



Progress beyond

# Essential and 2020 Integrated Report Stronger

Our SolvaLite™ composites are up to 40% lighter than metal, allowing manufacturers to create lighter and more energy-efficient vehicles that contribute to reducing CO<sub>2</sub> emissions.



# We bond people, ideas and elements to reinvent progress

↑ Solvay's Udel® PSU is a polymer used in a variety of membrane filtration applications, such as renal dialysis, water treatment, and bioprocessing. An estimated 3 million people worldwide are being treated with hemodialysis membranes made from our products.

## Contents

€963M

Free cash flow to Solvay shareholders from continuing operations  
→ 9

€15M

collected by  
Solvay Solidarity Fund  
→ 95

3.75\*

Dividend  
in € per share  
→ 9

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This report is also available online  
with additional, interactive features.



→ [reports.solvay.com/  
integrated-report/2020](https://reports.solvay.com/integrated-report/2020)

For greater insight into the Group, visit our  
corporate website: [www.solvay.com](https://www.solvay.com)

\*Recommended to the Shareholders meeting on May 11, 2021



1



2020 at a glance

↑ Our Rhovanil® Natural CW is the natural vanillin reference for food and flavor applications. Bio-sourced from natural raw materials, it provides the pure and sweet vanillin note characteristic of vanilla.

# About this report

## Solvay in 2020

Solvay's 2020 Integrated report highlights how, facing an unprecedented crisis, we demonstrated that we are ESSENTIAL to customers, employees, and local communities, and brought our Purpose – **We bond people, ideas and elements to reinvent progress** – to life. We advanced our G.R.O.W. strategy by accelerating our transformation into ONE more efficient and agile Group and stepping up our sustainability commitments. We focused on cash management, prioritizing costs control and investing selectively, generating a record level of cash. This enabled us to emerge STRONGER from the crisis. By focusing on our customers and their needs, and improving earnings quality, we have been preparing for the rebound; we are managing the short term while investing in a strong innovation pipeline for growth.

The report tells the story of Solvay during this year, providing details on how we addressed the crisis together with employees, customers, shareholders and partners. Through dedicated “stories”, the report showcases how we bonded with our stakeholders, listened to their expectations, and worked with them to find solutions that help fight climate change, preserve natural resources and improve quality of life. It also looks at the challenges the Group faces and the steps we are taking to address them.

## Moving ahead on our integrated management journey

Solvay's fifth Integrated Report reflects our progress on an integrated management journey that began in 2012 when the Group introduced an integrated thinking approach to strengthen the connection between its businesses, sustainability and finance. Since then, our business and product portfolio decisions have been made with both economic value creation and sustainability in mind. We also build on our stakeholders' feedback to improve our report over the years.

In November 2020, we went one step further. Our CEO signed a commitment with the World Economic Forum International Business Council (IBC) to pilot a new set of metrics for stakeholder capitalism aligned with the Manifesto published at Davos in 2020. Solvay already discloses most of the core sustainability information and accounting metrics in the WEF report “Measuring Stakeholder Capitalism – Towards Common Metrics and Consistent Reporting of Sustainable Value Creation”.

## Our Integrated Report over the years

2016	2017	2018	2019
Solvay's first Annual Integrated Report: it is fully digital and includes the GRI content.	Presentation of our portfolio transformation; it highlights the value created for our stakeholders.	Clarification of our Business model; stories on how we engage with stakeholders.	Introduction of our Purpose, G.R.O.W. strategy and Solvay One Planet sustainability roadmap.

## 2020 Integrated Report

As part of the Group's integrated management journey, Solvay's Integrated Report is the result of a close collaboration between the Communications, Investor Relations and Sustainable Development functions. The 2020 Integrated Report has been approved by the Executive Committee.

Solvay's Integrated report is fully digital and aligned on the guiding principles and content elements of Integrated Reporting, as defined by the International Integrated Reporting Council (IIRC). The Management report provides further details and is available as a downloadable document (Annual Report).

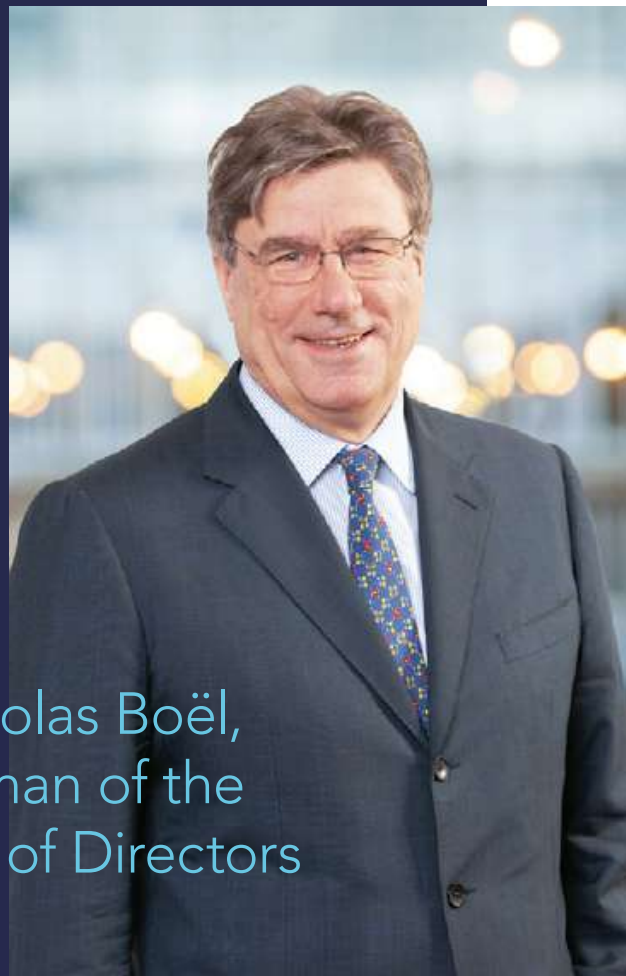
## Scope of this report

Solvay's 2020 Integrated Report provides material information on Solvay for the year ending December 31, 2020. Based on the International Integrated Reporting Council (IIRC) principles and elements of content, it builds on last year's report, integrating feedback from our stakeholders, including recognized bodies such as the World Business Council for Sustainable Development (WBCSD). It is aligned with the GRI Standards and the WBCSD's ESG Disclosure Handbook. Solvay has been reporting alignment to the TCFD recommendations for four years.

Solvay bases its materiality analysis on the SASB Materiality Map® list of material aspects and prioritization criteria, and discloses most of the sustainability disclosure topics and accounting metrics listed in the SASB Chemicals Sustainability Accounting Standard version of October 2018. The report 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).



# 2020 made us proud to be Solvay



by Nicolas Boël,  
Chairman of the  
Board of Directors

Looking back at 2020, beyond the superlatives which have been widely used to describe an “unprecedented” year, I observed that the crisis brought about pressing challenges on three fronts, prompting our Group to pursue a threefold mission.

First, Solvay needed to continue operating, in the face of an overwhelming health and subsequent economic crisis, which were the most severe our Group had witnessed since World War II. Second, we wanted to generate cash to be able to face the crisis, keep implementing our G.R.O.W. strategy and continue our transformation. Third, in a context of global lockdown, with some 10,000 employees working from home, a sizable portion of our workforce on furlough and tremendous pressure on everybody, it was imperative that we maintain the bonds that unite us and define us as a company.

