At Solvay...

We are more than scientists and engineers in labs; we are all around you. You’ll find us in the small details of everyday life – that’s where we really come into our own. Because for Solvay it’s the unknown, unseen and invisible that makes us who we are. And through our customers, our elements touch lives. From the car you drive every day, to your holiday. We enable human exploration to happen on this planet and beyond. A phone call to a loved one or a safe car-ride home – we make it happen. We keep your family warm and provide them with clear air and water. We ensure that nutrient rich soil and long lasting crops can feed a growing population. We’re consistently present in the small acts of daily life enabling people to do things like washing their hair and caring for their homes, ensuring we’re all safe, clean and healthy. We provide doctors and nurses with the tools they need to save peoples’ lives. We make life more colourful and better tasting; we enrich imagination and unleash possibilities. At Solvay there are countless ways we facilitate the significant, small and even the miraculous moments of human life.
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This report is also available online with expanded content, including interactive GRI Content Index: annualreports.solvay.com/2019/en

For greater insight into the Group, visit our corporate website: www.solvay.com
Presidents’ Message

2019 was a year of notable progress, in which we delivered on our financial and environmental commitments in a challenging environment by focusing on customers, cost discipline and cash management. We also made step changes on three fronts – Strategy, Structure and Culture.

Our Group overcame significant external headwinds, demonstrated resilience through the delivery of stable underlying EBITDA and generated record free cash flow with improved phasing relative to prior years. Solvay proposed to its shareholders to maintain the 2019 dividend at 3.75 euros per share. In terms of the Group portfolio, we completed the divestment of the Polyamides activities to BASF and Domo Chemicals, which closed in early 2020. Proceeds will help us to deleverage our balance sheet and decrease pension liabilities in 2020.

We initiated a comprehensive strategy review of all our businesses and our operating model. We confirmed our strong foundation in science, sustainability and innovation – a core part of our DNA! We challenged and validated the alignment of key businesses to powerful megatrends that will drive superior growth in important end markets, where we hold leadership positions.

Yet, we want to better respond to challenges and opportunities – and to develop our path to achieving greater value, faster. Our review resulted in the G.R.O.W. strategy, founded on three new business segments which will operate with distinct strategic mandates.

The pure-play Materials segment, which comprises the high performance, high margin specialty polymers and composites businesses, has a sole mission to “accelerate topline Growth”.

The Chemicals segment comprises “mono-technology” businesses, each has a leading market position with
competitive global advantage. The mandate is to consistently deliver “Resilient cash”.

The Solutions segment represents a mix of different businesses operating in diverse, niche markets. Its strategic mandate is to “Optimize” its return on capital employed.

The new Operating Model will realise more synergy transversally, will fully leverage the strength and competencies across businesses to “Win together”, to unlock the full value of our Group, fast.

Many stakeholders – our employees as well as clients and investors – contributed to the development of our Purpose: “We Bond People, Ideas and Elements to Reinvent Progress”. It calls on all of us to go beyond who we are, to bond together as teams and with all our stakeholders, as we know that what brought us here today will not take us there tomorrow.

Looking ahead, we began aligning our organization structure to our G.R.O.W. strategy, leveraging procurement, manufacturing & supply chain opportunities, leading to additional efficiency plans and measures that will enable us to operate as a leaner, nimble organization, better positioned to support our customers and create value.

Critical in helping Solvay unleash its full potential are our new sustainability goals included in Solvay ONE Planet, to help our Group positively shape our impact in three areas: climate, resources, and quality of life, through the next decade and beyond. Solvay ONE Planet is ambitious as we are aligning our emissions with the Paris agreement trajectory and we are stopping any future investment in coal-powered energy plants.

But we are also raising the bar in natural resources management and are equally supporting a better life for our people and the communities in which we work. In short, Solvay ONE Planet is a concrete example of our new Purpose, as we seek to go beyond anything we’ve ever done before.

Indeed, every day, we seek to “progress beyond”. We look into the microscope, to 2020 and to the imperative of overcoming our short-term challenges and, at the same time, we look into the telescope, at our mid-term targets, and our long-term aspiration to unleash our potential, fast. We owe it to our stakeholders today, tomorrow and to the generations that will follow.

“I am very satisfied with our progress in 2019. We have set an ambitious course for Solvay and defined clear objectives to unleash our full potential, while at the same time remaining focused and addressing short-term challenges.”

Nicolas Boël

“What a year! 2019 had its share of challenges and it helped to bring us together as a ONE Solvay team, to overcome and to propel us forward. We redefined who we are, we agreed how we will thrive together in a sustainable way, and we committed to each other to always aim high, to deliver fast. We started to confront complexity that was holding us back and we’re well on the way to driving the cultural transformation that will help each and every one of us to be at our best, at the service of customers, employees, communities and shareholders. Thank you.”

Ilham Kadri

Ilham Kadri
President of the Executive Committee and CEO

Nicolas Boël
President of the Board of Directors

“I am very satisfied with our progress in 2019. We have set an ambitious course for Solvay and defined clear objectives to unleash our full potential, while at the same time remaining focused and addressing short-term challenges.”

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Ilham Kadri
“From Science will derive the progress of mankind.”

Ernest Solvay
How our Purpose and Vision lead us to progress beyond, with our Presidents at the helm.
Manifesto
Humanity is on an ongoing journey.
And though we all experience only one stage of it, a journey of **continuous progress** has brought us to where we begin.

**Progress is more than business** innovation and growth. It’s how we create **sustainable shared value** in the world of today and tomorrow.

A world connected to nature, preserving resources.
A world that is **empowered** to take on its many challenges.

Progress takes shape through **bonding between people, ideas and elements**.

These bonds are not binds; they connect.

They create **positive reactions** that fuel progress and drive the **human journey forward**.

At Solvay, the bonds we make every day unleash potential to reinvent progress.
Our Purpose

In 2019, the largest listening effort in our history gave rise to our Purpose, the *why* that gives meaning to our individual and collective work. Experience and research demonstrate that Purpose-driven companies earn the engagement of their people, challenge the status quo, correct their mistakes and make bold moves earlier than others.

At Solvay, we know our reason to be:

We bond people, ideas and elements to reinvent progress
Reinvent progress

“From science will derive the progress of mankind.” Like our founder Ernest Solvay, we have faith in science. However, the nature of progress which he evoked in his time is different today. The world is changing at a phenomenal speed, amid mounting volatility. Defining our Purpose was the opportunity to create a new model in the way we do business, manage the planet and prioritize our investments. Based on bonds, this model will give us the opportunity to go beyond “inventing” as engineers, as scientists... and to start reinventing ourselves as a company. This is part of our DNA: Solvay has progressed, transformed... reinvented itself continuously, for 156 years.

Our Purpose statement is inspired by our past and is intensely focused on the future because we reinvent progress to unleash our full potential. It is idealistic and pragmatic, humanist and business-oriented. What differentiates us is our ability to recognize the duality of our world and be curious and creative as we reconcile seemingly opposite ideas – such as past and future, caring and daring – to form fundamentally new models for the future.

Bonding people, ideas and elements

Bonding has always been an essential feature of the Solvay spirit. Solvay has been creating bonds since its creation, connecting the best scientists of its time through the – still continuing – Conseils de Physique and Chimie. To this day, we are in business to bond: our scientists and chemists bond elements into molecules that become our products, to serve our customers. We bond among colleagues, we bond with customers and suppliers, with academics, with communities, with our families, connecting people and ideas.
Our Vision and Core Beliefs

Our Purpose comes with our Vision, a unique set of Core Beliefs and a new Code of Business Integrity.

Our vision

By living our Purpose in everything we do at Solvay, we create sustainable shared value for all. Value that can benefit entire communities – for example the guar farmers of India – and improve the lives of people all over the world. Because Solvay’s products are potentially in the hands of hundreds of millions of people holding a smart device, because they are in cars and in planes, because they save lives through medical devices such as hemodialysis equipment. And we create value in the form of prosperity for our employees, their families, and ultimately for our shareholders.

Our Vision calls us to go beyond where we are today. To reinvent the next forms of progress, because progress tomorrow will take a different form than progress today. We will go beyond being a market leader to become a market maker.
Our Core Beliefs

Our three Core Beliefs express the soul of Solvay and what we have faith in. They are the values that have driven us over the past 156 years and that will keep driving us in the future.

**Purposeful responsibility**
Our commitment to uncompromising ethics, safety and wellbeing, and sustainability.

**Unity, not uniformity**
Our belief in the power of ONE Solvay, inclusion and diversity. We have our greatest impact as individuals when we work together. We value the unique contribution of each individual.

**Passion for performance**
Our fire to take our achievements further, to challenge the status quo, and manage through meritocracy.

Our Code of Business Integrity

Our Passion for performance does not mean achieving results at any cost: integrity is the only way to do business. We have launched our new Code of Business Integrity, providing guidelines for what the Group means by integrity. Employees are all required to take an on-line training course and sign off that they understand and accept the code.

goto.solvay.com/code-of-business-integrity
Bonding stories

Just some of the many examples of how Solvay bonds with its key stakeholders to create more value.
Bonding

for our Purpose
288
listening sessions
involving more
than 3,000 people

13,000
completed
surveys

50%
survey responses
from production sites

Sao Paulo, Brazil
In 2019, Solvay looked deep into the who and why of our Group. We had transformed our portfolio. Now, it was time to adapt our culture, express who we are – who we have become – and state our Purpose as part of an in-house, bottom-up approach. First, we listened to thousands of Solvay employees. So that we could formulate a Purpose that is understood, owned and lived by each and every one. And build a Purpose-driven company, together.

What’s the story?  
Ilham Kadri began her time as Solvay’s CEO by listening to employees, investors and customers. She heard that our Group needed a shared why: an inspiration for our employees, and a clear statement for all about what drives us forward, a galvanizing North Star.

This spurred us on a quest to uncover, articulate, activate and embed our Purpose. The why that we can all share, that will form the foundations of a single culture spanning all our legacy companies, entities and generations. We launched the largest listening effort in our history and found that Solvay already had a Purpose, which our teams were living daily. What they needed, what we all aspire to, were inspiring words to express our why and build bonds around it.

“It was so interesting to learn what makes my colleagues proud to work for Solvay and see their vision for our future. It was clear that we were all engaged and excited about contributing to defining Solvay's Purpose.”

Raleigh Davis,  
Research Scientist, Alpharetta, USA
“The picture of shareholders only waiting passively for the payment of their dividend is outdated. Long-term investors, especially from the next generation, also want their investment to carry some sense and be more eco-friendly and socially responsible. In this spirit, some of us along with employees and other stakeholders, were blessed to be invited last year to a meeting in order to help define the purpose of Solvay for the coming years. A thrilling experience and a perfect example of bonding people, ideas and elements to reinvent progress!”

Cédric Querton,
Family Shareholder

“…I am hearing loud and clear that you want Solvay to become more innovative, more agile and bolder – especially in areas like the circular economy. You want us to have a positive impact on mankind and to remain human-centric. I sense your desire to do even more good for society.”

Ilham Kadri,
Solvay CEO

Who and how?
To uncover our why we put together an extensive listening tour. Over 13,000 colleagues replied to an in-depth survey; over 12% of our employees – more than 3,000 people – took part in extensive Listening Sessions; and we conducted 25 in-depth dialogues with leaders. We were determined to seek the opinion of our people on the shop floor and, thanks to the mobile-enabled survey format, a full 50% of all responses came from our production plants, and each of those plants organized at least one group Listening Session. We also listened to stakeholders outside the Group. We conducted 22 customer interviews, spoke to each Board member, and ran two focus groups to listen to what the young generation had to say – internally with Millennial employees and externally with our family shareholders.
What we achieved
Our listening tour revealed converging ideas that helped us uncover our Purpose. The central themes that echoed time and again were:

Connection and collaboration
We are at our best when we work all together as ONE Solvay and in partnership with our customers; we have our greatest impact when we partner with other stakeholders.

Ambitious, caring leadership
To achieve our great ambition, we lead with purpose, heart and mind, reinventing ourselves, constantly learning, unlearning and relearning, supporting others and coaching them to reach their potential.

One eye on the microscope, one eye on the telescope
We make our contribution from one generation to another, inspired by long-term opportunities while focusing closely on how we can do our best today.

Unleashing potential and passion
We won’t win only by having the best technologies, but because we have the most inspired people.

Customer centricity
Our customers are at the heart of everything we do; they express strong expectations and are looking for a more disruptive and proactive partnership with Solvay.

Breakthroughs that matter
We believe that our scientific and technological capabilities have a positive role to play for the progress of mankind.

This comprehensive tour helped us discover that Solvay’s Purpose is not new. We simply revealed who we really are. Our Purpose is strong, it is fundamental to our DNA and our legacy and sets us apart from our competitors. Today we express it in a rallying core statement: We bond people, ideas and elements to reinvent progress.
People are at the heart of Solvay’s Purpose. We build bonds between them so that all can make progress toward a better future. Our 24,000 people aspire to that ambition and together they have proven their power when they act as ONE Solvay. When they direct their combined energy to a shared goal, serving society together, for one Citizen Day.
What’s the story?

Solvay teams across the world took action as one to serve their communities last September. For the first time, all Group sites were invited to organize a Citizen Day around one single theme, inspired by the UN Climate Action Summit: preserving the environment. A total of 168 sites, representing 94% of all Group employees, volunteered to take part in concrete, locally run projects, working closely with stakeholders including local charities and associations, administrations or NGOs. It spoke to our shared sense of purpose and showed the potential of our shared impact when we – all 24,000 of us – joined forces at the service of our communities, as ONE Solvay.

Who and how?

In China, in Bulgaria, in the USA, France, Thailand, Brazil, Belgium, Mexico, the UK or Canada, around the world, Solvay sites selected topics, organized teams, contacted stakeholders, came together to make a difference. As they went, they shared their efforts, but also their stories, their photos, their videos to keep up the buzz and mirror the momentum, the enthusiasm and commitment on all our sites. We created Awards for the initiatives with the strongest impact and invited twelve employee jury members to have their say, looking at employee participation, environmental impact, innovation and ambition. The jurors handed their shortlist to CEO Ilham Kadri and the winner was… two winners! The 1st prize went to Zhenjiang in China and Alpharetta in the US, as both plants’ initiatives were equally impressive.

“Seeing and feeling the spirit of friendship, community, and positive energy among Solvay employees was amazing. We could see how much impact we could bring to our community by motivating each other and working together. The Solvay Citizen Day truly gave us a sense of pride to feel that we are all citizens of the bigger, world community.”

Kermit Kwan, Technology Scouting R&D Manager, Alpharetta, USA, Laureate
4: 75 trees planted by the teams at Solvay headquarters in Brussels. 5+6: Cleaning-up waste on the beach near the site.
“What a great source of inspiration and positive energy! I am amazed by the power of more than 24,000 people pulling together for a shared goal, all at the same time and in a pragmatic way. Let’s raise the bar even higher next year!”

Thomas Andro,
Head of Solvay Way, and Citizen Day Project Leader
7: Drawing Competition on “Environmental Preservation” at a primary school, Panoli. A total of 102 students participated and a certificate with prizes were distributed to the winners.

8: Together, Solvay employees and the community on a cleaning campaign in the city.

9: Environmental quiz with employees

10: 40 birdhouses and 40 bug houses were made at Solvay headquarters.

11: Cleaning the beach in the area surrounding the site.

12: Planting trees with kids in a local public park.
What we achieved

Nearly all sites worldwide and Group employees came together to serve their communities – an inspiring symbol of the Solvay spirit!

The local initiatives were as diverse as our teams: cleaning, planting, visiting schools and teaching children, changing behaviors like switching to eco-friendly bags and from plastic bottles. Our teams leapt at the chance to make a real sustainable difference and our communities valued Solvay’s stance as an active citizen in local life.

