a public relations agency. The reasons for the decision lay in the realization that, parallel to the continuous evolution of the Group, a transformation and further strengthening of the relationship with the media were also needed, so as to increase transparency and mutual trust.

OUTLOOK 2020

The wide-scale confinement imposed by the coronavirus has had major repercussions on every aspect of social and work activities, including communication to the media (and stakeholders, in general). In this scenario, technology has proved essential with digital connection solutions that have allowed us to continue to interact on a regular basis.

As expected, much of the communication in the first months of 2020 was dedicated to the Covid-19 crisis and the reaction of the Group. The subject matters focused on: the measures put in place to continue operation safely and, as briefly illustrated in the introduction to this Sustainability Report, how the Group launched solidarity initiatives to help local communities, and how it managed to set up, in record time, a local production chain to make medical safety devices.

Constraints to physical mobility and physical confinement were, on the other hand, an opportunity for a dynamic reflection on new languages and means of communication, and, specifically, on the creation of a digital communication platform to stay connected with all stakeholders in the year 2020 – a system able to guarantee interactivity and make information exchange possible without the need to be physically present.

Trade associations and competitors

DISCLOSURES 102-13, 102-40 - DISCLOSURE 103-1

RadiciGroup attaches ever-greater importance to being a member of trade, industrial and scientific associations. These organizations cover the whole production chain from upstream to downstream and are an important pre-competitive context, where it is possible to:

- **Develop research projects and address key present and future challenges collectively**, related to products and systems.
- **Share competencies and potential risks in the development of common solutions** to meet new needs arising from the market.
- **Have one's voice heard at the institutional level and give authoritative support to government bodies** in their decision-making and legislative processes, as well as work to build consumer awareness and culture, also together with competitors.

In 2019, RadiciGroup participated actively in various associations, in every part of the world where it operates. The following is a breakdown by business area and company of the Group's presence in the various organizations.

Table 14

MAIN RADICIGROUP MEMBERSHIPS IN TRADE AND OTHER ASSOCIATIONS IN 2019	RADICIGROUP COMPANY ENROLLED IN 2019
CIRFS – European Man-Made Fibres Association CONFINDUSTRIA SMI (Sistema Moda Italia) – TexClubTec TESSILE E SALUTE ICESP – Italian Circular Economy Stakeholder Platform AICO – Italian Association for Quality Culture ELLEN MACARTHUR FOUNDATION EPCA – European Petrochemical Association	RADICI PARTECIPAZIONI S.p.A.
SPECIALTY CHEMICALS	
FEDERCHIMICA CONFINDUSTRIA Novara – Vercelli – Valsesia CEFIC – European Chemical Industry Council IBIS – Consortium for Sustainable Chemistry SPRING	RADICI CHIMICA S.p.A.
NORDOSTCHEMIE IHK – Industrie- und Handelskammer	RADICI CHIMICA GmbH
HIGH PERFORMANCE POLYMERS	
CHEMIE WIRTSCHAFTSFOERD GmbH	RADICI PLASTICS GmbH
CONFINDUSTRIA FEDERCHIMICA PLASTICS EUROPE AISBL (BE) PLASTICS EUROPE ITALY (through Plastics Europe Brussels) PINFA - Flame Retardants Association PROPLAST UNIPLAST– Italian National Plastics Standards Body TMP COMITATO ELETTROTECNICO ITAL.	RADICI NOVACIPS S.p.A.

ITALIAN CHAMBER OF COMMERCE in China	RADICI PLASTICS Suzhou Co.Ltd.
PLASTICS INDUSTRY ASSOCIATION (formerly SPI) OMA – Ohio Manufacturer's Association WADSWORTH CHAMBER OF COMMERCE	RADICI PLASTICS USA Inc.
ADVANCED TEXTILE SOLUTIONS	
CONFINDUSTRIA EDANA	TESSITURE PIETRO RADICI S.p.A.
CONFINDUSTRIA	RADICI YARN S.p.A.
NEAMT CHAMBER OF COMMERCE AND INDUSTRY TEXTILE PATRONAL FEDERATION	S.C. YARNEA Srl
VTB – Verband der Bayerischen textil und Bekleidungsindustrie	RADICI CHEMIEFASER GmbH
IHK – Industrie- und Handelskammern	
ABRAFAS – Associação Brasileira de Produtores de Fibras Artificiais e Sintéticas	RADICIFIBRAS INDUSTRIA E COMERCIO Ltda
SINDTEXTIL – Sinditêtil Sindicato Indústria Fiação Tecelagem Estado São Paulo	
CIESP – Centro das Indústrias do Estado de São Paulo	
CONFINDUSTRIA FEDERCHIMICA CON ASSOFIBRE	RADICI FIL S.p.A.
ITALIAN-CZECH CHAMBER OF COMMERCE	RADICI FIL S.p.A. – LOGIT Sro

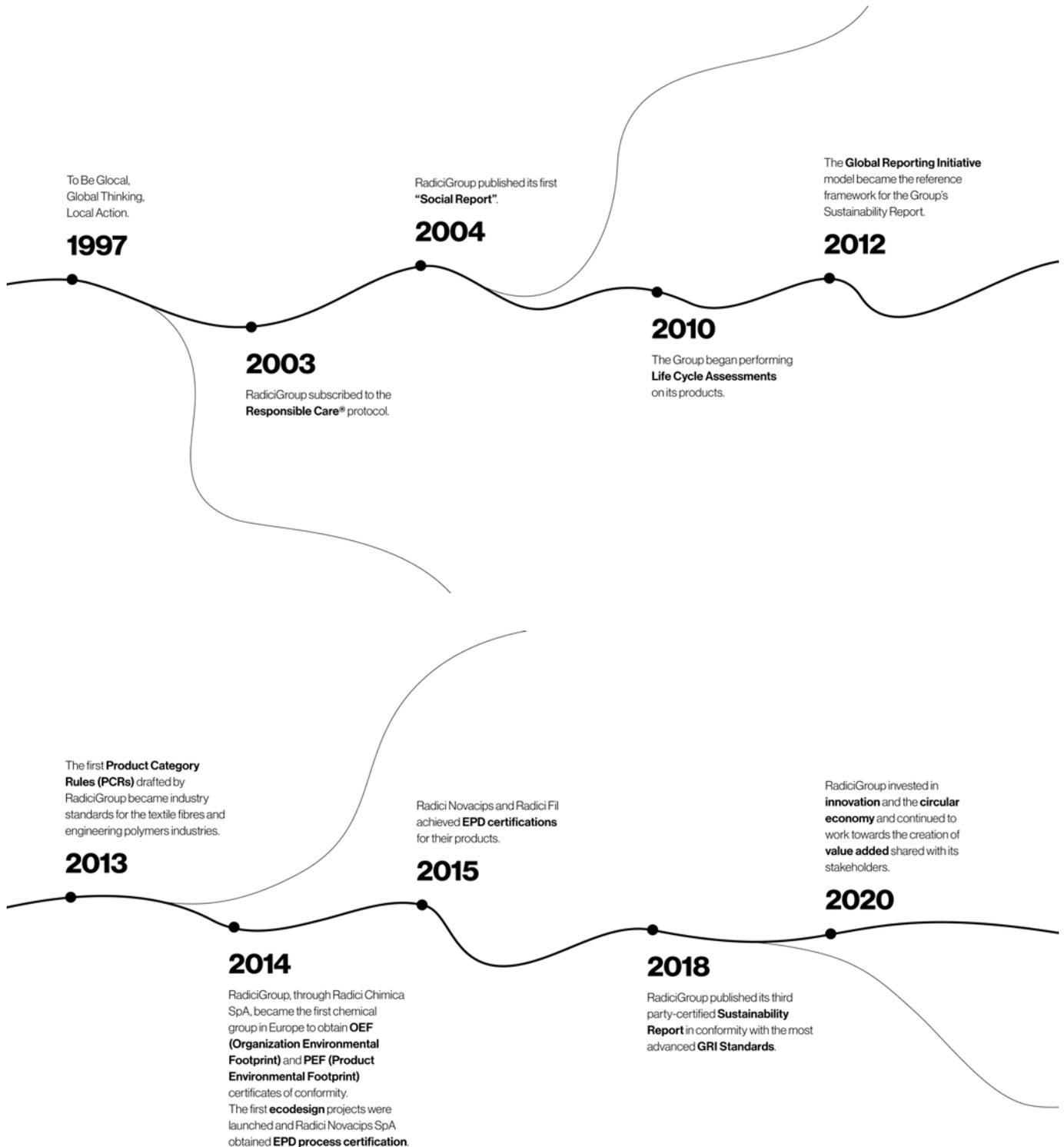
Below is a list of the associations and workgroups specifically dealing with sustainability, in which RadiciGroup holds offices.

- **RESPONSIBLE CARE ITALY:** The Group holds the position of President of this voluntary Federchimica [Italian Federation of the Chemical Industry] programme, which has as its objective the sustainable development of the chemical industry worldwide, in keeping with values and behaviour oriented to health, safety and the environment.
- **Italian Circular Economy Stakeholder Platform (ICESP):** RadiciGroup is an active member of the team for the definition of the circular economy indicators used to measure the degree of circularity of systems and companies.
- **SPRING:** RadiciGroup has been a member since the foundation of this technological cluster dedicated to Green Chemistry.
- **PLASTICS EUROPE:** RadiciGroup participates in the sustainability working group, among others, within the plastics manufacturers' association, one of the primary points of reference at the European level.

- CIRFS: The Group has long had members on the Board of Directors and in the Marine Litter working group, specifically dedicated to research on marine environmental pollution. Furthermore, RadiciGroup holds the presidency of the Statistics Committee and is a member of the Economics Committee.
- ELLEN MACARTHUR FOUNDATION: RadiciGroup has been an active member of the “Make Fashion Circular” initiative launched by this prestigious international foundation engaged in strengthening and communicating ideas, strategies and opportunities on the subject of the circular economy.

Road to sustainability

RadiciGroup's commitment to sustainability has a long history behind it. Its origins are solidly rooted in local communities but always with a view to the world, as signified by its motto "To Be Glocal: Global thinking, local action." Adhesion to the Responsible Care® Protocol – a policy of transparent reporting to stakeholders through its Social Report followed by its Sustainability Report, rigorous and certified measurement of the environmental impacts of products and the whole supply chain, and, lastly, circularity and innovation: these have been the stages of a story that still goes on every day and underpins the Group's sustainability strategy.



Group sustainability strategy today

DISCLOSURE 103-1

The Radici family believes in sustainability as a value per se. Proof of this is the personal engagement of family members in social and environmental issues. Moreover, the management style characterized by economic rather speculative choices, protection of employment as an absolute principle, investments in sustainable product and process innovation, and collaboration with all stakeholders, from upstream to downstream. And lastly, a virtuous system for the creation of value added without compromising the planet and people, with redistribution of this value favouring the Group's workers.

Creating value for workers

Teamwork, working seriously, but serenely, towards a common goal. This is the principle underlying the relationship between RadiciGroup and its workers. The Group believes creating value for workers is the sum of the following factors. Ensuring a solid relationship through mostly permanent employment contracts and collective bargaining agreements. Respect for human rights in every country in the world. Health protection and safety controlled by management systems that can provide effective monitoring and mitigate risks. Investments in training and programmes for all employees. Professional growth through working side by side with partners, training, and a career path. And, finally, engagement through daily dialogue, as well as information and communication tools made available by the Group.

Creating value for the environment

The environment has always been among the main stakeholders of the Group, as indicated by the results reported in this Sustainability Report and in all the Reports issued since 2004. A strong policy aimed at decoupling the use of resources, especially non-renewable ones, from production/economic growth is the starting point for developing an environmental protection strategy. This strategy needs to be deployed in parallel with a specific action plan addressing the issue of climate change and an explicit decision to implement ever greater circularity for products and processes.

Alongside this, a risk-based approach ensures that rigorous analysis and monitoring are conducted at all Group sites, as part of their management systems, and that improvement in performance is continuous. Performance improvement is funded through targeted investments aimed at providing companies with the best technologies available, to reduce the impact of production on the environment.

Lastly, continuous information sharing and communication with stakeholders on environmental issues, using all the communication and engagement tools RadiciGroup has available, helps to keep raising awareness on these issues.

Creating value for local communities

RadiciGroup's positive social impact on its local communities can mainly be traced back to direct employment, along with employment in related ancillary activities. The Group's solid and technologically advanced companies contribute to preserving the know-how and continuity of their production chains in the various regions. Particularly in Italy, the Group's work on maintaining historical sites, situated mostly in mountainous areas, actively contributes to the vitality of these territories, which are often disadvantaged by location and lack of infrastructure. RadiciGroup especially wants to help the younger generations, so that they will be able to find opportunities for growth and work in their home communities.

Lastly, through ongoing support for local sports and cultural activities, the Group promotes the creation of intangible value, which translates into social cohesion, active citizenship and engagement.

Creating value for the entire value chain

RadiciGroup products potentially touch every aspect of its stakeholders' daily life – from yarn for curtains, intimatewear and sportswear to engineering polymers for components of cars and household appliances, plus nonwovens for the medical and catering sectors. The commitment to create durable, safe, high-performance products, with limited and measured impact, undoubtedly constitutes a competitive advantage for RadiciGroup and

significant added value for the entire value chain, from suppliers to end users, who can rely on items made with materials designed and manufactured with respect for the environment and people.

In this sense, a fundamental contribution to product sustainability is made by continuous codesign and engagement projects carried on by the Group on a regular basis in collaboration with customers and suppliers.

Creating value for all stakeholders

Finally, RadiciGroup intends to create value added for all its stakeholders, by promoting transparency and knowledge sharing on matters regarding all the key aspects of its sustainability strategy.

This desire is demonstrated in many areas: from membership in associations and participation in scientific roundtables that study sustainability issues, to commitment on truthful environmental, social and product communication, as narrated in numerous chapters of this Sustainability Report. Furthermore, the precise goal of the work done by RadiciGroup through the media and in collaboration with schools is to relate and interact with the outside world to achieve mutual growth based on dialogue.

Case History

“Excellence at work” award:

Confindustria Bergamo recognizes RadiciGroup sustainability team.

On 7 June 2019, the “Excellence at work” award ceremony took place at the Bergamo Fairgrounds. The aim of this initiative organized by Confindustria Bergamo was to recognize models of excellence in professionalism and dedication to work on the staff of member companies. Among the 52 recipients of the award, a number of RadiciGroup employees took the stage to represent the Group's Sustainability team.

“During the year,” stressed Angelo Radici, president of RadiciGroup, “numerous people from the various corporate functions of all our business areas collaborate to find solutions, improve processes and develop new products, while pursuing the objective of reducing the impact of production activities. The goals achieved are documented in the annual Sustainability Report, which is prepared thanks to the hard work of more than a hundred employees, who collaborate by collecting data related to their production sites and transmitting them to the parent company.”

At the ceremony, the award was accepted by a few RadiciGroup ambassadors of sustainability, who testified to the Group's commitment to the environment, research, safety, safeguarding of resources, and care for the territory from environmental and social standpoints.

RadiciGroup has published a Sustainability Report in accordance with the guidelines of the Global Reporting Initiative (GRI) for 11 years now. However, the Group reporting record goes back even farther: indeed, the first Social Report dates to 2003.

Viewing the RadiciGroup sustainability report through the materiality matrix

The RadiciGroup materiality matrix, which was created as described in the section “Building the Report”, explains how sustainability was incorporated into the daily operations at RadiciGroup on the basis of specific topics. The material topics are those environmental, social, economic and product issues that are of absolute relevance to the Group and its stakeholders. The following sections will analyse these topics in detail, report the measured values for Group performance indicators and highlight the numerous cases of excellence in company operations during 2019.

Table 15
RADICIGROUP MATERIALITY MATRIX

ENVIRONMENTAL DEVELOPMENT	ENERGY
	EMISSIONS
	WATER
	WASTE
	RAW MATERIALS
	PRODUCT SUSTAINABLE INNOVATION AND MEASUREMENT OF PRODUCT ENVIRONMENTAL IMPACTS
SOCIAL DEVELOPMENT	EMPLOYMENT
	OCCUPATIONAL HEALTH AND SAFETY
	EMPLOYEE TRAINING AND EDUCATION
ECONOMIC & MANAGEMENT DEVELOPMENT	ECONOMIC PERFORMANCE
	CUSTOMER SATISFACTION
	COMPLIANCE
	CERTIFICATIONS AND INTEGRATED MANAGEMENT SYSTEMS

Economic Performance

DISCLOSURE 201-I

Balancing the different facets of sustainability. This is the challenge that RadiciGroup has taken on, with the deep conviction that economic, social and environmental interests must be harmonized for the sake of enhancing its corporate reputation and creating a virtuous cycle of improvement in its overall performance.

From an economic point of view, with regard to the creation and sharing of value added, RadiciGroup has always operated to generate durable growth in corporate profits in order to create work and revenue for its more than three thousand employees. Mindful of the moral value of the pact of trust between its workers and companies, RadiciGroup invests in worker health and safety, in training and education, and in finding ways to allow employees to use their talent and skills, as reported elsewhere in this Report, with the certainty that the professionalism and commitment of people are the driving force behind the Group's long-term competitive advantage.

Since the 1990s, the motto "Global thinking, local action" has explicitly stated the Group's determination to think globally, yet with a deep attachment to its roots. From an economic point of view, this tie to its origins means a commitment to produce and keep as much of the value added possible within the boundaries of the host communities. RadiciGroup's ancestral companies are still located in their original areas, where they have generated and distributed value for over 80 years and for which the Group feels a strong sense of responsibility. Many of RadiciGroup's suppliers of services are local companies.

Investing in sustainability

RadiciGroup is aware that the progressive depletion of natural resources compromises the quality and operations of its companies, while undeniably raising ethical questions. Thus, the Group supports the achievement of environmental sustainability goals by making numerous investments.

As described extensively in this report, these investments have made it possible for the Group to use clean energy, pursue maximum process efficiency, work on careful management of available water resources, constantly reduce emissions and work on innovation and the development of high-performance products with limited impacts.

Below are the details of the investments made by RadiciGroup on environmental sustainability in 2019:

- **EUR 216 million:** Investments in support of the competitiveness of Group companies in the 2015 to 2019 period. Of this amount, **EUR 44.4 million** was specifically invested in 2019.
- **EUR 7.6 million: Environmental investments** made in 2019 for the introduction of best available techniques, increasing energy efficiency, emissions abatement, and research and development of limited impact processes and products.
- **EUR 3.3 million: Environmental management and protection costs**, such as certification, waste disposal and water treatment costs, at Italian companies.

Generation and distribution of value added

Added value is an important link between RadiciGroup's economic and financial strategy and its sustainability policy, in that it enables quantifying the wealth produced and understanding how the wealth is distributed among the stakeholders.

It is essential to understand the economic impacts of the Group and how these impacts affect stakeholders – especially employees, the primary recipients of added value through compensation – as proof of the consistency of the Group's social responsibility principles and its actions.

Below are the standard schedules for the generation and distribution of RadiciGroup value added.

Table 16
GENERATION OF VALUE ADDED

ITEM	12/31/19	12/31/18	12/31/17	12/31/16	12/31/15
A) PRODUCTION VALUE	1.092.185.863	1.222.273.814	1.164.318.842	946.065.498	993.769.060
1. Sales and service revenue	1.091.177.501	1.212.528.918	1.146.294.145	945.147.279	1.011.118.534
2. Change in work in progress, semi-finished goods and finished goods inventories	52.085	9.020.136	17.814.922	690.516	(17.534.599)
3. Change in contract work in progress	-	-	-	-	-
4. Increase in internally generated non-current assets	956.276	724.760	209.775	227.703	185.125
5. Other revenue and income					
B) INTERMEDIATE PRODUCTION COSTS	797.060.960	902.517.466	867.422.758	704.765.147	770.772.971
6. Raw materials, supplies, consumables and goods for	611.032.681	730.444.796	691.480.119	531.064.736	576.061.208
7. Services	171.448.387	176.591.194	175.835.802	171.424.093	179.927.810
8. Leases and rentals	5.642.452	5.491.761	5.401.205	3.986.722	5.117.266
9. Change in raw materials, supplies and goods for resale inventories	6.959.604	(12.347.183)	(7.591.811)	(4.316.132)	769.270
10. Provisions for liabilities and charges	200.277	405.357	361.174	163.374	300.567
11. Other provisions	15.971	108.000	76.341	845.395	299.199
12. Miscellaneous operating costs	1.761.590	1.823.541	1.859.929	1.596.959	8.297.650
GROSS VALUE ADDED FROM OPERATIONS (A-B)	295.124.902	319.756.348	296.896.084	241.300.351	222.996.089
+/- Additional and extraordinary items	9.985.738	4.016.826	3.755.696	4.431.631	523.339
GROSS TOTAL VALUE ADDED	305.110.640	323.773.174	300.651.781	245.731.982	223.519.428
- Depreciation and amortization	45.621.065	43.553.464	41.791.493	38.805.292	40.034.852
NET TOTAL VALUE ADDED	259.489.575	280.219.710	258.860.287	206.926.689	183.484.576