**“Solvay is a caring company,  
which sought to soften the  
consequences of the crisis for its  
employees and reward them for  
their exceptional efforts.”**

We all adapted, fast, with dedication and agility. The Board of Directors played its part, modernizing its ways of collaborating as a team. We increased the frequency of our meetings and made them more focused, more informative: our objective was to decrease the organization's level of anxiety and stress by bonding more intensely, by exchanging more information and taking quick decisions. We concentrated on what was essential – and we have consequently reached in my opinion a very high level of trust and collaboration. We fulfilled our mandates with diligence, earnestly and constructively challenging the projects presented for our review – it was positive energy.

The same positive energy prevailed across the entire organization. And it paid off, as you saw in our financial results, which allowed Solvay to create value for its shareholders while at the same time protecting and rewarding its employees and investing for the future. Solvay is staying true to its dividend policy, even in these extraordinary circumstances. Our Group indeed proposed to maintain the 2020 dividend at €3.75 per share. On behalf of the Board of Directors, I want to express my sincere gratitude to the people of Solvay for outstanding results and for their unrivalled engagement through this multifaceted crisis.

Solvay is a caring company, which sought to soften the consequences of the crisis for its employees and reward them for their exceptional efforts. To support those who suffered the severest hardship, we have taken solidarity to a new level, building on Solvay's roots and on our historical track record of responsible capitalism. The Solvay Solidarity Fund collected a total of €15 million from Solvay employees, from the Group's leadership team who relinquished 15% of their salaries, from Board members and from shareholders. I extend once again my

deepest gratitude to all. Together, we are alleviating the suffering of employees and their families; together, we are even saving lives in our communities, as we for instance activated the Fund to the benefit of the new Covid section in the hospital located next to our plant in Devnya, Bulgaria. In India, we mobilized the SSF to help guar farmers, whose livelihood was jeopardised by the crisis. In total, the Fund provided financial support worldwide to 1,600 families last year.

I would say that we are emerging from 2020 feeling proud of Solvay, even perhaps a little more so than in previous years. I certainly am, and I observe it around me among the different stakeholder groups who bond to constitute the Solvay people. We have made decisions – some of them were difficult, with an impact on the organization and consequently, employment. But we always balanced safety, business, financial performance, communities and welfare. Speed and agility were indispensable, but not forced upon us: we acted quickly because we all concurred it was the just thing to do. That gave us the strength to face and overcome daily challenges while at the same time preparing Solvay for the future.

**Nicolas Boël**  
Chairman of the Board of Directors



# We reinvented progress in 2020

2020 was the year we unveiled our Company Purpose... and literally just a few weeks after our inspiring inauguration, the tidal wave of Coronavirus submerged the world. With today's hindsight, I embrace this concomitance gratefully, because the outbreak and its consequences – albeit dramatic – allowed us to live our Purpose in full: “We bond people, ideas and elements to reinvent progress” was our beacon, our North Star. We demonstrated

that we were essential to the world and we actually capitalized on the crisis, accelerating reforms to unleash our company's full potential. Today, I can proudly assert that we have emerged stronger.

As an industrialist, I am first and foremost satisfied to see that Solvay has become a safer workplace: last year, fewer colleagues than ever before sustained an injury requiring medical treatment.

2020 also turned out to be the most opportune year to nurture our special bonds with our customers, if only to keep the supply chain operating smoothly, even though half of the globe was under lockdown. But we went beyond: we remained at their service, we adapted to their unprecedented challenges, we proposed solutions and even won new customers! One touching anecdote illustrates our state of mind – our customer obsession – which prevailed at the time: when Boeing was asked by the US government to manufacture face shields to protect lives, they turned to Solvay for support and high performing materials. It is no coincidence: our ambition is to be the first ones our customers call, always. Many of them actually called us to share their worries as they were facing starkly declining markets – which in turn prompted us to quickly adapt.

We took immediate measures to rein in our own production and furloughed a large portion of our workforce. At the same time, because we cherish our bonds with our employees, we immediately put in place a safety net to limit the social impact of the general slowdown. With the generous support of our Group leaders, our employees and our shareholders, we also created the Solvay Solidarity Fund to alleviate the hardship endured by the most severely hit. We kept in constant contact, with some 10,000 people working from home, through regular surveys and frequent webcasts open to all, during which I explained how we were navigating the crisis. On those occasions, our employees also expressed particular pride in our ability to support our communities.

Within days, teams had transformed Solvay facilities to churn out urgently-needed, life-saving products. Solvay donated over 700,000 liters of hydrogen peroxide; 350,000 facemasks; 114,000 pieces of Personal Protective Equipment; 1,000,000 bottles of disinfectant gel; materials to produce over 6,700 reusable face shields... The page compiling our colleagues' initiatives was buzzing with an uninterrupted flow of generous news, acting as an emotional reminder that our activities are essential to the world. Governments concurred – and asked us to keep operating through all lockdowns, worldwide.

Our reactivity as well as our ability to bond with our stakeholders allowed us to navigate the crisis successfully, which is reflected in our financial performance: 2020 was a year in which Solvay achieved an unprecedented level of Free cash flow. This made it possible, in turn, to remunerate our shareholders and pay a special reward to our employees, while at the same time unlocking investments for the future and maintaining our R&I effort.

**“Today, I can proudly assert that we have emerged stronger.”**

Two innovations which we brought to the market in 2020 were particularly noteworthy in times of Covid: Amni® Virus-Bac OFF, a solution to make textile yarn permanently antiviral and antibacterial, hence blocking the retransmission of viruses. And our Actizone™ disinfection technology protects surfaces for 24 hours, killing more than 99.9% of bacteria and viruses, including the flu and human coronavirus. Looking further and beyond, we were proud to announce the creation of a hydrogen platform that will bring together all of our innovative material and chemical solutions to advance the emerging green hydrogen and fuel cells economy, where we see a potential addressable market of €3 billion for the Solvay group.

The Hydrogen platform as well as its Batteries and Thermoplastic Composites (TPC) peers are instrumental in Solvay's G.R.O.W. strategy, which we have begun deploying resolutely in 2020 – even though the crisis has prompted us to defer the Growth perspectives of our “G” segment. As part of our strategy, we have further accelerated the simplification of our portfolio with seven divestment operations totalling some €1.8 billion in net sales – including Polyamides. In the first quarter of 2020, we also aligned the structure of our GBUs, where relevant, to their new missions as set in our G.R.O.W. ambition. Furthermore, we have undertaken preparations for a sweeping reorganization of our business support activities, called WeShape, which was effectively launched at the outset of 2021.

As a final illustration of our ability to prepare for the future while at the same time navigating the crisis, we unveiled in 2020 our new sustainability ambition, Solvay One Planet, which is inspired by the United Nations Sustainable Development Goals. It features ten measurable commitments in three key focus areas: climate, resources and better life, which we presented to investors at a dedicated ESG webinar on October 2, 2020. We are for instance eliminating the use of coal for energy production, accelerating the circular economy and making paid parental leave accessible to all employees, worldwide, irrespective of gender or sexual orientation.