We are already looking ahead to next year’s Citizen Day, planning a new theme. And we aim to make our impact even stronger by making it measurable.

“It is impressive to see so many people engaged in making a difference in such creative ways. These actions show us how teamwork can produce significant results and that is exactly Solvay’s spirit.”

Carolina Brigagao,
Senior Lawyer, Solvay Brazil, and Citizen Day Jury Member
Bonding for greener energy

Through Solvay ONE Planet, the Group has made a new climate commitment and, within that, defined a clear strategy to transition from fossil to renewable and waste-to-heat energy across its plants worldwide. Implementation is underway, with a strong pipeline of projects, especially in North America, Asia and Europe.

7% of renewable in the total energy consumed by the Group in 2019¹

17 projects realized or decided in 2019
What’s the story?
We are committed to being part of the transition to a climate-friendly economy, and recognize that this is a major challenge. Solvay is more energy intensive than the chemical industry average, with continued reliance on coal. The phase-out of coal for energy generation is one of our key new decisions. We started our energy transition journey in 2018, as part of a pledge to cut 1 million tons in absolute greenhouse gas (GHG) emissions from operations by 2025. This switch from GHG intensity to absolute GHG reduction clearly signaled our determination not to grow our business at the expense of the environment.

In 2019, we continued our drive to transition to renewable energy at our plants by finding and prioritizing new solutions to meet our on-site electricity and heat requirements. We aim to move towards non-fossil energy by using both renewables and waste-to-energy conversion with external developers, that suit local specifics, complying with policies and matching resources, and to ensure that the projects identified are tailored to the needs of our plants in each geography. In 2019, all GBUs developed their own energy-transition roadmap to identify the most appropriate levers for their transition to non-fossil. Today, working as ONE Solvay, we have a holistic view of their specific needs and colleagues across the Group are aligning to achieve effective project implementation.

What we achieved
Our approach is to work on local on-site projects and on more global off-site projects, allowing us to develop an efficient mix of solutions to be offered to the GBUs where they are the most appropriate.

In the United States, for instance, we have developed solutions aimed at enabling us to cover the country’s plants’ total electricity needs. On January 1, 2020 we had already reduced our annual CO₂ emissions from electricity consumption by 150,000 tons, or around 25%, mainly through solar energy.

In Europe, we are working on a wide variety of projects, including the use of biogas (produced through fermentation of biomass, such as agricultural waste or wood). A major example is our soda ash plant in Rheinberg, Germany, where we have invested in a new biomass boiler. It will come into service from May 2021, using recycled locally sourced wood chips as the raw material, and will cut the site’s CO₂ emissions by over 30%.

Today, Solvay produces 12 million tons in CO₂ emissions, two thirds of which comes from energy consumption and one third from our processes. Approved energy consumption related projects will lead to a 600,000 tons reduction in CO₂ by 2025 and we already have a strong pipeline to ensure further reductions going forward.

Who and how?
Our teams at local, GBU and Group level are working closely together to ensure our plants make the energy transition successfully. In 2018 we created a dedicated team based close to our markets in North America, Asia and Europe. Its role is to develop solutions, in-house or with external developers, that suit local specifics, complying with policies and matching resources, and to ensure that the projects identified are tailored to the needs of our plants in each geography. In 2019, all GBUs developed their own energy-transition roadmap to identify the most appropriate levers for their transition to non-fossil. Today, working as ONE Solvay, we have a holistic view of their specific needs and colleagues across the Group are aligning to achieve effective project implementation.

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“Since January 2019, 100% of the electricity powering our plant in Baton Rouge, US, is supplied by solar energy. Decarbonizing the upstream value chain of our vanillin products gives them additional value and meets the increasing demand from our customers to reach a diminished carbon emissions objective.”

Peter Browning, President of Aroma Performance Global Business Unit

“We have defined a strategic approach at Group level, supported by real competencies in the field, with market-centric teams identifying the right projects for each geography.”

Alain Michel, Climate and Energy Transition Director

“The Rheinberg project marks a critical step in achieving our new greenhouse gas target as part of our strategy to produce and serve our customers in a more sustainable and competitive way.”

Christophe Clemente, President of Soda Ash & Derivatives Global Business Unit

1: Including renewables in purchased energy
Bonding with a global aerospace customer

Solvay’s long-standing collaboration with Airbus continues today on the Wing of Tomorrow research and technology project. This strategic partnership is an outstanding illustration of how we build robust, lasting relationships with our customers to bring disruptive solutions to industry.
“Collaboration with partners are an important aspect of the Wing of Tomorrow Programme. Through combining our resources, we can progress solutions which harness the capabilities of both our organizations for a better outcome.”

Sue Partridge, Head of Wing of Tomorrow Programme, Airbus

The Airbus Wing of Tomorrow project aims to meet these challenges through a radical new approach to the design and manufacture of commercial aircraft wings that improves the efficiency of large composite structures. The programme will explore the best materials as it aims to develop disruptive manufacturing methods for the adoption of a composite wing for Airbus’s next generation aircraft.

New materials, including composite technologies, are a major part of the project. Composites are lighter than metal and therefore offer lower fuel consumption and emissions. They also provide unique benefits in design, parts integration and corrosion resistance and could significantly reduce the equipment and tooling costs of wing production and enable faster production cycles.
“We have built a strong collaborative relationship with Airbus and are excited about progressing the material and process developments to support full-scale wing manufacture. The programme pushes the boundaries of composite design, materials and processing to find potential composite wing technology solutions.”

Sam Hill, Applications Engineering Manager; Wing of Tomorrow Technical Lead, Composite Materials R&I, Solvay

Who and how?
Airbus has been working to create the Wing of Tomorrow since 2015. A multi-skilled team has selected and developed a range of innovations in preparation for full-scale demonstrations.

As an aerospace technology leader, Solvay is a strategic partner on the project, bringing its composite materials expertise and unique portfolio of resin infusion, prepreg, adhesives and lightning strike technologies. Our key contribution is to develop materials and processes to create innovative composite structures for the Wing of Tomorrow, through research into the ability of our materials to meet the programme’s challenges.

Resin infusion technology allows efficient and highly integrated design of large composite structures resulting in reduced structural weight and potential lower production costs. It could also enable faster cycle times, reduced assembly requirements and improved manufacturing flexibility.

The Wing of Tomorrow delivery of three wing demonstrators will be completed in 2022.

What we achieved
Our cross-functional teams work closely with Airbus and its project partners. We contribute to research programmes and our engineers support the adoption of our materials within research labs and manufacturing facilities. Solvay has applied its unique Applications Engineering model, with its dedicated team, to facilitate a strong collaborative and effective partnership. The project aims to manufacture the components for three full-scale wings, with complete delivery of the first wing in 2020. Assembly and tests are slated for 2021.

To date, the material and process technologies have been validated at mid-scale level. The material performance and the capabilities of the novel processes are being validated against the demanding rate and costs of the project. The aim is then to demonstrate scalability to ensure the manufacturing approach is robust on an industrial scale.

Solvay’s resin infusion materials have been baselined for the full-scale demonstrators on this project. The Wing of Tomorrow programme pushes us to take our expertise and capabilities even further and showcases the way we innovate downstream in the value chain to offer our customers the solutions they need. It also highlights our capacity to build successful long-term partnerships with our customers, especially in advanced sectors like aerospace, where some contracts run for 10 to 20 years. We have been an Airbus supplier for many years and continue to work with them on other projects beyond the Wing of Tomorrow.
Get to know Solvay and the steps we are taking as we move ahead on our integrated management journey.
About this report

In 2019 we took major steps to unleash Solvay’s full potential, adapting our strategy – aligned with our newly unveiled Purpose – and revising our key policies accordingly. These major new steps are outlined in this Annual Integrated Report, along with our continued integrated management progress.

ReInventing Solvay

2019 opened a new chapter in the story of our Group. Ilham Kadri, our new CEO, has been writing its first pages, bringing a fresh viewpoint to a comprehensive review of our strategy and culture. Inspired by our teams, she has worked with them to unveil Solvay’s Purpose – the why that unites us all and gives us a shared direction. This report shares those pages and details how they dovetail with our complex and fast-changing business environment. How they have shaped our new G.R.O.W. strategy and new sustainability program (Solvay ONE Planet), our new operating model (Solvay ONE), our new employee engagement model (Solvay ONE Team), our governance and our sustainable value creation model.

Much was new in 2019, but connecting with stakeholders remains at the heart of our business and fundamental to achieving our Purpose. And this report also tells their stories, how Solvay has met their expectations, and what we need to improve.

Your guide to this report

This is the fourth edition of Solvay’s Annual Integrated Report, based on the International Integrated Reporting Council (IIRC) principles and elements of content. The ReInventing Solvay section takes an integrated thinking approach, putting selected contents into the perspective of our Vision and strategy, linking material information, and looking ahead to the future. It also highlights how we create sustainable value for all stakeholders in the short, medium and long terms.

This edition takes integration further by introducing our Purpose and how it meshes with our model and our medium-term strategy. It also outlines our value chain, giving an overview of Solvay’s core business activities, and strengthens our stakeholder engagement by showcasing our response to their needs.

Links in the ReInventing Solvay section open detailed analyses in the Management Report, including a focus on high materiality issues.

“Our approach to integrated thinking continues to evolve and gain momentum. Our new sustainability targets, Solvay ONE Planet and our new Purpose will support the delivery of superior, long-term value as an integral part of our G.R.O.W. strategy. We continue to welcome initiatives to standardize disclosures by corporates and utilization by investors in relation to Environmental, Social, and Governance as an integral part of value creation – indeed we particularly commend and appreciate the recent Consultation Draft ‘Towards Common Metrics and Consistent Reporting of Sustainable Value Creation’ prepared by the World Economic Forum’s International Business Council.”

Karim Hajjar,
Member of the Executive Committee,
Chief Financial Officer
Navigating our 2019 Annual Integrated Report

Reinventing Solvay
A brief review of our Purpose, business environment, strategy, governance and performance, targeting a wide range of stakeholders. This section provides a holistic assessment of the Group’s ability to create value.

Presidents’ message
Nicolas Boël, President of the Board of Directors and Ilham Kadri, President of the Executive Committee and CEO, highlight Solvay’s key achievements and prospects.

Page 2

Our Purpose
The arrival of a new CEO in 2019 created an opportunity to reflect on who we are and why we exist as a Group: to formulate the Purpose that gives us all a compelling sense of direction and encapsulates the reasons why we come to work for Solvay every morning.

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Bonding stories
Just some of the many examples of how Solvay bonds with its key stakeholders to create more value.

Page 12

2019 at a glance
Key information to help the user understand who we are and the key events of 2019.

Page 29

Business environment
We connect with our stakeholders, constantly listening to our customers, so that we can better meet their fast-changing needs and address the megatrends that will shape our future.

Page 36

Strategy
In this challenging business environment, we must change the way we operate to thrive and achieve our Purpose. This begins with the implementation of G.R.O.W., our new strategic roadmap driven by innovation, our sustainability program, Solvay ONE Planet, and our new operating model, to fully unleash Solvay’s potential.

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Governance
Strong governance is paramount to spur on this strategic journey with a new mindset, working together to achieve the Group’s Purpose and Vision.

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Value creation
Generating superior growth, innovating for our customers and creating value for all our stakeholders.

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Management report
A comprehensive report on the Group’s financial and extra-financial performance for the year 2019, targeting experts.

Corporate Governance Statement
A review of the corporate governance system and specific information on the Group’s compensation policy and its implementation.

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Risk Management
Detailed information on Solvay’s Risk management process and its main risks.

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Business review
Review of performance for the year.

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Extra-financial Statements
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Financial Statements
A comprehensive report on the Group’s financial performance for the year.

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The scope of this report
The 2019 Annual Integrated Report provides material information on Solvay for the year ending December 31, 2019. It builds on last year’s report, integrating feedback from our stakeholders, including several recognized bodies such as the Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC) and the World Business Council for Sustainable Development (WBCSD).

It is aligned with GRI Standards, the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), and the WBCSD’s ESG Disclosure Handbook. Its contents also serve as a progress report on the implementation of the ten principles of the UN Global Compact and the Sustainable Development Goals (SDGs). Unless otherwise stated, all social and environmental indicators are consolidated using the “financial control” approach described in the Greenhouse Gas Protocol Corporate Standard.
2019 Key Figures

Solvay is a science company whose technologies bring benefits to many aspects of daily life. With more than 24,100 employees in 64 countries, Solvay bonds people, ideas and elements to reinvent progress. The Group seeks to create sustainable shared value for all, notably through its Solvay ONE Planet plan crafted around three pillars: protecting the climate, preserving resources and fostering better life. The Group’s innovative solutions contribute to safer, cleaner, and more sustainable products found in homes, food and consumer goods, planes, cars, batteries, smart devices, health care applications, water and air purification systems. Founded in 1863, Solvay today ranks among the world’s top three companies for the vast majority of its activities.

Solvay around the world

Our Research & Innovation in figures

- **2,100** Employees
- **€336 M** R&I effort
- **18%** New sales ratio*
- **75%** of R&I pipeline revenue to be from “Sustainable solutions”

*% of products/applications < 5 years
Financial indicators

2,322
Underlying EBITDA in € million
-2.8% organic basis\(^1\)

27.8%
Free cash flow conversion\(^2\)
+1.8 pp

8.1%
ROCE\(^3\)
-0.1 pp

3.75\(^4\)
dividend in € per share
Stable

Social and environmental indicators

12
Greenhouse gas emissions\(^5\)
in Mt CO\(_2\)eq.
-5% compared to 2018, at constant scope

53%
Sustainable solutions (SPM) as percentage of Group sales

0.44
Occupational accidents at Group sites\(^6\)
per million hours worked
-18% compared to 2018

47%
Employees involved in societal actions as percentage of employees

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1: Organic growth excludes forex conversion and scope effects, as well as the effect from the implementation of IFRS 16. Reported growth compares to the published 2018 pro forma figures, adjusted for the implementation of IFRS 16. 2: Free cash flow to Solvay shareholders is the free cash flow after payment of net interests, coupons of perpetual hybrid bonds and dividends to non-controlling interests. This represents the cash flow available to Solvay shareholders, to pay their dividend and/or reduce the net financial debt. The free cash flow conversion ratio is calculated as the ratio between the free cash flow to Solvay shareholders (before netting of dividends paid to non-controlling interest) and underlying EBITDA. 3: Return on Capital employed, 4: Recommended to the Shareholders meeting on May 12, 2020, 5: Total emissions (scopes 1 and 2), 6: Rate of accidents with medical treatment, with or without work stoppage.
10 Highlights of 2019

Solvay opened a new chapter in 2019. We welcomed our new CEO and took major steps forward to unleash the Group’s full potential: we unveiled our Purpose, introduced a new G.R.O.W. strategy and sustainability goals along with a new operating model. Meanwhile we continued to strengthen our strategic businesses, pushing ahead on collaboration with our customers, and expanding on new high-potential markets. Here is a selection of ten highlights of the year.

1 Ilham Kadri, Solvay’s new CEO
Ilham Kadri’s arrival gave a new impetus to the Group’s transformation to unleash its full potential. She began by listening to employees, managers and stakeholders around the world, their insights forming the foundation for our Purpose and Vision and for an in-depth strategic review.

2 Solvay and Safran raise the temperature
Solvay strengthened its collaboration with Safran through a long-term agreement to supply high temperature composites and adhesives for several critical engine components. We also extended our supply agreement on demanding applications for the LEAP Engine.