Table 17
GENERATION OF VALUE ADDED BY REGION

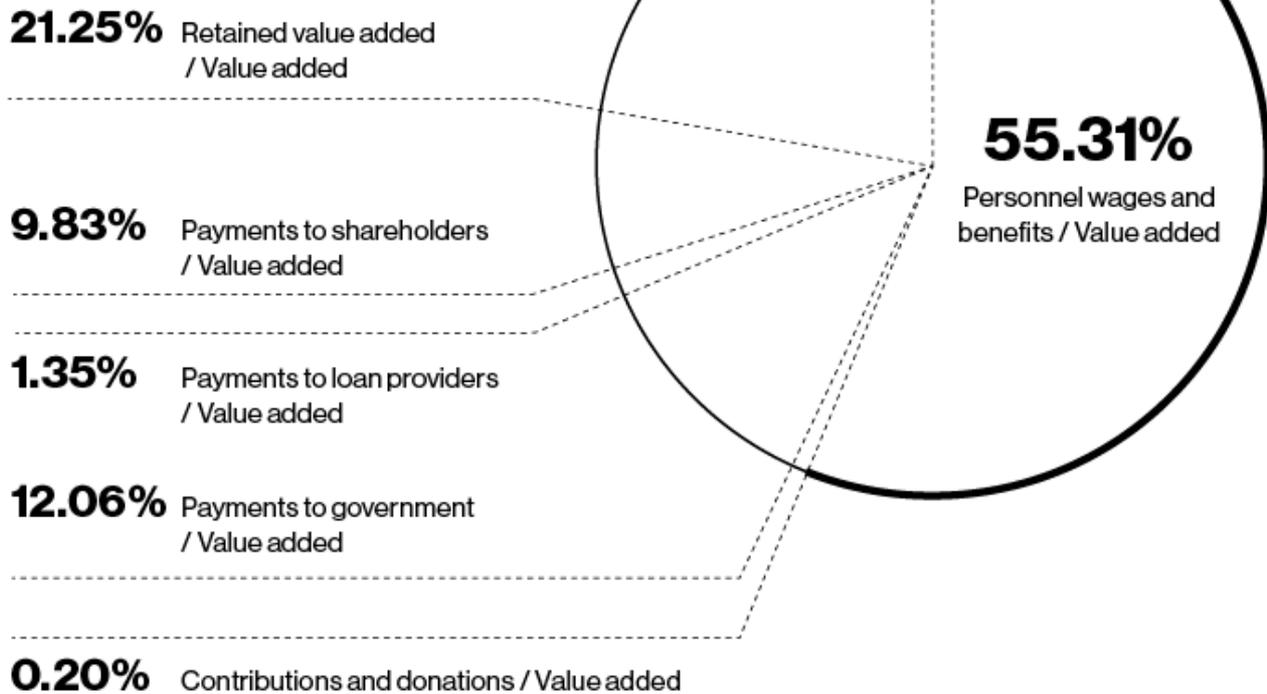
ITEM	Italy	Rest of Europe	Asia	North and South America	Worldwide
A) PRODUCTION VALUE	615.224.246	265.790.030	54.528.703	156.642.883	1.092.185.863
1. Sales and service revenue	609.187.908	269.551.681	54.908.382	157.529.530	1.091.177.501
2. Change in work in progress, semi-finished goods and finished goods inventories	5.127.186	(3.808.775)	(379.678)	(886.647)	52.085
3. Change in contract work in progress	-	-	-	-	-
4. Increase in internally generated non-current assets	909.153	47.124	-	-	956.276
5. Other revenue and income					
B) INTERMEDIATE PRODUCTION COSTS	469.066.278	180.454.949	37.668.939	109.870.795	797.060.960
6. Raw materials, supplies, consumables and goods for	354.724.818	133.573.243	31.075.980	91.658.640	611.032.681
7. Services	111.719.823	41.909.969	3.764.419	14.054.176	171.448.387
8. Leases and rentals	3.424.840	973.130	602.570	641.911	5.642.452
9. Change in raw materials, supplies and goods for resale inventories	(2.059.727)	3.515.698	2.140.553	3.363.081	6.959.604
10. Provisions for liabilities and charges	200.000	277	-	-	200.277
11. Other provisions	-	11.439	-	4.532	15.971
12. Miscellaneous operating costs	1.056.524	471.194	85.417	148.454	1.761.590
GROSS VALUE ADDED FROM OPERATIONS (A-B)	146.157.969	85.335.081	16.859.764	46.772.088	295.124.902
+/- Additional and extraordinary items	49.698.688	(19.831.189)	(6.441.327)	(13.440.433)	9.985.738
GROSS TOTAL VALUE ADDED	195.856.656	65.503.892	10.418.436	33.331.655	305.110.640
- Depreciation and amortization	25.379.535	15.811.313	925.944	3.504.273	45.621.065
NET TOTAL VALUE ADDED	170.477.122	49.692.578	9.492.493	29.827.382	259.489.575

Table 18
DISTRIBUTION OF VALUE ADDED

ITEM	31/12/19	31/12/18	31/12/17	31/12/16	31/12/15
A) PERSONNEL WAGES AND BENEFITS	143.530.512	139.889.046	139.538.473	133.767.454	130.196.142
Contract workers	6.670.341	6.709.120	6.622.828	6.332.576	7.397.897
Employees	136.860.170	133.179.926	132.915.644	127.434.878	122.798.245
a) Direct compensation	110.024.451	106.741.571	106.367.081	101.559.121	97.595.292
b) Indirect compensation	26.835.720	26.438.355	26.548.563	25.875.757	25.202.953
B) PAYMENTS TO GOVERNMENT	31.288.076	38.415.294	34.177.994	19.185.700	16.404.674
a) Current taxes	32.044.656	37.501.150	30.229.218	19.982.948	20.781.715
Direct taxes	28.757.519	34.128.382	26.369.692	16.337.995	17.127.826
Indirect taxes	3.287.137	3.372.768	3.859.526	3.644.953	3.653.889
b) Deferred taxes	(65.623)	1.266.829	4.437.491	(230.889)	(3.973.424)
c) Revenue grants	(690.958)	(352.685)	(488.715)	(566.360)	(403.618)
C) PAYMENTS TO LOAN PROVIDERS	3.504.333	3.792.973	2.694.396	3.366.290	6.081.958
Short-term loan interest	3.504.333	3.792.973	2.694.396	3.366.290	6.081.958
Long-term loan interest					
D) PAYMENTS TO SHAREHOLDERS	25.500.000	25.500.000	12.991.285	9.000.000	4.020.000
Dividends (income distributed to shareholders)	25.500.000	25.500.000	12.991.285	9.000.000	4.020.000
E) RETAINED VALUE ADDED	55.136.155	72.008.872	68.845.420	41.044.229	26.252.265
+/- Changes in reserves	55.136.155	72.008.872	68.845.420	41.044.229	26.252.265
F) CONTRIBUTIONS AND DONATIONS	530.500	613.525	612.720	563.016	529.538
NET TOTAL VALUE ADDED	259.489.575	280.219.710	258.860.287	206.926.689	183.484.576
% Personnel wages and benefits / Value added	55,31%	49,92%	53,90%	64,64%	70,96%
% Payments to government/ Value added	12,06%	13,71%	13,20%	9,27%	8,94%
% Payments to loan providers / Value added	1,35%	1,35%	1,04%	1,63%	3,31%
% Payments to shareholders / Value added	9,83%	9,10%	5,02%	4,35%	2,19%
% Retained value added / Value added	21,25%	25,70%	26,60%	19,84%	14,31%
% Contributions and donations / Value added	0,20%	0,22%	0,24%	0,27%	0,29%

Table 19
DISTRIBUTION OF VALUE ADDED BY REGION

ITEM	Italy	Rest of Europe	Asia	North and South America	Worldwide
A) PERSONNEL WAGES AND BENEFITS	89.969.549	37.577.128	2.933.748	13.050.086	143.530.512
Contract workers	4.452.468	670.797	129.478	1.417.598	6.670.341
Employees	85.517.081	36.906.332	2.804.270	11.632.488	136.860.170
a) Direct compensation	66.794.780	31.189.301	1.919.765	10.120.605	110.024.451
b) Indirect compensation	18.722.300	5.717.031	884.505	1.511.883	26.835.720
B) PAYMENTS TO GOVERNMENT	21.669.293	3.195.991	1.908.516	4.514.275	31.288.076
a) Current taxes	23.888.081	3.649.332	1.899.584	2.607.660	32.044.656
Direct taxes	22.031.110	3.240.041	1.741.811	1.744.557	28.757.519
Indirect taxes	1.856.971	409.291	157.773	863.102	3.287.137
b) Deferred taxes	(1.698.198)	(282.972)	8.932	1.906.615	(65.623)
c) Revenue grants	(520.589)	(170.368)	-	-	(690.958)
C) PAYMENTS TO LOAN PROVIDERS	1.877.669	68.048	226	1.558.390	3.504.333
Short-term loan interest	1.877.669	68.048	226	1.558.390	3.504.333
Long-term loan interest					
D) PAYMENTS TO SHAREHOLDERS	25.500.000	-	-	-	25.500.000
Dividends (income distributed to shareholders)	25.500.000	-	-	-	25.500.000
E) RETAINED VALUE ADDED	31.010.610	8.771.911	4.650.003	10.703.631	55.136.155
+/- Changes in reserves	31.010.610	8.771.911	4.650.003	10.703.631	55.136.155
F) CONTRIBUTIONS AND DONATIONS	450.000	79.500	-	1.000	530.500
NET TOTAL VALUE ADDED	170.477.122	49.692.578	9.492.493	29.827.382	259.489.575
% Personnel wages and benefits / Value added	52,78%	75,62%	30,91%	43,75%	55,31%
% Payments to government/ Value added	12,71%	6,43%	20,11%	15,13%	12,06%
% Payments to loan providers / Value added	1,10%	0,14%	0,00%	5,22%	1,35%
% Payments to shareholders / Value added	14,96%	0,00%	0,00%	0,00%	9,83%
% Retained value added / Value added	18,19%	17,65%	48,99%	35,89%	21,25%
% Contributions and donations / Value added	0,26%	0,16%	0,00%	0,00%	0,20%
TOTAL	100,00%	100,00%	100,00%	100,00%	100,00%
AVERAGE NUMBER OF EMPLOYEES	1.564	1.064	109	352	3.090

Distribution of value added 2019

The above value-added schedules follow the method provided by GBS – Study Group for Social Reporting (www.gruppobilanciosociale.org). The data are from the Radici Partecipazioni S.p.A. consolidated financial statements. As noted in the consolidated financial statements, the economic flows related to transactions between companies included in the scope of consolidation have been eliminated. Included in the consolidated financial statements, which the Group voluntarily has audited by Deloitte & Touche, are parent company Radici Partecipazioni S.p.A. and the Italian and foreign companies in which it directly or indirectly holds a majority of the share capital and management control, pursuant to Article 2359 of the Italian Civil Code.

Table 20
TOTAL INCOME TAXES 2019 BY COUNTRY (IN EUROS)

ARGENTINA	-
GERMANY	2,880,852
ROMANIA	258,162
CZECH REPUBLIC	62,091
HUNGARY	24,870
SWITZERLAND	37,202
ITALY	22,031,110
CHINA	1,340,824
MEXICO	202,232
LUXEMBOURG	-
BRAZIL	1,297,296
SPAIN	-
INDIA	400,988
THE UK	1,305
THE NETHERLANDS	(24,441)
THE USA	245,029
TOTAL	28,757,519

As in prior Sustainability Reports, along with the positive performance of the Group, it is essential to point out the profitability and financial soundness of RadiciGroup as confirmed by the ratio Net financial debt / Net shareholders' equity.

Table 21
BREAKDOWN OF NET INVESTED CAPITAL

Net financial debt	EUR/1000	45,928
Net shareholders' equity	EUR/1000	537,260
Net invested capital	EUR/1000	583,188

It is equally important to stress that both profitability and financial soundness were pursued with respect for the environment and its resources. The following ratios relate the amount of energy or water used or the amount of emissions or waste generated to total net value added. They show a positive trend in the three-year period, with only a slight deterioration in some indicators in 2019, which can be attributed to some discontinuity in plant operations, regarding which the reader is referred to the chapter on environmental performance. [Tables 22, 23]

DISCLOSURE 302-3

Table 22

GRI 302-3 ENERGY INTENSITY – TOTAL PRIMARY ENERGY TO TOTAL NET VALUE ADDED

		2017	2018	2019
GJ	Total primary energy (GRI 302-1)	6,628,022	6,292,857	5,992,038
€	Total net value added	258,860,287	280,219,710	259,489,575
GJ/€	Total primary energy (direct + indirect) to total net value added	0.026	0.022	0.023

DISCLOSURE 305-4

Table 23

GRI 305-4 GHG EMISSIONS INTENSITY – TOTAL EMISSIONS TO THE ATMOSPHERE TO TOTAL NET VALUE ADDED

		2017	2018	2019
tCO ₂ eq	Total emissions to the atmosphere (GRI 305-1 and GRI 305-2)	523,629	466,137	469,139
€	Total net value added	258,860,287	280,219,710	259,489,575
kgCO ₂ eq/€	Total emissions to the atmosphere (direct + indirect) to total net value added	2.02	1.66	1.81

As usual, besides the GRI disclosures, the following ratios for water resources and waste destined for disposal (without recovery) were calculated, in order to provide measured values for intensity for the main environmental impacts. [Tables 24, 25]

Table 24

WATER RESOURCES TO TOTAL NET VALUE ADDED

		2017	2018	2019
ML	Water resources (GRI 303-3)	91,562	86,464	86,029
€	Total net value added	258,860,287	280,219,710	259,489,575
ML/€	Water resources to total net value added	0.00035	0.00031	0.00033

Table 25

WASTE DESTINED FOR DISPOSAL WITHOUT RECOVERY TO TOTAL NET VALUE ADDED

		2017	2018	2019
t	Waste destined for disposal without recovery (GRI 303-2)	5,341	3,900	3,390
€	Total net value added	258,860,287	280,219,710	259,489,575
Kg/€	Waste destined for disposal without recovery to total net value added	0.021	0.014	0.013

Environmental performance

MANAGEMENT APPROACH DISCLOSURE 103-1

Since the early 2000s, RadiciGroup has embraced a sustainable development model capable of satisfying the needs of the present generation without compromising the ability of future generations to satisfy their needs. It is a model of virtuous evolution, attentive to the future, which envisions a dynamic balance among many factors related to the safeguarding of the planet, the people who inhabit it and the economic aspects essential for growth and development.

RadiciGroup's environmental policy was shaped by this environmental model and comprises many lines of action. The Group:

- **Recognizes the environment as a privileged stakeholder** and protects it through its strategies, investments and targeted actions, as described in many chapters of this Sustainability Report.
- **Recognizes the intrinsic value of natural resources** and is aware of their potential scarcity in the future, makes the best use of raw materials, reduces the amount of waste and scrap, recovers and recycles waste whenever it cannot be avoided, and constantly works on the quality, durability and performance of its materials, which are all recyclable.
- **Decouples the use of resources from production/economic growth**, by cutting down on the amount of water and energy used in its production through plant efficiency optimization and the introduction of the best technologies available on the market.
- **Engages in the ecodesign of reduced-impact products, which are safe for the manufacturer, the user and the environment**, as described in the section of this Report dedicated to products.
- **Promotes energy transition** by using renewable source energy.
- Fights climate change by reducing emissions, thanks to shifting to an energy mix with a greater share of green energy and introducing innovative products with a smaller carbon footprint.
- Constantly measures the performance of all its production sites, with a view to achieving continuous improvement, maintaining effective monitoring and mitigating environmental risks through sound and certified management systems.
- **Communicates environmental performance transparently** in its Sustainability Report and through all available internal and external communication channels, as well as through training activities, meetings, fairs and activities at trade associations, scientific institutions and schools with which the Group collaborates.

The following sections provide an overview of RadiciGroup's environmental results grouped by complementary data inputs (received from the environment) and outputs (delivered to the environment). The topics covered will be as follows:

- Materials used (input) – waste generated (output)
- Energy used (input) – emissions to air and quality of the same (output)
- Water used (input) – water discharged and quality of the same (output)

As a general consideration, the 2019 results acquire greater depth and significance, if one considers the long journey travelled since 2011, the year of certification of the first Sustainability Report

Trends over a time period longer than three years allow for better appreciation of the actual results of the Group's environmental strategy and investments. In fact, more substantial results were achieved during the initial years, while the results obtained during the last three years can be viewed as fine-tuning adjustments.

Materials used and waste

As a result of the improvement in process efficiency, together with the investments in best available techniques (BAT) and the policy of continuous improvement, the figures for materials used show a decrease of 65,052 tons during the last three-year period. Focusing on direct materials, the figures show an 80.9% increase in the renewable component: in fact, the percentage goes from 0.29% in 2017 to 0.33% in 2018 and 0.52% in 2019. This result is due to the expanded offering of biopolymers, as described in the sections of this Report dedicated to the topic of innovation. For packaging materials, on the other hand, the percentage of renewable materials to the total has remained constant at around 83%. [Table 26]

Regarding waste, all RadiciGroup companies work to contain the generation of scrap and waste through rigorous process management. Procedures for waste identification, sorting and storage have always been in place at all Group sites, in compliance with current legislation and voluntary standards. Concerning the Group policy for waste containment and recycling, described in detail in numerous chapters of this Report, the Group's performance improved compared to the two previous years. In particular, the values of the intensity ratio, waste per ton produced (which does not include waste from restructuring), went from 9.76 kg/t to 8.85 kg/t (-9.3%). [Table 27 to 29]

In absolute value, non-hazardous waste directed to recovery increased (+45.4%). This waste is, in fact, a precious resource for the High Performance Polymers Business Area and the Advanced Textile Solutions Business Area, in line with the RadiciGroup pre-consumer recycling strategy. Correspondingly, process waste directed to external treatment decreased (-19.3%).

Further to this topic, in order to strengthen circularity, the Group reaffirms the recyclability of all its materials and continues to expand its portfolio of products obtained from recycled materials launched on the market.

Materials used

DISCLOSURE 301-1

Table 26

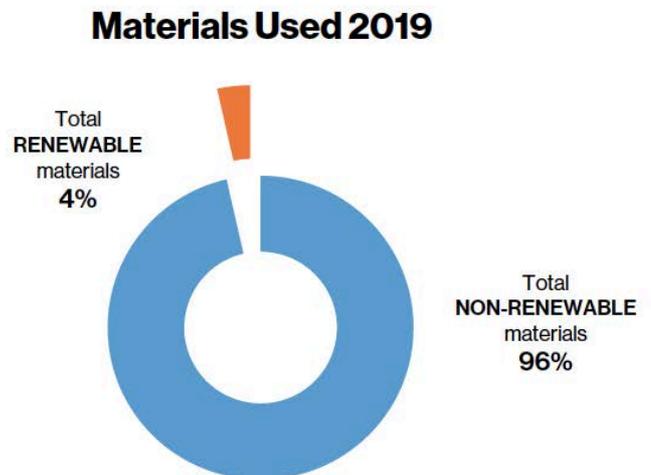
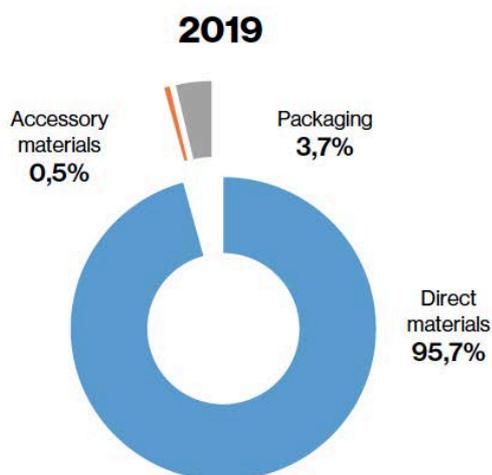
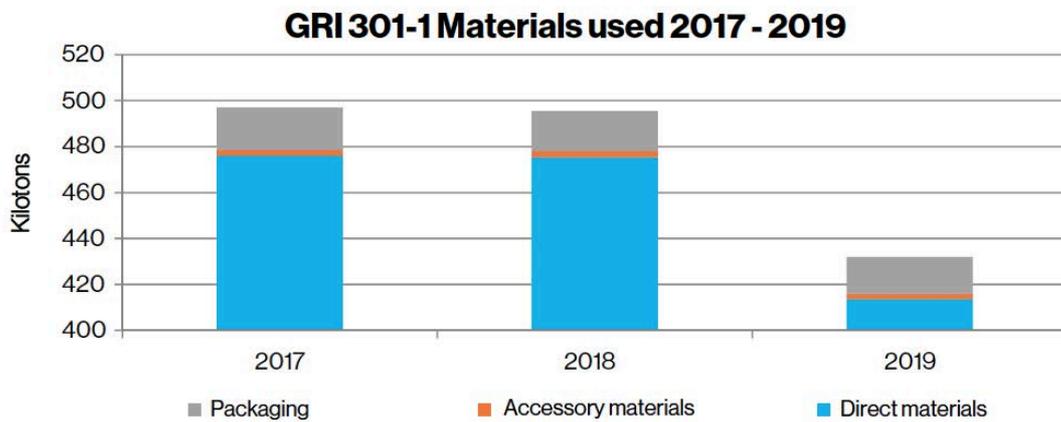
GRI 301-1 MATERIALS USED BY TYPE AND WEIGHT

MATERIALS USED BY TYPE		2017	2018	2019
t	Direct materials*	475,961	475,195	413,515
t	Accessory materials	2,547	2,699	2,349
t	Packaging**	18,482	17,479	16,075
t	Total	496,991	495,373	431,939
NON-RENEWABLE MATERIALS				
t	Non-renewable direct materials	474,604	473,618	411,383
t	Non-renewable accessory materials	2,547	2,699	2,347
t	Non-renewable packaging**	3,334	3,166	2,696
t	Total non-renewable materials	480,485	479,483	416,426

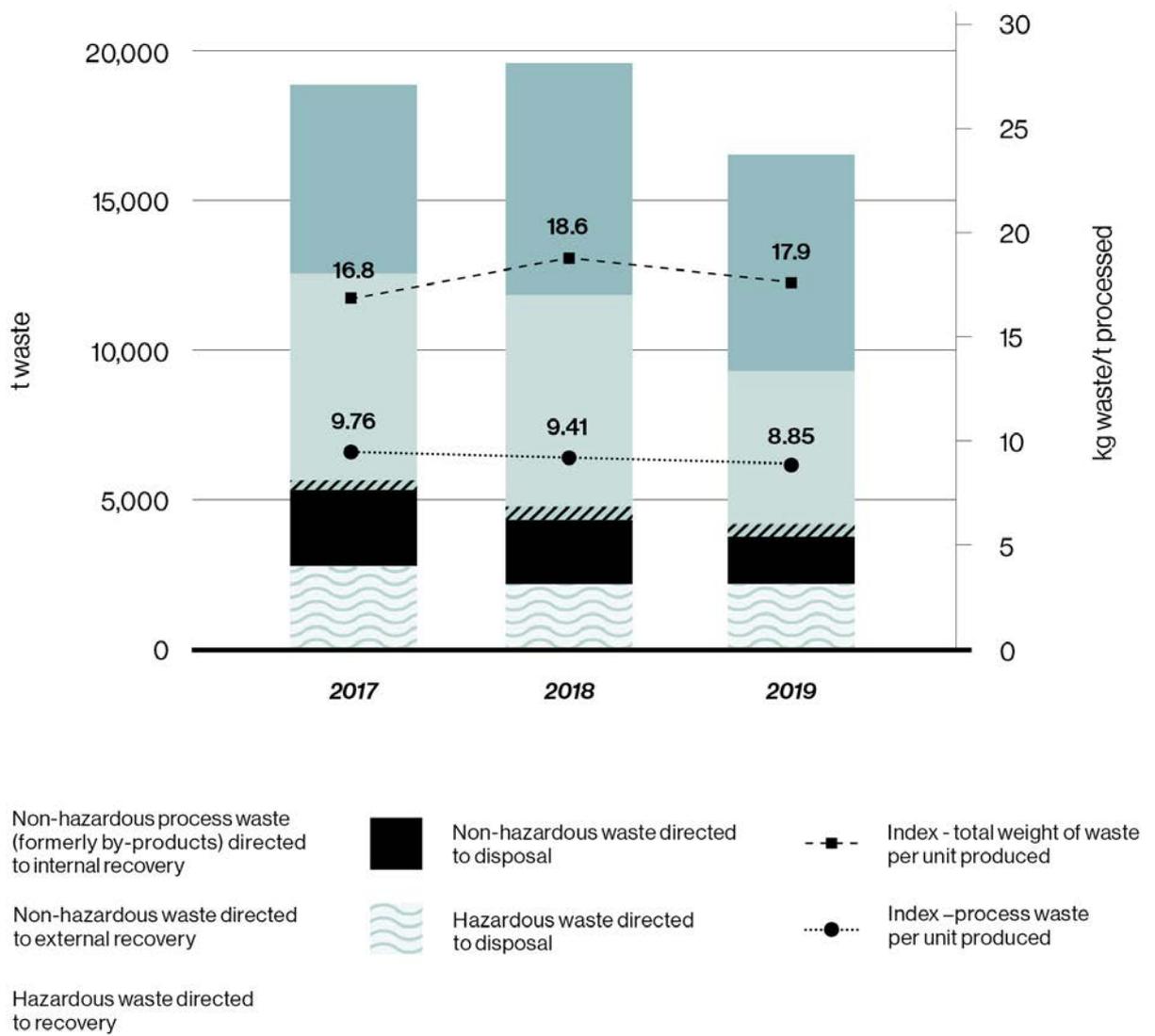
RENEWABLE MATERIALS		2017	2018	2019
t	Renewable direct materials	1,357	1,577	2,132
t	Renewable accessory materials	0	0	2
t	Renewable packaging**	15,148	14,313	13,379
t	Total renewable materials	16,505	15,890	15,513
% Renewable packaging** to total packaging		82.0%	81.9%	83.2%
% Renewable direct materials to total direct materials		0.29%	0.33%	0.52%
% Renewable materials to total materials		3.32%	3.21%	3.59%

*Intragroup flows of raw materials are excluded from this disclosure, since they are not resources drawn from outside the Group.