I am particularly proud that we raised the bar once again, as we aligned with the Science Based Targets initiative and decided to reduce our Greenhouse gas emissions twice as fast than under our previous goal for 2030, effectively closing up with a Paris Agreement trajectory. We more than lived up to our commitments last year, as we substituted coal for cleaner energies in two important production sites. Our emissions fell by 20%, including an 8% structural decrease (unrelated to the global economic slowdown) since 2018, which is more than twice the annual average dictated by the Paris Agreement.

We are honored to see our sustainability achievements acknowledged by independent observers. Yet we must keep progressing, with objectivity and transparency. We at Solvay acknowledge that we are in some instances not yet where we want to be, and we are activating all the levers we have at our hand to find solutions where needed. Even more importantly, we know for certain that we are part of the solution to create a better world for our children. Chemistry is the mother of all industries and we are present in every value chain; our innovation is instrumental to separate, combine and recombine elements, making products and materials more durable and reusable. Without us, there will be no green hydrogen, no zero emission cars or no circular economy.

We are consequently certain that the combination of our agility in times of crisis, our ability to reinvent ourselves and to develop innovative solutions, all inspired by an engaging purpose, opens fabulous opportunities to create sustainable shared value for all – for our clients, our employees, our shareholders and for the generations to come.



**Ilham Kadri**  
President of the Executive Committee and CEO

**Bonding for a better planet:  
Our sustainability performance in 2020**

[Watch the video](#)

by Ilham Kadri,  
President of the  
Executive Committee  
and CEO



# Key figures

We are a science company whose technologies bring benefits to many aspects of daily life. Our 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.

Our 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. Founded in 1863, Solvay today ranks among the world's top three companies for the vast majority of its activities.

## Countries

64

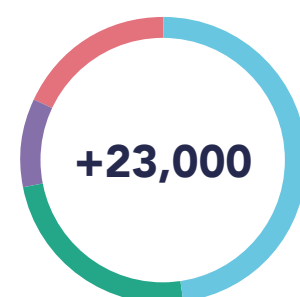
## Solvay around the world

Europe North America Latin America Asia & Rest of the world

### Net sales



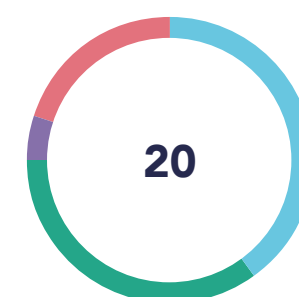
### Employees



### Industrial sites



### Major Research & Innovation centers



## Research & Innovation

1,950

Employees

€291M

R&I effort

15%

New sales ratio\*

77%

of expected R&I revenue from "Sustainable solutions"\*\*\*

\* % of products / applications < 5 years, \*\*according to our SPM methodology

## Financial indicators (2020 versus 2019)

## Social and environmental indicators (2020 versus 2018)

Climate

Resources

Better life

1,945

Underlying EBITDA  
In € million

–13.9% organic basis<sup>1</sup>

10.1

Greenhouse gas emissions<sup>5</sup>  
Million tons CO<sub>2</sub>eq.

–20% constant scope

52%

Sustainable solutions (SPM)  
% of Group sales

+2 pp

963

Free cash flow to Solvay  
shareholders from continuing  
operations<sup>2</sup>  
In € million

+58.8%

27

Solid fuels  
Petajoules

–18%

70

Non-recoverable industrial waste  
Thousand tons

–27%

6.9%

ROCE<sup>3</sup>

–1.2 pp

107

Pressure on biodiversity<sup>6</sup>

–12%

313

Intake of freshwater  
Million m<sup>3</sup>

–5%

3.75<sup>4</sup>

Dividend  
In € per share

Stable

5%

Circular economy<sup>7</sup>  
% of Group sales based  
on circular raw materials or energy

+1 pp

0.40

Medical treatment accident rate<sup>8</sup>  
Per million hours worked

–26%

24.6%

Women in mid &  
senior management

+0.9 pp

1: Organic growth excludes forex conversion and scope effects. 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. 3: Return on Capital employed, 4: Recommended to the Shareholders meeting on May 11, 2021, 5: Total greenhouse gas emissions, scopes 1 and 2, 6: in number of animal or plant species potentially impacted in one year. ReCiPe method for biodiversity impact assessment, 7: Circular economy indicators are still in the development phase, in the frame of the Circulytics® approach, co-developed with the Ellen MacArthur Foundation, 8: Rate of accidents with medical treatment, with or without work stoppage; employees and contractors



# 10 Highlights of 2020

In 2020, we made significant progress: We launched our Group's Purpose, progressed on our ambitious Solvay One Planet roadmap and accelerated our G.R.O.W. strategy. We demonstrated the resilience of our businesses, while supporting our people through the Covid crisis with the launch of the Solvay Solidarity Fund. Here are ten highlights of the year.

CO<sub>2</sub>

1

Stepped up our commitment to reduce emissions

Through Solvay One Planet sustainability roadmap, we will reduce our greenhouse gas emissions by 26% by 2030 in line with the Paris Agreement. We raised the bar again by committing to the Science Based Targets initiative. We are now engaging with our customers and suppliers to reduce emissions throughout the value chain.

-26%

-SBTi

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## 2 Launched Solvay Green Hydrogen Platform

This platform will gather all the innovative material and chemical solutions offered by the Group, like our Aquivion® technology, to advance the emerging hydrogen economy. Clean hydrogen is a key enabler of the global transition towards a zero carbon sustainable energy system.

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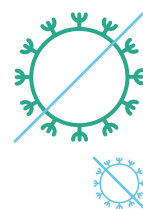
## 3 Created Solvay Solidarity Fund to help employees and communities



Launched on April 9, 2020, the Fund provides both financial and non-financial support to Solvay employees and dependents experiencing adversity due to the pandemic. It also supports communities close to Solvay. So far, it has raised €15M and has provided support for 1,600 families worldwide and communities in India and Bulgaria.

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## 4 Introduced two innovations to fight viruses



Actizone™ is a unique cleaning hygiene solution as it destroys over 99.9% of microorganisms including coronaviruses for up to 24 hours. The Group's new polyamide fiber, Amni® Virus-Bac OFF, "deactivates" viruses such as Covid-19 and eliminates bacteria thanks to a permanent anti-bacterial additive.

→ Page 16 and 29

# 16

weeks of maternity leave now standard in all Solvay sites globally

# 5

## Bonded with customers to create circular batteries

As part of our commitment to protecting natural resources, we partnered with Veolia and Renault to create a circular economy consortium that will enable the production of circular electric vehicle batteries. The new solutions, including Solvay's products that optimize metal extraction and the purification process, promise better resource efficiency while ensuring stable access to raw materials.

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# 8

## Launched One Pulse surveys to enhance employee well-being

When the crisis hit, we initiated Pulse surveys every six weeks to our 23,000 colleagues to enhance their well-being. Through these surveys, we are better able to help employees adapt to the Group's rapidly changing culture.

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# 6

## Extended maternity, paternity and co-parent leave

We increased our global maternity leave policy to 16 weeks and extended it to all co-parents employed by the company. This is part of our Solvay Cares benefit program, which provides a minimum level of company social benefits to all employees worldwide.