3 Improving competitiveness in soda ash and bicarbonate businesses
Solvay decided to develop 1.4 million tons capacity in soda ash and sodium bicarbonate to meet customers’ growing needs while improving energy efficiency and advancing energy transition projects at its sites to reduce CO₂ footprint.

4 Speeding up the development of thermoplastic composites
Solvay opened two dedicated thermoplastic composites (TPC) innovation centers in the US and Europe to speed up the development of these materials. The Group opened a production line in California to help meet aerospace customers’ growing demand for our unique proprietary TPC technology.
Launching our G.R.O.W. strategy

Our G.R.O.W. strategy will drive growth, cash and high return investments. Based on distinct business mandates with capital and resources discipline, and enabled by our new operating model, it will help us serve and innovate with our customers more effectively.

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Meeting booming demand in lithium batteries

Solvay is reinforcing its leadership in the lithium-ion battery market by more than doubling its production capacity of high-performance polymer Solef® PVDF at its site in Changshu, China. This investment in high-growth sustainable solutions supports our G.R.O.W. strategy.

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Seven Solvay products awarded the Efficient Solutions labels

The World Alliance for Efficient Solutions created by the Solar Impulse Foundation recognized the value of seven Solvay products as sustainable (and profitable) solutions for a cleaner environment.

Page 18

Unveiling our Purpose

We bond people, ideas and elements to reinvent progress. Inspired by insights from our teams, our Purpose expresses the connection, collaboration, innovation and progress inherited from our founder, and embodies our Vision to create shared, sustainable value for all.

Page 18

Ten goals focused on climate, resources and better life

An integral element of the Group’s G.R.O.W. strategy, our new 2030 sustainability program, Solvay ONE Planet, is aligned with Solvay’s Purpose. Ten goals will help us improve our impact on climate, resources and better life.

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Carolyn Bertozzi, Chemist of the Future

Professor Carolyn Bertozzi of Stanford University won our 2020 Chemistry of the Future prize for her invention of bioorthogonal chemical reactions performed in living cells and organisms. This will ultimately help diagnose and treat cancer as well as infectious diseases.

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Our businesses align with the megatrends on our markets, bonding with stakeholders to understand and meet their needs.
In step with powerful business trends

Our world is growing: its population, its urban areas, its wealth. This growth brings with it a threat to our planet: we are consuming its resources at an unsustainable rate. In this challenging context, global megatrends like Evolving demography & consumer behavior, Innovation acceleration, Resources constraints & increasing demand for sustainability, remain pivotal for Solvay.

Chemistry is a core component of products and solutions used everywhere, every day. At Solvay, we have realigned our portfolio to offer innovations to help meet these global challenges and stay in step with the powerful business trends driving growth in our end-markets. Our world needs solutions that will secure our children’s access to natural resources. Solvay is, and will remain, part of those solutions.

Transformed to tackle a complex world

Several end-markets remained volatile in 2019, displaying contrasting dynamics: challenging in automotive, electronics and oil & gas; supportive in aerospace, soda ash and peroxide. As the world faces a paradigm shift, Solvay’s fundamentals enable us to look toward with confidence. We have been transforming our portfolio and today we are focused on fast-growing end-markets, benefiting from reduced exposure to business cycles and a balanced geographical footprint. We are in position to seize various opportunities allowing us to enhance our performance by leveraging all the Group’s assets, including our motivated teams.

Our businesses are aligned with six powerful global trends

- Electrification
- IoT/Digitalization
- Resource Efficiency
- Lightweighting
- Healthcare
- Eco-friendly based solutions
Strong growth continues in batteries, underpinned by buoyant electrical vehicles and consumer electronics markets. This highly demanding sector requires innovative technology for faster charging, enhanced battery pack design and higher energy density batteries. Reducing cost of use is essential. Electrical vehicles aim to be ever more competitive with their conventional counterparts and suppliers are expected to offer quality materials and solutions, along with secure supply, particularly through sufficient production capacity.

- Approximately 50% of electric or hybrid vehicles in global production by 2030\(^1\)
- CAGR growth in batteries between 2018 and 2030\(^2\)
Opportunities for Solvay

Solvay is at the cutting edge of battery innovation.

• Together, our recognized expertise in fluorine chemistry, robust portfolio of fluorinated products and lithium salts make us a leader in new solutions for next generation batteries to meet our customers’ challenges, offering them enhanced safety, energy density and power at lower cost.

• We build partnership projects to leverage the expertise of actors across the value chain in this multi-competence industry. And we collaborate in globally funded projects to validate the use of innovative materials in real-world applications and with top-level academic research organizations and startups worldwide. We recently invested in two startups working on innovative battery solutions, NOHMS Technologies and SOLID POWER and we are teaming up with SAFT Alliance to create a European champion in electrification.

Spotlight

Accelerating growth in batteries

In 2019, we created a dedicated innovation structure to accelerate growth and engineer partnerships and alliances across the value chain. The platform provides a catalog of high-level diversified skills, including physicists, engineers, mathematicians and chemists and best-in-class technologies. The goal is to build a batteries ecosystem, where experts interact with customers and meet their urgent needs. Our dedicated Battery Application Development Center in Seoul, South Korea, offers a unique space for collaboration with our customers from the start of a project, jointly developing tailor-made solutions. This structure reflects our unique customer-focused capabilities in batteries, a fast-growing market and a strong focus for Solvay within our G.R.O.W. strategy.

Challenges for customers

The recyclability of batteries and the availability of raw materials such as lithium and rare earths are among the key challenges raised by this trend. So too are scaling-up infrastructures, the capacity of the electrical grid and the potential for vehicles to inject into and receive power from the system.

We are a key player in 2nd generation batteries (more safety, better lifecycle) and actively participate in setting up an ecosystem dedicated to the recycling of batteries. To do so, we leverage our unique methodology that allows enhanced recovery of value minerals and our broad range of solvent extractants for the purification and concentration of metals like lithium.

The global drive to reduce CO₂ emissions and enhance efficient use of natural resources makes lightweighting a critical concept. A 10% reduction in vehicle weight can result in a 6-8% fuel economy improvement. Alternatives to conventional materials include composites that offer enhanced durability and lower maintenance costs, or specialty adhesives that join materials with different chemical compositions. Coatings are another example, helping to reduce the overall weight of vehicles, as only one or two layers are sufficient, compared to conventional four-layer coatings. There are also a whole variety of customized and modular products, made possible by novel machining capabilities such as additive manufacturing.
Challenges for customers
The main challenges for customers beyond lightweighting are maintenance and repair, sustainability/recycling, crash simulation/mechanical resistance, cost reduction and faster production cycle.

Spotlight
Customer-centric thermoplastic composites innovation
To meet the challenges facing the industry and for faster development in thermoplastic composites we created a dedicated structure around a diversified team of experts who work closely with our customers to accelerate innovation and develop commercial applications. In 2019, we also opened two dedicated innovation centers, in Brussels (Belgium) and Alpharetta (USA) offering state-of-the-art assets and capabilities to support customers in the early-stage design, prototyping and testing of parts and so dramatically reduce the time to market of our materials. The centers build on Solvay’s unmatched vertically integrated portfolio of specialty polymers and carbon fiber composites and, with our recent capacity expansions, complete the infrastructure that supports the industrialization of our thermoplastic materials technology.

Opportunities for Solvay
Solvay innovations put us in a strong position to offer our customers lightweighting solutions.

• Our high-performance polymers improve aerospace engine efficiency and downsizing.

• Our solutions for aerospace structures are world-leading, with thermoset composites that offer unique benefits in aerodynamics, design, part integration and corrosion resistance.

• With the broadest specialty polymers portfolio and in-depth expertise in composite material technologies, we are the leader in thermoplastic composites (TPC) for the aerospace & automotive industries. Meeting escalating demand requires new technologies and approaches to yield lighter components and reduce aircraft construction time significantly. TPC are expected to play an increasingly important role, as a TPC part can reduce manufacturing costs by 20 to 30% compared to metals or polymer materials.

Sources: 1: Roland Berger, 2: Bain – BSR Composites, 3: UBS Global Research – October 8, 2019
Air, soil and water pollution and the growing pressure on biodiversity are driving the search for new resource-efficient solutions. So too is climate change and the continuing bid to reduce CO₂ emissions, currently set to increase by 40% by 2030. Industrial innovation is growing, enabling more efficient use of resources, through modular design and manufacturing methods incorporating the principles of recycling and the circular economy.
Challenges for customers
Doing more with less, through energy savings (lightweighting), savings on raw materials, and the circular economy.

Opportunities for Solvay
Solvay offers leading technologies to many of the markets where resource efficiency is a key driver.

- We have developed a unique methodology that allows enhanced recovery of value minerals and increased recovery and concentrate grade in copper flotation and a broad range of solvent extractants for the purification and concentration of metals like lithium.

- We offer high-performance polymers & thermoplastic composites for use in flexible oil & gas risers. They are lighter, more resistant to corrosion and require less maintenance.

- We leverage our expertise in soda ash to develop eco-efficient glass used in triple-glazed windows for the construction industry.

- Our polymers are used in filter bags and membranes to treat the gases emitted by multiple industries.

Spotlight
A Solvay solution
The fast-growing lithium industry has seen a rise in demand driven by the growth of the electric vehicle battery market. Working together with a mining engineering firm that developed a new process to extract lithium based on solvent extraction, Solvay has imagined an optimized extractant formulation that helps companies achieve more sustainable and cost-effective lithium production from salars. The reagent Cyanex® 936 enables the production of high-purity lithium salts in a matter of hours, rather than 12 to 18 months under conventional evaporation methods, irrespective of weather conditions. Furthermore, under this new process, the lithium-free saltwater can be re-injected into the salar following solvent extraction, saving billions of liters of water.

Sources: 1: World Material Forum, Global Battery Alliance, 2: Research and Markets, October 2019, 3: Solvay internal research
Healthcare and wellness are becoming a central priority. People want to live longer, healthier lives and feel better, through improved work-life balance and higher quality of life. By end 2020, 75% of the world’s population will have a personalized healthcare plan, and growth in the health and wellness market is expected to continue at an annual rate of >6% in the coming years.
Spotlight
A Solvay solution
Until the late 1980s, membranes used to filter blood were made of cellulose acetate, which can have significant, adverse side-effects for patients. After collaborating with the industry leaders to address this problem, Solvay developed a specialized Udel® polysulfone (PSU) polymer used to manufacture hemodialysis membranes, and offering excellent biocompatibility. Today more than 3 million people are being treated with hemodialysis membranes made from Solvay products.

Opportunities for Solvay
Solvay is #1 in high-performance polymers technologies, serving a range of markets.

- We offer biomaterials for long-term exposure applications suitable for implantable devices, orthopedics and dental devices.
- Our medical grade thermoplastics offer high-performance in implantable and medical devices in limited exposure applications in fields such as surgical instruments, sterilization cases and single use instruments.
- Our revolutionary, high-heat, high-performance polymers are used for hemodialysis membranes.

Challenges for customers
Patients are ever more informed about and involved in their healthcare. The social media are increasingly seen as a source of information on health and patients are keen to exercise choice in this area.

Digital technologies are transforming how we work and how we consume, generating disruptive new business models. Increased connectivity and mobility are key drivers: by 2030, 60% of the world's population will access the internet only through mobile broadband, at over 1 GB/s. Miniaturization and optimization of the performance to size and weight ratio will be a strong focus for research and industry, opening the way to new material properties and enhancing energy and capacity outputs. Nanotechnologies will reshape many industries.

- **CAGR growth in display capacity through 2023**
  - +4%
- **CAGR growth in semiconductors through 2022**
  - +6%
- **CAGR growth in IoT sensors through 2023**
  - >15%
Challenges for customers
As technology and 5G networks continue their rapid expansion, the need for semiconductor minimization, faster connectivity speeds, higher frequencies and low-loss signals will rely on new materials and chemicals, as well as coatings for sensing & monitoring systems.

Opportunities for Solvay
- Our high-performance polymers are used in new-generation OLED & flexible displays
- We offer solutions for semiconductor industry consumables based on high-purity chemicals used in high-temperature and chemical-resistant materials.

Addressable market
> €50 bn

Spotlight
A Solvay solution
An example of high-performance polymer used in new generation OLED & flexible displays, Fomblin® PFPE is a family of fluorinated lubricants ideally suited for aggressive chemical environments requiring reliable operations over a broad range of operating temperatures. They are often used for specific applications in the chemical, electronic, military, nuclear, data processing, and other industries requiring high-performance lubrication.

Sources: 1: Solvay internal research, 2: PwC publication, 2019, 3: BCC Sensors Technologies and Markets – July 2018
Consumer behaviors are shifting towards wellness, with a desire for a better quality of life with a healthier work-life balance, reduced stress and higher quality food. These new priorities often mean a preference for organic, natural solutions.
Spotlight
A Solvay solution
As sustainable solvents are the fastest-growing segment on the market, the Augeo® line of bio-sourced solvents is truly taking off. Developed for cleaning products and fragrances, Augeo® is non-toxic, biodegradable and produced sustainably; an alternative to traditional petro-chemistry. Indeed, Augeo® is based on glycerin, a colorless and odorless substance well known for its use as a moisture preserver in the food industry, and therefore completely harmless for people and the environment.

Opportunities for Solvay
• Solvay is a leader in bio-based ingredients.
  – We have developed the reference in natural vanillin, produced by biocconversion of natural raw materials.
  – We are the world leader in chemical modification of guar. Guar gum is extracted from the seeds of the guar plant and used in markets such as agro & nutrition and home & personal care.
• Our waterborne coatings solutions address the challenges of adhesion to difficult substrates, anticorrosion, hydrophobicity and overall durability, specifically in the direct-to-metal segment, metal structures and shipping containers. We work closely with customers on novel APE1- & VOC2-free and odor-free products that meet their needs for binders, colorings and performance.

Challenges for customers
The key challenge within this trend today is the higher cost of eco-friendly based solutions compared to fossil-based technologies.

1: Alkyl Phenol Ethoxylates, 2: Volatile Organic Compounds, 3: Solvay internal research
Market-driven innovation

Solvay’s businesses are closely aligned with the powerful trends driving growth in our end-markets. Our core technologies, skills and expertise have allowed us to build robust positions on seven fast-growing markets, where we hold a number one or two position and where our innovative and competitive solutions can bring value and support our customers in meeting their challenges.

More than half of the Group’s portfolio is now solidly positioned as “Sustainable Solutions” with sales generated on markets related to strong sustainability trends like sustainable mobility and resources efficiency.

The World Alliance for Efficient Solutions created by the Solar Impulse Foundation has awarded seven Solvay strategic products the Efficient Solutions label for their role in protecting people and the environment in a profitable way.
Lightweighting

For lighter vehicles with lower fuel consumption and emissions, composite materials are an innovative alternative to metal and solid plastic structures. Our SolvaLite™ composites are up to 40% lighter than metal and cure much faster than traditional composites. A step-change from traditional composite materials, it also means more efficient, much faster production and enhanced cost effectiveness in high-volume production runs.

Solvay is also uniquely positioned in thermoplastic composites with the best-in-class portfolio in specialty polymers and strong expertise in composite technologies. These materials are expected to play an increasingly important role in meeting growing demand for lighter components and reduced aircraft construction time. From world-leading commercial airplane manufacturers to space exploration programs, Solvay serves the entire aerospace industry, providing innovative aerospace composite solutions from airframes to interiors, electrical, air and fluid systems and propulsion.