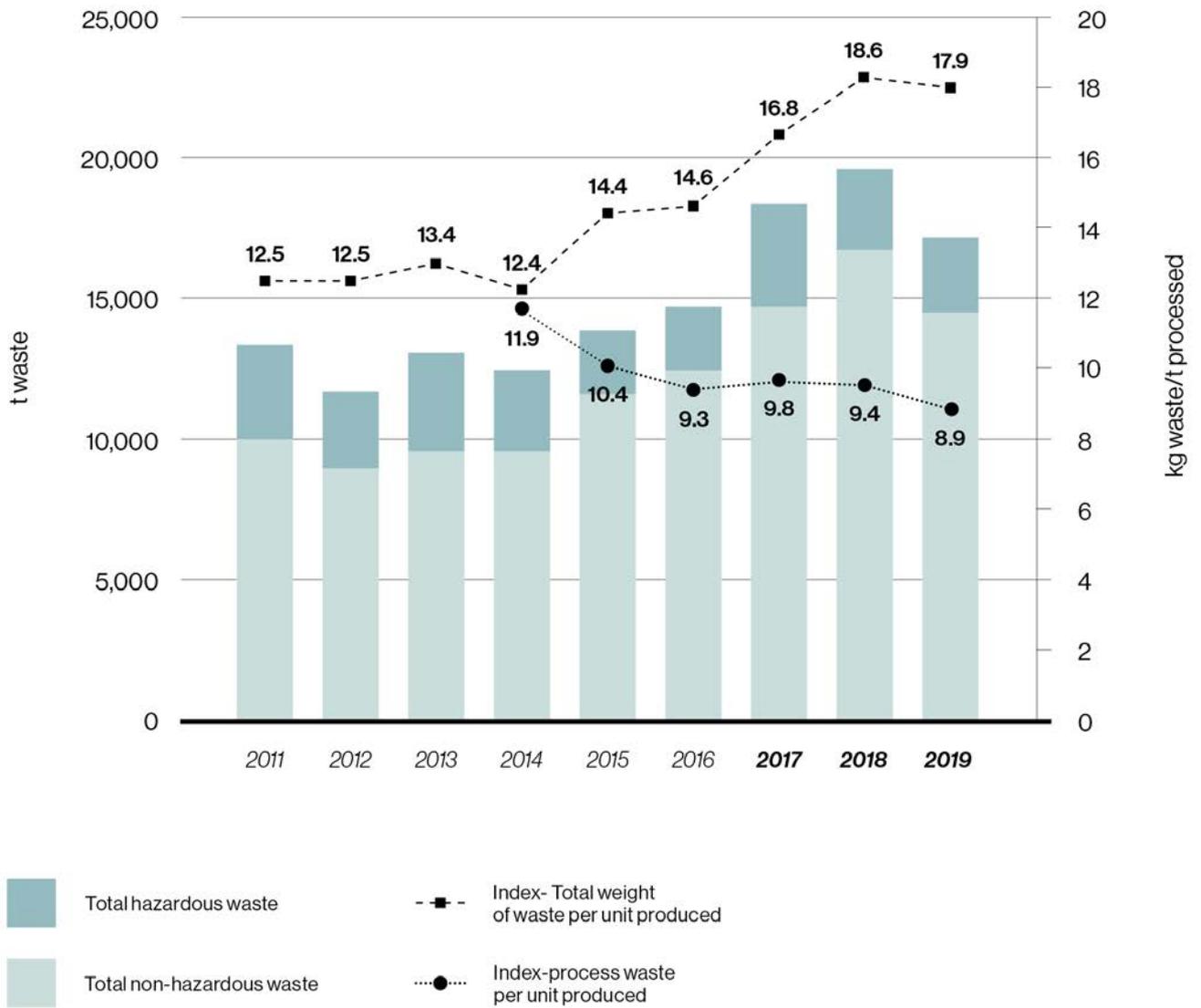
**The percentage of renewable packaging increased for all three years in the table, compared to what had been reported in the past, because some packaging had erroneously been considered non-renewable.



GRI306-2 Waste by type and disposal method 2017 - 2019



GRI 306-2 Waste by type



Waste

DISCLOSURE 306-2

Table 27
GRI 306-2 TOTAL WASTE BY TYPE, DISPOSAL METHOD AND WEIGHT*

	2017	2018	2019
t TOTAL	17,988	19,365	17,015
t TOTAL HAZARDOUS WASTE	3,121	2,490	2,591
t Hazardous waste directed to recovery	331	540	690
t Hazardous waste directed to disposal	2,790	1,950	1,901
t TOTAL NON-HAZARDOUS WASTE	14,867	16,875	14,424
t Non-hazardous waste directed to recovery	12,150	14,817	12,935
t Non-hazardous waste directed to disposal	2,717	2,058	1,489
Of which:			
t Occasional non-process waste (building renovations, maintenance, etc.)	2,094	2,104	645
t Non-hazardous waste (formerly by-products) directed to internal recovery	5,477	7,459	7,966
t Process waste directed to external treatment	10,417	9,802	8,404

Table 28

RATIO – Process waste per unit produced	2017	2018	2019
kg/t	9.76	9.41	8.85

Table 29

RATIO – Total waste per unit produced	2017	2018	2019
kg/t	16.85	18.59	17.92

*Based on the documentation held by the Group and provided by the companies in charge of waste management and treatment, it is not possible to give more detailed information as required by the GRI model concerning the actual disposal method.

On top of the group-wide policies for proper waste reduction and management, there are numerous initiatives in the Group involving individual companies committed to the improvement of particular aspects of their processes, for instance, materials handling, movement or warehousing with the specific objective of not releasing them into the atmosphere, as illustrated in the following case history.

Case History

Radici Chimica Deutschland: fight against dispersion of adipic acid dust

Eliminating adipic acid dust (AAD) build-up in certain areas of the factory. That was the goal of a complex and extensive programme started in 2019 at Radici Chimica Deutschland, a Group company engaged in the production of this fundamental component of polyamide 6.6.

After becoming aware of dust build-up in the factory, and, above all, the potential risk to the health and safety of workers, as well as material waste, the company implemented some production changes, organizational measures and steps to raise the awareness of operators.

From a plant engineering point of view, technical changes were made to the screw conveyors that feed the internal silos in the filling and storage area, which practically eliminated the release of dust. Further technical solutions were implemented during the filling of big bags, the large bags that contain the AAD to be shipped. Also, in this case, the results were appreciable.

Important organizational and awareness-raising work for workers was carried out through the joint creation of a cleaning programme consisting of several projects: general cleaning of all inaccessible and rarely visited areas, organized on an annual basis; regular cleaning of the areas around silos and filling stations; and daily dust removal in common, extended and exposed areas, such as floors, in order to eliminate the risk of operators slipping.

With this programme, material waste was eliminated and, at the same time, the health and safety of workers in the workplace was improved.

Case History

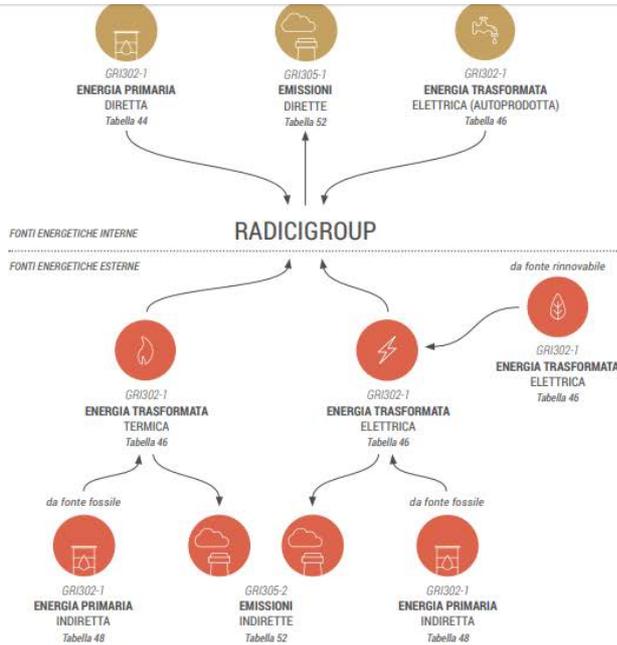
Operation Clean Sweep: commitment to and investments for the environment

Having taken the formal pledge as an Operation Clean Sweep Partner, between 2018 and 2019, all the production plants of the High Performance Polymers Business Area have progressively adhered to Operation Clean Sweep (OCS), an international programme promoted by the Plastics Industry Association (PLASTICS) Europe, to fight against plastic pellet, dust and powder release into the environment. Assuring proper handling and transport of products from point of entry to the factory premises to the exit of semi-finished products directed to customers; conducting regular employee training and awareness campaigns on correct procedures for granule handling; and developing innovative engineering solutions: these are the elements of real voluntary commitment expressed through responsibility and investments.

At the end of 2019, RadiciGroup extended the participation in Operation Clean Sweep to all the factories having to do with fibres and handling polymers. Thus, Noyfil SA, a Swiss company engaged in the production of polyester continuous yarn, adhered to the international programme with a commitment to realize the ambition goal of "Zero Pellet Loss".

Fighting against accidental pellet, flake and powder release has always been among the priorities for this site and all the Group companies that have an ISO 14001 Environmental Management System. In one specific case, Noyfil was contacted by the Cantonal Authority as part of an investigation into microplastics in Swiss lakes and was able to demonstrate to the Swiss authorities not only the company's full compliance with normative requirements, but also additional voluntary commitment taken on. The next logical step will be to formalize the commitment by joining the OCS.

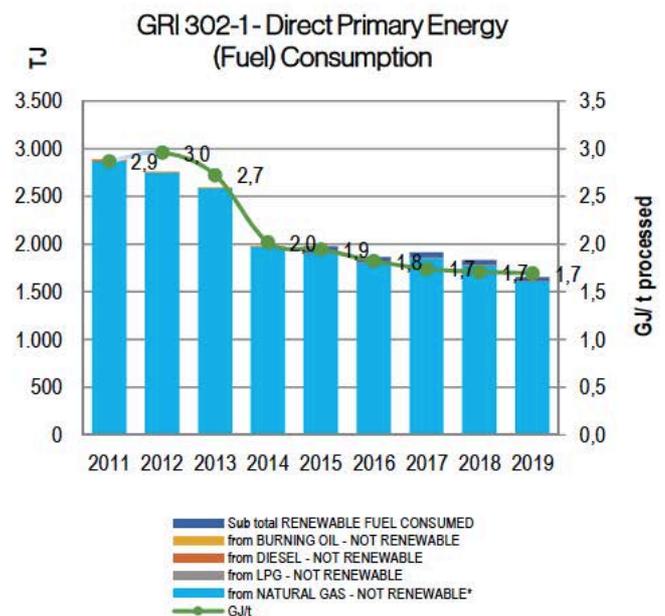
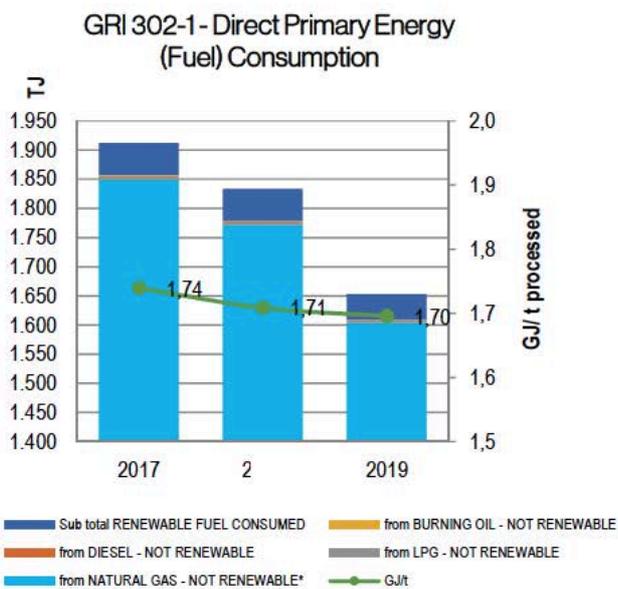
Energy and emissions



The RadiciGroup carbon footprint mainly consists of the emissions from energy consumption needed to operate its production sites. This is because energy consumption and emissions are closely related. The Group regularly monitors consumption, carefully chooses energy sources and develops projects for reducing CO₂. Specifically, the more energy-intensive production plants in Italy have Energy Managers, professionals whose main duties include consumption analysis, monitoring and optimization. Some Group sites hold ISO 50001 Energy Management certification, which entails the structuring and carrying out of performance improvement plans. Over the years, numerous investments have been made, particularly in the Group's Specialty Chemicals Business Area, in the field of emissions abatement, thus contributing to the fight against climate change.

As regards energy performance in 2019, the data for direct primary energy consumption show a decrease in terms of both absolute value (-13.6%) and per unit produced (-2.8%). A number of engineering improvements, particularly in the Advanced Textile Emissions Business Area, contributed to the result. [Tables 30 and 31]

Furthermore, concerning indirect energy, the figures show a decrease in consumption in absolute value equal to 6.5% [Tables 32, 33], a value that reaches 9.4% when taking into consideration the consumption of non-renewable primary energy (direct + indirect). The ratio showing the latter quantity per unit produced reports a 1.9% increase, attributable to the lower quantities produced and to the lower production efficiency caused by unscheduled plant stops. [Tables 35 and 36].



Regarding electrical energy, the energy mix data for the year 2019 demonstrate that the renewable source energy component remained stable at 42.1%, a considerably high level. As always, numerous Group sites are powered entirely, or in large part, with green energy. In Italy, a number of sites rely on the hydroelectric energy provided by the supplier-partner Geogreen. [Table 34]

Energy

DISCLOSURE 302-1

Table 30
DIRECT PRIMARY ENERGY (FUEL) CONSUMPTION

	2017	2018	2019
GJ TOTAL DIRECT PRIMARY ENERGY	1,912,346	1,833,112	1,652,644
GJ • SUBTOTAL DIRECT PRIMARY ENERGY FROM NON-RENEWABLE SOURCES	1,857,308	1,779,897	1,610,126
GJ • From NATURAL GAS – non-renewable*	1,848,817	1,771,423	1,603,618
GJ • From DIESEL FUEL – non-renewable	1,534	1,307	1,104
GJ • From LPG – non-renewable	5,853	6,276	4,897
GJ • From FUEL OIL – non-renewable	1,104	891	507
GJ • SUBTOTAL DIRECT PRIMARY ENERGY FROM RENEWABLE SOURCES	55,038	53,215	42,518
GJ • From BIOGAS – renewable	55,038	53,215	

*To convert natural gas from nm³ to GJ, a factor of 39.01 (source mod. GRI 3.1) was used for all companies, observing the precautionary principle.

Table 31

GRI 302-1 RATIO – Direct primary energy (fuel) consumption per unit produced	2017	2018	2019
GJ/t Non-renewable direct primary energy	1.74	1.71	1.70
GJ/t Total renewable + non- renewable direct primary energy	1.79	1.76	1.74

Table 32

INTERMEDIATE ENERGY CONSUMPTION BY PRIMARY ENERGY SOURCE (INDIRECT)

	2017	2018	2019
GJ TOTAL INTERMEDIATE ENERGY (INDIRECT)	3,708,391	3,634,185	3,466,922
di cui			(-6.5%)
GJ • SUBTOTAL ELECTRICITY CONSUMPTION	1,778,482	1,770,366	1,674,011
GJ • ELECTRICITY CONSUMPTION FROM RENEWABLE SOURCES	715,908	774,255	704,927
GJ • (Of which self-produced from HYDROELECTRIC POWER)*	(51,358)	(54,000)	(57,244)
GJ • Electricity consumption from renewable sources to total electricity	40.3%	43.7%	42.1%

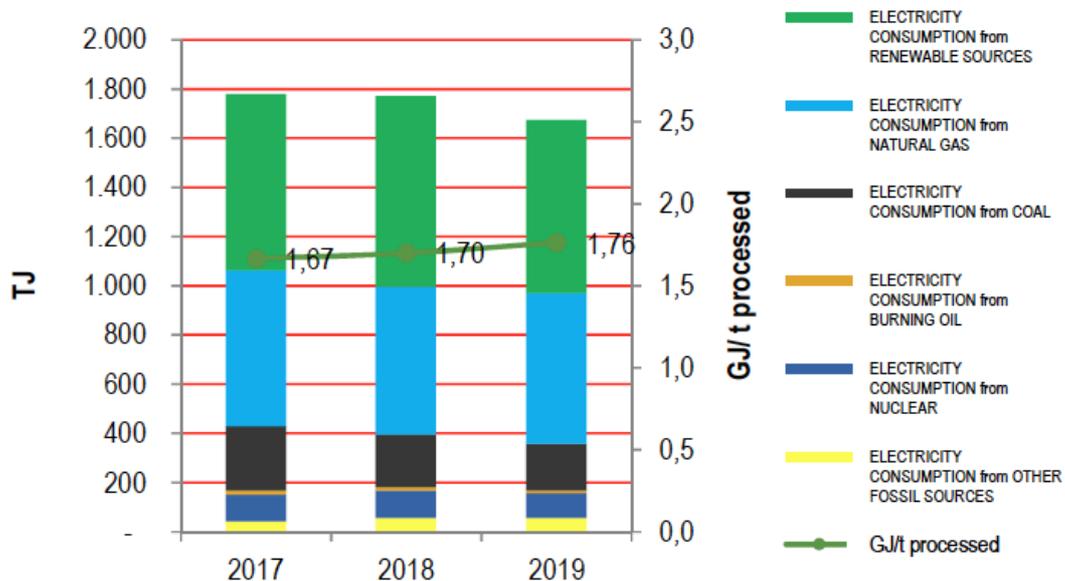
*Electricity from renewable sources is self-produced by a RadiciGroup site, while the remainder is purchased from Geogreen.