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# 9

## Made mobile working the Group's global standard

Building on positive feedback about mobile working during the year, Solvay decided to integrate it into the Group's work standard. Due to the pandemic, about 10,000 employees shifted to remote working since March 2020, among which 70% stated they enjoyed flexible hours and being more productive.

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## 7 Inspired interest in STEM for Solvay Citizen Day



Through our 2020 Solvay Citizen Day, our employees participated in a virtual event under the theme of education to foster students' interest in Science, Technology, Engineering, and Mathematics (STEM). We created over 250 educational videos, reaching about 190,000 students all over the world.

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# 10

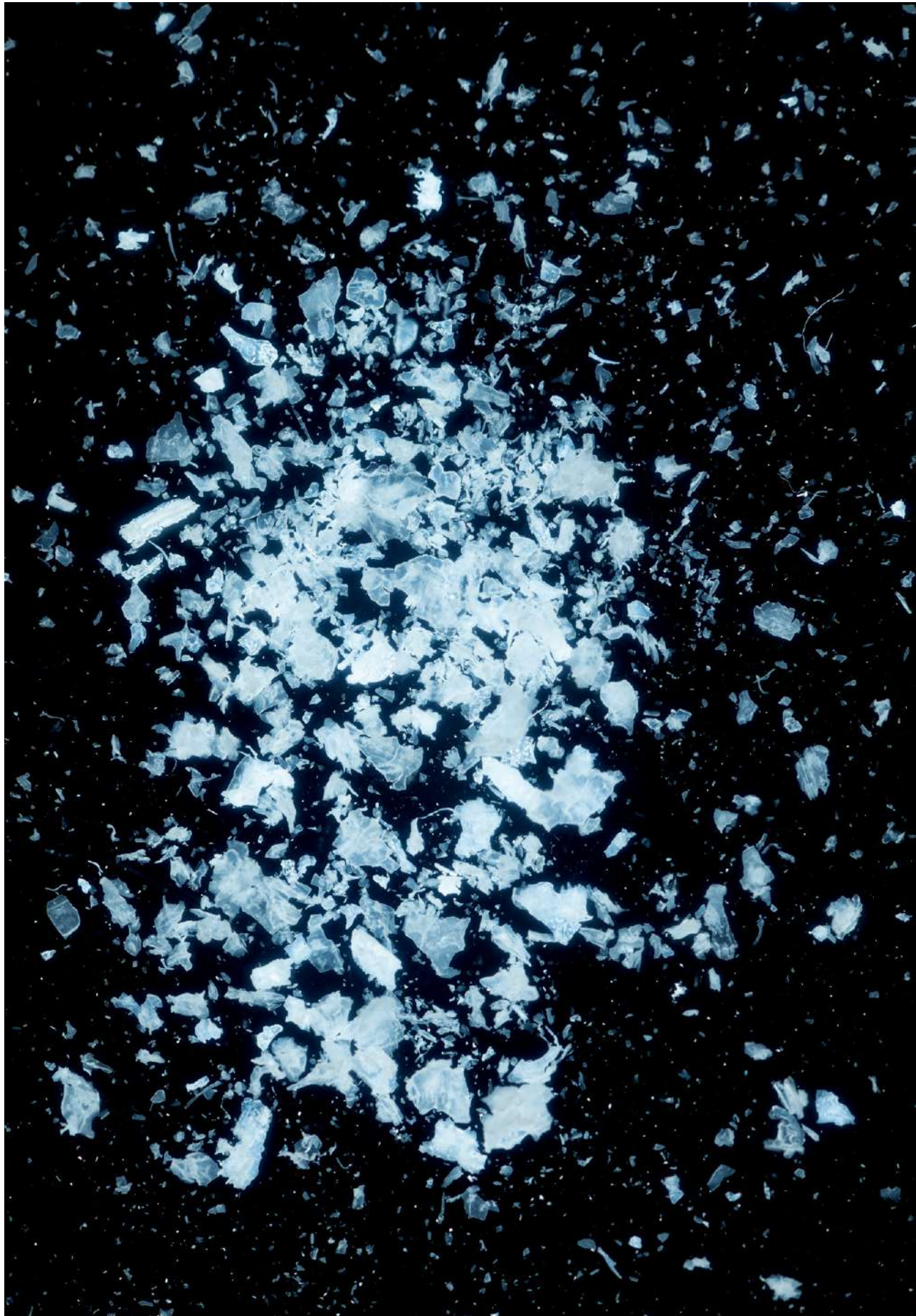


## Renewed contracts with Boeing and Lockheed Martin

We supply Boeing with composites and adhesives that are used across all their aircraft programs. Our technologies are critical to advancing their innovation in design and manufacturing. We are Lockheed Martin's principal supplier of high-performance materials for their F-35 military aircraft, the U.S. Department of Defense's flagship program.

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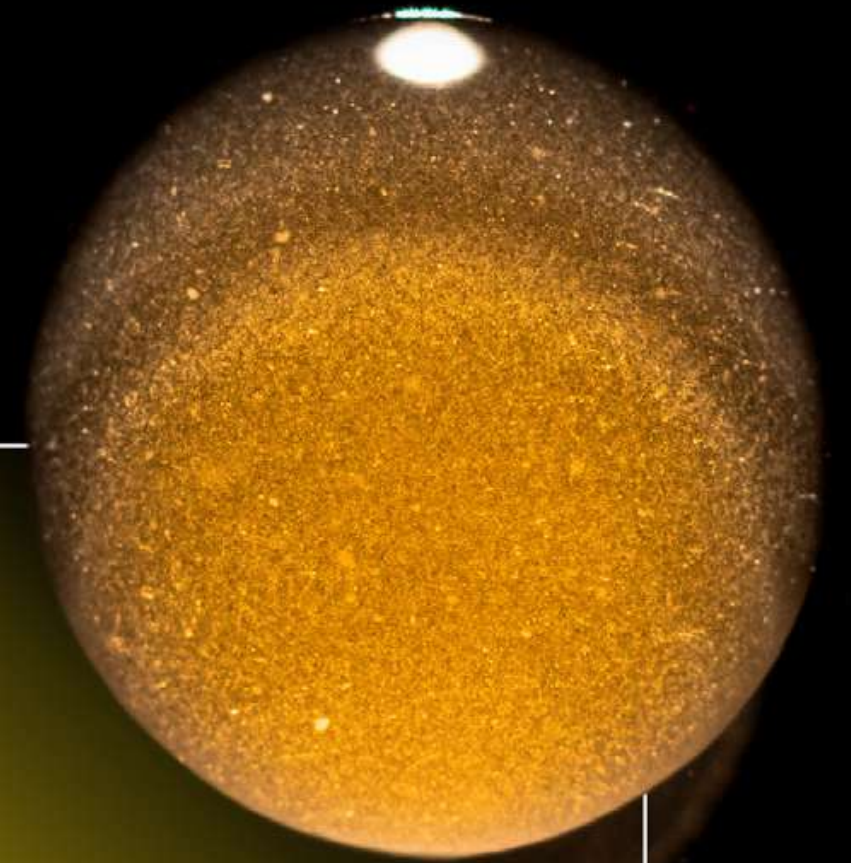




↑ Solvay's Aquivion® technology is key for electrical storage and conversion devices such as fuel cells.