Electrification

Batteries with higher energy density, enabling faster charge with greater power and lower cost, are vital to the future of electromobility. Solvay is at the cutting edge of battery innovation with solutions that meet the highest safety, temperature and chemical resistance requirements, and so address the needs of the entire battery system. Our fluorinated materials for advanced lithium-ion (Li-ion) batteries and our Energain® technologies enable the operation of next generation Li-ion batteries at higher voltage for higher energy density.
**Precision solutions for aircraft**

With our Cycom® range of products, we offer solutions for the most technically challenging composite applications. Cycom® prepregs and resin systems are the industry standard for stiffness, impact resistance and thermal performance. This innovation delivers 10 to 20 times faster manufacturing rates, thus enabling a lower total cost of ownership in line with industry expectations for high volume composite use.

**Multi-skilled polymer**

A high-performance material for Li-ion batteries, our Solef® PVDF has been awarded the Efficient Solutions label by the Solar Impulse Foundation. This polymer is used to manufacture battery components (binders and separators). As a partially fluorinated material, it is particularly stable, for enhanced safety performance. It enables higher voltages and high-temperature resistance – key for electric vehicle batteries – faster charge and fire-resistance.

**Powertrain efficiency**

In all types of powertrains, the engine and transmission system offer significant potential for energy efficiency improvements. Our specialty polymers, like our thermoplastics product ranges Amodel® PPA and Ryton® PPS, help to build lighter and so more fuel-efficient internal combustion engines, manage the intense heat of down-sized engines, and develop hybrid electric vehicles that combine gasoline engines and electric motors in order to achieve the best balance of fuel economy and demand on batteries.

**Green technologies**

Our silica products designed for tire manufacturers can reduce rolling resistance by up to 25%, for 7% lower fuel consumption. Indeed, they make tire gum more consistent and prevent it from heating up, thus decreasing the rolling resistance of tires and keeping them safe for longer. Our latest innovative grade Premium SW is among the cheapest and most efficient ways to cut CO₂ emissions from vehicles. Several Solvay solutions, including Autocat® are used in automotive catalytic converters to minimize pollutant emissions while boosting performance.
Key market drivers in mineral resources and the environment are the growing concerns over sustainability and stringent regulations on CO₂. Solvay’s sustainable solutions for the oil & gas, mining, energy generation and energy storage sectors offer our customers more energy-efficient and environmentally-friendly products and services.

Mining

Today’s mining operations face the dual challenge of maintaining or increasing production and reducing consumption of resources like water and energy. In parallel, the reagents used to extract metals and minerals must meet stringent safety and environmental requirements. Solvay’s specialty mining reagents help our customers meet these challenges and reduce operating costs in the recovery of many metals and minerals. For instance, compared to traditional recovery methods, our Cyanex® reagents significantly reduce production time and natural resource requirements while improving metal yield.

With growing demand for electric vehicle (EV) batteries and, therefore, battery metals, the need for copper, a major component in EVs, is increasing. Acorga® copper extractants have a proven track record in the mining industry and are used by the largest copper producing mines in the world.

Oil & Gas

The Oil & Gas industry faces increasing challenges as new offshore fields are discovered in deeper water, requiring longer, heavier and costlier subsea pipes that create logistical challenges. Solvay’s lightweight composite materials can be used to produce pipes that can withstand the extreme conditions of oil & gas applications.
Evolite™ F1050 is a high-performance thermoplastic composite material specially designed for oil & gas. It combines the excellent chemical and temperature resistance of Solef® PVDF with the inherent high strength performance of carbon fiber. It offers both the mechanical reinforcement of steel and lower weight, potentially saving dozens of tons on a single pipe.

**Clean technologies**

Solvay has developed a range of solutions for renewable energy production. In solar power, our innovations include protective films for photovoltaic panels, and our wind power solutions range from seals and cables to epoxy compounds for wind turbine blades. Our solutions to support air and water treatment and soil remediation, addressing the requirements of more challenging regulations, use filtration, gas separation, absorption, and chemical reactions. Our Capterall® mineral-based solutions efficiently remove pollutants from wastewater, helping our customers comply with strict regulations.

*Awarded an Efficient Solutions label by the Solar Impulse Foundation*
Healthcare & Consumer Goods

In healthcare, today’s market drivers are the world’s growing population, advances in treatments and health technologies, high sterilization capabilities and wider healthcare coverage in developing markets.

Solvay’s extensive range of polymers is used in orthopedics, medical devices and equipment, surgical instruments and implantable devices. We are a world leader in thermoplastics used to manufacture dialysis membranes with excellent biocompatibility. Our hydrogen peroxides solutions, used as disinfection and decontamination agents, meet growing demand from the pharmaceutical industry in dialysis and disinfection.

We are also a world leader in High Barrier Polymers for pharmaceutical packaging. Used in blister packaging to protect sensitive pharmaceuticals, they ensure efficacy and extend product shelf life. Solvay products are used in one in every four pharmaceutical blister packs globally.

In consumer goods, a growing customer base demanding more natural and bio-based solutions is a key market driver. So too are enhanced performance and convenience, growing demand for personalized and premium products, and digital tools to enable niche brands.

Consumer behavior is changing as populations in mature economies age and the middle classes in Africa, Asia, and Latin America grow. Consumers want easy-to-use, multifunctional solutions that are tailor-made, safe and sustainable, offer an enhanced consumer experience, a positive impact on health and well-being and a low impact on the environment. They also want to benefit from the best of digital and enhanced connectivity.
Solvay’s broad portfolio offers innovative, sustainable and competitive polymers and surfactants used in sectors from smart textiles and pulp paper to personal & home care. These include Amni Soul Eco®, the world’s first biodegradable polyamide yarn that decomposes quickly when disposed of in landfills. Another example is Mackadet® OPR 2, a biodegradable, vegetable-derived liquid dispersion that is used to opacify personal care or household products without the need for heat. This product is sulfate free, paraben free and formaldehyde free.

**Fighting infection**

The ability to withstand repeated disinfection and steam sterilization is a critical requirement for any material used in reusable medical devices. Engineered for especially harsh environments, Radel® (PPSU) can be steam sterilized for more than a thousand cycles without significant loss of properties. For over 30 years, this remarkably strong polymer has successfully replaced metals in a wide variety of applications, including sterilization cases and trays, surgical and dental instrument handles.

**Natural hair care**

Our personal care portfolio focuses on clean beauty and most of our products are plant-based. Polycare® Split Therapy is a new split ends repair formulation. Made from natural guar polymers, this technology can be used in shampoos, conditioners and serums, and proves remarkably efficient for repairing damaged hair.
The need to feed a growing global population is the key market driver in agro, feed & food, requiring greater agricultural yields and better resource management. Solvay’s portfolio of innovative solutions supports customers from farmers to food processors, helping them operate responsibly and sustainably.

**Agriculture**
Agriculture and the crop protection sector are facing the challenge of using greener solutions to build the future of farming. They must integrate seed treatments and nutrients to boost germination, adding biologicals as a new tool and leveraging data and digital technology as enablers. AgRHO® N50 Protect treats urea fertilizers cost-effectively and sustainably and helps European growers meet regulations limiting volatilization due to urea. We also offer pioneering automation and digital technology, including on-target drift control adjuvants for agricultural spray drones, with our AgRHO® Aero-mate 320.

**Feed**
Solvay offers a range of highly efficient feed supplements for livestock used to prevent and control disease. They also optimize the flow of nutrients that are essential for animal health. Adding a natural source of sodium, Bicar®PZ, to the feed ration of ruminants can improve the health and productive performance of animals. In the aquaculture industry, where parasitic diseases can seriously affect production, Paramove™*, a solution made of oxygenated water, removes sea lice from salmon, leaving only oxygen and water in the environment.

**Food**
Consumers are demanding healthier, more natural and more convenient food. Solvay is the market reference for vanillin solutions. We offer the food and beverage industry a wide range of
products for food preparation, food preservation, healthier living, improved food quality, food safety, and taste enhancement. We also provide materials for safe, reliable and convenient food packaging. Solvay’s High Barrier Polymers (HBP) offer a combined water vapor and oxygen barrier and good heat-sealing properties for protecting fresh, dry and wrapped food.

**A 100% biostimulant seed treatment**

Increasing demand and limited extension of cultivated land make safe and cost-effective yield increase crucial to future developments in agriculture. The unique mode of action of Solvay’s AgRHO® S-Boost™ biostimulant stems from proprietary natural polymer technologies using guar beans. When applied to seeds, AgRHO® S-Boost™ stimulates root development and favors water and nutrient uptake in the early growth stages, leading to a healthier plant, secured yields and optimized use of water and agricultural inputs.

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**Bio-sourced vanillin**

Vanillin is the most popular flavor used in foodstuffs across the world, yet its availability from the vanilla bean is limited and very expensive. Our Rhovanil® Natural CW is the reference in natural vanillin. Bio-sourced from ferulic acid, a natural organic compound found in non-GMO rice bran, our product meets all global regulations on natural flavoring substances and offers both the vanillin note characteristic of vanilla and the advantage of a natural flavor labeling.

* Awarded an Efficient Solutions label by the Solar Impulse Foundation
Growing demand for hyper-connectivity, the rapid development of 5G and exponential growth of data are key market drivers, resulting in miniaturization, the development of the Internet of Things (IoT), and a need for components that consume less energy. Solvay works closely with electrical and electronic equipment manufacturers to ensure that its advanced materials are fully geared to their needs.

Displays
Our portfolio offers a new generation of materials for OLED, delivering high-quality diffuse light and potentially flexible displays. Our Cytop® portfolio includes high-purity phosphines derivatives used in the manufacture of quantum dots that allow the most vivid colors and the brightest display, making it possible to produce many more nuances. Our products are used in a variety of ways, acting as precursors to semiconducting materials, ligands, solvents and delivery agents for chalcogens.

Semiconductors and other electronic components
The increased miniaturization, conductivity and complexity of electronic components puts higher demands on materials, especially in terms of high temperature operation and dimensional stability. Our specialty polymers provide high-performance solutions for structural and electronic components. We also have recognized expertise in high purity chemistry for the semiconductor industry. Together, they meet demand on this fast-growing market, driven by data centers, IoT and mobile technology, where customers require materials offering high levels of purity, temperature resistance and chemical resistance.

Smart devices
Today, smart sensing is driving market growth in smart devices and components, including premium smartphones with advanced functionalities such as infinity display, Artificial Intelligence, or 5G. Higher demand for miniaturization, multi-function and enhanced performance is creating opportunities for specialty materials, like Solvay’s Kalix® HPPA. Designed for structural components used in smart mobile electronic devices, this high-performance polyamide provides high strength, rigidity and a high-quality surface finish, along with improved processing.
Industry leading purity in electronics
The complexity of computer chips, and increasing circuit miniaturization, is driving demand for advanced cleaning solutions to support the production of next generation semiconductors. Solvay is one of only a few companies in the world able to meet the exacting requirements of the leading semiconductor manufacturers. Our ultrapure Interox® Pico Hydrogen Peroxide, the reference in this market, can eliminate metallic impurities at the scale of a grain of salt on a soccer field.

Purer raw materials for semiconductors
Phosphine gas is essential to the manufacture of electronics where it is used as a dopant for various types of semiconductors and TFT display manufacturing. Our clients depend on Cypure® to support these demanding applications when manufacturing in cleanroom environments and to exacting quality standards. Our phosphine products offer purity levels close to 100%, achieved by rigorous attention to detail at every stage, from manufacturing to transportation.
The key market driver for Building is the growing demand for longer-lasting buildings that consume less energy, include safe water management and enhance their users’ well-being. Our solutions focus on increasingly stringent environmental performance certification systems in passive residential and commercial buildings.

Energy Savings
Buildings represent 40% of the world’s energy consumption and CO₂ emissions. We help develop solutions for energy saving triple-glazed windows with soda ash, and for foam wall coverings to maintain comfortable temperatures in near-zero energy housing.

Resource efficiency
As drinking water scarcity becomes a challenge in an increasing number of countries, rainwater is increasingly reused in cities to water plants and trees, calling for large quantities of plastic water and drainage piping and fittings, for which Solvay provides key components. From water piping to solar panel protection, our products contribute to renewable resource efficiency.

We also provide protective films for solar panels that are often placed on the roof of buildings, increasing their efficiency and further reducing the use of non-renewable fossil fuels.

Protection & Safety
Urbanization is a global trend that continues to create increasing demand for high quality, sustainably produced paints and coatings throughout the world. Increased sustainability and added functionality are the major themes in the coatings industry. Solvay offers APE¹-free and VOC²-free and Ecolabel products, enabling customers to convert from solvent-borne coatings systems to waterborne formulations, in full compliance with regulatory requirements. This is the case with Solvay’s combination of the Sipomer® PAM and WAM range of additives that offer enhanced sustainability, exceptional corrosion resistance and adhesion to difficult substrates – such as aluminum, glass, wood, plastic or aged alkyd.

¹: Alkyl Phenol Ethoxylate, ²: Volatile Organic Compounds
Safer foaming solutions
Solvay Alve-One® foaming solutions are an innovative generation of high-performance and cost-effective chemical blowing agents, combining efficiency and hazardous-free formulations. Based on 100% safe raw materials, they allow thermoplastics and elastomers producers to achieve the specific properties they need for their plastics, including insulation, strength, and light weight.

Longer-lasting materials
Our Cyasorb® Cynergy Solutions UV stabilizers prolong the service life of polyolefin plastic-based construction materials, improving their durability by offering optimal performance under severe UV and thermal conditions. Our stabilizers mean plastics can successfully replace traditional materials – such as wood, bitumen and PVC – lowering end-product maintenance costs and enhancing sustainability profiles.

Efficiency and value
Manufacturers must comply with ever-stricter regulations and rely on innovations for more efficient processes and more competitive products. Along with constraints on resources, including reduced energy and water consumption, and increased demand for sustainability, these are all key market drivers. Our materials and solutions help them operate more responsibly and give their products longer lifetimes, creating more sustainable value.

* Awarded an Efficient Solutions label by the Solar Impulse Foundation
Industrial & protective coatings
Solvay offers a wide range of binders, solvents, pigments and additives and is constantly developing formulations to provide benefits based on surface modifications: enhanced surface wetting, improved adhesion to substrates, better color development, strong corrosion protection, and resistance to aggressive fluids.

Metal & surface treatment
We create ingredients and formulated products that modify and clean the surface of several metallic and organic substrates, improving the performance of finished products and enhancing their shelf life. With Rhodoclean®, we have expanded our range of low foam and low temperature industrial cleaners.

Industrial equipment
The high demands of industrial equipment require resistance to corrosion, temperature and aggressive chemicals. Solvay has created and formulated specific polymer products that can even replace certain metals under particularly harsh conditions of use. Our solutions offer excellent resistance to UV irradiation, chemicals, fire and abrasion, and have applications in many industries. They are widely used in anti-corrosion applications, such as linings, or in self-supporting constructions like piping.

Sustainable solution for road surfaces
Fluxing agents are an essential part of road construction, temporarily reducing the viscosity of the bitumen to improve ease of use. Solvay’s InnRoad™ Protect meets the road paving industry’s need for greener, safer technologies, combining sustainability and efficiency like no other fluxing agent on the market and offering a tighter boiling range for faster evaporation, faster recovery of bitumen properties and quicker cohesion build up.

High-performance filaments for 3D-printing
Solvay’s filaments portfolio enables the world’s most demanding industries – healthcare, automotive, aerospace and oil & gas – to 3D-print fully functional prototypes, as well as cost-efficient single to small volume applications, much faster than traditional manufacturing. Particularly suited to outdoor applications and parts in contact with harsh chemical environments, our newly launched Solef® PVDF AM filament provides long-term performance up to 120°C, including exceptional chemical resistance and outstanding UV, weathering and oxidation resistance.
Built-in resilience to risk

Uncertainty is a given in today’s world and robust risk management is key to thriving in business. Solvay must navigate volatile economic and political waters and address new dynamics in areas ranging from growth to shorter market cycles, climate change, energy transition, and technological transformation.