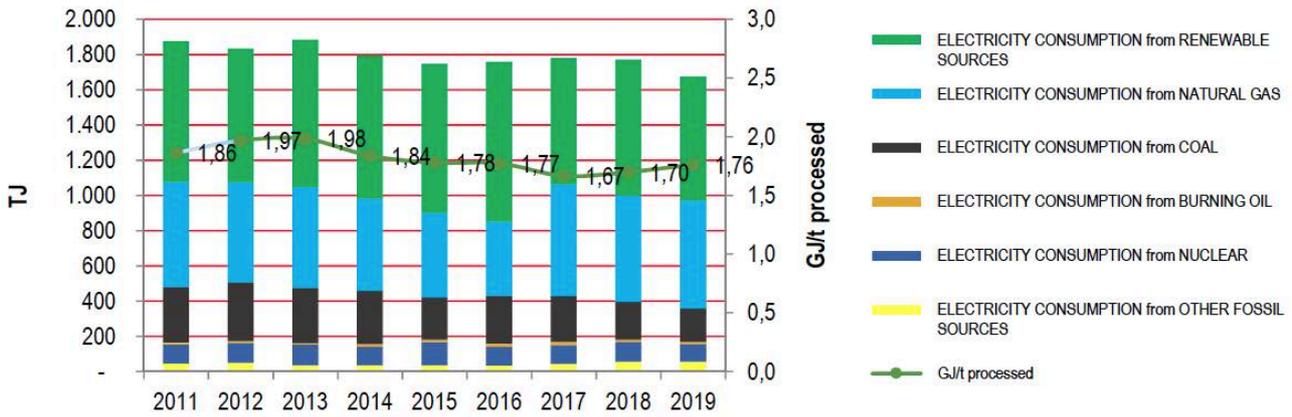
GJ	• SUBTOTAL ELECTRICITY CONSUMPTION FROM NON-RENEWABLE SOURCES	1,062,574	996,111	969,084
GJ	• From NATURAL GAS – non-renewable	632,698	602,035	612,305
GJ	• From COAL – non-renewable	262,005	212,215	189,772
GJ	• From FUEL OIL – non-renewable	17,971	15,023	10,819
GJ	• From NUCLEAR POWER	106,321	110,287	99,848
GJ	• From OTHER FOSSIL SOURCES – non-renewable	42,580	56,551	56,340
GJ	• SUBTOTAL STEAM CONSUMPTION	1,929,909	1,863,819	1,792,911
GJ	• From NATURAL GAS – non-renewable*	1,929,909	1,863,819	1,792,911
*Data from Radici Chimica S.p.A., which purchases steam from NOVEL.				
GJ	• SUBTOTAL HEATING CONSUMPTION	0	0	0
GJ	• From non-renewable sources	0	0	0
GJ	• SUBTOTAL COOLING CONSUMPTION	0	0	0
GJ	• From non-renewable sources	0	0	0

Table 33

RATIO – Intermediate energy consumption per unit produced		2017	2018	2019
GJ/t	ELECTRICITY only	1.67	1.70	1.76
GJ/t	TOTAL intermediate energy (ELECTRICITY, STEAM, HEATING AND COOLING)	3.47	3.49	3.65

GRI 302-1 Electrical Energy Mix 2017 - 2019





GRI 302-1 Electric energy mix

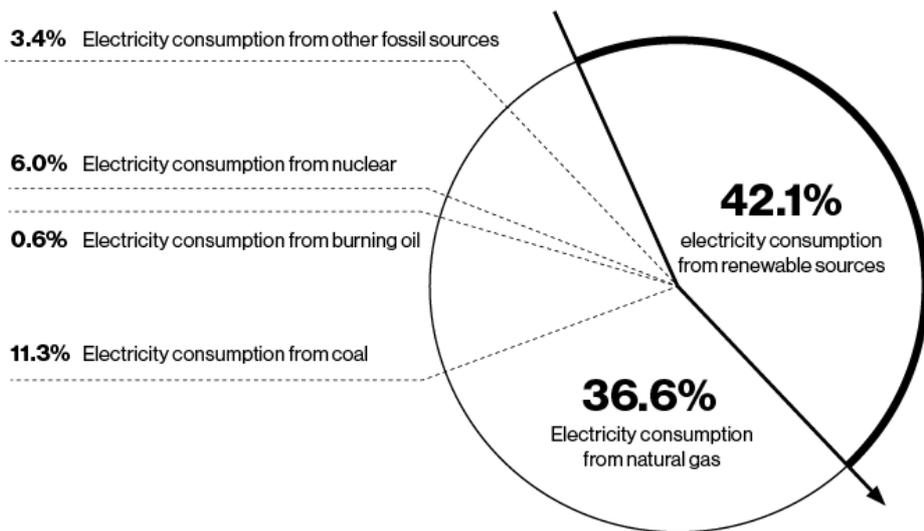
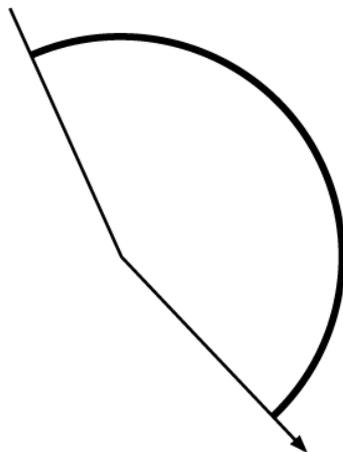


Table 34



Companies using 100% or mostly Renewable source energy:

100%

Companies using 100% green energy

- Radici Novacips - (Villa d'Ogna) Italy
- Radici Novacips - (Chignolo d'Isola) Italy
- Radici Plastics - Brazil
- Radici Plastics - Germania
- Radici Yarn - (Ardesio) Italy
- Radici Partecipazioni (Gandino) - Italy

Plants using 100% green energy

- Polimerizzazione Radici Yarn (Villa d'Ogna) - Italy
- Polimerizzazione Radici Fil (Casnigo) - Italy

80%

Companies using 80% green energy

- Radici Fibras - Brazil

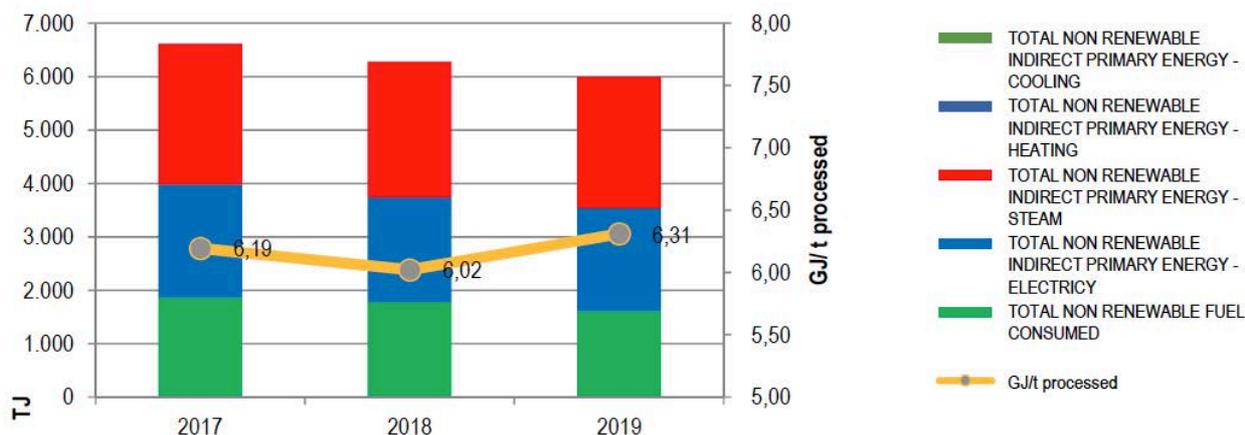
Table 35
PRIMARY ENERGY (DIRECT + INDIRECT) CONSUMPTION FROM NON-RENEWABLE FOSSIL SOURCES

		2017	2018	2019
GJ	TOTAL PRIMARY ENERGY FROM FOSSIL SOURCES	6,611,640	6,272,943	5,991,117
Of which:				(-9.4%)
GJ	• SUBTOTAL INDIRECT PRIMARY ENERGY CONSUMPTION FROM NON-RENEWABLE (FOSSIL) SOURCES	4,754,332	4,493,046	4,380,991
GJ	• TOTAL NON-RENEWABLE INDIRECT PRIMARY ENERGY - ELECTRICITY	2,118,438	1,947,985	1,925,378
GJ	• TOTAL NON-RENEWABLE INDIRECT PRIMARY ENERGY - STEAM	2,635,895	2,545,061	2,455,613
GJ	• TOTAL NON-RENEWABLE INDIRECT PRIMARY ENERGY - HEATING	0	0	0
GJ	• TOTAL NON-RENEWABLE INDIRECT PRIMARY ENERGY - COOLING	0	0	0
GJ	• SUBTOTAL DIRECT PRIMARY ENERGY CONSUMPTION FROM NON-RENEWABLE FOSSIL FUELS (TABLE 30)	1,857,308	1,779,897	1,610,126

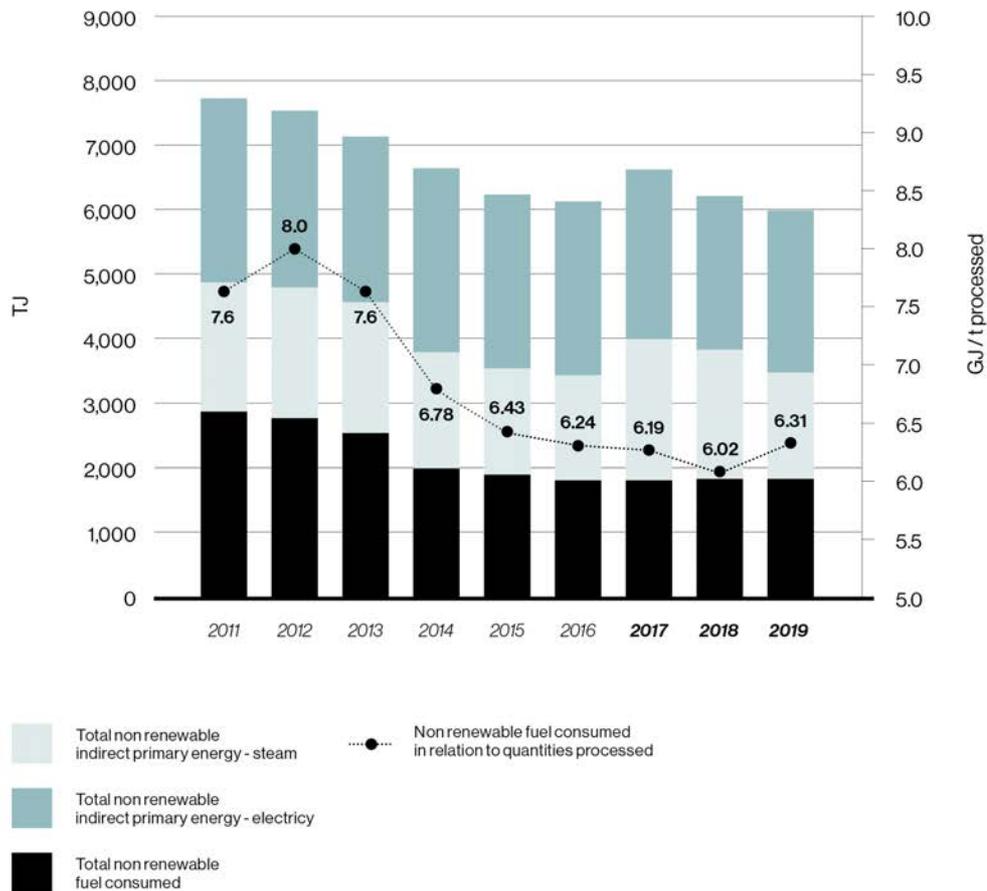
Table 36
RATIO – PRIMARY ENERGY (DIRECT + INDIRECT) CONSUMPTION FROM NON-RENEWABLE FOSSIL SOURCES PER UNIT PRODUCED

		2017	2018	2019
GJ/t	TOTAL PRIMARY ENERGY FROM FOSSIL SOURCES	6.19	6.02	6.31
GJ/t	• INDIRECT PRIMARY ENERGY FROM NON-RENEWABLE FOSSIL SOURCES (TABLE 35)	4.45	4.31	4.61
GJ/t	• NON-RENEWABLE INDIRECT PRIMARY ENERGY - ELECTRICITY	1.98	1.87	2.02
GJ/t	• NON-RENEWABLE INDIRECT PRIMARY ENERGY - STEAM	2.47	2.44	2.59
GJ/t	• NON-RENEWABLE INDIRECT PRIMARY ENERGY - HEATING	0	0	0
GJ/t	• NON-RENEWABLE INDIRECT PRIMARY ENERGY - COOLING	0	0	0
GJ/t	• DIRECT PRIMARY ENERGY (FUEL) FROM NON-RENEWABLE FOSSIL SOURCES (TABLE 31)	1.74	1.71	1.70

GRI 302-1 - Total Primary Energy Consumption within RadiciGroup 2017-2019



GRI 302-1 Total Primary Energy Consumption within RadiciGroup
(from fossil sources)



Case History

Cogeneration at Novara: a partnership for sustainable energy

Sustainability, efficiency and performance: these are the keywords that have guided the modernization of the Novel SpA thermoelectric power plant in Novara, 49% owned by Geogreen, RadiciGroup's renewable-source energy supplier.

During 2019, new hardware and software solutions were implemented, aimed at increasing the flexibility and capacity of the plant – which produces up to 100 megawatts – and, at the same time, reducing emissions, in line with the environmental policies of Geogreen and RadiciGroup.

Thanks to the improved performance of the turbine, it was also possible to optimize the production process of Radici Chimica SpA, which receives approximately 80 GWh of the 700 GWh/year of electricity produced by Novel. Additionally, over 600,000 tons of steam per year is produced by Novel and entirely sold to Radici Chimica for its production cycle. The latter factor increases the value of energy produced, according to the best standards of efficiency and sustainability used by RadiciGroup.

The revamping of the plant has allowed Radici Chimica to reduce potential emissions by about 35%, because of the intrinsic advantages of cogeneration, in addition to the use of advanced technologies and the lower environmental impact of methane gas.

Emissions

With regard to emissions, in 2019 slightly higher values compared to 2018 were recorded. Total direct and indirect emissions rose by 1%, barely affecting the downward trend of the previous years. A similar consideration applies to the ratio of total emissions per unit produced, which was up by 10.8% compared to the prior year (and by 1% over the 3-year period). As reported above, a number of plant shutdowns and startups prevented the plants from operating at the maximum efficiency levels attained in 2018. However, the careful monitoring policy in place at Group companies has allowed them to contain emission increases and, in the case of some sites in the Advanced Textile Solutions Business Area, enabled them to reduce emissions, thus contributing to an overall positive result.

Generally speaking, when looking from a broader time perspective, one can see how extremely important the role played by the Group's investment strategy is. Its effectiveness has been reflected in the emission ratios "per unit produced" since 2011, the year of the first Report certified according to the GRI model. Since 2011, emissions per ton produced have decreased by 51%. [Tables 37 and 38]

Returning to the current reporting year, in 2019, the benchmark comparing the standard energy mixes available nationally with the mix selected by the Group for its business activities remained very favourable. The specific choices made in favour of green electricity or lower impact fuels have enabled RadiciGroup sites to emit 23.8% less greenhouse gas than they would have, if they had used the national energy mix available to them. This percentage value was obtained by calculating the emissions on the basis of both the actual mix of the Group and the national mixes of the individual countries where the plants within the reporting boundary are located (data source www.iea.org – reference year World Balance 2018). This important result highlights RadiciGroup's commitment to decarbonization through concrete choices. [Table 39]

DISCLOSURES 305-1, 305-2

Table 37

GRI 305-1, GRI 305-2 – TOTAL DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS

	2017	2018	2019
tCO ₂ eq TOTAL EMISSIONS (DIRECT + INDIRECT)	522,305	464,449	469,139
tCO ₂ eq • DIRECT EMISSIONS (GRI 305-1)*	237,477	198,555	213,323
tCO ₂ eq • INDIRECT EMISSIONS (GRI 305-2)	284,828	265,895	255,816
tCO ₂ eq • INDIRECT EMISSIONS FROM ELECTRICITY	137,956	124,084	118,989
tCO ₂ eq • INDIRECT EMISSIONS FROM STEAM	146,872	141,811	136,827
tCO ₂ eq • INDIRECT EMISSIONS FROM HEATING	0	0	0
tCO ₂ eq • INDIRECT EMISSIONS FROM COOLING	0	0	0

* The values shown include CO₂ from combustion and N₂O from the production of adipic acid and nitric acid.

(-10%)

Table 38

GRI 305-4 RATIO – DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS PER UNIT PRODUCED

	2017	2018	2019
tCO ₂ eq/t	0.489	0.446	0.494

GRI 305-1 AND GRI 305-2 - TOTAL DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS 2017 -2019

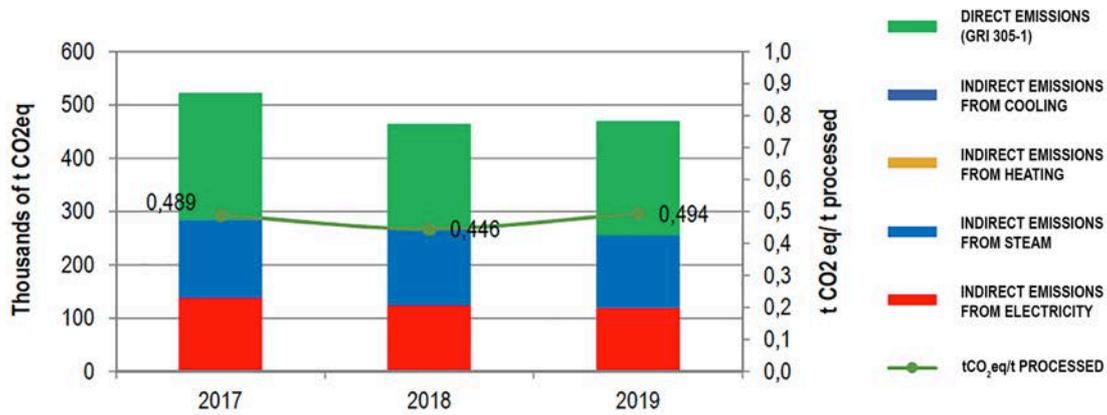


Table 39

BENCHMARK INDIRECT EMISSIONS FROM ELECTRICITY – NATIONAL STANDARD MIX VS RADICIGROUP MIX

	2017	2018	2019	
tCO ₂ eq	INDIRECT EMISSIONS FROM ELECTRICITY – STANDARD NATIONAL MIX*	175,026	175,084	156,236
tCO ₂ eq	INDIRECT EMISSIONS FROM ELECTRICITY – RADICIGROUP MIX (TABLE 37)	137,856	124,084	118,989
tCO ₂ eq	• DIFFERENCE	37,071	51,001	37,247
%	• DIFFERENCE	21.2%	29.1%	23.8%

*The national standard mix is calculated on the basis of annual data from www.IEA.ORG (world balance) for the energy mixes of the countries where RadiciGroup production sites are located.

Finally, with regard to emissions of pollutants at the local level, the results are in line with previous years, as can be seen from the table below. [Table 40]

Table 40

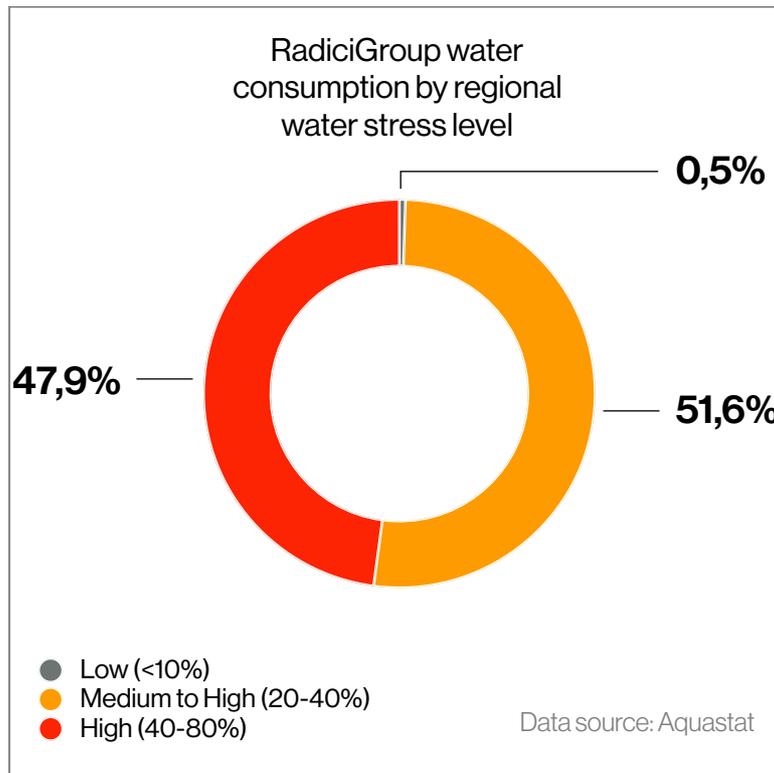
GRI-305-7-DIRECT GREENHOUSE GAS EMISSIONS QUALITY

	2017	2018	2019	
t	TOTAL	173	157	167
t	NOx	141	127	108
t	SOx	0	0	0
t	VOC	8	8	17
t	HAP	0.01	0.01	0.10
t	PM	8	8	19
t	Other emissions	16	14	23

The increase of some values in 2019 is due to the fact that additional controls, not considered in previous editions, have been introduced.

Water used and returned

DISCLOSURES 303-1 / 303-3 / 303-4 / 303-5



Water, an essential fluid for cooling RadiciGroup production plants, is a precious asset. All the ancestral companies of the Group are located in Northern Italy, an area characterized by good water availability in the form of surface water and groundwater, which has always been considered a strategic factor for local development. However, the same area is also ranked as "medium to high water stressed" by the World Resources Institute. Almost all of the Group production sites around the world are located in medium-to-high water stressed regions, as illustrated by the graph in the figure, which relates the amount of water consumed by the Group in 2018, also considered valid for 2019, with the level of water stress in river basins where the sites operate. Indeed, RadiciGroup draws its water mainly from rivers or canals, as shown by Disclosure 303-3.

Aware of the scenario in which water consumption takes place at its sites, RadiciGroup is extremely careful to limit such consumption as much as possible. The Group uses little or no water in its products and does not create long-term water reserves for its production activities that could deprive local communities of their water supply. The same water is used several times within the plants for cooling purposes, then treated in accordance with the legislation in force in the various countries in which the Group operates and, finally, is returned intact to the environment, mainly into surface streams, as seen in Disclosure 303-4. The measured quality of the water returned was in line with the values of previous years. [Tables 44 to 47]

As already indicated in the cases of energy and raw materials, production discontinuity has impacted negatively on the intensity ratio "water consumption per unit produced", which increased slightly (+5.6%), against a trend of decreasing absolute quantities, which went from 91,564 ML (megalitres) in 2017 to 86,029 in 2019 (- 5,535 ML). [Tables 41 and 42]

In this scenario, recycling remained the key element of the Group's water policy, thanks to which the percentage of water saved was equal to 70% (+5% compared to 2017), i.e., a saving ratio of 1.7. The Group recycling percentage would jump to 126% (with a saving ratio of 2.26), if the German company Radici Chimica Deutschland GmbH were excluded from the overall reporting boundaries. In reality, the German site recycles water outside its own site. Thus, the recycling is "external" and, as such, is entered as 0% in the indicator (saving ratio of 1). The German company draws water from a water loop managed by the industrial park where the company is located, which also performs water recycling. Now, if Radici Chimica Deutschland itself were considered to encompass the recycling handled by the industrial park, the water saving would be 5,950%, with residual water withdrawal from the environment that is 60.5 times less than the theoretical requirement and is almost entirely used to replenish the water evaporated and the cooling tower blowdown. [Table 43]

Water withdrawal by source

DISCLOSURE 303-3

Table 41

	2017	2018	2019
ML TOTAL*	91,564	86,464	86,029
ML • TOTAL SURFACE WATER	36,507	35,481	38,279
ML • Other water	0	0	0
ML • Freshwater	36,507	35,481	38,279
m ³ • From rivers/canals	36,041,554	35,013,017	37,755,178
m ³ • From springs	465,195	468,049	523,829
ML • TOTAL GROUNDWATER	10,206	9,477	9,436
ML • Other water	0	0	0
ML • Freshwater	10,206	9,477	9,436
m ³ • From wells	10,206,239	9,476,849	9,436,032
ML • TOTAL THIRD-PARTY WATER	44,851	41,506	38,314
ML • Other water	0	0	0
ML • Freshwater	44,851	41,506	38,314
m ³ • From aqueducts	171,948	155,355	135,576
m ³ • From private utilities	44,678,576	41,350,964	38,178,805

*For sites where the quantity of water discharged is not measured, such quantity is set equal to the water withdrawn. Similarly, in those cases where only water discharged is measured, the water withdrawn is generally set equal to the water discharged.