2

**Accelerating  
our strategy**



↑ AgRHO® S Boost is a macromolecule extracted from guar, a legume, which improves the plant's absorption of water and nutrients, boosts germination and ultimately increases yield.



# G.R.O.W. strategy in action

In 2020, we implemented our G.R.O.W. strategy, announced in November 2019, which sets differentiated mandates for our businesses and allocates resources accordingly. The crisis prompted a renewed focus on customers and in particular

on key accounts: we adapted to meet their needs and accelerated strategic cost reduction programs. This resulted in a company-wide focus on cash generation that helped Solvay navigate the crisis effectively. In parallel, we also embarked on a series of minor divestments, having ensured that these businesses had been optimised and were “sale ready”. We also issued a new wide ranging and ambitious sustainability roadmap, Solvay One Planet. Motivated by our Purpose, Solvay leaders came together to ensure that we deliver and emerge from the Covid-19 crisis stronger and ready for the rebound.

## 1 Confirming our business strategy

Differentiated business mandates for the 3 segments

# G.

### Accelerate Growth

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

#### Key asset

Unique high-performance polymers and composite 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 composite 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
- Reallocate resources to thermoplastic composites and battery platforms to accelerate customer wins
- Improve operational efficiencies through simplification, order to cash optimization and digitalization

#### Business trends



# R.

### Deliver Resilient cash

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

#### 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

#### Business trends



# O.

### Optimize returns

Optimize our SOLUTIONS and businesses to unlock value and increase returns

#### 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

#### Business trends



Enabled by Solvay ONE operating model

# W.

### Solvay ONE to Win

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

Our Solvay One operating model is a completely new way of working that will leverage the many strands and competencies across our enterprise to build a single strong Group with robust performance management. It will unleash the full potential of the Group by breaking down silos, increasing agility and efficiency, improving how we engage with customers to better serve them, and spreading a performance-driven culture throughout the company. The crisis was a catalyst that accelerated the speed and depth of this transformation.

## 2 Tactically adapting to the environment

The crisis strongly hit the Group, with a differentiated impact on our businesses according to the end-markets. Recovery in each market is expected to occur at different times. In the midst of the crisis, Solvay confirmed and continued to move forward with its G.R.O.W. strategy. In 2020, the three business segments adapted to the new situation, by either slowing activity or taking advantage of new market opportunities.

# G.

**Accelerate Growth**  
MATERIALS

### Quickly adapting to mitigate the impact of the crisis in our key markets

In the aerospace market we faced a severe drop in demand with no recovery expected in the short term. We adapted to the new normal by accelerating our mitigation plan, drastically reducing costs and closing two facilities (in the UK and the US) in our composite materials business.

### Taking advantage of our solid assets and investing to prepare for the rebound

We continued to bond with our strategic customers and invest in our unique Thermoplastic Composite technologies, innovative materials that meet the industry's crucial needs regarding lightweighting and faster cycle time. In the Automotive market, despite the sharp decrease in sales, polymers continue to replace metal and this will position us well when growth resumes. In addition, the strong demand for Li-on batteries confirms the potential of our Battery Materials platform. Finally, with our Green Hydrogen platform we are providing additional solutions to help the transportation industry enable clean mobility.

### 👁 Bonding with Boeing and Lockheed Martin

Solvay has long-standing agreements with both Boeing and Lockheed Martin, which were renewed in 2020. Our contract with Boeing covers composites and adhesives across all its commercial and defense aircraft programs. Our technologies are critical to Boeing's strategic program to advance innovation in aircraft design and manufacturing. We are Lockheed Martin's principal supplier of high-performance materials (with more than 50 products) for their F-35 military aircraft, the U.S. Department of Defense's flagship program.

### Seizing new business opportunities

Solvay is in a good position serving markets such as space, electronics, healthcare, and hydrogen and the clean energy economy, where the need for specialty polymers and composite products continues to grow.

EBITDA margin

# 26.4%

# R.

**Deliver Resilient cash**  
CHEMICALS

Our strong market positions and a disciplined management of our costs, including some mitigation actions, allowed us to preserve our EBITDA margin. Aside from our resilient Soda Ash & Derivatives and Peroxides businesses, our Silica and Coatis activities recovered strongly in the second half, thanks to innovation, such as our innovative Augeo® biodegradable and renewable material.

### 👁 Fighting Covid-19 with Amni® Virus-Bac Off innovation



Solvay has developed a new polyamide fiber which "deactivates" viruses such as Covid-19 and eliminates bacteria. The permanent anti-bacterial additive used in the composition of the fiber prevents the transmission of bacteria and therefore reduces the risk of contamination. This fiber could be used for car or airplane seats, or any application where people could be in contact with textiles that cannot be washed or disinfected daily.

EBITDA margin

# 27.7%

# O.

**Optimize returns**  
SOLUTIONS

### Reducing costs

We are moving forward to optimize our businesses that operate in diverse niche markets to drive better returns and unlock value. We took action on our cost structure and aligned it to the new reality of the market.

### Investing selectively to drive innovation

We are realigning Capex and continuing to introduce innovations in markets where we have strengths, such as healthcare, home and personal care, coatings, agro and electronics.

### 👁 Strengthening our portfolio of seed boosting solutions



Solvay reached an agreement to purchase a seed coating technology to add to its existing agro products within the Novecare business. This is a natural extension to Solvay's own AgRHO® family of sustainable seed boosting solutions and supports the drive toward more bio-based, sustainable technologies.

EBITDA margin

# 17.1%

# W.

**Solvay One to WIN**  
with our customers

Our Solvay One operating model is a completely new way of working that will unleash the full potential of the Group. The crisis motivated us to accelerate strategic cost reduction programs, resulting in a company wide focus on cash generation that helped us navigate the crisis effectively. It prompted a renewed focus on customers, in particular on key accounts, and we adapted to meet their needs. We also moved forward with the simplification of our portfolio and the transformation of the organization.



## 3 Delivering on our commitment on costs and cash

Facing the crisis, we took decisive steps to mitigate declining sales by strengthening working capital discipline while improving the phasing of our cash generation, accelerating cost reductions and adapting our investments. We delivered because we changed the way we manage our resources and investment, acting as ONE Group.

“We mobilised with speed and precision to improve liquidity reserves, increase cash generation, to drive temporary cost reductions and also accelerate strategic cost reduction programs. In doing so, we also had an eye towards the future and ensured that in the second half of 2020 we increased investment levels to respond to envisaged customer demand in a rebound. This relentless focus enabled us to set new performance records in 2020 in terms of costs and cash. It positions us well for 2021 and beyond, despite headwinds in some of our key end markets.”



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

### Cost savings target raised to €500 million

- Cost savings reached €332 million for full year 2020, of which €175 million are structural savings. Among the latter, approximately 50% are related to restructuring initiatives, 35% from indirect spend, and 15% from productivity and efficiency improvements.
- In January 2021, Solvay launched a new chapter of its strategic transformation aimed at further aligning its structure to its G.R.O.W. strategy. This builds on previous plans announced in 2020, and represents a profound simplification of all support functions to serve the business more effectively. The plan will lead to an additional net reduction of approximately 500 roles by the end of 2022 and incremental cost savings of €75 million. Subject to discussions with social partners, this plan together with previously announced plans will increase the mid-term cost savings target from €410 million to €500 million by 2024, of which €175 million has been delivered in 2020.