The Group’s annual risk review allows it to meet its strategic objectives and long-term Purpose and comply in full with laws, regulations, and the Solvay Code of Business Integrity.

Informed risk mitigation

Solvay’s risk assessment process is thorough and comprehensive. Sustainability is ever more present in our business activities and our risk management approach. Two of the four main impact types used to assess risks reflect our growing sensitivity to extra-financial issues, namely impacts on people and on the environment. The other two – economic and reputational impacts – directly affect the Group’s operational and financial performance. This enables better anticipation and strategic de-risking, as well as freeing up resources for new opportunities.

Managing risk is the responsibility of teams at all levels of the Group. Our dynamic and highly decentralized process tasks key players with assessing the risks that fall within their areas of authority and expertise. Progress made on mitigation actions, as well as changes in the risk and opportunities environment, are charted on a dedicated dashboard, updated twice a year.

Managing key risks

Solvay’s main risks are reviewed periodically by our Audit Committee. The effectiveness of our risk management process is assessed annually by the Audit Committee with other Board members present. Main risks also form part of our annual strategic review.

In 2019, we identified two emerging risks that will receive special attention given their potentially significant long-term impact:

- Environmental impact: the environment and the increasingly demanding expectations of stakeholders on the potential environmental impact of our activities, in energy and water consumption, waste production or emissions.
- Geopolitical risks: geopolitical rivalries may mean constraints on Group operations, in tariffs, investments, intellectual property, data ownership or staff mobility.

<table>
<thead>
<tr>
<th>Criticality 1</th>
<th>Risk</th>
<th>Trend</th>
<th>Link with high materiality sustainable development aspects</th>
<th>Link to stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Security</td>
<td>→</td>
<td>Data security and customer privacy</td>
<td>Employees, Local communities, Customers</td>
</tr>
<tr>
<td></td>
<td>Ethics and Compliance</td>
<td>→</td>
<td>Management of the legal, ethics &amp; regulatory framework</td>
<td>Suppliers, Employees, Investors, Local communities</td>
</tr>
<tr>
<td></td>
<td>Industrial</td>
<td>→</td>
<td>Critical incident risk management, Employee health and safety</td>
<td>Employees, Local communities</td>
</tr>
<tr>
<td></td>
<td>Transport accident</td>
<td>→</td>
<td>Critical incident risk management, Waste and hazardous materials</td>
<td>Suppliers, Employees, Local communities</td>
</tr>
<tr>
<td></td>
<td>Climate change</td>
<td>→</td>
<td>Greenhouse gas emissions, Energy, Sustainable solutions, Water and wastewater</td>
<td>Customers, Local communities, Employees, Planet, Investors</td>
</tr>
<tr>
<td>Moderate</td>
<td>Chemical product usage</td>
<td>→</td>
<td>Waste and hazardous materials, Sustainable solutions</td>
<td>Employees, Customers</td>
</tr>
</tbody>
</table>

1: The criticality level is determined by combining the risk’s two ratings (impact and level of control) at the time of the assessment
Close-up on climate risks

2019 saw a full review of Solvay’s climate risks, focusing on four key areas:

- Climate-related risks and opportunities for each product in each market. These were assessed through our annual Sustainable Portfolio Management (SPM) review.

- A 2040 scenario analysis, in line with the TCFD recommendations and using the International Energy Agency’s Sustainable Development scenario as our reference. This reveals a positive impact on sales (resulting from the risks identified in the SPM review) outweighing the negative impact on costs.

- Mapping of acute climate-related physical risks. We worked with our insurers to analyze these in collaboration, using their methodologies and tools.

- Mapping of water scarcity risks. We updated our analysis of water scarcity, a chronic climate-related physical risk. We are developing action plans based on the specifics of each plant.

Solvay has a long-term commitment to taking action on the risks of climate transition, playing its part in the move toward a climate-friendly economy. We took an important step in that direction in 2018, pledging a 1 million tons cut in absolute greenhouse gas emissions from operations by 2025\(^3\).

We are launching Solvay One Planet, our new sustainability program, raising our ambition in response to climate change. We are investigating how to accelerate our climate and energy transition and shorten the time to carbon neutrality of our operations globally.

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2: scopes 1 and 2.
3: In CO\(_2\) equivalent on a like-for-like basis compared to 2017.
Moving forward with our stakeholders

How we bonded in 2019

**Customers**
- Comparison of respective materiality analysis
- Direct contacts with GBU teams (management, R&I, sales, supply chain)
- Rating questionnaires (CDP, EcoVadis)
- SPM profiles
- Net Promoter score (digital surveys every two years)

**Employees**
- Purpose survey among all employees
- Regular dialogue between Group managers and employees through Performance and Development annual appraisal
- Labor relations dialogue with employee representative bodies at four levels: site, country, Europe, and Group
- IndustrALL agreement
- Solvay Way Awards

**Investors**
- Direct contacts with institutional and individual investors and shareholders
- Rating agencies questionnaires, credit rating agencies, proxy voting agencies
- Participation in diverse financial events

Our stakeholders’ expectations

- Steady increase in number of customers assessing Solvay’s performance via EcoVadis, CDP, or specific questionnaires confirms focus on risks & opportunities in supply chain
- Increasing number of customers express need for innovative solution in line with circular economy principles
- More transversality through breaking down silos
- Engagement on sustainability principles by employees from top management to shop floor
- Solid financial performance and consistent shareholder reward
- Sustainability and focus on long-term value creation
- Strong focus on innovation, governance, ethics and transparency

Our responses

- 53% of Group sales classified as “sustainable solutions”
- 7 Solvay products and technologies awarded Efficient Solutions label by the Solar Impulse Foundation
- About 100 customers representing 15% of our sales require Solvay’s EcoVadis evaluation
- Solvay in the top 1% of companies assessed by EcoVadis in the chemical industry
- Solvay Cares fully deployed in 2019
- Well-being at work program: 140 sites assessed performance
- 34% employees participated in Solvay Way action plans
- High rate of response to Purpose survey (13,000), of which 50% from production sites and listening sessions (3,000+)
- 100% employees covered by collective agreement
- Definition of our new G.R.O.W. strategy to enhance shareholder value
- Focused management team with extensive experience and business leadership (incl. portfolio P&L responsibilities)
- Sustained margin and strong cash generation, with clear ESG credentials
- Decision to adapt the projects unveiled in 2018 related to the footprint of R&I sites in France and the transformation of Brussels’ headquarters because of the sharp increase in the projects’ cost and the evolution of the economic context

Our challenges

- EcoVadis’ 360° screening identified controversies, fines or penalties over environmental/social issues in last five years
- EcoVadis assessment recommended better documentation of sustainable procurement actions and third party due diligence on ethics
- Provide a comprehensive view of our portfolio and technologies
- Involve employees in Solvay ONE Planet initiatives, e.g. Stop Office Waste project
- Climate action confirmed as priority topic, especially in 2020 letter from Larry Fink (Blackrock CEO)
- Facing challenging environment in key markets
- Impact of COVID-19 crisis
Solvay is committed to bonding with its stakeholders, building lasting relationships with six stakeholder groups: customers, employees, investors, suppliers, local communities and the planet (via governments and NGOs). We hear their expectations and build on their feedback to move forward. These bonds inform our strategy and operations, feeding into innovative solutions that create value for all.

### How we bonded in 2019

<table>
<thead>
<tr>
<th>Suppliers</th>
<th>Local Communities</th>
<th>Planet (NGOs &amp; Governments)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Regular Performance Review on site</td>
<td>• Engagement at site level within Solvay Way framework: developing and steering relationship with local stakeholders</td>
<td>• Constructive dialogue with public authorities on issues of legitimate interest to Solvay</td>
</tr>
<tr>
<td>• Supplier days</td>
<td>• Annual Citizen Days at Group level</td>
<td>• Participation in global and regional trade associations: WBCSD, ICCA, BusinessEurope, CEFIC</td>
</tr>
<tr>
<td>• Supplier commitment to Solvay Supplier Code of conduct</td>
<td>• Corporate Social Responsibility questionnaire</td>
<td>• Partnership with the Ellen MacArthur Foundation</td>
</tr>
<tr>
<td>• Corporate Social Responsibility questionnaire</td>
<td>• 3rd party assessments through EcoVadis and TfS</td>
<td>• Partnership with the Solar Impulse Foundation</td>
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### Our stakeholders’ expectations

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<tbody>
<tr>
<td>• More collaboration on goal setting, strategic thinking and sustainability</td>
<td>• Contribution to local material aspects</td>
<td>• Acceleration of actions to reduce GHG emissions and address climate change</td>
</tr>
<tr>
<td></td>
<td>• Sensitivity to local environmental and social issues</td>
<td>• Confirmation of UN SDGs as reference for sustainability priorities at planetary scale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Introduction of metrics to describe sustainable value creation as per WEF’s International Business Council (IBC) work on “Toward Common Metrics and Consistent Reporting of Sustainable Value Creation”</td>
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</table>

### Our responses

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<tbody>
<tr>
<td>• 38,500 suppliers</td>
<td>• 168 sites &amp; 26,000 participants worldwide came together to serve communities for Solvay’s 2019 Citizen Day</td>
<td>• Review of SDGs where Solvay can have most +/- impact across the value chain: SDGs 7, 13, 14 &amp; 15 on Climate; SDG 12 on Resources; and SDGs 3, 6, 8 &amp; 17 on Better Life</td>
</tr>
<tr>
<td>• 625 core suppliers</td>
<td>• 47% of employees participated in at least one societal action</td>
<td>• 10 new ambitious goals defined under our new sustainability strategy, Solvay ONE Planet</td>
</tr>
<tr>
<td>• 1,043 new supplier assessments via EcoVadis and 309 audits through the TfS Audit Program</td>
<td>• 4 GBU’s &amp; 26 plants involved in raising awareness on Biodiversity as new Solvay Way practice</td>
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### Our challenges

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</thead>
<tbody>
<tr>
<td>• EcoVadis assessment recommended better documentation of sustainable procurement actions and third party due diligence on ethics</td>
<td>• Take action on biodiversity: monitor and reduce pressure on biodiversity beyond climate change</td>
<td>New Solvay ONE Planet targets</td>
</tr>
<tr>
<td></td>
<td>• Sensitive handling of social media, which can make a local issue global</td>
<td>• GHG reduction: double reduction speed to align with “well below 2°C temperature increase” (2015 Paris Agreement) and achieve -26% by 2030 (Baseline 2018)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Coal: phase out coal for energy by 2030 wherever available technologies and renewable or waste-to-heat sourcing exist</td>
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<tr>
<td></td>
<td></td>
<td>• Reporting of corporate metrics in line with the UN SDGs (WEF initiative): we disclose 18 of 22 indicators listed in the document published January 2020.</td>
</tr>
</tbody>
</table>
Strategy

How we reinvent through our G.R.O.W. strategy and our 2030 sustainability program Solvay ONE Planet, enabled by a new operating model to unleash our potential and win.
Winning together as ONE Group

Solvay has embarked on a new chapter in its transformation, a chapter that will allow us to unleash our full potential as a single, coherent group. Our people, our businesses now bond as ONE Group to progress beyond.

To support this unified approach, we have unveiled our Purpose – the why that motivates us to be our best. We have redefined our strategy and designed a new shared operating model – together, these are how we will achieve our goals. And, as ever, we will continue to develop innovative solutions – our what – closely aligned with our customers’ needs and with the key challenges facing our world.

<table>
<thead>
<tr>
<th>Why</th>
<th>How</th>
<th>What</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvay ONE Purpose</td>
<td>Our Strategy</td>
<td>Solvay ONE</td>
</tr>
<tr>
<td>We bond people, ideas and elements to reinvent progress</td>
<td>Business strategy</td>
<td>New common operating model to help us work more efficiently &amp; effectively together</td>
</tr>
<tr>
<td>Our Vision Sustainable shared value for all</td>
<td>Growth</td>
<td>Changing our behaviors to be more “customer-obsessed”</td>
</tr>
<tr>
<td></td>
<td>Resilience</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Optimization</td>
<td></td>
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<tr>
<td></td>
<td>Win</td>
<td></td>
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<tr>
<td>Solvay ONE Planet</td>
<td></td>
<td></td>
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<tr>
<td>Sustainability goals</td>
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</tbody>
</table>

Our Purpose is our ‘WHY’ – why we exist as a company. It captures our greatest impact on society and gives meaning to our work, today and for the next generations.

As the foundation for all of our activities, our Purpose comes to life in our business and sustainability strategies, which lay out our ‘HOW’ – how we will create sustainable shared value for all, including our employees, customers and shareholders, within the next business cycle of 5-10 years.

Our Strategy provides a roadmap for our operating model (Solvay ONE) to leverage our potential as a ONE Group and better serve customers through initiatives like Customer Engagement Model, End-to-End value chain, digitization. Our new People Engagement Model (Solvay ONE Team) features a new set of behaviors to support our performance.

Our Strategy drives decisions about which markets to serve and investments to make. Our Solutions take form in our ‘WHAT’ – the products and services we provide to the world through our customers. These are in constant evolution, as is our business portfolio.
Our G.R.O.W. strategy

To navigate the changing landscape around us, Solvay’s new strategic roadmap is built around powerful trends. It points us to where we want to be leaders and create value. Our G.R.O.W. strategy will shape our success in the years to come and beyond, unleashing our full potential.

Solvay’s G.R.O.W. midterm strategy to drive growth, cash and returns

**Accelerate Growth**
Prioritize investments in high margin MATERIALS businesses with high growth potential, which are also our most sustainable solutions

**MATERIALS** comprises Specialty Polymers and Composite Materials businesses.

**Key asset**
Unique high-performance polymers & composites technologies

**Strategic intent**
Our ambition is to extend our leadership as the #1 pure play advanced materials business, while leveraging synergies between the polymers and composites technologies to create a leading thermoplastic composites platform. Solvay will prioritize investment and innovation in this segment.

**Key levers**
- Realign organization around growth opportunities
- Accelerate innovation with highest-growth customers
- Reallocation of resources to thermoplastic composites and battery platform to accelerate customer wins
- Improve operational efficiencies through simplification, order to cash optimization and digitalization

**Innovating for a new market**
In 2019, we signed an agreement with the energy technology company Baker Hughes to partner on the use of thermoplastic composites (TPC) materials in offshore flexible pipes and risers in ultra-deep waters for the Oil & Gas industry. This partnership is a landmark in our strategy to expand the use of TPC into new markets, leveraging its lightweight and non-corrodible properties versus metal.

**Deliver Resilient cash**
Maximize cash flow generation from our resilient CHEMICALS businesses where we have a competitive advantage

**CHEMICALS** comprises the Soda Ash & Derivatives, Peroxides, Silica and Coatis businesses.

**Key asset**
World-leaders in chemicals that are essential to daily life

**Strategic intent**
Solvay will continue to focus on delivering resilient cash flows and selectively invest in these businesses to become the #1 cash conversion chemicals player.

**Key levers**
- Refocus organization on cash and returns
- Drive focused productivity and rationalization programs
- Prioritize Capex to maintenance and invest selectively for compelling cash returns
- Focus R&I on process innovation

**Targeted investments to meet increasing global demand**
Solvay will develop 1.4m tons capacity in soda ash and sodium bicarbonate to meet its customers’ needs, while reducing its CO₂ footprint and improve further its competitiveness. We will increase our soda ash production capacity by 600,000 tons at our best-in-class, competitive Green River site in the US, and expand our sodium bicarbonate capacity by 200,000 tons at our plant in Devnya, Bulgaria. Additional volumes of soda ash and bicarbonate will result from excellence programs and digitalization. Against a backdrop of growing global demand, these investments will deliver resilient cash and strong returns.