Table 42

RATIO – Use of water resources per unit produced	2017	2018	2019
ML/t	0.086	0.083	0.091

Table 43
WATER RECYCLED AND REUSED

		2017	2018	2019
WATER SAVING				
m ³	Water withdrawn	91,563,512	86,464,234	86,029,420
m ³	Water recycled	59,815,885	59,257,811	60,192,287
%	Water saved	65%	69%	70%
n	<i>Saving ratio</i>	1.65	1.69	1.70
WATER SAVING WITHOUT RADICI CHIMICA DEUTSCHLAND				
m ³	Water withdrawn	46,880,024	45,108,470	47,846,410
m ³	Water recycled	59,815,885	59,257,811	60,192,287
%	Water saved	128%	131%	126%
n	<i>Saving ratio</i>	2.28	2.31	2.26
WATER SAVING BY RADICI CHIMICA DEUTSCHLAND AND THE INDUSTRIAL PARK				
m ³	Water withdrawn			637,191
m ³	Water recycled			37,910,610
%	Water saved			5950%
n	<i>Saving ratio</i>			60.5

DISCLOSURE 303-4

Table 44
WATER DISCHARGE BY DESTINATION

		2017	2018	2019
ML	TOTAL*	86,603	81,605	85,707
ML	• SURFACE WATER	41,859	40,275	47,533
	• Into surface water	41,859	40,275	47,533
	• PRIVATE UTILITIES	44,744	41,330	38,174
ML	• Into sewer systems	360	260	243
ML	• Into industrial canals for reuse	44,384	41,070	37,931

*For sites where the quantity of water discharged is not measured, such quantity is set equal to the water withdrawn. Similarly, in those cases where only water discharged is measured, the water withdrawn is generally set equal to the water discharged.

Table 45
WATER DISCHARGE BY TYPE

ML	• TOTAL *	42,219	40,535	47,776
ML	• Of which water discharged directly	41,129	39,288	46,508
ML	• Of which treated in internal purification plant	1,090	1,247	

*Values refer to discharges into surface water or sewer systems, with the exclusion of water returned in industrial canals for reuse, as the canals are not owned by the Group.

Table 46

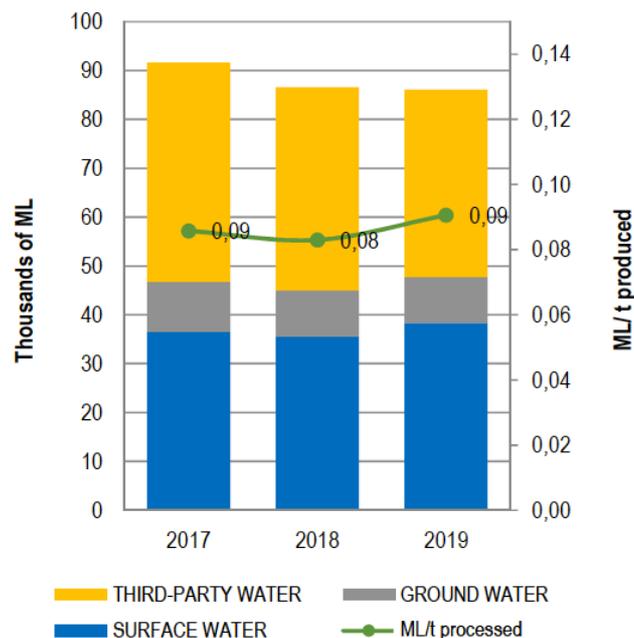
RATIO – Water discharge per unit produced	2017	2018	2019
ML/t	0.040	0.039	0.050

Table 47
WATER DISCHARGE QUALITY

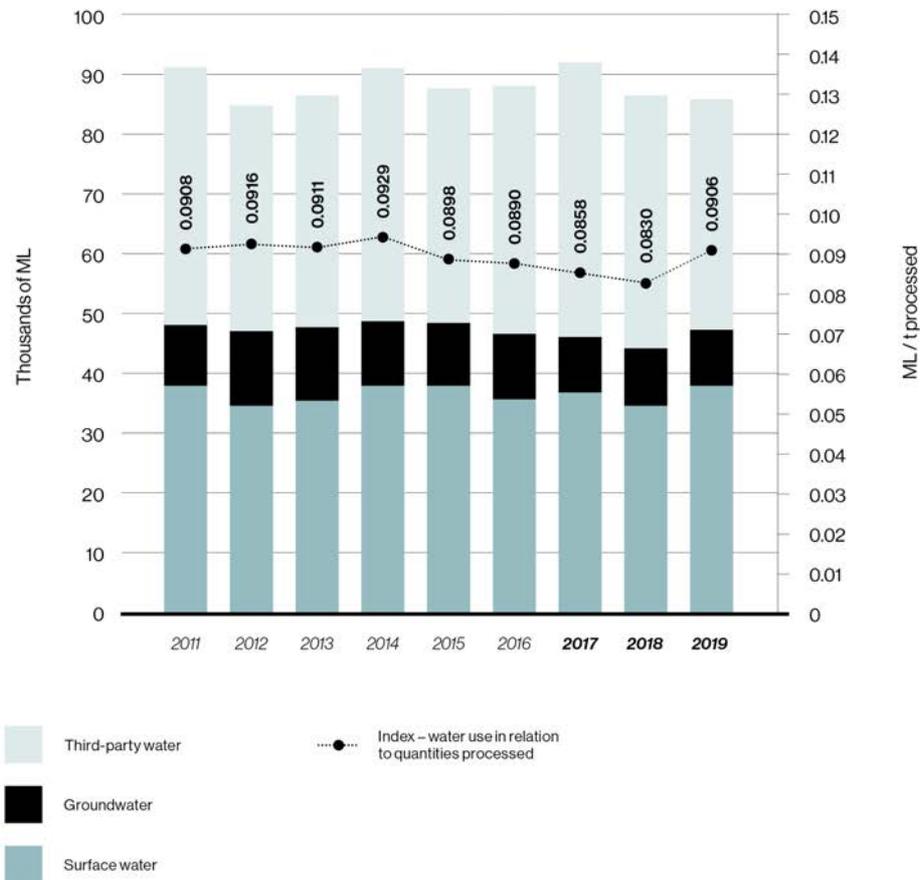
	2017	2018	2019
kg COD	1,577,728	1,427,080	1,539,325
kg Total nitrogen	1,206,893	1,205,101	1,121,289
kg Suspended solids	19,138	43,417	13,132
kg Metals*	8,348	9,399	8,795

*Metals include: aluminium, chrome, iron, nickel, copper, vanadium and zinc.

GRI 303-1 WATER WITHDRAWAL BY SOURCE 2017 -2019



GRI 303-3 Water withdrawal by source



Lactam water recovery: the thousand faces of environmental sustainability

Improvement in environmental performance, in addition to improvement in polymer and yarn quality: these were the goals set for the new lactam wastewater recovery plant inaugurated in early 2019 at the Radici Fil plant, specialized in the polymerization of polyamide 6 and the production of BCF yarn.

The plant enables recycling the water from the polymerization process, in which the concentration of caprolactam is around 8 to 12 %. Using falling film and mechanical vapour recompression technologies, the plant raises the caprolactam concentration in the output solution up to 80%, thus making the recovered caprolactam concentrate suitable for reuse in continuous cycle polymer production.

This technology also allows for reducing the use of heat energy and will thus help the company meet EU objectives 2020 (ETS), concerning the reduction of allowed CO₂ emissions. The new plant has already proven effective in achieving a significant reduction in the quantity of natural gas used for steam production, as well as a generalized improvement in the quality of the output product. The quantity of steam needed for the lactam wastewater recovery process in the new system has fallen by about 80% (the pressure being equal) compared to the amount required by the old plant previously in operation. This reduction, in turn, has had a positive effect on Radici Fil's overall performance: the consumption of natural gas needed for the operation of the entire production plant has dropped by about 30%. This resulted in a remarkable 27% reduction in plant emissions.

Another innovative feature of the new plant is that it adapts to load variations dictated by production needs, flexibly adjusting to the variations in the incoming lactam water flow rate in a range from 60% to 100% of the load and delivering excellent energy efficiency in any operation mode. A holistic approach that ensures not only lower consumption, but also enhanced product quality through process improvement and a better use of raw materials.

Social Performance

MANAGEMENT APPROACH DISCLOSURE GRI 103-1

At RadiciGroup, people and thus social sustainability, are the basis for its sustainable development policies. Among the principles upholding the pact of trust between the Group and its employees are to:

- **Safeguard employment as the primary asset** in all its companies.
- **Respect the human rights of workers everywhere in the world** and promote fair and transparent work conditions and relationships, consistent with the legislation of each country in which it operates.
- **Protect worker health and safety** by constantly monitoring the effectiveness of risk management processes, provide training on specific health and safety topics, and raise the awareness of each employee about his/her contribution to the safety management of the company.
- **Implement continuous and voluntary training programmes that aim** at developing the skills of each employee in accordance with his/her aptitudes, work duties and professional career, as indicated in the section of the Report dedicated to workers.
- **Support balance between work and family life**, by implementing complementary welfare measures at most of its production sites.
- **Involve workers through internal discussions and other engagement initiatives** aimed at raising team spirit.
- **Use reporting tools**, such as the Sustainability Report, to measure and communicate its social sustainability commitment and results in a transparent manner.

Below is an up-to-date record of RadiciGroup social performance.

Health and Safety

At the beginning of 2019, the RadiciGroup GRI team developed a questionnaire to supplement the monitoring systems already in place, based on Disclosure 403 (Occupational Health & Safety) and submitted it to the sites included in the reporting boundary. The objective was to gather qualitative data to complement and help contextualize the quantitative data collected for the Report. For the 2019 edition of the Sustainability Report, the questionnaire was reformulated for greater clarity and effectiveness.

DISCLOSURE GRI 403-1

All Group companies have a health and safety management system in place. For the Italian sites, the main normative reference for occupational health and safety is Legislative Decree [D.Lgs] 81/2008, which offers incentives for the implementation of an organization and management model. Many of the Group plants have a management system based on the voluntary ISO 45001 standard for occupational health and safety management, which is gradually replacing the OHSAS 18001 standard. The ISO 45001 standard has a business-oriented approach; it not only assesses risks but also considers management opportunities, includes both external and internal stakeholders, and promotes engagement and active participation.

A key role is assigned to the staff responsible for the management system, who are for the most part employees working at the various sites. They may have different titles depending on the legislative and regulatory framework of the various businesses worldwide. With regard to the Italian sites, the head of the prevention and protection service (RSPP) and the employer have the specific duty to organize and manage a risk prevention and protection system, in compliance with Legislative Decree [D.Lgs] 81/2008. The duties of these professionals, who also have the

responsibility to keep their skills up to date, include the identification and assessment of risk factors, the development of preventive and protective measures, and worker training and information. In performing their tasks, the RSPPs may be assisted by the managers of the Occupational Health & Safety (SSL) Management Systems and by the employer itself. At other Group company sites, management responsibility is given to different internal professionals, depending on the applicable legislation. Often nominated to the position are employees from Human Resources, who may be assisted, at times, by external consultants.

DISCLOSURE GRI 403-4

Not only the appointed professionals are responsible for health and safety, but all workers are also called upon to develop and improve management systems. The Group sites have mechanisms in place to engage workers on this issue, on top of the legislative requirements. Training has a primary role: about 36% of the total hours for employee training are dedicated to health and safety topics. In addition to training courses, the most common means of engagement are operating instructions, circulars and instructional materials. [Table 12]

Furthermore, at all RadiciGroup production sites in Italy, a Worker Safety Representative (RLS) is either appointed or elected. The function of this professional is to collect and report complaints, problems and requests for information and clarification submitted by workers, in order to generate a spirit of active participation in the practice of workplace health and safety principles. The role of the Worker Safety Representative is to get workers engaged in the decision-making process in the development phase of protective and preventive measures by having them express their ideas, opinions and worries. Similar figures, although with different titles and slightly different roles, exist at all Group plants, and all of them perform the important task of acting as a go-between for the company and the workers.

At all RadiciGroup sites, in a more or less formalized manner and at intervals established by current legislation or site requirements, joint meetings are held with the company and employees to analyse the situation regarding accidents, monitoring and risk management. At the Italian Group plants, in compliance with Legislative Decree [D.Lgs] 81/2008, a meeting is held, at least once a year, with the participation of the employer, the heads of the prevention and protection services (RSPPs), the worker safety representatives and the appointed medical doctor. At many of the Group sites, other meetings are also held on a regular basis. At some of the Italian companies, the Health, Safety and Environment Committee, if present, may also hold meetings. Finally, at some sites, real internal inspections are conducted at set intervals to bring out and correct potential risk situations. The results of these inspections and the measures put in place are part of the input for the reviews by Group management.

Besides meetings, all workers at every Group company can report a risk situation at any time through a variety of tools, from specific reports to communication with their supervisor or with the Worker Safety Representative.

DISCLOSURE GRI 403-2

At all RadiciGroup sites, risk assessment is the basis for all preventive actions. At each company, the people responsible for occupational health and safety generally prepare risk assessment documentation for every task in normal, abnormal and emergency conditions, based on the risks that are identified, assessed, monitored and mitigated.

In most cases, health and safety management is based upon recognized risk management standards and guidelines, which are applied to all company workers. In the pursuit of continuous improvement of their performance, all Group sites are equipped with monitoring, risk assessment and performance evaluation systems and/or full-fledged improvement plans.

The numerical indicators that describe the state of occupational health and safety at RadiciGroup are reported below. These are the results of the essential work described above and of the sizeable investments made by RadiciGroup in the best available technologies available on the market for safety matters.

The data show a decrease in the number of total work-related injuries (-6 injuries) compared to 2018, a year when this indicator reached a critical point. Of the total number of injuries in 2019, 67 were non-high-consequence and 14

high-consequence injuries, with two more cases in the latter category compared to the prior year. In this context, some of the main health and safety indicators have actually improved, namely: “total injury lost days” and “injury lost days rate” (severity rate) for Group employees. On the other hand, the rate of high-consequence injuries increased, albeit with a concurrent decrease in “injury lost days and the “injury lost days rate”. No fatalities were recorded. [Tables 48, 49, 51]

Narrowing the focus to employees, a similar, general improvement in the various indicators relating to both high-consequence and non-high-consequence injuries can be observed for the reporting year. The majority of recorded incidents were non-high-consequence injuries. A systematic analysis of incidents conducted at the various Group sites showed that the most common types of injuries were: contusions, abrasions and fractures. Therefore, measures have been strengthened to increase the attention and awareness of workers, also in line with the provisions of ISO 45001, which strongly calls for individual involvement. [Table 50]

Finally, starting in 2020, a study is in progress on the adoption of management software at the Group level that will make all the health and safety policies more coordinated and synergistic, as well as help monitor accidents and near misses across the Group.

DISCLOSURE GRI 403-9

Table 48

GENERAL OVERVIEW OF INJURY SITUATION

		2017	2018	2019
n	Total workers*	3,321	3,335	3,336
hours	Total hours worked	5,489,755	5,530,787	5,448,250
n	Number of fatal injuries	0	0	0
n	Total number of injuries	69	87	81
n/200,000h	Injury rate	2.51	3.15	2.97
days	Injury lost days (days away from work)	1,685	2,441	2,058
d/200,000h	Injury days lost rate	61.39	88.27	75.41

*AT 31/12/2019, WORKERS INCLUDED CONTRACT WORKERS, TEMPORARY WORKERS AND EMPLOYEES.

Table 49
DETAILED INJURY SITUATION – TOTAL WORKERS

		Men			Women			Total		
		2017	2018	2019	2017	2018	2019	2017	2018	2019
n	Total WORKERS*	2,472	2,494	2485	849	841	851	3,321	3,335	3,336
hours	Total hours worked	4,154,146	4,181,446	4,106,249	1,335,609	1,349,341	1,352,001	5,489,755	5,530,787	5,458,250
n	Number of fatal injuries	0	0	0	0	0	0	0	0	0
n	Number of high-consequence injuries	8	10	11	1	2	3	9	12	14
n/200,000h	High-consequence injury rate	0.39	0.48	0.54	0.15	0.30	0.44	0.33	0.43	0.51
days	Injury days lost	603	1,125	923	63	172	207	666	1,297	1130
d/200,000h	High-consequence injury days lost rate	29.0	53.8	45.0	9.4	25.5	30.6	24.3	46.9	41.4
n	Number of non-high-consequence injuries	55	70	59	5	5	8	60	75	67
n/200,000h	Non-high-consequence injury rate	2.65	3.35	2.87	0.75	0.74	1.18	2.18	2.70	2.45
days	Total days lost	953	1,045	811	66	99	117	1,019	1,144	928
d/200,000h	Non-high-consequence days lost rate	45.9	50.0	39.5	9.9	14.7	17.3	37.1	41.4	34.0

* AT 31/12/2019, WORKERS INCLUDED CONTRACT WORKERS, TEMPORARY WORKERS AND EMPLOYEES.

Note:* Below are the rules followed for data processing related to the health and safety disclosures:

- a) The disclosures cover all the workers of the organization divided into employees, temporary workers and self-employed contract workers on a coordinated and continuous collaboration contract with a Group site.
- b) Hours worked is the number of hours of actual presence (the sum of regular plus overtime hours).
- c) An injury is an incident that resulted in at least one workday away from work, not counting the day of the incident itself.
- d) Commuting incidents are not taken into account.
- e) The days away from work after an injury are the number of full calendar days of absence starting from the day the injury occurred up to the day of return to work, and not the number of workdays. The day the injury occurred is not included.
- f) The indicator takes into account any relapse from previous injuries.
- g) Injuries are classified into fatal, high-consequence and non-high-consequence. High-consequence injuries are incidents that cause injuries with a prognosis of > 40 days (total prognosis including any relapses) and/or injuries causing permanent damage (based on information that the employer can legitimately ascertain) or with a recovery time of > 6 months. All other injuries are considered non-high-consequence injuries.

h) Injuries have been classified according to the following list:

- Contusion, abrasion, would, cut
- Distortion, displacement or sprain
- Fracture
- Amputation
- Burns, chemical or physical
- Intoxication
- Anoxia / asphyxiation (drowning, strangulation)
- Electrocution

Table 50
DETAILED INJURY SITUATION – EMPLOYEES

		Men			Women			Total		
		2017	2018	2019	2017	2018	2019	2017	2018	2019
n	Total EMPLOYEES	2,227	2,240	2,249	826	824	825	3,053	3,064	3,074
hours	Total hours worked	3,719,776	3,734,456	3,692,336	1,290,606	1,310,1061	1,309,177	5,010,381	5,044,517	5,001,513
n	Number of fatal injuries	0	0	0	0	0	0	0	0	0
n	Number of high-consequence injuries	7	10	9	1	2	3	8	12	12
n/200,000h	High-consequence injury rate	0.38	0.54	0.49	0.15	0.31	0.46	0.32	0.48	0.48
days	Injury days lost	458	1,125	766	63	172	207	521	1297	973
d/200,000h	High-consequence injury days lost rate	24.6	60.2	41.5	9.8	26.3	31.6	20.8	51.4	38.9
n	Number of non-high-consequence injuries	52	63	56	4	5	8	56	68	64
n/200,000h	Non-high-consequence injury rate	2.80	3.37	3.03	0.62	0.76	1.22	2.24	2.70	2.56
days	Total days lost	935	979	754	55	99	117	990	1,078	871
d/200,000h	Non-high-consequence days lost rate	50.3	52.4	40.8	8.5	15.1	17.9	39.5	42.7	34.8

Table 51
DETAILED INJURY SITUATION – EXTERNAL (TEMPORARY AND CONTRACT) WORKERS

		Men			Women			Total		
		2017	2018	2019	2017	2018	2019	2017	2018	2019
n	Total EXTERNAL WORKERS	245	254	236	23	17	26	268	271	262
hours	Total hours worked	434,370	446,990	413,913	45,004	39,280	42,824	479,373	486,270	456,737
n	Number of fatal injuries	0	0	0	0	0	0	0	0	0
n	Number of high-consequence injuries	1	0	2	0	0	0	1	0	2
n/200,000h	High-consequence injury rate	0.46	0.00	0.97	0	0	0	0.42	0	0.88
days	Total days lost	145	0	157	0	0	0	145	0	157
d/200,000h	High-consequence injury days lost rate	66.8	0	75.9	0	0	0	60.5	0	68.7
n	Number of non-high-consequence injuries	3	7	3	1	0	0	4	7	3
n/200,000h	Non-high-consequence injury rate	1.38	3,13	1.45	4.44	0	0	1.67	2.88	1.31
days	Total days lost	18	66	57	11	0	0	29	66	57
d/200,000h	Non-high-consequence days lost rate	8.3	29,5	27.5	48.9	0	0	12.1	27.1	25.0

Case History

Health and safety: strategic priorities at Radici Plastics Ltda

Providing information and training on health and safety in the workplace is certainly among the cornerstones of RadiciGroup's corporate policy. At the Brazilian company Radici Plastics Ltda, engaged in the production of engineering polymers, there is a particularly strong commitment to raising the awareness of employees and their level of engagement in accident prevention through special initiatives that are highly appreciated and participated in by workers.

In particular, from 18 to 22 November 2019, the company organized SIPAT, *Semana Interna de Prevenção* [Internal Prevention Week], a whole week of training courses and activities to highlight and reflect on the specificities of issues related to health and safety in the workplace.

The goal set by RadiciPlastics under the “+365 days with no accidents” slogan was an ambitious one: going a whole year with no accidents and no injuries. The objective was formally declared as possible by the workers and was shared at every level of the company and reiterated through regular internal communication campaigns.

Attractive and witty infographics, often designed with the creative contribution of the employees themselves, called for the use of personal protective equipment, promoted order and cleanliness in the departments and invited workers to keep their focus and concentration high during their daily activities. All that evolved from the awareness that health and safety are essential corporate values and their promotion brings about a more serene working (and family) life.

Case History

RadiciGroup QHSE function heads and experts meet at the first Global QHSE Meeting of the HPP Business Area to exchange ideas and share knowledge

In October 2019, the heads and representatives of the RadiciGroup Quality Assurance and Health, Safety and Environment (QHSE) functions came to Italy from countries all over the world, where the High Performance Polymers Business Area operates and has its production plants: besides Italy, Germany, China, the United States, Mexico and Brazil. The three-day event, from 23 to 25 of October, was an occasion for colleagues who had never met before to get to know each other, exchange experiences and formulate objectives for the future.