### Record cash generation of €963 million

We delivered record Free cash flow to shareholders from continuing operations of €963 million in 2020. The main drivers were continued discipline in working capital, effective capex management, cost reductions, adapted investments and lower pension cash, costs and taxes.

- **Working capital**  
In early 2020, our teams quickly adapted the production and inventory levels to the situation. We focused as well on the receivables and payables and, thanks to the strong commitment of the teams all year, we were able to reduce overdues to record levels.
- **Investments**  
From March 2020, we quickly adapted our capital expenditure plans to the demand by decreasing our investments plans by €250 million while maintaining a level of 40% in growth projects. This contributed to our cash flow improvement and, in the second half, we were able to announce the acceleration of some investment projects.
- **Reduction of financial and pension cash costs**  
In 2020, we made exceptional contributions of €666 million to our pension schemes since December 2019 and we have plans to invest up to €350 million over the next 12 to 18 months. These structural actions de-risk the balance sheet, are highly value accretive and will more than halve pension cash costs to less than €100 million per year.

## Accelerating our transformation

As we implemented our G.R.O.W. strategy in 2020, one of the main focuses was transforming the Group into ONE more united Solvay team (W of G.R.O.W. stands for Winning as ONE team). The crisis acted as a catalyst to enable us to break down silos more quickly, increase agility and efficiency, simplify support functions and improve how we engage with customers to better serve them, spreading a performance-driven culture throughout the company.

# 1 Reinventing the way we engage with customers

We are putting our “customer-obsession” at the heart of everything we do. We began implementing the transversal programs announced last year, as part of our new Solvay One operating model.

## New Customer Engagement model

In 2020, we accelerated our new Customer Engagement model with the ambition to become best-in-class in how we serve our clients. We will achieve this by having ONE Solvay approach that is differentiated by customer segments and leverages our full portfolio of products and technologies.

“We want to be our customers' preferred partner – the one they call first because we understand their unmet needs and bring them a unique solution, while sharing the value created with them. We want to serve them at our best. That's the change in mindset we are driving throughout the company.”

**Augusto Didonfrancesco,**  
Member of the Executive Committee

We made significant strides with our new Customer Engagement model by:

- Creating a **Group Strategic Key Account Program** to form strong relationships with the clients who will drive our growth and enable us to provide solutions from across our portfolio of technologies and products.

### 👁️ Developing closer relationships with key strategic customers

Executive Key Account Managers have been designated to deepen our relationships with strategic key customers. For example, our CEO met virtually with the CEO of Bosch, which accelerated our collaboration leading to new growth opportunities. Solvay has a historical connection with Bosch to develop applications using high performance plastic materials, for instance in Bosch's new smart food processor. The exchange demonstrates how Solvay is creating opportunities to collaborate on topics of common interest such as sustainability, fuel cells and circular economy initiatives.

- Developing a new Group-wide approach to managing **smaller customers and distribution;**
- Designing a new **Sales Academy** to boost our teams' skills and share best-practices;
- Launching **CEO Sales Awards** and creating a **Sales Incentive Plan** for 2021 that is designed to motivate, recognize and incentivize our frontline sales people.

### 👁️ Recognizing our commercial professionals who go beyond

Our CEO Awards this year celebrated our best commercial professionals who bonded with customers and exceeded budgeted targets, in spite of unprecedented headwinds.

“It's about having a deep understanding of our customers'needs, cultivating trust, and working together as one team to create win-win solutions. 2020 was an extraordinary year of reinforcing partnerships with our key customers.”



**Soline de Cayeux**  
Executive & Global Key Account Manager,  
GBU Silica, CEO Awards winner

# 2 Taking new steps in portfolio simplification

## Soda Ash & Derivatives

As part of the G.R.O.W. strategy, the Materials, Chemicals and Solutions segments were given distinct mandates reflecting different paths to value creation. Building upon this strategy, Solvay is taking steps to organize its Soda Ash & Derivatives business into a separate and fully controlled legal structure. These steps will reinforce internal financial and operational transparency and accountability, in line with its mandate of optimizing cash flow generation and returns, while increasing strategic flexibility.

## Divesting commodity business lines

Following the optimization of several businesses, Solvay has reached agreements to sell its interests in six commodity business lines, mainly in the Chemicals and Solutions segments. We expect completion of these transactions, which collectively represent annual sales of around €300 million, in the first half of 2021. We will continue to explore other opportunities to further simplify our portfolio.

# 3 Accelerating the transformation of our organization and spreading a new performance-driven culture

Through the W in our G.R.O.W. strategy, which stands for Winning together as One Group, we had foreseen a need for a simplified governance for business support activities, the redesign or elimination of certain activities and enhanced digitization. The Covid-19 pandemic accelerated the transformation.

“In just one year, we have done so much in our journey to change the company”



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



## New ways of bonding

Due to the pandemic, approximately 40% of our employees have been teleworking since mid-March. Therefore, we had to invent new ways of bonding, managing and communicating. We did this by:

- listening to employees through recurring Pulse surveys and adapting accordingly;
- helping leaders change the way they manage and become more agile;
- launching a “connected coffees” initiative to help colleagues throughout entities and countries meet each other and exchange ideas and experiences;
- organizing CEO virtual visits to plants and digital Q&A sessions with employees.

### A virtual visit to our Linne-Herten site

Our CEO began her virtual visits at our Linne Herten site (Netherlands) where she heard more about how the team transformed their plant to manufacture ingredients for pharma, cleaning, and hygiene to help meet urgent needs during the pandemic.

“I was beamed across the continent to meet hundreds of Solvay colleagues. I was energized by the passion of our teams, celebrating their victories and listening to their concerns and dreams”.

**Ilham Kadri**  
Solvay CEO

## Focusing on Better life through our new People Engagement Journey

“If you manage with purpose, heart and mind, you create such strong connections between people that you will achieve great results.”

**Hervé Thibergien**  
Chief People Officer,  
Member of the Executive Committee

We are implementing our new set of behaviors to help everyone at Solvay be “at their best”. We want to provide the right conditions for people to feel that they can bring their whole selves to work.

### Empowering leaders

The leaders at Solvay will focus not only on technical competencies but also on leading and coaching their teams “at their best” as a true mission.

### Reinventing work-in-life balance

We are finding the right integration between work and personal lives by empowering our employees rather than having them work in a top down environment. To help them with this during the crisis, we quickly set up coaching sessions on how to better balance their professional and private life. A thousand employees have participated in these sessions so far.

### Installing remote working

Building on positive feedback about remote working during the year, we decided to integrate mobile working into the Group's work standard. Through our surveys, colleagues stated they enjoyed flexible hours, extra time with families, not having to commute, and being more focused and productive. In fact, 70% said they want to keep doing part of their work from home.

### Digital tools to help employees be in the driver's seat

We created the YOU digital platform, which helps each employee create his/her own career path and benefit from multiple tools to develop his/her competencies. It also provides managers with a comprehensive view of skills throughout the Group.

### Increasing inclusion, equity and diversity

Solvay is dedicated to cultivating a diverse workforce in every sense including, gender, culture, sexual orientation, personality and skills. We want to foster inclusion because it will unlock the potential of diversity at Solvay. We have made a strong commitment that by 2035, half of mid and senior managers will be women.