**Differentiated business mandates for the 3 segments**

<table>
<thead>
<tr>
<th>G.</th>
<th>R.</th>
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<tbody>
<tr>
<td><strong>Accelerate Growth</strong></td>
<td><strong>Deliver Resilient cash</strong></td>
</tr>
<tr>
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**Track record**

<table>
<thead>
<tr>
<th><strong>G.</strong></th>
<th><strong>R.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>+7% EBITDA growth</td>
<td>+9% cash flow growth</td>
</tr>
<tr>
<td>~28% EBITDA margin</td>
<td>~79% cash conversion</td>
</tr>
<tr>
<td>2019</td>
<td>2019</td>
</tr>
<tr>
<td>&gt;25% Vitality index</td>
<td>~27% EBITDA margin</td>
</tr>
<tr>
<td>2018</td>
<td>2019</td>
</tr>
<tr>
<td>Returns &gt;WACC²</td>
<td>Returns at WACC average 2014-2019</td>
</tr>
</tbody>
</table>

1. % of sales coming from newly developed products in last 5 years
2. Weighted Average Cost of Capital
3. The free cash flow conversion ratio is calculated as the ratio between the free cash flow to Solvay shareholders (before netting of dividends paid to non-controlling interest) and underlying EBITDA.
A new way to G.R.O.W. together

Solvay has great foundations to build on: strong market leadership positions and sustainable solutions driven by megatrends, a heritage of innovation, a history of success, proven knowledge, committed and talented employees.

Based on our industrial know-how and our technological and scientific expertise, we have built strong relationships with our customers and we will continue to develop, focusing on their needs and the idea of bringing them tangible value. We will be ever more customer focused.

We must transform the way we operate to better embody our Purpose. In 2019, we initiated a comprehensive business review, which gave us a clear understanding of our strengths and challenges. From this we built G.R.O.W., the strategic roadmap for each business that will inform our resource allocation and allow us to drive profitable growth, create superior value for all our stakeholders while generating resilient cash flow. G.R.O.W. defines our strategy on every single market: investing for growth, focusing on cash or improving value creation. Solvay will operate in three distinct business segments: Materials, Chemicals and Solutions, each with a new, distinct mandate and ambition. Our new common operating model, Solvay ONE, will help us work more efficiently and effectively together, and to leverage synergies across the Group.

Optimize returns
Optimize our SOLUTIONS and businesses to unlock value and increase returns

SOLUTIONS includes Novecare, Technology Solutions, Aroma Performance and Special Chem.

Key asset
Unique formulation & application expertise

Strategic intent
Solvay will optimize these businesses, leverage its leadership positions, drive better returns and unlock value.

Key levers
• Innovate and invest selectively in specialty niche markets, focusing on three specific areas:
  – Consumer goods and crop care, where we have leading positions in vanillin and guar for home & personal care
  – Industrial markets such as coatings, where we offer unique solutions for waterborne applications
  – Resources, where we are the leaders in improving the yield of metals and minerals for the mining industry
• Achieve turnaround in shale oil & gas and other low-return businesses
• Drive efficiency and address fragmented industrial footprint

Caring for both hair and the planet
With Jaguar C162, a derivatized cationic guar produced from a bean grown mainly in India, Solvay has developed a non-ecotox and vegetable-based ingredient caring for both our ecosystems and damaged hair.

Enabled by Solvay ONE operating model

Solvay ONE to Win
Create a winning team and operating model to support a performance-driven culture and win with our customers

The way we will win with our Solvay ONE operating model is an equally important element of our value creation. Solvay ONE entails a completely new way of working that will leverage the many strands and competencies across our enterprise and not just within each business, to build a single strong Group and take us from a decentralized model to Enterprise leadership with robust performance management. Our new operating model means targeted and disciplined resource allocation, a tailored approach to customers, and a repeatable cost and cash playbook.

Track record

<table>
<thead>
<tr>
<th></th>
<th>Returns &lt; WACC</th>
<th>Flat net sales &amp; EBITDA growth</th>
<th>~17% EBITDA margin</th>
</tr>
</thead>
</table>

Business trends

- IoT/Digitalization
- Resource efficiency
- Eco-friendly solutions
**Bold steps in sustainability**

Solvay ONE Planet is an integral part of our Strategy. Sustainability is already at the heart of our operations at Solvay, and we are now setting our bar even higher across our entire value chain, with a new policy that extends our focus to our impact on climate, resources, and a better life for our employees and communities.

**Responsible for change**
The chemicals industry is increasingly being challenged to re-invent its sustainability agenda. The rise in Environmental, Social, and Governance (ESG) expectations from investors highlights the growing strategic importance of this area in medium and long-term shareholder value creation. A leader in our industry, at Solvay we have always believed that solutions to the major challenges facing humanity will be driven by science and innovation. We have developed robust tools and processes to support our commitment to sustainability – Solvay Way, Sustainable Portfolio Management, integrated thinking and reporting – and have also forged strong partnerships in this field. We will continue to leverage and optimize these fundamentals going forward.

**Committed to impact**
Solvay ONE Planet, our new sustainability approach takes our previous achievements a bolder step forward. It will build on our recognized expertise, tools, processes and partnerships, and focus firmly on impacts.

We have identified three main areas where we have strong impacts, positive and/or negative, through our products portfolio or our operations:

- **Climate**: €2.2bn of our sales already help reduce our customers’ overall climate impact. We are working on accelerating our climate and energy transition to ultimately reach carbon neutrality.

- **Resources**: Resources is about Circular Economy. €3.5bn of our sales help reduce resource consumption worldwide. We aim to reduce waste, re-using it as by-products or in energy production, and use water more efficiently via excellence projects and recycling initiatives.

- **Better Life**: €3.3bn of our sales help improve quality of life, through caring for our employees and our communities.

To achieve our Solvay ONE Planet goals, we pledge to reallocate investments to promote sustainability within our portfolio, operations and workplace.

Solvay Way will remain our internal sustainability reference framework and our teams will be encouraged to play their own part in Solvay ONE Planet through actions that have a positive impact on the world around them and their daily lives. Externally, we will improve the way we measure the impact of our solutions and continue to innovate to tackle the urgent challenges facing society today. Our contribution to our customers’ sustainability journey will be a cornerstone of our relationship, working with them to produce more sustainability-positive solutions across the value chain.

“With Solvay ONE Planet, we are setting bolder objectives to solve key environmental and societal challenges through science and innovation. Beyond climate change, we will tackle resource scarcity and promote a better life. Together with our customers, we will create sustainable shared value for all. This is Progress Beyond. This is G.R.O.W.”

Ilham Kadri, Solvay CEO
Stepping up our commitment

Solvay ONE Planet is inspired by the United Nations Sustainable Development Goals (SDGs). It includes ten measurable commitments in three key focus areas, to be achieved by 2030.  

10 Sustainability Goals

Climate

1. Lowering greenhouse gas emissions worldwide.
Solvay will double the rate at which it reduces emissions, with a goal of curbing greenhouse gas emissions by 26% and aligning its trajectory with the “well below 2°C temperature increase” goal outlined in the 2015 Paris Agreement.

2. Eliminating the use of coal.
Solvay will not build new coal-powered plants and commits to phase out coal usage in energy production wherever renewable alternatives exist.

3. Reducing pressure on biodiversity.
Solvay plans to reduce its pressure by 30% on biodiversity in areas such as terrestrial acidification, water eutrophication and marine ecotoxicity.

Resources

4. Increasing water use efficiency.
Solvay will diminish its impact on freshwater withdrawal by reducing its intake of freshwater by 25%.

5. Accelerating the circular economy.
Solvay will leverage its partnership with the Ellen MacArthur Foundation to more than double the sales of products based on renewable or recycled resources to 15% of Group sales.

6. Increasing waste recovery.
The Group will reduce by a third its non-recoverable industrial waste, such as landfill and incineration without energy recovery.

7. Leveraging innovation to grow sustainable solutions.
Solvay will upgrade its sustainable portfolio to reach 65% of Group sales, in collaboration with the Solar Impulse Foundation.

Better Life

8. Prioritizing safety.
Solvay targets a zero accident policy, to protect the safety and security of its employees.

9. Embedding inclusion and diversity.
Solvay will work to achieve gender parity for mid- and senior-level management by 2035. Solvay’s code of business integrity paves the way towards an inclusive work environment that welcomes diversity of any kind such as thoughts, race, color, national origin, religion, gender identity or sexual orientation.

10. Extending maternity and paternity leave.
Solvay is adapting its global policy of 14 weeks maternity leave to 16 weeks, extending it to co-parents employed by the company regardless of gender, by 2021.

Our Internal Actions

Solvay will start switching to electric or hybrid company cars as of 2021.

A new “Stop Office Waste” plan includes phasing out single-use plastic, generating zero food waste at canteens, and aiming to become a paperless company.

1: Baseline 2018
Together through Solvay ONE

Solvay’s extensive portfolio transformation has given us a stronger base, but also led to a decentralized operating model, with multiple cultures. We are now taking the last major step in our transformation, simplifying our Group to unleash its full potential and rally our teams around a shared single Purpose and culture. We have a new Group operating model: Solvay ONE.

Solvay ONE will support our performance-driven culture to help us win together as ONE Group. This new shared operating model is the how that will help us inform everything we do, from how we collaborate with our customers, to how we allocate our capital, R&I and talents, and how we leverage the operational synergies throughout the Group.

Shift to Enterprise leadership
Solvay is moving from a decentralized operating model to one of Enterprise leadership. Our business units will remain empowered, with responsibility for generating profits, cash and returns, each one with its own specific mandate. In addition, leaders of entities will be focused on unleashing the full potential of Solvay through key cross-Group initiatives, and incentives will be changed to include impact on Solvay as a whole, as well as business delivery.

We will leverage the many advantages of being one Group to enhance our collective performance. We will adopt a Group-level approach to our business support activities, sharing best practices and expertise across the Group and developing simplified processes.

We listened to our customers. We want to bring them the best of Solvay by refocusing our attention and resources, optimizing our end-to-end value chain process, smartly reducing indirect costs to invest in growth and optimizing asset utilization.

Manage our resources in a centralized and disciplined manner
We will manage resources, investments, R&I and talents centrally. Capex and R&I will target the highest growth opportunities, with strong discipline over total investment size, containing Capex to 7-8% of sales. Better choices, not higher spend, will generate more growth, cash and returns. For example, 60% of Capex and over 50% of R&I will go to Materials, to support growth investments in fields like thermoplastic composites, where the addressable market (for the aerospace and oil&gas markets) is worth some €500 million. This also applies to our talent management, where we want to ensure we have our people in the position where they contribute best to the Group’s success.

Improve our customer experience
We have opened a new chapter in customer relations: we want to be “customer-obsessed”, with a cross-functional approach that aligns the entire Group. We aim to fully understand who our customers are and tailor our approach accordingly. We have identified strategic key accounts that represent ~50% of our growth opportunities. These will be managed at Group level, with a single key account management team handling all of their needs. This will bring immediate benefits for the customer, facilitate collaboration, streamline Solvay’s resources and increase the share of wallet.

We will measure our progress using Net Promoter System, embarking, for strategic accounts, all our frontline employees. This combines digital surveys with personal interaction between customers and Solvay’s frontline teams and will be followed up by action plans. We will also develop our talent and management pipeline and leverage digital tools and analytics capabilities, introducing a new group-wide e-commerce platform for order placement and delivery management.
Acting as ONE Group

Create a repeatable cost and cash playbook

We are committed to simplification and synergies, coupling delivery on the simplification program already underway with the launch of a new synergy program. This will create a consistent structure across Solvay, decreasing indirect spend through improved group-wide policies and implementing an order-to-cash program, by reducing our logistics and packaging costs. Our target is to achieve €100 to €150 million of cost savings by 2024.

We will also step up productivity by increasing yield in our manufacturing plants and improving raw materials and energy efficiency. While reducing costs, we optimize asset utilization, focusing on operational efficiencies and have begun deploying a series of digital processes. Some use data analytics and modelling to increase efficiency and others are more customer focused. Rollout has begun in 20 plants already, with another 30 soon to come. Our productivity measures target a run rate of €200 million by 2024.

Together, these two programs are slated to generate cumulative structural gross cost savings of €300 to €350 million yearly by 2024.

Besides the cost savings, we target additional measures on cash. We aim to generate €500 million more cumulative cash from our operations in the next five years via three levers:

- Reduced pensions cash cost, at €40 million yearly as of 2020, by redeploying part of the net proceeds from the polyamide divestment to reduce pension liabilities.
- Continued decrease in financial charges, reaching €35 million by 2024, as we further optimize and reduce the debt structure through strong operational free cash flow delivery and benefiting from the remaining net proceeds from the polyamide divestment.
- A one-time €100 million release of working capital by our order-to-cash program, driven by a leaner supply chain and more effective inventory management.
Building a Purpose-led culture

Solvay ONE Team is a pillar of our Solvay ONE operating model. We have a long tradition of care for our people and we aim to strengthen it even more with a new People Engagement Model. Through one common approach we will build stronger bonds and develop diverse, inclusive and talented teams, defining how we operate, how we manage and how we lead.

Profoundly rooted in our Core Beliefs – Purposeful responsibility; Unity, not uniformity; Passion for performance – our new People Engagement Model is based on a set of behaviors which will build the culture to live our Purpose and achieve our G.R.O.W. strategy.

These behaviors will progressively become part of our day by day life and will be embedded in our performance assessment and compensation processes: they will form the expectations we have of every employee and every leader in our Group.

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**AT OUR BEST, as Solvay citizens**, individually and collectively:

- **We are customer obsessed**
  We are relentlessly driven by anticipating the needs of our internal and external customers, keeping our commitments, and focusing on the service, the quality and the sustainable value we bring to them in every decision we make and process we design.

- **We care and collaborate**
  We show a genuine interest in people, the planet and human progress, and bond within work groups (of both colleagues and stakeholders) to achieve more together for the success of our customers and the Group.

- **We make it happen**
  With an ownership mindset, we are accountable for setting priorities, acting with appropriate urgency, measuring our results in terms of valuable impact, and delivering on our promises every time. We strive to simplify our own work and challenge the complexity of the rest of the organization.

- **We go beyond**
  We bring our whole selves to work, ready to go the extra-mile, even beyond our comfort zone, every time there is an opportunity for us to learn or to help a colleague or the Group.

---

**AT OUR BEST, as Solvay leaders** – top executives and all people managers, from shop floor employees to project leaders –, individually and collectively:

- **We lead with purpose, heart and mind**
  We inspire our teams with a clear Purpose and future Vision that contribute to our Group strategy. We gain trust by role modeling care, openness and honesty, and behaving consistently within Solvay’s ethical, professional and organizational guidelines.

- **We passionately coach people to reach their potential**
  We build great teams, attracting and retaining top talents, by planning, supporting, and developing our people’s knowledge, skills, and abilities so that they can fulfill their current and future job responsibilities and be the best they can be – all within a true culture of feedback.

- **We learn, unlearn and relearn**
  We embrace change and challenge the status quo, considering other possibilities, approaching all situations with curiosity, looking for insights, reinventing and embracing new solutions.
Our Behaviors

“Our new People Engagement Model will build stronger bonds with our people, so they enjoy a great employee experience throughout their career, empowered to bring their whole self to work. They are at the heart of achieving our G.R.O.W. strategy and making our Purpose a living reality.”