One of the key moments of the international meeting was the sharing of good practices with regard to Operation Clean Sweep, an ambitious project that puts RadiciGroup High Performance Polymers at the forefront in the fight to drastically reduce the release of plastic dust and granules into the environment.

Another key moment was dedicated to the promotion of safety, energy and environmental management with a view to sustainability, according to RadiciGroup guidelines. In the discussion among the participants, these issues took on different connotations depending on the geographical and cultural context and personal experience. An additional opportunity for discussion was the planning of common paths to ISO 14001 and ISO 45001 certification for all plants. Finally, a number of focus groups conducted by RadiciGroup internal and external experts on hot topics such as sustainability, occupational diseases and hazardous substances, further contributed to the exchange of knowledge between Group personnel from different business areas.

Health protection

DISCLOSURE GRI 403-2

With regard to health, all companies have implemented various levels of occupational health services, in application of mandatory legal requirements, and have assigned the responsibility for these services to individuals in charge of safety matters.

Occupational health services are provided by skilled individuals with nationally recognized qualifications and accreditations. In Italy, these services are provided by appointed medical doctors and, in other countries, by medical personnel with similar functions and responsibilities. In Italy, the main tasks of the doctor are to inspect workplaces, establish a health monitoring plan, perform routine medical checks, compile workers' fitness-for-work statements and share the results of his/her work with the company.

The workers' health data are always managed with the utmost confidentiality, in compliance with the regulations in force in the various countries. As far as occupational illnesses are concerned, in 2019 two recognized occupational diseases were recorded in as many Italian companies related to musculoskeletal disorders and skin diseases. [Tables 52, 53]

Many Group companies offer supplementary health insurance or services related to the promotion of worker health on selected topics in response to specific employee needs. Included may be free flu vaccination services, courses and meetings offered by companies to promote healthy eating, and training for managing stress and fighting addiction. Sometimes these services are also freely available to the workers' family members, to further greater involvement.

Table 52
WORK-RELATED ILLNESS – EMPLOYEES

		Men			Women			Total		
		2017	2018	2019	2017	2018	2019	2017	2018	2019
n	Total EMPLOYEES	2,227	2,240	2,249	826	824	825	3,053	3,064	3,074
hours	Total hours worked	3,719,776	3,734,456	3,692,336	1,290,606	1,310,061	1,309,177	5,010,381	5,044,517	5,001,513
n	Number of fatalities from work-related illness	0	0	0	0	0	0	0	0	0
n	Diagnosed work-related illnesses	5	4	2	1	0	0	6	4	2
n/200,000h	Work-related illness rate	0.27	0.21	0.11	0.15	0	0	0.24	0.16	0.08

Table 53
WORK-RELATED ILLNESS – EXTERNAL (TEMPORARY AND CONTRACT) WORKERS

		Men			Women			Total		
		2017	2018	2019	2017	2018	2019	2017	2018	2019
n	Total EXTERNAL WORKERS	245	254	236	23	17	26	268	271	262
hours	Total hours worked	434,370	446,990	413,913	45,004	39,280	42,824	479,373	486,279	456,737
n	Number of fatalities from work-related illness	0	0	0	0	0	0	0	0	0
n	Diagnosed work-related illnesses	0	0	0	0	0	0	0	0	0
n/200,000h	Work-related illness rate	0	0	0	0	0	0	0	0	0

Reconciling private and working life

In addition to health and safety protection, RadiciGroup also promotes the best possible balance between work and private life by implementing the measures and instruments provided for by law, mainly reductions of working hours (part-time), parental leave and leave to assist family members, if provided for by the laws of the host country.

Especially in Italy, companies are gradually introducing a “corporate welfare system”: a set of measures implemented by the employer to increase the personal and social well-being of workers and their families. Corporate welfare benefits have a positive impact on RadiciGroup's productivity and competitiveness. Responding to the needs expressed by workers to build a comfortable environment can become a distinctive corporate component and competitive leverage for creating value.

RadiciGroup also promotes special initiatives for its employees aimed at improving their physical and psychological well-being. Since 2015, RadiciGroup has carried on a project called Workplace Health Promotion (WHP), conceived by the Bergamo ATS [Local Health Unit] and the Region of Lombardy to encourage workers to adopt a healthy lifestyle and a positive mental attitude. During 2019, the RadiciGroup STOBENE [I Feel Good] programme was started up to promote employee well-being and fitness linked to the good practices of the WHP project. Many Group companies are involved in the STOBENE initiative.

Case History

ATS Bergamo, the Region of Lombardy and Confindustria Bergamo recognized Radici Partecipazioni SpA, Tessiture Pietro Radici SpA, Geoenergie SpA and RadiciFil SpA for their engagement in the WHP Project

In November 2019, four RadiciGroup companies were recognized for their activities aimed at promoting health and well-being in the workplace within the "WHP 2019 Project". In the province of Bergamo, the project involves 153 workplaces with a total of 40,000 people.

During 2019, the RadiciGroup WHP team conducted numerous initiatives under three main lines of action:

- Promotion of a proper diet through fresh fruit once a week, healthy snacks in vending machines and light menus in factory canteens or for company lunches and coffee breaks.*
- Promotion of physical activity: sports tournaments, leisure-time walks, mountain excursions and green and urban hiking.*
- Promotion of personal and social well-being and reconciling private and work life: school and career orientation meetings for children of employees, special discounts at sports centres, and solidarity initiatives in favour of non-profit organizations.*

Another award for a project – a collaboration with the Associazione Industriale [Industrial Association] and the ATS [Local Health Unit] of Novara – went beyond the regional border of Lombardy to reach Radici Chimica SpA and its 300 employees in Novara, in the Region of Piedmont.

Case History

e-Bike experience: RadiciGroup in the saddle for sustainable mobility

To promote a healthy lifestyle and, at the same time, raise awareness of topics related to sustainable mobility, renewable energy and respect for the environment: with these goals RadiciGroup joined the BikeUP event, a festival dedicated to electric bikes that took place in Bergamo from 29 to 31 March 2019.

In conjunction with the event, RadiciGroup offered its employees the opportunity to participate in an "e-bike experience": discovering Bergamo on an electric bicycle under the supervision of experienced guides, a rigorously zero-environmental-impact activity. A similar event was repeated in September 2019 with "Presolana e-bike", a cycling excursion on the trails of our mountains.

Parallel to the search conducted in all business areas of the Group for products and applications tailor-made for sustainable mobility, particularly e-mobility, RadiciGroup took advantage of the opportunity offered by these events to highlight the Group's strong focus on environmental protection and also show that cycling is a way to help the environment.

System sustainability

MANAGEMENT APPROACH DISCLOSURE GRI 103-1

Sustainability is a driver for strategic change – authoritatively pointed out by both the United Nations Sustainable Development Goals and the European Green Deal – that places companies at the centre of a radical transformation to ensure a fair future for everyone. Companies play a fundamental role in this challenge and opportunity, because a sustainable development strategy can only be grounded in a context made up of processes, products, markets, resources and territories that are different for each organization.

Voluntary quality, safety, environmental and energy management systems, implemented according to the most advanced and recognized international standards, make up a framework of best practices and valuable tools for sustainable management. Over time, RadiciGroup has developed a path to sustainability, which is now a process in its own right, by making management systems a pivotal part of its strategy, which goes far beyond mere compliance.

The Group's management systems are built with a risk-based thinking approach, which entails an accurate analysis of the business context and processes in order to measure, monitor and manage risks and opportunities. The systems give solidity and provide sound and measured data, supporting the concept – well rooted in the Group – that unsustainable governance of the business constitutes, in itself, a significant strategic and operational risk. Furthermore, through the principle of continuous improvement, management systems promote progress and innovation at company sites, contributing to increased efficiency and competitiveness.

The systems are a solid but dynamic guide for managing emergency situations, in that they are resilient and allow for flexibility in the application of tested and proven solutions, helping to preserve business continuity even in complex circumstances. Thanks to the Group's effort to actively engage its stakeholders, the management systems aid in spreading a shared sustainability culture inside and outside its companies. Thus, all players in corporate processes have to consciously take on responsibility.

Finally, rigorous and credible third-party certifications ensure that the management systems provide a clear picture of the Group's quality, safety, environmental and energy performance and, thus, contribute to strengthening RadiciGroup's reliability and credibility with its stakeholders.

RadiciGroup got started on the path towards certified management systems in 1993. Below is an overview of the Group's certifications, which tells the story of more than twenty years of sustainability, which has evolved in its objectives and operating methods together with the Group itself. The most significant steps in the reporting year were the migrations from the OHSAS 18001 standard to the ISO 45001 standard, and from ISO TS 16949 to IATF 16949. The migrations activated processes of organisational renewal and introduced elements facilitating a global vision of the organization, with a view to business continuity.

Table 54

RadiciGroup Certifications

Updated H1,2020 24/07/2020

RadiciGroup Site	ISO 9001	IATF 16949	ISO 14001	ISO 45001	OHSAS 18001	ISO 50001
Corporate						
Radici Partecipazioni S.p.A.	●					
Business Area: Specialty Chemicals						
Radici Chimica Novara S.p.A.	●		●	●		●
Radici Chimica Deutschland GmbH	●		●		●	●
Business Area: High Performance Plastics						
Radici Novacips S.p.A. - Villa d'Ogna	●	●	●	●		
Radici Novacips S.p.A. - Chignolo	●		●	●		
Radici Plastics GmbH	●	●	●			●
Radici Plastics Ltda (Brasil)	●	●	●			
Radici Plastics (Suzhou) Co. Ltd.	●	●	●			
Radici Plastics Usa, Inc.	●	●				
Radici Plastics Mexico S. De R.l.	●	●				
Radici Plastics Bv	●	●	●			
Business Area: Advanced Textiles Solutions						
Radici Fil S.p.A.	●		●	●		●
Logit Sro	●		●		●	●
Radici Yarn S.p.A. - Villa d'Ogna	●		●			
Radici Yarn S.p.A. - Ardesio	●		●			
S.c. Yarnea Srl	●		●		●	
Radici Chemiefaser GmbH						●
Radicifibras Ltda	●					
Noyfil S.p.A. - Chignolo	●				●	
Noyfil S.p.A. - Andalo Valtellino	●				●	
Noyfil Sa - Stabio	●		●			
Cordonsed Sa						
Tessiture Pietro Radici S.p.A.	●		●	●		

In 2019, new certifications were added to the above list, namely Environmental Product Declarations for products of the High Performance Polymers Business Area – Heramid A (PA 6.6), Radilon® S (PA 6) and Radilon® A (PA 6.6) and the Advanced Textile Solutions Business Area – Radifloor® (PA 6 and PA 6.6) Bulk Continuous Filament and Refined Yarns. Advanced Textile Solutions also added certifications of compliance to the Global Recycled Standard (GRS) for its nylon recycled products (Renycle®, previously named r-Radyarn®) and polyester recycled products (Repetable®, previously named r-Starlight®).

Certifications and contribution to SDGs

MANAGEMENT APPROACH DISCLOSURE GRI 103-1

The certifications held by companies are a key factor in achieving the United Nations Sustainable Development Goals in a context of global sustainability. Below is a table showing how the ISO standards align with the specific SDGs. Thus, certification to a specific ISO standard, together with a robust conceptual and organizational structure upstream, help to achieve the corresponding UN SDGs.

Table 55

CERTIFICATION	SUSTAINABLE DEVELOPMENT GOALS
ISO 14001:2015 – Environmental Management	Goal 6, Goal 7, Goal 9, Goal 13, Goal 14, Goal 15
ISO 50001:2018 – Energy Management	Goal 7, Goal 11, Goal 13
ISO 45001:2018 – Occupational Health and Safety	Goal 3, Goal 8, Goal 11
ISO 9001:2015- Quality Management Systems	Goal 9, Goal 12
ISO 14044:2006 – Environmental management – Life cycle assessment	Goal 9, Goal 12, Goal 13, Goal 14, Goal 15
ISO 14024:2018 – Environmental Labels and Declarations	Goal 9, Goal 12

The ISO 26000 standard on the social responsibility of organizations underlies the Group's entire sustainability process, and the philosophy it promotes is the same one that inspires the UN Sustainable Development Goals.

To learn more, visit: <https://www.iso.org/sdgs.html>

Risk-based approach and risk analysis

MANAGEMENT APPROACH DISCLOSURE GRI 103-1

The risk-based thinking approach has long been fundamental to RadiciGroup in identifying and assessing both risk factors and opportunities. The aim of the approach is to identify the risks and identify and implement corrective action in order to reduce or eliminate all the factors that could negatively impact the organization's processes. The analysis models used by RadiciGroup take into account contexts and characterization factors specific to both individual companies and the Group as a whole.

A weighted analysis of risks and opportunities is conducted, and the results are used by the business area managers and process heads for their strategic and operational planning. Moreover, the analysis of the context and stakeholder expectations is a key factor in building the materiality matrix reported in this Report.

In order to make the risk-based thinking approach more effective, in 2019 and early 2020, RadiciGroup carried out a careful selection among QHSE software packages with the capability of handling all the factors related to the Group's quality, health, safety and environmental processes in a group-wide and synergistic manner. The objective of the new software is to strengthen the strategic line of management put in place so far, while increasing the possibility of group-wide analysis/handling by business area, product application or process, even more aligned with RadiciGroup's needs and effective management.

During the first few months of 2020, the risk-based thinking approach enabled the Group's sites to react quickly to the coronavirus emergency. Thanks to the simulation of possible risk scenarios, health and safety measures were introduced to allow for faster, more structured and effective handling of the situation.

Research and innovation: the birth of Radici InNova

MANAGEMENT APPROACH DISCLOSURE GRI 103-1

At the end of 2019, Radici InNova, a consortium for research and innovation, was founded. The new company will play a key role in RadiciGroup's sustainable growth and provide crucial support for the Group's strategic decision-making.

Radici InNova, while remaining fully integrated within RadiciGroup's vision, is an independent entity that can rely on a lean structure, ready to quickly recognize needs and seize opportunities coming from stakeholders. The company's vision is contained in the name itself and reads: to identify and develop opportunities for "radical innovation", consistent with the corporate vision and compatible with sustainability. This aim is also to be achieved through collaboration projects with research centres of excellence outside RadiciGroup, with a view to creating intangible value through the exchange and growth of knowledge.

The strong involvement of Group top management in the new entity stands as a guarantee that the business strategy decisions will be incisive. The Innovation & Research Committee, Radici InNova's decision-making body, can count on the membership of shareholders, the CFO and business area managers.

As a driver of corporate development, Radici InNova will follow up on, valorize and synergize the R&D activities already being carried on in the Group, while introducing a strong push for "disruptive" innovation, capable of creating a lasting competitive edge.

The consortium will work on numerous fronts:

- **Research into innovative processes with a view to 360° sustainability**, taking into account environmental, social and economic aspects and introducing levers of change in consolidated systems.
- **Development of circularity models**, in line with European directives, as well as according to the principles of circular bioeconomy, with the aim of decoupling economic growth from the use of resources, especially non-renewable ones.
- **Identification of new business opportunities** linked both to the Group's core businesses and to applications and technologies unexplored to date.
- **Valorization of RadiciGroup's potential through the Group's participation in wide-ranging European and multi-stakeholder projects** aimed at creating intangible value by exchanging skills and know-how for mutual growth.
- **Demonstration of the value of Group processes and products by objectively measuring their performance and impacts**, with a renewed commitment to rigour, transparency and a scientific approach.

OUTLOOK 2020

Despite the pandemic emergency, in early 2020, Radici InNova undertook several activities. Taking advantage of the opportunities provided by digitalization, the InNova team defined the preparatory stages of planned projects and started a search for partners, experimenting with virtual modes that will also be useful in the future.

Parallel to these research activities, all the phases of the reporting system have been set up, which is essential for structured, shared and transparent project management

The projects will focus, in particular, on specialty polyamides, composites for the automotive sector, the widening of the biomaterial product range, and recycling, using different technologies available on the market. These choices have been made in keeping with the increasingly marked needs of the stakeholders, who see cutting the use of non-renewable sources, reducing waste, and recycling as important responses to the ever-increasing expectations for lightening the environmental impact.

Circular economy

MANAGEMENT APPROACH DISCLOSURE GRI 103-1

The circular economy is a new way to design, produce and use things and services within the boundaries of our planet, its resources, limitations and opportunities. It is conceptually and operationally a regenerative approach that RadiciGroup applies in its business model, which is ever more oriented towards durable high-performance products, made by optimizing the use of resources, enhancing processes, eliminating waste and promoting recyclability starting at the design stage of the materials.

Mindful of the fact that the natural capital of planet Earth is progressively being depleted, RadiciGroup encourages more responsible use of resources, which translates not only into principles of ethical responsibility, but also into the undeniable aspect of business continuity.

Today this business model can count on a favourable normative framework, thanks to the EU Circular Economy package and the European Green Deal, as well as a financial context distinguished by big global operators investing in circularity.

Most of the sustainability choices of the Group are guided by circularity, which:

- **Is a driver for process and product innovation**, especially in the field of ecodesign or design for disassembly, where RadiciGroup participates, for instance, in projects involving the design of cars or recyclable garments of the future.
- **Motivates production and system efficiency** through the reduction of waste and operating costs, as described in the section of this Report dedicated to environmental performance and use of resources.
- **Fosters industrial synergy**, which already exists among the various Group business areas, opening up broader perspectives, as in the case of the new polymers obtained from recycled materials for the fibres sector, described below in this Report.
- **Provides opportunities for market development in yet unexplored sectors**, thanks to the range of 100% recyclable materials produced by RadiciGroup, its strong know-how in the recovery of engineering polymers, and collaborations with customers and suppliers in projects for the development of monomaterial or homogeneous material applications that can be easily reclaimed at the end of life with no need for disassembly or component separation.

- **Is an important lever for transformation and integration of the supply chain**, through the use of renewable source materials, which are intrinsically circular and regenerative, used to produce many of the Group products and one of the main fronts of innovation.
- **Contributes to the creation of highly specialized and resilient local production chains**, “light” because they are local and flexible, capable of reacting swiftly in a changing situation, as happened in the production of personal protective equipment for medical use during the Covid-19 crisis and described elsewhere in this Report.
- **Is an element of corporate reputation and reliability**, as the careful design, formulation and manufacture of RadiciGroup products enhance their quality in the eyes of customers and are distinctive features that set the Group apart from its competitors.



Case History

CarE-Service: the car of the future is circular

In recent years, the automotive industry has been undergoing a fundamental transformation with the transition from traditional cars to electric and hybrid vehicles. The European project CarE-Service intends to take up this challenge by developing business models, mobility services and technologies based on the circular economy. Specifically, CarE-Service aims at demonstrating the feasibility of systems that allow for the re-use, remanufacturing and recycling of key components and materials of electric and hybrid vehicles, leading to the creation of yet non-existing value chains.

The project involves the design and manufacture of two mobile demonstration modules – one for end-of-life disassembly and a second one for testing the disassembled components – each capable of handling at least 50 used vehicles.

RadiciGroup High Performance Polymers, the only producer of raw materials taking part, has participated in the project coordinated by the National Research Council since 2018. The commissioner of the project is the European Commission, which, through the Horizon 2020 programme, finances initiatives of European interest, including eco-sustainability programmes.

In 2019, RadiciGroup High Performance Polymers conducted feasibility studies for the CarE-Service project on the recompounding and reuse of materials from wheel covers and airbags, to obtain secondary raw materials featuring performance characteristics comparable to the post-industrial reference materials.

Owing to its strong know-how in engineering polymers made from recycled materials, the Group supervised many phases of the recovery process following the disassembly of the components from the cars: cleaning, metal separation, grinding, compounding, testing for mechanical characterization and final quality control. The preliminary results obtained so far are encouraging and give hope that the tested materials can be used in high value-added engineering applications destined, in turn, to become actors in a new recycling process at the end of their life.

This project (G.A. 776851) was funded within Horizon 2020, a European programme for research and innovation.

Product performance

MANAGEMENT APPROACH DISCLOSURE GRI 103-1

Product sustainability has a long history at RadiciGroup. For over thirty years, the Group has been producing polymers from pre-consumer recycled material; for the last twenty years, it has been using green energy for production; and, for over fifteen years, it has been using materials recovered from end-of-life products. Since 2003, RadiciGroup has been constantly reducing the quantity of emissions responsible for global warming.

All this, however, is not enough. The new scenarios and the evolution of stakeholder needs, together with a legislative context increasingly focused on circularity, as already mentioned, mean that, year after year, the Group's product philosophy is becoming more complex and articulated in order to meet increasingly sophisticated sustainability needs.

Today, RadiciGroup's low environmental impact products are developed and produced, while focusing on the following commitments:

- **To develop new concepts through innovation**, particularly circular, process and product innovation.
- **To measure the impact** using scientific methods, so as to ensure the Group can make sound decisions and act with transparency in the market.
- **To optimise processes** through specific investments, as indicated in the chapters dedicated to economic and environmental performance in this Report.
- **To rationalize the use of raw materials, choose renewable energy sources and reduce scrap and waste**, as detailed in the section on environmental sustainability.
- **To consider product end of life from the beginning of product development**, fostering the use of raw materials with low environmental impact and better recyclability, coupled with formulations that consider the entire life cycle in terms of high durability, performance and potential recycling with high added value.
- **To work with suppliers, customers, associations and partners from the scientific community towards a sustainable production chain**, exhibiting concrete and constant engagement, as indicated in the sections of this Report specifically dedicated to these stakeholders.

The Group's sustainable products – the result of this philosophy – each feature no less than two characteristics qualifying them as a preferable choice in terms of lowering environmental impact, both for customers engaged in further processing of the materials and for end users.

Why choose RadiciGroup low-environmental impact products?

- **Because they are all recyclable.**

Because many of them are:

- Manufactured using **recycled materials** to reduce the use of valuable virgin raw materials and give new life to pre- and post-consumer scrap.
- **Solution-dyed**, thus reducing water and energy usage.
- Manufactured using **green energy**, which decreases dependence on fossil fuels.
- Bio-based or manufactured, entirely or in part, from **natural raw materials**, made from vegetable sources that do not compete with plants cultivated for food.