# 10,000

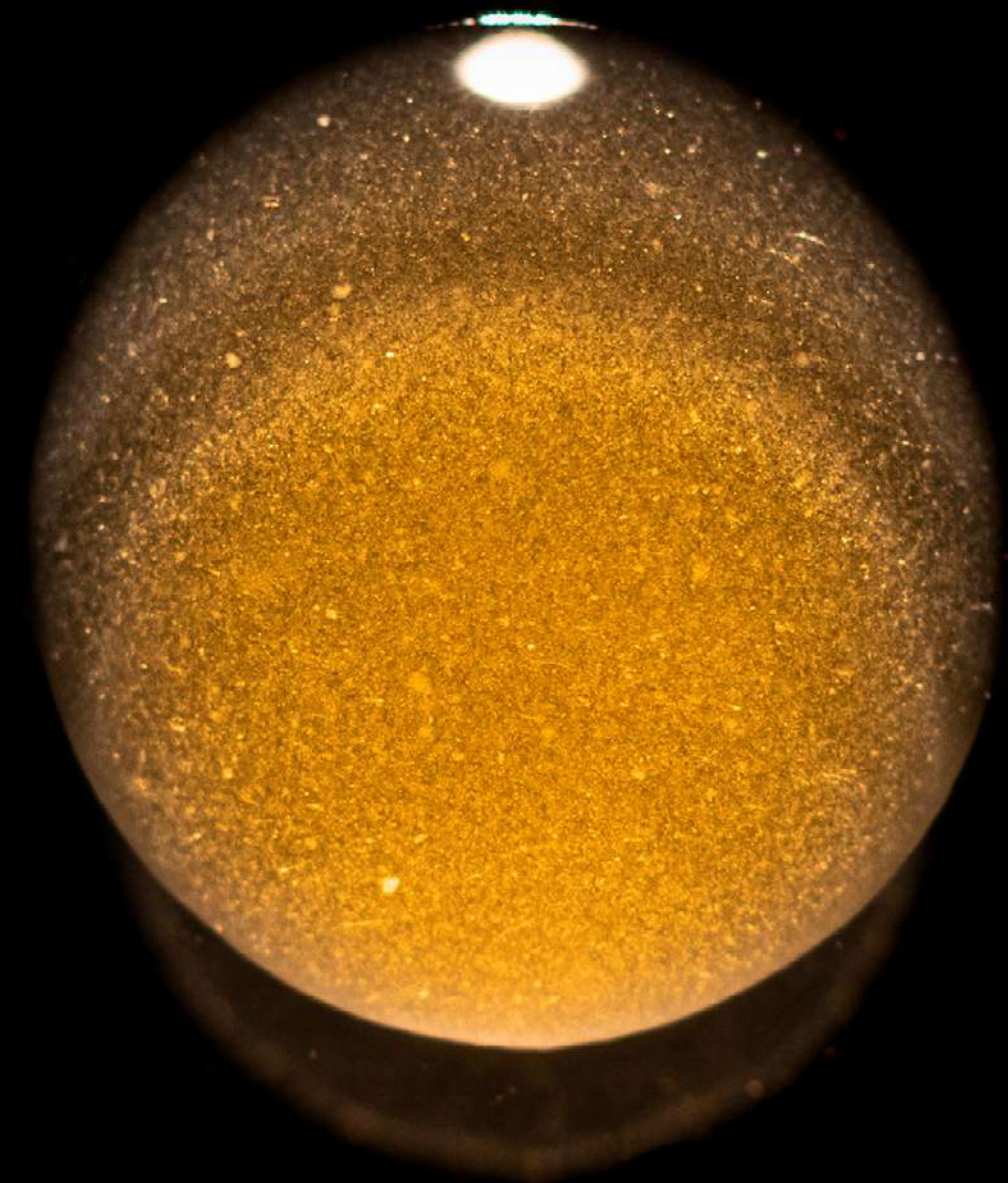
employees have been teleworking since mid-March 2020

# 70%

respondents to the survey want to continue teleworking part of time

# 50%

women in mid- and senior management by 2035





# Solvay One Planet sustainability roadmap










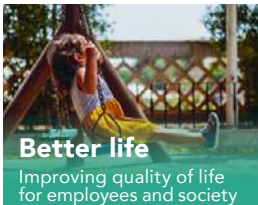



**Sustainability is at the heart of Solvay's answer to the crisis and is central to our Purpose. In 2020, we accelerated our ambitions to meet our stakeholders' growing expectations: we focused on protecting those who were most vulnerable during the pandemic, set more ambitious environmental targets, built partnerships to enable the circular economy, and worked to ensure sustainable solutions represent a growing part of our sales.**

The Solvay One Planet roadmap, launched in early 2020, outlines ten ambitious targets to be achieved by 2030. They will drive progress in three key areas where Solvay has the most impact, in line with the UN's Sustainable Development Goals: CLIMATE, RESOURCES and BETTER LIFE. The crisis showed that Solvay One

Planet is more relevant than ever. The link between pandemics and the human impacts on climate change and biodiversity is now in the spotlight. In the supply chain, the focus has shifted from efficiency to resilience and circular economy principles. The way we work has been transformed – digitization is accelerating and hygiene and employee well-being are top priorities.

## 2030 Solvay One Planet goals: 10 ambitious objectives to reduce our global impact

Baseline 2018

 <div><b>Climate</b> Fighting against climate change</div>	 <div>Align greenhouse gas emissions with Paris Agreement &amp; SBTi<sup>1</sup></div> <div>Reduce by 26% (-2%/y)</div>	 <div>Phase out coal</div> <div>Achieve 100%</div>	 <div>Reduce pressure on biodiversity<sup>2</sup></div> <div>Reduce by 30%</div>	
 <div><b>Resources</b> Protecting natural resources</div>	 <div>Increase sustainable solutions % of Group sales</div> <div>Achieve 65% vs 50%</div>	 <div>Increase circular economy<sup>3</sup> % of Group sales</div> <div>More than double</div>	 <div>Reduce non-recoverable industrial waste</div> <div>Reduce by 30%</div>	 <div>Reduce intake of freshwater</div> <div>Reduce by 25%</div>
 <div><b>Better life</b> Improving quality of life for employees and society</div>	 <div>Safety (MTAR<sup>4</sup> indicator)</div> <div>Aim for zero</div>	 <div>Women in mid &amp; senior management levels</div> <div>Achieve 50% by 2035</div>	 <div>Extend maternity leave time and open it to co-parents</div> <div>16 weeks regardless of the gender in 2021</div>	

1: SBTi: Science Based Targets initiative, 2: ReCiPe method for biodiversity impact assessment (under development), 3: Circular economy indicators have been adapted to align with the Circulytics® developed by the Ellen MacArthur Foundation, 4: Medical Treatment Accident Rate

**Bonding for a better planet:  
our sustainability performance in 2020**

[Watch the video](#)

**Our response to the crisis:  
accelerate and raise the bar on sustainability**

**“The companies that put sustainability at their core are the ones that will outlast and outperform the competition.”**

**Ilham Kadri**  
Solvay CEO



# Climate

## Fighting against climate change



**€1.6bn**  
sales from solutions reducing our customers' overall climate impact

### Bonding with customers and suppliers to reduce emissions

Historically, Solvay has been more energy intensive than the chemical industry average, relying on coal as a primary energy source. As part of Solvay One Planet, we committed to reduce our greenhouse gas emissions by 26% in alignment with the Paris Agreement and to phase out coal.