Hervé Tiberghien, Member of the Executive Committee, Chief People Officer

Behaviors as leaders

- We lead with purpose, heart and mind
- We passionately coach people to reach their potential
- We learn, unlearn and relearn

Behaviors as Solvay citizens

- We are customer obsessed
- We care and collaborate
- We make it happen
- We go beyond
End-to-End value creation

Before our solutions become part of everyday life, they are modified time and again, from raw materials extraction to production, processing or formulation and assembly. At Solvay, we focus on the links in the value chain where our expertise contributes the most. We work closely with suppliers, partners, brand owners and customers, sharing knowledge to leverage more value. Our new End-to-End Value Chain initiative will take customer service even further and optimize internal resources.

End-to-End Value Chain

We are determined to enhance the efficiency of our value chain to better serve our customers, drive growth and deliver the most value at the lowest possible financial and environmental cost. Our End-to-End Value Chain reinvention initiative

---

### Ressources we use

#### Raw Materials
- Mineral
- Fossil-based
- Renewable/recycled

#### Energy production
- Fossil: solid
- Fossil: gas
- Fossil: liquid
- Renewable/recycled

#### Energy
- Electricity
- Heat
- Cooling

### Global Business Unit (GBU)

### Production steps

**STEP 1**

**Purchased goods**

Our procurement teams ensure supply of raw materials, goods and services worldwide, thanks to the Solvay Purchasing Process based on a Category Management approach and including a CSR risk review. We build sustainable partnerships with our suppliers to deliver value added, innovative solutions.

**STEP 2**

**Production**

Solvay is a chemicals manufacturer and production of synthetic or natural ingredients or molecules – as liquids, gases, solids or polymers – is our core activity. We are committed to using processes with a lower environmental impact at all of our plants.

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### Involvement of Global Business Unit in production step

<table>
<thead>
<tr>
<th>Materials</th>
<th>Yes</th>
<th>Partial</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialty Polymers</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Composite Materials</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Chemicals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soda Ash &amp; Derivatives</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Peroxides</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Silica</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Coatis</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Solutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Novecare</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Technology Solutions</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Special Chem</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Aroma Performance</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
</tbody>
</table>
aims to reach those goals by identifying hurdles across the board – from suppliers to customers – and reinvent each link to achieve excellence.

The initiative is part of our Solvay ONE operating model, with a cross-functional team working closely with our businesses to assess the value at stake, the costs, the future design of the value chain and the best way to implement Group-wide solutions. We have also agreed to harmonize processes, tools and KPIs. Specialty Polymers Global Business Unit, as the first business embarked, has already begun an in-depth diagnosis to address these challenges in detail, and is now developing a roadmap for improvements to its specific value chain.

“We know we can improve our customers’ experience and become their preferred partner by serving them better. That will help us grow better as a Group, unleashing significant growth and freeing up working capital to invest. And we can perform better with optimized processes, stronger collaboration and a shared vision across the value chain.”

Tobias Fehre,
Program Director
End-to-End Value Chain Reinvention

STEP 3
Processing / Formulations
In some cases, Solvay blends or transforms products so that they offer more innovative, added value features. We offer surfactant and solvent formulations, for example, as well as copolymer blends or compounds in pellet form, and composite materials.

STEP 4
Assembling by/ for brand owner
Solvay does not operate directly here, but we collaborate with brand owners and their suppliers to develop tailor-made solutions based on our products. We bond with customers for the long-term, offering support on how to use our materials and innovating to meet their needs.

Our end markets

- **Aerospace & Automotive**
  Cleaner mobility

- **Mineral Resources & Environment**
  Affordable resources and environmental protection

- **Healthcare & Consumer goods**
  Improving the quality of life

- **Agro, Feed & Food**
  Sustainable living and environmental protection

- **Electronics & Electrical**
  Connectivity and high-performance

- **Industrial Applications**
  Efficiency and value

- **Building**
  Sustainability and energy efficiency
Gover-nance

Strong Governance and embedded sustainability are robust foundations that allow us to progress beyond.
Robust, inspired governance

Solvay’s governance structure is ensured by two complementary bodies. They shape and guide our path to achieving our Purpose and our Vision and creating sustainable value for our stakeholders.

The Board of Directors is entrusted with challenging and supporting executives in developing strategies. The Executive Committee, in turn, oversees the Group’s business operations. In March 2019, Ilham Kadri became President of the Executive Committee and CEO, bringing with her a new impetus and new ways of working, right through to senior management. Our Board of Directors and Executive Committee, our two governance bodies, both share clear and collective responsibility for setting out the mid-term G.R.O.W. strategy announced in November 2019 and achieving our long-term Purpose.

BOARD OF DIRECTORS – active and engaged in shaping Solvay’s strategy

Steering strategy, ensuring stability

Solvay’s shareholding structure ensures stability and permanence for the long-term vision of the Board, with Science and Progress as key drivers. Our Board of Directors promotes good governance practices that create transparent dialogue with the Group’s stakeholders. Its members make overall strategy and policy decisions and supervise their implementation. They collaborate as a team with a shared vision and are fully aligned on the company’s mid-term strategy and Purpose. In 2019, they made a decisive contribution to defining our Purpose and drafting our strategy review.

Solvay’s 15 Board members have varied and complementary expertise and high-level experience. Representing 7 nationalities and with a balance of men and women, their diversity is a strong asset for the Group.

Four specialized committees (Audit Committee, Nomination Committee – both led by an independent Director –, Finance Committee and Compensation Committee) support the Board with recommendations on areas to focus on that fall within their domain. The full Board works on topics such as Strategy, Risk management,
A hands-on Board seminar

In September 2019, the Board of Directors spent three days at a seminar in the US, focusing on strategic topics and visiting sites, namely from the specialty polymers and composite materials businesses. This annual exercise demonstrates how the Board connects with the reality of Solvay, allowing its Members to see how the strategy they approve is implemented on the ground, take the Group’s pulse in the field and better understand the expectations of our talents and the challenges they face.

“The Board’s September 2019 visit to our sites in Alpharetta and Augusta in Georgia and Piedmont in South Carolina was a tremendous success. It was an amazing opportunity to learn more about our composite materials and specialty polymers businesses. It was a pleasure to meet our local leaders and talent pool - an impressive team. It is important for us to talk directly to our people working on the ground to better understand Solvay’s US operations.”

Rosemary Thorne,
Board Member, Chairman of the Audit Committee
Committed to the new chapter

At Solvay, acting as ONE Group begins at the top and our executive leaders are committed to working as “one ExCom”, inspiring teams across the Group to unleash its full potential. The Executive Committee spearheaded the in-depth work carried out to define our new Purpose, supporting Ilham Kadri in her drive to make this an inclusive process involving many stakeholders. And its members’ impetus is key to steering the enterprise leadership essential to our new strategy and Solvay ONE operating model. They dedicated two days every month since March, to drawing up Solvay’s new business and sustainability strategy.

The arrival of its new President has given the Executive Committee a new impetus to unite its strengths as a group and lead the Group’s new chapter. This energy will drive ONE Solvay enterprise leadership, as part of a core cultural change within the Group. The team shares a commitment to inspire its global, talented and diverse employees to strengthen the Group’s performance. This gives the Executive Committee an extremely clear focus and its members spend one quarter of their time working together on transversal topics of importance. Meetings with external stakeholders are also part of this new approach. The role, responsibilities and structure of the Executive Committee have also been redefined and each member is now directly accountable for delivery of the businesses they oversee.

“We, the Executive team, are fully committed and aligned: our role is to help GBU leaders focus on their priorities while ensuring that we operate as ONE Group. That’s how we will unleash Solvay’s full potential and create more value.”

Hua Du, Member of the Executive Committee
Living sustainability

At Solvay, sustainability is part of who we are. It is in the minds of our scientists and the legacy of our founders. Above all, it is in the hearts of the 24,000 people working across our Group to build a better future for the generations to come. We see sustainability as one of our key assets, driving the success of our strategy, our innovation and performance, and a top priority for our leadership and all of our people.

Driving sustainability

<table>
<thead>
<tr>
<th>Board of Directors &amp; Executive Committee</th>
<th>Corporate Sustainable Development Function Coordination &amp; supervision</th>
<th>Global Business Units Deployment in GBUs</th>
<th>Employees Day-to-day actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition of strategy &amp; monitoring</td>
<td>Defines and deploys Solvay ONE Planet.</td>
<td>Heads of Sustainability in GBU leadership teams</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consolidates the Solvay Way self-assessment.</td>
<td>• A single point of contact for the leadership team and the GBU President on sustainability topics.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presents the results to the Board of Directors and the Executive Committee.</td>
<td>• With power of decision and a 360° view of the GBU’s strategy and activities, they are responsible for integrating sustainability into the decision-making process.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trains the Board of Directors on sustainability matters.</td>
<td>Employees</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Involved in Solvay ONE Planet actions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Board is the leading sponsor of Solvay’s sustainability approach</td>
<td></td>
<td>Solvay Way: Champions and correspondents ensure the deployment of the process in all Solvay sites, GBUs and Corporate Functions</td>
<td></td>
</tr>
<tr>
<td>• The Board oversees and approves the Group’s sustainable development commitments.</td>
<td></td>
<td>• Motivate their colleagues to meet specific targets.</td>
<td></td>
</tr>
<tr>
<td>• CSR risks are an integral part of the company’s risk management process and are reviewed by the Risk Committee.</td>
<td></td>
<td>• Set action plans to improve their processes and practices.</td>
<td></td>
</tr>
<tr>
<td>• The Audit Committee now reviews all data, both financial and extra-financial.</td>
<td></td>
<td>• Assess their own progress.</td>
<td></td>
</tr>
<tr>
<td>• The Board is trained on sustainability matters annually (see below).</td>
<td></td>
<td>• Identify areas for improvement for each stakeholder group.</td>
<td></td>
</tr>
</tbody>
</table>

The Executive Committee

• Determines strategy, approves targets.
• Monitors execution, including the results of the annual Solvay Way self-assessment.
• The Sustainability Supervisor, Karim Hajjar (CFO), ensures the integration of sustainability into financial value creation.
• The Climate Supervisor, Vincent De Cuyper, ensures that climate issues are factored into all key strategic decisions taken by the Group.
Solvay ONE Planet, our 2030 sustainability program, is inspired by the UN Sustainable Development Goals and we are committed to supporting the UN Global compact principles.

Ilham Kadri,
Solvay CEO

A far-sighted compensation policy

At Solvay, we aim to create sustainable value. Our compensation policy therefore rewards performance in line with strategy implementation and both short and long-term financial and extra-financial targets.

Solvay’s overall performance is a key driver of our compensation policy. People at all levels of the organization are rewarded with packages based on both business and sustainability objectives, with senior managers encouraged to meet demanding greenhouse gas emission targets. This balance supports both short-term business goals and sustainable value creation.

2019 was the fifth year of our Group-wide Global Performance Sharing Program. The Program has an 80/20% financial/sustainability split and aims to give our employees a stronger sense of belonging. It recognizes their contributions by involving them in Group results.

In line with our new G.R.O.W. strategy, the Board of Directors (based on the recommendation of the Compensation Committee) has revised our compensation policy, aligning the future rewards of executive leaders and the strategic direction as of January 2020.

Updating the Board on global sustainability

For the 4th consecutive year, the Solvay Board took part in an annual workshop on global sustainability issues. The Group’s Sustainability team gave Board members an extensive briefing that invited them to stretch and challenge their thinking. They covered the Group’s strengths and weaknesses, including climate change risks and opportunities, our main KPIs, our progress on Sustainable Development targets and our score in assessments by rating agencies. In a detailed presentation, Board members gained an in-depth understanding of how our new Solvay ONE Planet program that will allow us to advance from a sustainability approach based on implementing robust tools and processes to creating sustainable shared value for all, focusing on the impacts we have on the climate, the resources of our planet and the daily life of its people.

Aligning compensation with shareholder expectations

As part of our ongoing shareholder engagement program, Solvay continues to actively reach out to shareholders to discuss our approach to governance, including compensation matters.

Solvay’s executive Compensation policy and Compensation Report was supported by 96.7% of its shareholders at last year’s Annual General Meeting. The report featured increased disclosure, reflecting input received from our shareholders as well as developments in the legislative framework.

In line with Solvay’s new G.R.O.W. strategy and new Purpose statement, our Compensation Committee reviewed the performance measures used to incentivize executive leaders to ensure they are aligned with our new strategic direction as from January 2020. Solvay believes that, together, this alignment, increased disclosure, and our existing compensation practices
Leadership compensation in step with G.R.O.W.

Solvay’s compensation structure for its Executive Committee is designed in accordance with the “pay-for-performance” approach approved by the Board of Directors, focusing on the Company’s short-term and long-term performance. The level and structure of the compensation packages are aligned with market practices for similar functions at comparable companies.

The details of the outgoing compensation structure are set out in the dedicated section of the Management Report.

CEO total compensation at target for 2020

<table>
<thead>
<tr>
<th>Purpose:</th>
<th>Short term incentives are linked partly to Group performance and partly to individual performance to drive and reward the overall annual performance of executives.</th>
<th>Long term incentives are designed in accordance with the “pay-for-performance” approach approved by the Board of Directors, focusing on the Company’s short-term and long-term performance. The level and structure of the compensation packages are aligned with market practices for similar functions at comparable companies.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base salary</td>
<td>30%</td>
<td>LTI (Long-term incentives) 40%</td>
</tr>
<tr>
<td>STI (Short-term incentives) 30%</td>
<td><strong>Target STI:</strong> 100% of Base Salary</td>
<td><strong>Target LTI:</strong> 150% of Base Salary</td>
</tr>
<tr>
<td>Performance measures 60% 40%</td>
<td><strong>Group performance</strong></td>
<td><strong>Performance measures</strong> 40% 60%</td>
</tr>
<tr>
<td>Underlying EBITDA growth (70%)</td>
<td>Stock options 50%</td>
<td>underlying EBITDA growth on year over year (40%)</td>
</tr>
<tr>
<td>FCF conversion (20%)</td>
<td>Performance Share units 50%</td>
<td>ROCE (40%)</td>
</tr>
<tr>
<td>Solvay ONE Planet (10%)</td>
<td>Individual objectives</td>
<td>Greenhouse Gas emissions (20%)</td>
</tr>
</tbody>
</table>

Purpose: The base salary reflects the individual’s experience, skills, duties, and responsibilities, and the contribution of the individual and role within the Group.

Purpose: A 50/50 mix of stock options (SOP) and performance share units (PSU) offering a performance-contingent vehicle to incentivize executives to help deliver Solvay’s long-term strategic objectives.
Value creation

Learn about our strategic objectives and how feedback from rating agencies spurs us on to create value.
Our sustainable value creation model

How we win

<table>
<thead>
<tr>
<th>Why</th>
<th>How</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solvay ONE</strong></td>
<td><strong>Our Strategy</strong></td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td><strong>Business strategy</strong></td>
</tr>
<tr>
<td>We bond people, ideas and elements</td>
<td></td>
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<td>to reinvent progress</td>
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<td><strong>Our Vision</strong></td>
<td><strong>Solvay ONE</strong></td>
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<td>Sustainable shared value for all</td>
<td>New common operating model</td>
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<td></td>
<td>to help us work more efficiently</td>
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<td>&amp; effectively together</td>
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<td><strong>Solvay ONE</strong></td>
<td><strong>Planet</strong></td>
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<td><strong>Growth</strong></td>
<td>Sustainability goals</td>
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<td><strong>Resilience</strong></td>
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<td><strong>Optimization</strong></td>
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<td><strong>Win</strong></td>
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Resources we use

**PEOPLE**

More than 100 nationalities. 47% of our employees are located in Europe, 18% in Asia and the rest of the world, 26% in North America and 9% in Latin America. 8% work in Research & Innovation.

24,100 Employees

23% of women

**FINANCIAL**

We have invested €826 million of Capex from continuing operations and €336 million in our Research & Innovation activities.