Table 56

RadiciGroup low-environmental impact products

Product	BA	Green energy	Bio-based	Solution-dyed	Recycled	Recyclable
Radipol®	Specialty Chemicals	●				●
Radipol 6.10®	Specialty Chemicals		●			●
Heramid®	High Performance Polymers	●			●	●
Radilon®	High Performance Polymers	●				●
Radilon D®	High Performance Polymers		●			●
Renycle®	Advanced Textile Solutions	●		●	●	●
Repetable™	Advanced Textile Solutions			●	●	●
Responsibile™	Advanced Textile Solutions	●		●	●	●
Radilon®	Advanced Textile Solutions	●		●		●
Radifloor®	Advanced Textile Solutions	●		●		●
Biofeel®	Advanced Textile Solutions		●	●		●
Dorix®	Advanced Textile Solutions			●		●
Radyarn®	Advanced Textile Solutions			●		●
Starlight®	Advanced Textile Solutions			●		●
Dylar®	Advanced Textile Solutions	●		●		●

A transparent, replicable and scientific quantification of life cycle environmental impacts is essential to qualify the products illustrated above as sustainable.

The measuring systems used by RadiciGroup are based on the principles of Life Cycle Assessment (LCA). The LCA method has been employed by the Group for all of its main polyamide and polyester based products since 2010, and each product has been examined over the entire life cycle to fully reveal its interactions with the environment. LCA data are used by the Group, both to simulate the potential environmental impact of a new product in the pre-industrial phase and as a basis for creating an Environmental Product Declaration (EPD) and calculating the Product Environmental Footprint (PEF).

An EPD is an independently verified and registered document, issued by a company running an ISO 14025-certified EPD process, that communicates the environmental performance of a product. As of today, EPDs have been developed and published by the RadiciGroup High Performance Polymers and Advanced Textile Solutions Business Areas. All EPDs are published online on a dedicated site operated by an EPD programme operator. For this service, the Group has chosen the International EPD® System, one of the world's most reputable EPD programme operators.

The Product Environmental Footprint (PEF) is a methodology, promoted by the European Union, that establishes the rules for calculating, assessing and communicating the environmental performance of goods and services to stakeholders. PEFs have been issued by the RadiciGroup Specialty Chemicals and Advanced Textile Solutions Business Areas.

DISCLOSURE 417-1

Timely and rigorous communication of product impacts is as important as measurement. It is a "service" to stakeholders, an important sign of transparency to the markets served, in which RadiciGroup wants to stand out for its rigour and reliability.

All Group products must meet the general safety and labelling regulations of the European Union and the laws of the countries where they are produced or sold. In many cases, the products can also be subjected, on a voluntary basis, to additional specifications or provisions, at times more restrictive than the mandatory provisions in force.

Regarding the Advanced Textile Solutions Business Area, all products comply with the obligations set forth by the REACH regulation. Moreover, yarns with a PA 6/PA 6.6 polymer matrix for textile applications are certified to Annex 6, Class I, of Oeko-tex® Standard 100, while fibres with a PET polymer matrix are certified to Annex 4, Class I, of Oeko-tex® Standard 100. Furthermore, the products are in conformity with the ZDHC Roadmap to Zero programme. Zero Discharge of Hazardous Chemicals (ZDHC) is an international programme aimed at eliminating hazardous chemicals from the global textile supply chain.

Furthermore, in the two-year period 2018-2019, the yarns of the Renycle® family of products have been certified to the Global Recycled Standard (GRS), a certification of the recycled content in products. The GRS includes the ZDHC provisions and requires that, for each item sold, a declaration of recycled content be provided. The nonwovens with recycled content in the Responsible® product range are in the process of being certified in 2020, in accordance with the International Sustainability and Carbon Certification (ISCC) system.

Concerning the Group's Specialty Chemicals Business Area, all the chemicals produced at the Novara (Italy) and Zeitz (Germany) plants comply with the requirements of the REACH regulation. This European Union regulation was adopted to better protect human health and the environment from the risks of chemical substances. The registration dossiers for the two plants are constantly updated to reflect the findings of current toxicological and ecotoxicological studies, according to the European Chemical Agency (ECHA). Product safety sheets sent to users downstream contain the instructions for correct and safe use.

A safety sheet in accordance with REACH provisions is also issued for all products manufactured by the RadiciGroup High Performance Polymers Business Area. Additionally, for all High Performance Polymer products, a REACH Declaration is issued stating the absence of Substances of Very High Concern (SVHV), together with a specific REACH Compliance Statement attesting to the fact that all the substances contained in the product have

been registered or are exempt from registration. A statement is also provided pursuant to EU Directive 2011/65/EU (RoHS) on the restriction of the use of certain hazardous substances in electrical and electronic equipment. Products for the automotive sector come with IATF 16949 certificates. Products intended to be used in contact with food are accompanied by declarations of conformity, as required by the international regulations (10/2011 EU, FDA) on materials coming into contact with food.

In matters of product environmental communication, the Group's job is facilitated most of all by the ISO standards governing environmental labelling. In particular, for the High Performance Polymers and Advanced Textile Solutions Business Areas, the registered and public Environmental Product Declarations (EPDs), based on Life Cycle Assessment (LCA) studies, completed and prepared according to the related Product rules, aid the Group in maintaining a high level of transparency.

DISCLOSURES 417-2, 417-3

Thanks to the effort spent on environmental labelling and communication within the reporting period, no Group company has reported incidents of non-compliance concerning product and service information and labelling or incidents of non-compliance concerning marketing communications. This proves that transparency and correctness of information are principles that RadiciGroup not only sets out, but also abides by on a daily basis.

Case History

Renycle®: still another real step in fighting climate change

Formulated in 2019 and officially presented at the beginning of 2020, the Renycle® range of yarns made from recycled nylon is now part of RadiciGroup's portfolio of low impact products. It is an optimal solution for textile-fashion, interior and automotive applications and boasts extremely advantageous environmental performance compared to virgin PA 6 polymer.

According to the first internal measurements, Renycle® polymer saves more than 87% of energy and 90% of water, while achieving the same performance in terms of quality as its virgin counterpart. In addition, CO2 emissions are reduced by almost 90%, a record result that fulfils the commitment to fight climate change, a battle in which RadiciGroup has long been at the forefront. This product is also 100% recyclable at the end of its life and reduces the need to use new raw materials of fossil origin.

As a result of thirty years' experience in the recovery and valorization of process scrap and waste, which has made RadiciGroup a leader in the world of engineering polymers, the Group is now becoming a major player in the field of sustainable textiles. At RadiciGroup, all production waste becomes a new resource: the Group is able to sort the various materials and get them ready for their most appropriate second life. Renycle® yarns are used for textile flooring, designer carpets and rugs, right down to the most precious fashion garments.

Building the report

Reporting principles

This document is the Sustainability Report of Radici Partecipazioni S.p.A. and its associated companies, herein jointly referred to as “RadiciGroup” or “the Group”.

DISCLOSURE 102-1

This Report has been prepared in accordance with the GRI Standards: Core Option.

DISCLOSURE 102-54

DISCLOSURES 102-45, 102-46

The following 22 production sites and the parent company provided data for this Report:

- CORDONSED SA (Argentina)
- LOGIT Sro (Czech Republic)
- NOYFIL SA (Switzerland)
- NOYFIL S.p.A. (2 sites, Italy)
- RADICI CHEMIEFASER GmbH (Germany)
- RADICI CHIMICA DEUTSCHLAND GmbH (Germany)
- RADICI CHIMICA S.p.A. (Italy)
- RADICI FIL S.p.A. (Italy)
- RADICI NOVACIPS S.p.A. (2 sites, Italy)
- RADICI PARTECIPAZIONI S.p.A. (Italy)
- RADICI PLASTICS GmbH (Germany)
- RADICI PLASTICS BV (The Netherlands)
- RADICI PLASTICS Ltda (Brazil)
- RADICI PLASTICS MEXICO S. de R.L. de C.V (Mexico)
- RADICI PLASTICS SOUZHOU Co. Ltd. (China)
- RADICI PLASTICS USA Inc. (The USA)
- RADICI YARN S.p.A. (2 sites, Italy)
- RADICIFIBRAS Ltda (Brazil)
- SC YARNEA Srl (Romania)
- TESSITURE PIETRO RADICI S.p.A. (Italy)

The holding company Radici Partecipazioni S.p.A. has provided data only for its employees, since its environmental impact is extremely limited.

The companies listed above generate almost the entire sales revenue of RadiciGroup. The entities excluded are the sales companies and the companies not comprised in the business boundaries of Specialty Chemicals, High Performance Polymers and Advanced Textile Solutions. The material topics identified and related indicators apply to all the companies listed above.

By way of information, it should be noted that the acquisition of Zeta Polimeri S.r.l. was started at the end of 2019 and finalized in May 2020; the new company will be included in the scope of consolidation and in the reporting boundary of this Report starting from the 2020 edition.

The reporting principles adopted to define the content and quality of this Report are stated below. They are the premises substantiating the intentions of the Group to prepare a document that is representative of the Group sustainability strategy, the goals achieved and the goals still to be achieved. The principles are important instruments because they enable the Group to share its results and expectations with its stakeholders in a transparent and balanced way allowing for debate.

Stakeholder inclusiveness

DISCLOSURE 102-43

In 2018 RadiciGroup revised the mapping of its stakeholders and surveyed their legitimate expectations, as reported in the table “MAPPING OF STAKEHOLDERS, THEIR EXPECTATIONS, RISKS AND OPPORTUNITIES, AND ENGAGEMENT METHODS”.

The 2018 revision is considered valid also for 2019.

DISCLOSURE 102-43

Some stakeholder groups — particularly employees, members of local communities and suppliers — were actively engaged in the materiality analysis according to the procedures described below. Their contribution was valuable in that it created a more complete and shared vision of the sustainability topics, which is essential to the Group.

Furthermore, in numerous instances described in the section, “Stakeholders”, these groups engaged directly with the Group in initiatives fostering dialogue and collaboration on sustainability topics and their promotion.

Lastly, year after year, both the full and summary versions of the Sustainability Report are circulated to the stakeholders through internal briefings and training sessions, as well as traditional and social media. Together, these initiatives cover a wide communicative spectrum, thus ensuring that the Report, and all the ideas and information contained in it, can potentially reach all the stakeholders.

Sustainability context

Each material topic is included in the wider context of the RadiciGroup sustainability strategy aimed at actively working towards sustainable development for its production businesses, and thus contributing to the more general United Nations Sustainable Development Goals mentioned above in the introductory pages of this Report. An analysis of the context in which RadiciGroup operates has been added to this edition of the Report, which helps to capture the characteristics and the strategies of the various Group business areas.

Materiality

The Corporate Mission, Vision and Values, along with an analysis of the context and the legitimate expectations of stakeholders, have guided the Group in identifying the material topics. The thorough process used to identify the material topics followed a specific established corporate procedure and is described under “MATERIALITY ANALYSIS”. This process allowed to clearly identify the topics on which RadiciGroup must focus its efforts and resources in the context of sustainability.

Completeness, accuracy and balance

This Sustainability Report focuses on material topics that apply to the totality of the companies providing data for the year 2019 and the two preceding years. Together, these companies account for practically all of RadiciGroup's sales revenue and all of its employees, which gives the Report full representativeness.

As in every year, numerical data were collected in disaggregated form. Each production site provided its results, which were then aggregated at the central level. Data over the last three years are shown in the Report. Wherever reference is made to data over a several year period, the relevant data can be found in previous editions of the Sustainability Report posted on the RadiciGroup website in the Sustainability section. Numerical data are presented and commented on in a transparent and balanced manner. Computation methods and measurement units are shown, where appropriate, and any estimates and assumptions made are also indicated. The uncertainty margin was estimated to be less than 5%.

A similar method was implemented for collecting information for non-numerical indicators. Questionnaires in the English and Italian languages were sent to the production sites and the results were restated in summary form so as to highlight what was common to the various sites group-wide.

Comparability

DISCLOSURES 102-48, 102-49

This Report has been prepared in accordance with the GRI Standards: Core Option. The installation of the enterprise resource planning software package, SAP ERP, in the entire High Performance Polymers Business Area has allowed for revalidating the sources of some data and homogenizing the data, thus increasing the accuracy of the measurements. Retroactive calculations have been carried out to safeguard the three-year trends given in the Report.

Clarity

Special effort has been made to organize the information for every version of the Report with the objective of ensuring the clarity and accessibility of the document. The full text of the Report will be released in Italian and English, while abridged or reduced versions will also be made available, which are intended for wider circulation to stakeholders and will allow them to become familiar with the most relevant results of the Group on economic, environmental and social topics in simplified form.

Reliability

The strategic and operational processes that bring the Sustainability Report to life are illustrated and documented in the text, with special reference to the corporate sustainable development strategy procedure that describes the

processes for defining the RadiciGroup context, mapping stakeholders and their expectations, and identifying material topics.

DISCLOSURE 102-56

The Sustainability Report has been externally assured by the independent certification body CERTIQUALITY to be in accordance with the GRI Standards: Core Option reporting model. The certification body has verified the accuracy and reliability of both the primary and aggregated data, the consistency and truthfulness of the claims made and the overall conformity of the document to the model indicated (DISCLOSURE 102-56). The economic and financial figures for DISCLOSURE 201-1 underwent a voluntary audit by Deloitte & Touche as part of the annual audit of the Radici Partecipazioni S.p.A. consolidated financial statements.

Timeliness

DISCLOSURES 102-50, 102-51, 102-52

This Sustainability Report covers data and events for the calendar year 2019 (DISCLOSURE 102-50) and is being released about one year after the release of the previous version, published in October 2019 (DISCLOSURE 102-51). Any data that do not refer to the reporting year, but were included to bring the document up to date, are duly pointed out. RadiciGroup publishes its Sustainability Report on an annual basis.

Precautionary principle

DISCLOSURE 102-11

RadiciGroup is fully aware of the potential risks of its business activities to the environment and people. Extensive and accurate risk analysis work is carried out within the management systems in all Group companies, with the collaboration of the various functions. RadiciGroup consistently conducts extensive monitoring, prevention and mitigation actions, and realizes the precautionary principle using numerous tools, including the ISO 14001 Environmental Management System and the OHSAS 18001 (now replaced by ISO 45001) Occupational Health and Safety Management System at all its main sites.

Building RadiciGroup sustainability strategy

The RadiciGroup strategy in relation to sustainability is defined based on the principles formulated in the Group Vision, Mission and Values, the Policies and the Business Plan and is implemented through a multi-function approach with the engagement of Group top management, the GRI Coordination Group, RadiciGroup sites and the stakeholders. In particular, the strategy is structured around:

- **Analysis of the organization's context**, to make decisions based on an overall and well-thought-out view of the scenario in which RadiciGroup operates.
- **Stakeholder mapping**, and understanding of the legitimate expectations and interests of the stakeholders, together with risks, expectations and opportunities arising from the relationship with the stakeholders.
- **Engagement methods**, based on the expectations expressed by the stakeholders and Group strategies.

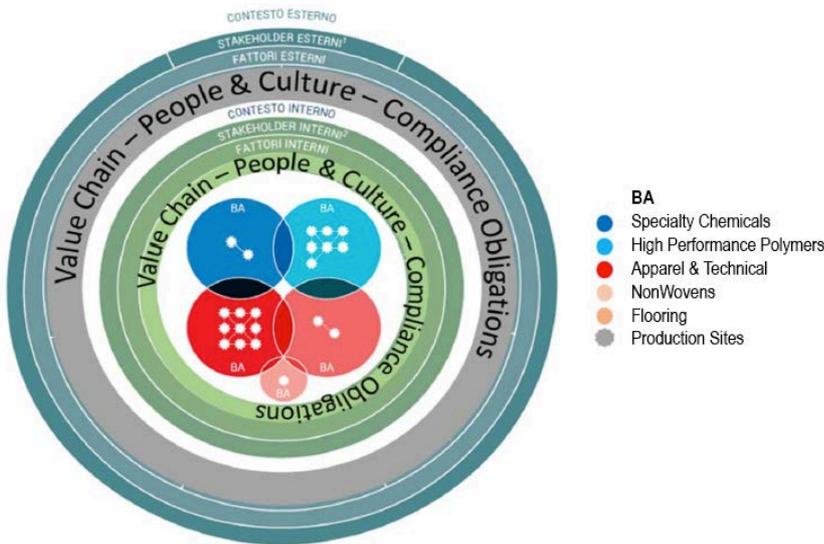
- **Materiality analysis**, a fundamental tool to objectivize the process followed to identify the most relevant topics, including the process of stakeholder engagement in the assessment of materiality itself, and to incorporate the vision of management related to each potentially material topic.

Context analysis

In 2018, extensive context analysis work, jointly managed by the heads of the Quality, Health, Safety and Environmental (QHSE) management systems and the sustainability team, asked the main RadiciGroup companies to take a closer look at all the factors, both external and internal, that could influence their strategy and operations or could be influenced by the companies themselves.

The context analysis highlighted the characterizing factors for each site, business area and the Group as a whole, which can be concisely represented by the figure shown here.

RadiciGroup context



Context & Risks/opportunities

Context analysis is carried out taking into consideration the main areas that can affect the company performance, namely: the **value chain** (market / customers/ supply chain/ economic factors/ etc.); **people and culture** (human resources and civil society); and **compliance obligations**. For each area, the analysis identifies current and forecast performance and related risks and impacts. The analysis produces a list of the actions that have been identified and a brief description of each (supported by business plans, projects, investments, etc.).

INTERNAL STAKEHOLDERS

- Group Companies
- Shareholders
- Board of Directors and Management
- Workers

EXTERNAL STAKEHOLDERS

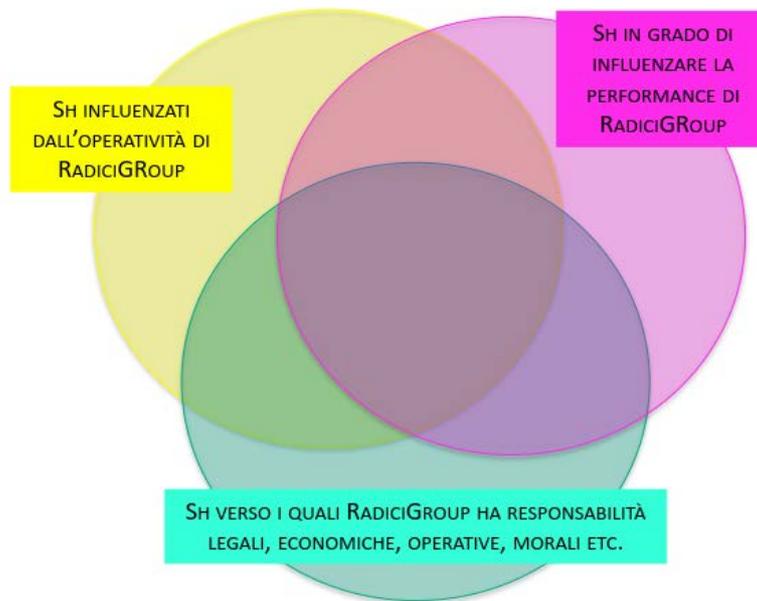
- | | |
|-----------------------------------|------------------------------------|
| Environment | Suppliers |
| Trade Associations | Banks and Insurance Companies |
| Customers | Media |
| Communities | Academic and Research Institutions |
| Local Communities and Territories | Control and Monitoring Bodies |
| Competitors | Trade Union Organizations |

Mapping of stakeholders, engagement methods and analysis of risks and opportunities

DISCLOSURES 102-40, 102-42, 102-43, 102-15

Together with the analysis of the context and the inherent risks, in 2018 RadiciGroup also undertook a review of the Stakeholder Mapping, created by the GRI Coordination Group, and linked to an in-depth analysis of the context that brought out ideas (and stakeholders) not previously considered. Some categories have been added, while others have been modified to better reflect the reality of the Group. In addition, a weighted mapping of Stakeholders has been built based on their level of interaction with RadiciGroup (diagram #1) and the way the Group wishes to relate to them (diagram #2).

Stakeholder assessment grid #1

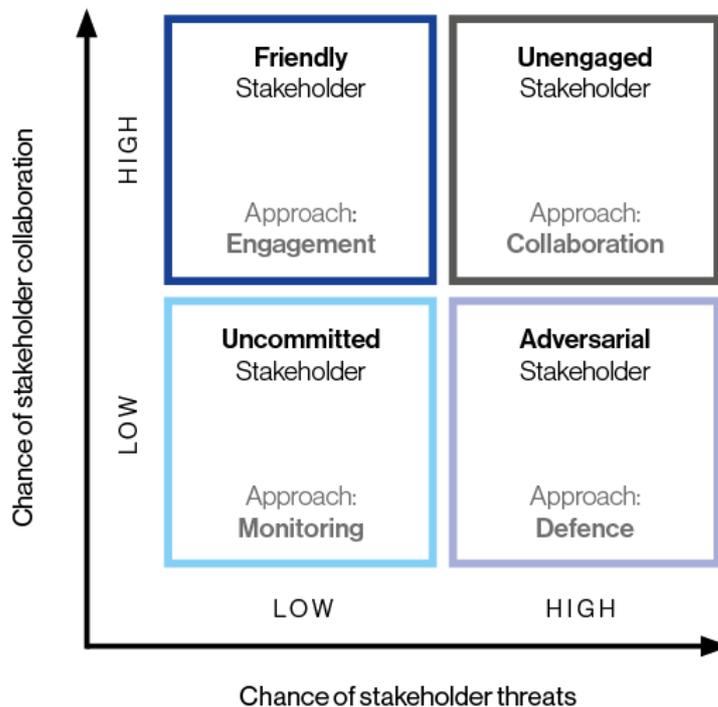


Stakeholders influenced by RadiciGroup operations

Stakeholders able to influence RadiciGroup performance

Stakeholders that RadiciGroup has legal, economic, operational, moral, etc. responsibilities to

Stakeholder assessment grid #2



This is the stakeholder list resulting from the work described above:

- Environment
- Trade associations
- Group companies
- Shareholders
- Board of Directors and management
- Customers
- Communities
- Local communities and territories
- Competitors
- Suppliers
- Banks and insurance companies
- Workers
- Media
- Academic and research institutions
- Control and monitoring bodies
- Trade union organizations

For each of these categories of stakeholders, the expectations, risks and opportunities related to their engagement have been taken into consideration, as already reported in numerous previous Sustainability Reports. This is a table that summarizes the relevant points regarding RadiciGroup's relationship with its stakeholders.