€7.7 bn Equity attributable to Solvay share

€5.4 bn Underlying net debt

**NATURAL RESOURCES**

Our energy costs represented €611 million. Excluding energy, the Group overall raw materials expenses amounted to circa €2.7 bn.

123 pj Energy consumption

435 M m³ Total water intake

1: Excluding hydrid bonds
At Solvay we are committed to optimizing the use of our resources to reduce our impact on the planet. Our new G.R.O.W. business strategy and our sustainability program are aligned with the powerful trends driving growth in our end-markets. And our Solvay ONE operating model helps us work more efficiently and effectively together to achieve our Purpose and create the greatest shared value for society, our employees, our customers and our shareholders.

How we create value

Our businesses are closely aligned to powerful trends that drive growth in our end-markets

**MATERIALS**
Unique high-performance polymers & composite technologies
Providing solutions for sustainable mobility, lightweighting, CO2 and energy efficiency

**CHEMICALS**
World-leaders in essential chemicals to daily life
Lead in chemical intermediates through scale & technology, developing applications & industrial innovation for optimized costs

**SOLUTIONS**
Unique formulation & application expertise
Customized specialty formulations for surface chemistry & liquid behavior, maximizing yield and efficiency and minimizing eco-impact

Where we create value

- Aerospace
- Industrial
- Automotive
- Building
- Healthcare
- Electronics
- Mining
- Consumer goods
- Food
- Agro
- Oil & Gas
- Aerospace
- Industrial
- Automotive
- Building
- Healthcare
- Electronics
- Mining
- Consumer goods
- Food
- Agro
- Oil & Gas

Value we create

Providing sustainable solutions to CUSTOMERS
- 53% Net sales with Sustainable solutions
- 33% Net Promoter Score

Caring for and empowering our EMPLOYEES
- 0.443 Occupational accidents per million hours worked
- 9.3% Employee turnover

Delivering return & profits to INVESTORS & SHAREHOLDERS
- €2.3 bn Underlying EBITDA
- €606 M FCF to Solvay shareholders from continuing operations
- €3.75 per share Dividend 2019 recommended

Reducing our ENVIRONMENTAL FOOTPRINT
- -5% Greenhouse gas emissions
- 86.6 thousand tons Industrial hazardous waste

AIR EMISSIONS
- 6.2 thousand tons Nitrogen oxides
- 2.9 thousand tons Sulfur oxides

Strengthening COLLABORATION WITH SUPPLIERS
- 38,500 Suppliers
- 625 Core suppliers

Supporting our LOCAL COMMUNITIES
- 47% Employees involved in local societal actions

2: excluding the contribution from corporate and business services, 3: Rate of accidents with medical treatment, with or without work stoppage, 4: Recommended to the Shareholders meeting on May 12, 2020, 5: (scope 1 & 2) at constant perimeter vs. Y-1
Scorecard

In 2020, we took a step further as part of our G.R.O.W. strategy and defined new mid-term financial objectives for 2024. Our Solvay ONE Planet sustainability program features ten new goals for 2030 that will replace the previous 5 priority targets.

**Economic**

**Underlying EBITDA growth**

2019 performance: €2,322 million

- Stable over the year, in line with expectations. Positive forex impact offset a modest organic decrease.
- Double-digit volumes growth in Composite Materials, higher pricing in Performance Chemicals and strong focus on cost discipline contributed to mitigate demand headwinds in the automotive, electronics and oil & gas markets.
- Underlying EBITDA margin maintained at 23%, demonstrating the resilience of Solvay’s businesses amid a challenging market environment.

**Free Cash Flow conversion**

2019 performance: 27.8% (+1.8pp)

The FCF conversion improvement reflects better than forecasted cash generation.

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1: At constant forex and scope, 2: Free cash flow to Solvay shareholders is the free cash flow after payment of net interests, coupons of perpetual hybrid bonds and dividends to non-controlling interests. This represents the cash flow available to Solvay shareholders, to pay their dividend and/or to reduce the net financial debt. The free cash flow conversion ratio is calculated as the ratio between the free cash flow to Solvay shareholders (before netting of dividends paid to non-controlling interest) and underlying EBITDA.
**ROCE (Return on Capital Employed)**

2019 performance: 8.1% (-0.1pp)

- Stable returns largely reflect sustained investments for future growth.

**Key levers to achieve our objective**

- Focus on growth in higher margin and less capital-intensive activities
- Disciplined capital allocation

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**Environmental**

**Greenhouse Gas Emissions**

2019 performance:

- Greenhouse gas emissions reduced from 12.3 Mt CO₂ eq. in 2018 to 12 Mt CO₂ eq. in 2019 mainly by achieving a reduction in CF₄ emissions.

**Our challenge**

- Climate change and energy transition are high on the agenda. It is imperative that future growth of businesses is not at the expense of the planet. We are committed to improving our environmental performance over time.
- In early 2020, we have set a new ambitious goal to double the rate at which we reduce our emissions: we will cut them by 26% by 2030 at constant scope compared with 2018. It aligns our trajectory with the “well below 2°C temperature increase” objective in the Paris Agreement.

**Key levers to achieve our objective**

- Continuously improve energy efficiency
- Improve the CO₂ footprint of our energy mix through initiatives such as conversion to biomass firing and renewable electricity sourcing (e.g. investment in a new biomass boiler in Rheinberg, Germany). As of early 2020, approved projects alone will lead to a 600,000 tons reduction in CO₂ by 2025 with a strong pipeline to ensure the decrease continues.
- Reduce GHG emissions released from our chemical processing operations.
- Apply an internal carbon price (£25/metric ton of CO₂ eq.) to GHG emissions in all investment decisions.
- Include a GHG emissions metric in the calculation of senior management compensation.
Sustainable solutions¹ (SPM)

2019 performance

- End 2019, 53% of our net sales were solidly positioned as “Sustainable Solutions”, offering both positive effects of their use in our end markets and improved manufacturing footprint.

- Higher growth in this part of the portfolio is explained mainly by changes in scope (divestment of less aligned businesses) and by the development of innovative and sustainable solutions.

Our challenge

- Grow our solutions through innovation, organic growth, investment, etc.

- Increase use of renewable raw materials and energy in line with the challenges of circular economy principles.

Key levers to achieve our objective

- Sustainable Portfolio Management (SPM) analysis is a key business process at Group and GBU level, allocating resources to upgrade the sustainability of our portfolio.

- All innovation and acquisition projects and Capex investments above €10 million are evaluated using the SPM tool to enhance their contribution to more sustainable and higher growth.

- Engagement in the circular economy through ongoing innovation initiatives to design new products, materials and chemical processes as well as new projects in collaboration with customers.

2019 achievement

Recognition for Solvay’s sustainable solutions

In 2019, The World Alliance for Efficient Solutions awarded 7 Solvay products sustainable solutions labels, after we demonstrated they protect the environment while being economically profitable. The labels went to Solef® PVDF, a fluorinated polymer that improves the performance and durability of electric vehicles when applied in batteries; our seed booster AgRHO® S-Boost™; SOLVAir®, an industrial exhaust cleaning solution; our Capterall® waste water treatment to remove pollutants in multiple industries; our parasite control system, PARAMOVE® for use in aquaculture, Alve-One®, a 100% safe solution in plastic foam applications, and MAX HT® technology that helps alumina refineries reduce their environmental impact.

1: To be considered a sustainable solution, a product must serve in an application that demonstrates a lower environmental impact during its production phase and an enhanced social and environmental contribution along the value chain. Sustainable Portfolio Management identifies business accelerators or obstacles to help Solvay deliver higher growth and superior sustainable value.
Occupational accidents at Group sites

2019 performance

- Our 2019 improvement results from our relentless focus on safety
- The MTAR\(^1\) decreased by 18% from 0.54 in 2018 to 0.44 in 2019, thanks in particular to the rollout of safety leadership training sessions.
- Progress was made on our “Creating Safety” journey, introduced in 2018 at top management level. 25 sites carried out “Safety Climate” assessments to understand the status of their safety culture. Employees and contractors were trained at site level to increase risk awareness and foster safety leadership.
- Several Global Business Unit and Function leadership teams held training sessions aimed at adopting a shared vision of Solvay’s objective to create safety, instead of only preventing accidents.

Our challenge

- Eliminate all fatal and life-altering accidents and in fine achieve a zero-accident mindset to protect the safety and security of all employees.

Key levers to achieve our objective

- Continue to focus on engagement and safety culture to reduce the number of people injured on our sites, for example through Safety Leadership or Safety Climate assessments of onsite safety culture, including discussions with employees.
- Develop a shared understanding of the risks and mitigation measures for the Solvay Life Saving Rules.

2019 achievement

Training customers through virtual reality

Solvay GBU Peroxides North America is helping customers to learn to handle our chemicals safely through virtual reality simulations. In partnership with Houston-based HTX Labs, the team organizes immersive hands-on training simulations. As well as a differentiating customer offer, the initiative is in line with our Creating Safety journey and customer centricity mindset. The first module focused on handling hydrogen peroxide and 100% of trainee feedback judged it more effective than traditional training methods.

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\(^1\): MTAR: rate of accidents with medical treatment, with or without work stoppage
Employees involved in local societal actions

2019 performance

- In 2019, Solvay’s first World Citizen Day substantially increased the number of employees involved in societal action (from 33% to 47%), with 168 sites representing more than 94% of Group’s employees worldwide involved.
- 87% of Solvay industrial sites created a working group that defines the appropriate societal actions to be undertaken to answer the major issues in their region.
- These local initiatives mainly focus on Solidarity and Youth employability with no significant differences across the regions.
- The Sustainable Guar Initiative continues to expand in India. The purpose of this business program is to teach and promote sustainable agricultural practices among guar bean farmers in Rajasthan along with enhancing livelihood and well-being of their family.

2019 achievement

Supporting open innovation in China

Solvay Research & Innovation colleagues in China worked to support a group of students from the Ningbo Institute of Materials Technology and Engineering with their participation in a Young Talents Chemical Innovation Challenge backed by China’s chemical industry. Solvay’s support helped the five students take second prize for an innovation to substantially reduce use of plastic in electric vehicles and architecture thermal insulation and so increase the spectrum of application of novel high-performance materials. Solvay’s involvement is part of ongoing collaboration between our R&I team in China and local universities, research institutes and industrial partners.
Ratings with insight

Solvay is committed to achieving strong performance on both financial and extra-financial indexes, and to earning and retaining the trust and support of all its stakeholders. Feedback from ratings agencies is invaluable as a benchmark and an indicator of our stakeholders' main concerns.

Ratings agencies commend Solvay in several areas, including the Sustainable Portfolio Management (SPM) methodology and its use in making strategic decisions, and the Solvay Way sustainability reference framework, with around half of all employees an active part of sustainability action plans. They also recognize our best-practice-based materiality analysis, and high-quality reporting, with our Annual Integrated Report ranked in the top 10 by WBCSD. And they endorse our labor relations, especially our IndustriAll agreement, training programs and social dialogue.

### Our main indexes

<table>
<thead>
<tr>
<th>MSCI World Index</th>
<th>Solvay received a rating of AAA (on a scale of AAA-CCC) in the MSCI ESG Ratings assessment.</th>
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<tbody>
<tr>
<td>BEL 20 Index</td>
<td>Solvay is a long-time component of the Brussels-based BEL 20 Index.</td>
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<tr>
<td>EcoVadis</td>
<td>Solvay is in the top 1% of chemical companies rated by EcoVadis.</td>
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<tr>
<td>FTSE 4 GOOD1</td>
<td>Solvay is in the FTSE-4Good Index.</td>
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<tr>
<td>ISS-ESG</td>
<td>Solvay is rated as a “Prime Company” with a score of 8 by the ISS-ESG, ranking among the leaders in chemicals.</td>
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<tr>
<td>CDP2</td>
<td>Solvay is ranked “C” by the CDP in the Climate Change 2019 questionnaire.</td>
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<tr>
<td>Ethibel Sustainability Index (ESI)</td>
<td>Solvay has been confirmed as a constituent of the Ethibel Sustainability Index (ESI) Excellence in Europe since September, 2019.</td>
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<tr>
<td>Vigeo Eiris</td>
<td>Solvay is a component of the Euronext Vigeo World 120 Index.</td>
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“A clear focus on doing ever better

We play close attention to the areas for improvement ratings agencies point out. These include operational eco-efficiency and the need to reduce emissions faster, occupational safety, with a higher fatalities rate than the chemical industry benchmark, and sustainable procurement actions, specifically value-chain ethics. They also refer to continuing media controversies involving Solvay. Climate change risks and opportunities, including short, medium and long-term water risks are also noted as areas for improvement.

“While rating agencies and methodologies have different strengths and weaknesses, Solvay appreciates that no matter how far we have progressed, there will always be opportunities to improve further. Our ambition is to continue to do better, prioritizing areas with the most significant impact.”

Karim Hajjar,
Member of the Executive Committee,
Chief Financial Officer

1: FTSE International Limited and Frank Russell Company,
2: An international organization, CDP analyzes how companies integrate climate change in their strategies.
2020 Outlook

Underlying full year EBITDA is expected to be flat to modestly down (0% to -3%) organically¹ compared to €2,322 million in 2019, with growth to be back-ended. Against a backdrop of a strong Q1 2019, first quarter 2020 is expected to be down by high single digit as a combined result of the 737MAX production halt, the impact of the COVID-19 virus, and the increasingly challenging oil and gas market.

Key assumptions:

- Focus on mitigation including pricing, headcount efficiency and other cost measures, as well as accelerated technology penetration will deliver more resilience in 2020.

- Solvay assumes Boeing 737MAX production of 200 aircrafts in 2020 compared to close to 600 in 2019. The net impact, after mitigation efforts, is expected to be between -€30 million and -€40 million in 2020.

- Disruptions related to COVID-19 are uncertain; Solvay expects approximately -€25 million impact in the first quarter and will update its outlook as the situation becomes clearer.

- Macroeconomic environment headwinds are expected to continue into 2020, with expected improvement in key markets (auto and electronics) in the second half. We expect the oil and gas market to remain significantly challenged again this year.

**Free Cash Flow conversion of 28%.**

- Continued focus on working capital and on disciplined capex management will support strong cash generation in 2020.

- Pension cash-out will reduce by more than €40 million, following voluntary contributions², and cash-out for financial charges will be about €20 million lower as a result of the reduction and optimization of net financial debt.

**ROCE** to be stable around 8%.

**Efficiency Measures**

In 2020, Solvay is accelerating the alignment of its worldwide organization with its G.R.O.W. strategy and is responding to the challenging economic environment, leading to 500 redundancies and 150 new positions to support future growth. The social procedures are launched on February 26 and the savings will commence in the fourth quarter of 2020 and will be fully implemented by the end of 2021. This plan will complement prior measures and raise our mid-term cost reduction target to at least €350 million. Restructuring charges of approximately €70 million will be provisioned in our first quarter financials. It should be noted that, in the fourth quarter of 2019 a provision of €48 million was reversed from the prior program.

**Forex sensitivities**

Solvay is mostly exposed to the U.S. dollar, with the main sensitivities per US$/€0.10 change:

- EBITDA sensitivity of about €(125) million based on the average rate in 2019 of US$/€1.15, with some 2/3 on conversion and 1/3 on transaction (excluding hedging).

- Net debt sensitivity of about €100 million based on the rate at the end of 2019 of US$/€1.12.

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¹: Organic growth excludes forex conversion and scope effects, as well as the effect from the implementation of IFRS 16. Reported growth compares to the published 2018 pro forma figures, adjusted for the implementation of IFRS 16. ²: Voluntary contributions related to pension plans.