Table 57

MAPPING OF STAKEHOLDERS, THEIR EXPECTATIONS, RISKS AND OPPORTUNITIES, AND ENGAGEMENT METHODS

Stakeholders	Stakeholders' Legitimate Expectations	RadiciGroup Response	Risks for RadiciGroup*	PROCESS OWNER (RP Reference Process)	Risk Mitigation	RadiciGroup Opportunities	PROCESS OWNER (RP Reference Process)	Engagement Method	PROCESS OWNER (RP Reference Process)
Workers	<ul style="list-style-type: none"> Ethical employment relationship Stable employment relationship Health and safety Fair compensation Career path Training and education 	<ul style="list-style-type: none"> Compliance with legal obligations RadiciGroup Code of Ethics Policies and procedures of voluntary management systems (QSE) Training and education programmes and assessment of competencies and performance Succession plans Assessment plans 	<ul style="list-style-type: none"> Demotivation RR + OR + FR Disengagement OR Absenteeism OR Corruption RR + FR + PR Fraud RR + FR + PR Reputational risk RR 	ETHI CS COM MITT EE HR	<ul style="list-style-type: none"> Code of Ethics RadiciGroup Human Resources policies Adoption of voluntary management systems (QSE) MBO and benefits Career management Engagement Training and education activities 	<ul style="list-style-type: none"> Retention Motivation Efficiency 	HR	<ul style="list-style-type: none"> Training, development and assessment programmes Internal communications Engagement Special targeted events "Sto bene [I feel good]" (WHP) 	HR
Customers	<ul style="list-style-type: none"> Products and/or services meet expectations Fair and transparent relations Collaboration and relationship continuity Joint R&D projects Consulting on end customer needs, global problem solving and compliance obligations. 	<ul style="list-style-type: none"> Clarity of specifications Quality consistency and quality improvement policies Implementation of Code of Ethics principles Teams dedicated to joint projects Dedicated and professionally competent staff 	<ul style="list-style-type: none"> Complaints OR Insolvency FR Customer losses OR + FR Ineffective customer approach strategy OR Reputational risk RR R&D work delayed or inadequate OR Supply chain risk due to disappearance of market and/or product substitution OR 	MKT -AFC	<ul style="list-style-type: none"> Management and technical assistance Complaint management Credit management Controlling activities Strategic and operational marketing activities R&D activities CRM activities Cultivation of customer loyalty Search for new customers Customer satisfaction activities Monitoring of supply chain Monitoring of production and replacement processes 	<ul style="list-style-type: none"> Market leadership Reputation Retention Business continuity and profitability Conquest of new markets 	MKT -AFC	<ul style="list-style-type: none"> Networking and business meetings Knowledge sharing Partnerships and joint projects Communication Targeted special events and trade fairs 	MKT

<p>Suppliers</p>	<ul style="list-style-type: none"> • Fair value (price) • Stable relationship • Fair and transparent relations • RadiciGroup solvency • Joint development projects/activities 	<ul style="list-style-type: none"> • Supplier Code of Conduct • Procurement procedures • General procurement terms and conditions • Compliance with purchase specifications 	<ul style="list-style-type: none"> • Non-conforming products / services OR • Business continuity not guaranteed PR • Corruption RR + FR + PR • Fraud RR + FR + PR • Abuse of RadiciGroup intellectual property PR • Failure to comply with legal requirements RR + PR • Failure to comply with the Supplier Code of Conduct RR + PR • Reputational risk RR 	<p>P&L - ETHICS COMMITTEE</p>	<ul style="list-style-type: none"> • Business risk analysis • Controlling activities • Supplier Code of Conduct • Procurement procedures and purchase specifications • Risk surveillance activities 	<ul style="list-style-type: none"> • Reputation • Business continuity • Synergies • Development 	<p>P&L</p>	<ul style="list-style-type: none"> • Networking and business meetings • Knowledge sharing • Partnerships • Acceptance of the Code of Conduct • Communication 	<p>P&L - MKT</p>
<p>Group Companies</p>	<ul style="list-style-type: none"> • Products and/or services meet expectations • Fair and transparent relations • Collaboration and strengthening of value chain 	<ul style="list-style-type: none"> • Guidelines and procedures • Assistance and consulting • Network building • Synergies • Knowledge sharing 	<ul style="list-style-type: none"> • Misalignment of parent company and subsidiary policies OR • Reputational risk RR 	<p>Q&P</p>	<ul style="list-style-type: none"> • Integrated management systems • Group-wide projects and work groups • Coordinating activities 	<ul style="list-style-type: none"> • Synergies • Optimization • Business opportunities 	<p>Q&P</p>	<ul style="list-style-type: none"> • Networking and business meetings • Group-wide teams • Knowledge sharing • Communication 	<p>Q&P</p>
<p>Shareholders</p>	<ul style="list-style-type: none"> • Return on invested capital • Business profitability • Increase in intangible value 	<ul style="list-style-type: none"> • Strategic plans and related budgets • Management systems • Acquisitions • Reorganizations 	<ul style="list-style-type: none"> • Market risk SR • Financial risk FR • Reputational risk RR 	<p>AFC</p>	<ul style="list-style-type: none"> • Risk prevention and response (FC01) • Controlling activities (FC01) • Marketing and communication policies (PR10) 	<ul style="list-style-type: none"> • Business continuity and profitability 	<p>AFC</p>	<ul style="list-style-type: none"> • Daily strategic and operational engagement • Reporting activities and programme meetings • Communication 	<p>AFC</p>
<p>Board of Directors & Management</p>	<ul style="list-style-type: none"> • Business profitability • Increase in intangible value • Fair and transparent relations • Collaboration and strengthening of value chain 	<ul style="list-style-type: none"> • Strategic plans and related budgets • Management systems • Acquisitions • Reorganizations • Guidelines and procedures • Network building • Synergies • Knowledge sharing 	<ul style="list-style-type: none"> • Market risk SR • Financial risk FR • Reputational risk RR • Misalignment of parent company and subsidiary policies OR 	<p>AFC - COM & ER</p>	<ul style="list-style-type: none"> • Controlling activities • Marketing and communication policies • Integrated management systems • Group-wide projects and work groups • Coordinating activities 	<ul style="list-style-type: none"> • Business continuity and profitability • Synergies • Optimization • Business opportunities 	<p>AFC</p>	<ul style="list-style-type: none"> • Daily strategic and operational engagement • Reporting activities and programme meetings • Knowledge sharing • Group-wide teams 	<p>BA managers - Q&P</p>

<p>Banks & insurance companies</p>	<ul style="list-style-type: none"> • Profits • Stable relationship • Fair and transparent relations • RadiciGroup solvency 	<ul style="list-style-type: none"> • Short- and medium-term economic plans and policies • Clear economic/ financial reporting compliant with laws and regulations • Third-party audited financial statements • Policies for reducing financial indebtedness 	<ul style="list-style-type: none"> • Increase in interest rates FR • Lack of financing FR • Bank bankruptcy FR 	<p>AFC</p>	<ul style="list-style-type: none"> • Direct ongoing collaboration with banks • Policies and plans aimed at strengthening RadiciGroup financial soundness and reputation (FC01) • Controlling activities (FC01) • Search for financing at best interest rates (FC01) • Careful monitoring of banks 	<ul style="list-style-type: none"> • Reputation • Trust • Business continuity 	<p>AFC</p>	<ul style="list-style-type: none"> • Networking and business meetings • Sharing information • Partnerships • Communication 	<p>AFC</p>
<p>Environment</p>	<ul style="list-style-type: none"> • Continuity • Protection • Respect • Equilibrium 	<ul style="list-style-type: none"> • Sustainable development 	<ul style="list-style-type: none"> • Lack of raw materials OR • Catastrophic events PR • Accidental events OR 	<p>GRI team – P&L</p>	<ul style="list-style-type: none"> • Compliance with legal obligations • Prevention activities • Voluntary plans and actions for environmental protection 	<ul style="list-style-type: none"> • Business continuity • New markets 	<p>MKT</p>	<ul style="list-style-type: none"> • Policies as per Sustainability Report 	<p>GRI team</p>
<p>Trade union organizations</p>	<ul style="list-style-type: none"> • Freedom of association • Dialogue • Trust • Collaboration • Communication 	<ul style="list-style-type: none"> • Compliance with legal obligations • RadiciGroup Code of Ethics • Presence of trade unions • Regular meetings with trade union organizations 	<ul style="list-style-type: none"> • Strikes OR • Reputational risk RR • Legal proceedings OR + FR + RR 	<p>HR</p>	<ul style="list-style-type: none"> • Concerted arrangements • Joint projects • Legal action 	<ul style="list-style-type: none"> • Reputation • Corporate climate 	<p>HR</p>	<ul style="list-style-type: none"> • Concerted arrangements • Development of joint projects 	<p>HR</p>
<p>Local communities & territories (schools, etc.)</p>	<ul style="list-style-type: none"> • Environmental protection and safety • Local community-friendly employment policies (local resources, people with disabilities, youth, etc.) • Economic and social support • Transparency and communication • Leadership in training local resources 	<ul style="list-style-type: none"> • Responsible medium- to long-term environmental policies • Employment policies favouring local human resources (PR03) • Sustainability Report and constant communication (PR08) • Social and philanthropic marketing 	<ul style="list-style-type: none"> • Environmental risks PR • Health and safety PR • Less employment in community PR • Risk of social context degradation PR • Reputational risk RR 	<p>GRI team – MKT- HR</p>	<ul style="list-style-type: none"> • Compliance with legal obligations • RadiciGroup Sustainability policies and integrated management systems • Implementation of RadiciGroup employment policies • Cultivation of relationships with local communities (e.g., open factories) 	<ul style="list-style-type: none"> • Reputation • Mutual support • Local professional pool 	<p>GRI team – MKT- HR</p>	<ul style="list-style-type: none"> • Communication • Targeted special events • Activities as per Sustainability Report • RadiciGroup Education Programme • “RadiciGroup Education” Project • Career Day 	<p>GRI team – MKT- HR</p>
<p>Control and monitoring bodies</p>	<ul style="list-style-type: none"> • Compliance with legal and regulatory obligations 	<ul style="list-style-type: none"> • Compliance with legal and regulatory obligations 	<ul style="list-style-type: none"> • Sanctions OR • Sequester and closing of plants OR • Conviction and sentencing OR + RR • Reputational risk RR 	<p>CEO - AFC</p>	<ul style="list-style-type: none"> • Adoption of certified management systems • Prevention activities • Training and education • Organizational model 231 	<ul style="list-style-type: none"> • Business continuity • Continual improvement of management systems • Saving • Reputational solidity • Innovation 	<p>AFC – HR – Q&P – L&P</p>	<ul style="list-style-type: none"> • Communication • Sharing and cooperation • Transparent information 	<p>MKT - AFC</p>
<p>Competitors</p>	<ul style="list-style-type: none"> • Fair and transparent relations • Fair competition • Joint action to protect common interests 	<ul style="list-style-type: none"> • Application of the Code of Ethics • Implementation of RadiciGroup Vision, Mission and Values • Active participation in production chain/ sector programmes and projects 	<ul style="list-style-type: none"> • Loss of market share OR + FR • Ineffective joint marketing-R&D strategy and management systems OR • Reputational risk RR • Ineffective communication strategy OR 	<p>MKT</p>	<ul style="list-style-type: none"> • Strategic and operational marketing activities • Membership in industry and sector associations • Monitoring of internal activities • CRM activities 	<ul style="list-style-type: none"> • Collaboration through trade associations to safeguard the market • Industry-wide innovation • Reputation 	<p>MKT</p>	<ul style="list-style-type: none"> • Networking and business meetings • Social events • Communication 	<p>MKT</p>

Media	<ul style="list-style-type: none"> Clarity Transparency Ongoing relationship Mutual trust 	<ul style="list-style-type: none"> RadiciGroup marketing policies (PR10) Consistent communication policies 	<ul style="list-style-type: none"> Reputational risk due to lack of information or spread of misleading information RR 	MKT	<ul style="list-style-type: none"> Ongoing media communication activities of corporate and BA functions 	<ul style="list-style-type: none"> Reputation 	MKT	<ul style="list-style-type: none"> Press Office activities Active social media presence Engagement in initiatives 	MKT
Academic & research institutions	<ul style="list-style-type: none"> Knowledge sharing Employment opportunities Support 	<ul style="list-style-type: none"> Internships Education days Sponsorships 	<ul style="list-style-type: none"> Misalignment of skills offered vs. skills required by RadiciGroup OR Reputational risk RR 	I&R	<ul style="list-style-type: none"> Strong relationships with schools and universities Joint projects and training programmes 	<ul style="list-style-type: none"> Reputation Pool of competencies and professional profiles 	I&R	<ul style="list-style-type: none"> Targeted special events Career days Collaboration (training and profile selection) Communication 	I&R
Trade associations	<ul style="list-style-type: none"> Collaboration Trust Innovation proposals 	<ul style="list-style-type: none"> Dialogue and participation Transparency and communication Training and information Sharing of knowledge and experiences 	<ul style="list-style-type: none"> Risk of conceding to unshared decisions OR Weakened network and loss of lobbying capacity RR Reputational risk (e.g., activist organization) RR 	MKT – I&R	<ul style="list-style-type: none"> Active presence of RadiciGroup representatives as influencers in associations Transparent communication about sustainability results: GRI, PCRs, EPDs, LCAs, etc. 	<ul style="list-style-type: none"> Reputation Public relations and influencer activities 	MKT – I&R	<ul style="list-style-type: none"> Participation in activities and decision-making processes Communication 	MKT – I&R
Communities	<ul style="list-style-type: none"> A better world Meeting their needs 	<ul style="list-style-type: none"> Sustainable development 	<ul style="list-style-type: none"> Market risk SR Reputational risk RR 	MKT – I&R	<ul style="list-style-type: none"> Attention Knowledge 	<ul style="list-style-type: none"> Innovation New markets 	MKT – I&R	<ul style="list-style-type: none"> Communication Dialogue Networking and business meetings Policies as per Sustainability Report 	MKT – I&R

*Some risks are related to a failed or incomplete response to the stakeholders' legitimate expectations and are reported in order of probability of occurrence. Furthermore, risks are classified by category as follows:

Table 58

Description	Risk Category	Category Code	Examples
Risks related to events likely to INCREASE or DECREASE the value of the business (i.e., give rise to NET INCOME or LOSS). A risk can be POSITIVE or NEGATIVE.	STRATEGIC Risk	SR	Sales budget, raw materials procurement, etc.
Risks related to events likely to DECREASE the value of the business (i.e., give rise to a LOSS).	OPERATING Risk	OR	Process, technology, complexity of rules and regulations, human resources, information systems and infrastructure, control and quality systems, contractual liabilities (related to specific products, penalties, etc.).
Risks related to events only likely to DECREASE the value of the business (i.e., give rise to a LOSS).	FINANCIAL Risk	FR	Overdraft, financial exposure, payments, solvency, etc.
Risks related to events only likely to DECREASE the value of the business (i.e., give rise to a LOSS).	REPUTATIONAL Risk	RR	Ability to stay in the market, trust, reliability, respect and ability to ensure product standards, communication processes, COM&ER and CSR.
Risks related to events only likely to DECREASE the value of the business (i.e., give rise to a LOSS).	PURE Risk	PR	Owned property, work-related injuries, production continuity, natural disasters, social and political events, illegal acts, environmental pollution, etc.

At the basis of all RadiciGroup's responses to these expectations and risk mitigation policies is constant assessment of performance and the principle of continuous improvement established in ISO 9001, illustrated in procedure PR09 and implemented daily in the Group's businesses.

At the basis of stakeholder engagement activities are the principles illustrated in the RadiciGroup Sustainability Report, namely the principles of inclusiveness, dialogue, transparency and clarity.

Along with this analysis, in 2019 some specific risk analyses were also conducted dealing with the Group's market scenario and the economic and financial context in which it operates. The results of the targeted analyses are summarized below:

Market risk

The Group is exposed to risks resulting from competition and fluctuations in volumes and prices. Against such eventualities, in 2019 it continued to monitor the market so as to promptly catch any signal the market might have sent out both in terms of potentially risky situations and opportunities.

Financial risk

RadiciGroup is exposed to certain financial risks associated with its operations. These risks are kept under constant review by the centralized function of Finance, Credit Management and Procurement, an approach aimed at anticipating potential negative scenarios and taking appropriate action to mitigate them. In particular, in 2019 the Group had the need to monitor the following potential risks:

- Credit risk
- Liquidity risk
- Interest rate risk
- Exchange rate risk

Such analysis supplements the process of identifying material topics. The analysis revealed that the organization is not exposed to particularly risky situations, either internal or external, and the topics illustrated above may be ranked as relevant but not strategic, albeit worthy of continual close monitoring.

Materiality analysis

DISCLOSURES 102-43, 102-46

To further strengthen its sustainability strategy, during 2018 and 2019, RadiciGroup also conducted a substantial review of the materiality analysis system, basing it on the context analysis and the stakeholder mapping described above and on the materiality analysis for the years 2015, 2016 and 2017.

Through a questionnaire, the members of the Sustainability Team were asked to express their assessment of the general importance of each topic, the potential impacts of the topic on the Group (economic, reputation or any other kind of impact) and how the topic was being managed by the Group. **This assessment constituted the internal materiality analysis, validated by Group top management.**

The strengthening of the method has led to greater clarity in the objectives, a more group-wide approach and the concrete involvement of some categories of stakeholders: local communities, suppliers and employees. These stakeholders have been selected on the basis of their proximity, either physical or strategic, to RadiciGroup and their growing degree of interaction with the Group.

An assessment questionnaire, similar to the one submitted to the sustainability Team, was extended to some key RadiciGroup suppliers, to a representative group of the inhabitants of the Province of Bergamo, diversified by place of residence, age group, employment and educational level, and to the approximately 170 employees who had attended a training course on the Sustainability Report held in 2018. **This assessment constituted the external materiality analysis.**

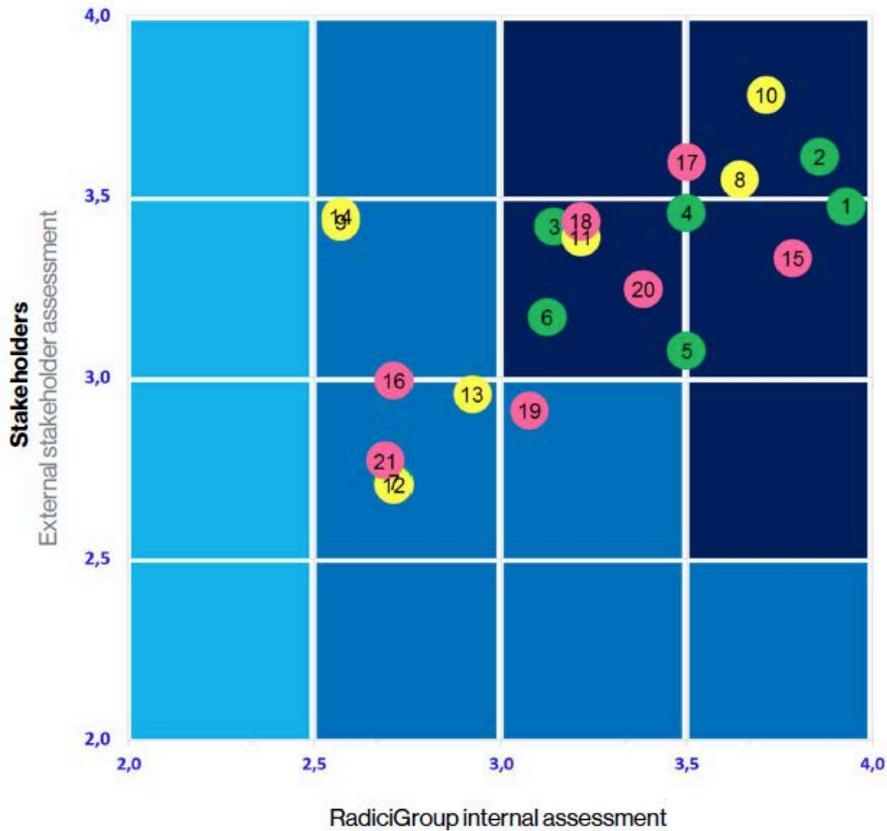
In the table below are listed the topics on which the stakeholders expressed their opinion:

Table 59

Environmental Development	1	Energy
	2	Emissions
	3	Water
	4	Waste
	5	Raw materials
	6	Product sustainable innovation and measurement of product environmental impacts
	7	Supplier environmental assessment
Social Development	8	Employment
	9	Equal opportunity and non-discrimination
	10	Occupational health and safety
	11	Employee training and education
	12	Supplier social assessment
	13	Interaction with local communities
	14	Consumer health and safety
Economic & Management Development	15	Economic performance
	16	Labelling and marketing communications
	17	Customer satisfaction
	18	Compliance
	19	Value chain traceability
	20	Certifications and integrated management systems
	21	Listening to the communities

The topics brought to light by the internal and external materiality analyses are shown in the following MATERIALITY MATRIX, which was kept valid also for the year 2019.

RadiciGroup Materiality Matrix



DISCLOSURE 102-47

Materiality criteria

A = Relevant and strategic (i.e., material) topics

Areas of interest and operation critical for both RadiciGroup and the stakeholders that need to be taken into consideration by management as strategic.

B = Relevant but non-strategic topics

Areas relevant to corporate performance and stakeholders but not central to business strategy (some topics may be considered material in view of future strategies, especially those on which stakeholder attention is growing).

C = Non-relevant topics

Low-priority areas for RadiciGroup and its stakeholders but which must be monitored in any case.

(Source: PR 08 – “Approach to management for sustainable development”, ed. 2 – 2019)

Stakeholders	1	2	3	4
4	C	C	C	C
3	C	C	C	C
2	C	C	C	C
1	C	C	C	C

The topics considered material were subject to reporting and included in this Sustainability Report, objectivized through the indicators and illustrated by case histories. The table below allows the reader to identify the material topics in the various chapters.

Table 60

MATERIAL TOPICS INCLUDED IN THE REPORT

Environmental Development	1	Energy	page 62
	2	Emissions	page 68
	3	Water	page 70
	4	Waste	page 58
	5	Raw materials	page 56
	6	Product sustainable innovation and measurement of product environmental impacts	page 92
Social Development	8	Employment	page 23
	10	Occupational health and safety	page 75
	11	Employee training and education	page 27,76
Economic & Management Development	15	Economic performance	page 49
	17	Customer satisfaction	page 31
	18	Compliance	page 92
	20	Certifications and integrated management systems	page 84

Assurance statement

DISCLOSURE 102-56

This Sustainability Report is validated by the third-party certification company Certiquality to be in accordance with the reporting model "Global Reporting Initiative" – GRI standards: core option.

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GRI Content Index

DISCLOSURE 102-55

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Sustainability report collaborators

DISCLOSURE 102-43

An important group of people collaborated on preparing the Sustainability Report, making a major contribution to the commitment to transparency and reporting made by the Group starting in 2003.

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