In 2020, we took this a step further by committing to reduce our greenhouse gas emissions in line with the Science Based Targets initiative (SBTi\*) expectations. Under SBTi we will further reduce emissions from our own factories. The new targets – to be set up within two years – will also include emissions in the value chains connected with our activities. We will engage our customers and suppliers to find solutions to reduce emissions throughout the value chain.

Delivering innovative sustainable solutions that meet customers' expectations will significantly grow our business and our customers' business. Through this customer-centric approach, €1.6 billion of our sales already come from solutions that help to reduce the overall climate impact.

“By committing to setting Science Based Targets we are taking a bigger, bolder step to advance our Solvay One Planet initiative, especially regarding our partnerships with customers.”



**Pascal Chalvon Demersay**  
Solvay Chief Sustainability Officer

**–30%** reduction of our pressure on biodiversity by 2030

**–26%** reduction of our greenhouse gas emissions by 2030

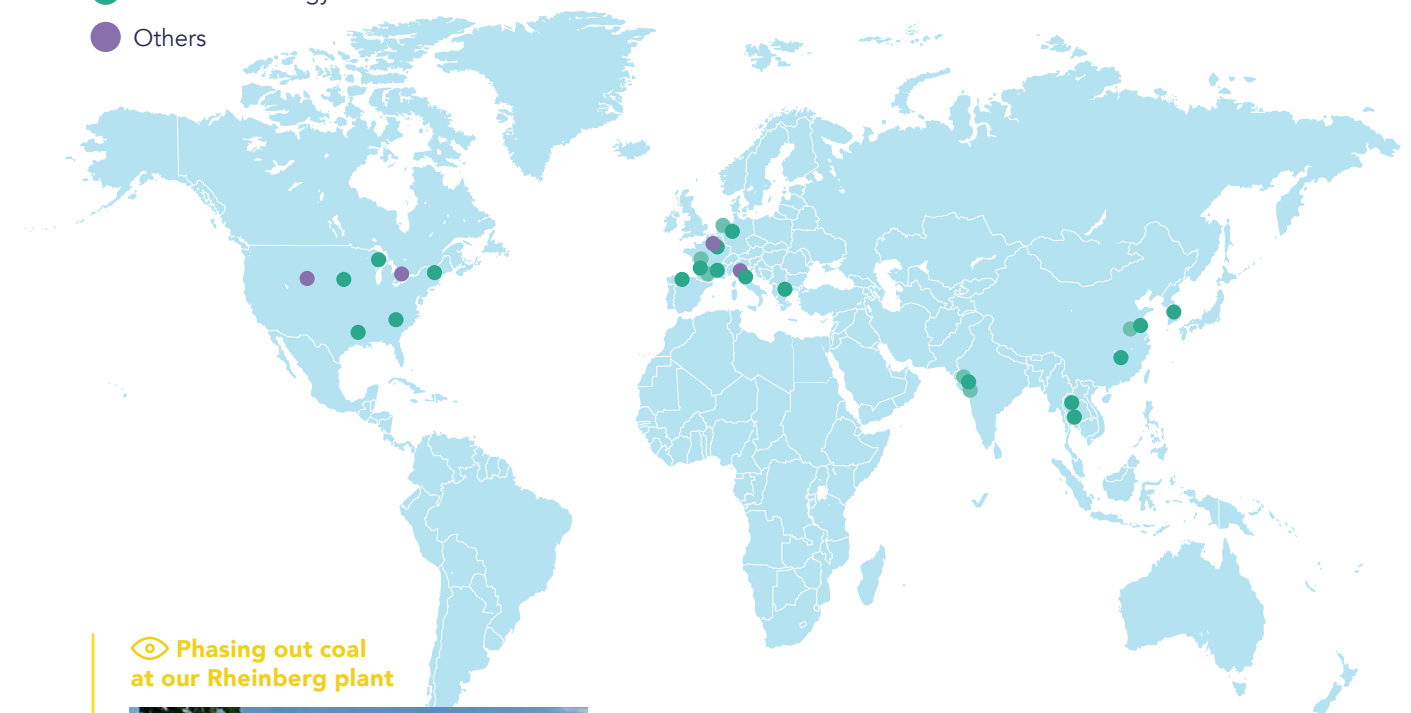
### Accelerating reductions in CO<sub>2</sub> in our manufacturing

Solvay is committed to sustainable manufacturing. We paved the way for twenty-eight emission reduction projects that are already completed or were committed by 2020. They represent an annual reduction of 1.8 million tons of CO<sub>2</sub> per year, which is the equivalent of taking 1 million cars off the road. Renewable energy projects – from biomass to wind farms to solar energy – make up the vast majority. The rest include other energy

transition projects and a clean technology developed in-house to reduce process emissions (carbon tetrafluoride) significantly. Nineteen of these projects were in operation at the end of 2020. The remaining nine projects will be achieved within the next three years. In addition, teams are at work on a pipeline of about thirty additional projects to further reduce emissions.

28 projects reduce emissions equivalent to taking 1 million cars off the road

- Renewable energy
- Others



### Phasing out coal at our Rheinberg plant



Our soda ash plant Rheinberg, Germany is switching from coal to biomass to produce energy – it is installing a new boiler that uses recycled wood chips as raw material, supplied by local companies. This project, which is scheduled to be operational in the second quarter of 2021, will cut the site's CO<sub>2</sub> emissions by more than 30% (~190 kt CO<sub>2</sub>/y). It also brings us a step closer to our objective to phase-out coal from energy production by 2030.

### An original approach to protecting biodiversity

Solvay was among 30 companies recognized in 2020 by Act4Nature International\*\* for its forward-looking approach in support of biodiversity. We focus on the pressure generated by our operations and supply chain on biodiversity: greenhouse gas emissions, freshwater eutrophication, marine ecotoxicity and soil acidification represent 90% of our emissions and effluents potentially affecting biodiversity. As part of Solvay One Planet, we have committed to reducing our pressure on biodiversity by 30% by 2030 in these areas.

\* The Science Based Targets initiative is a collaboration between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF).

\*\*The Act4Nature International initiative encourages corporate action for the protection, enhancement and restoration of biodiversity.

# Resources

## Protecting natural resources



€3.2bn

of sales from solutions reducing world resources consumption

## Bonding across value chains to enable circular business

Chemistry is the key to the circular economy and we are convinced that enabling circularity is a major growth opportunity for our business. As some of the challenges we face go well beyond the impact of a single company, we work collaboratively with other organizations (such as the Ellen MacArthur Foundation) and with customers and suppliers. In 2020, we started to build circular ecosystems with key players in the value chain to invent sustainable solutions together. One example is our partnership with Veolia and Renault to enable the production of circular electric vehicle (EV) batteries. Overall we are achieving circularity by designing bio-based and recycled-based products, producing long-lasting materials or developing new chemical recycling processes.

## Partnering with Mitsubishi for recycling advanced materials



Solvay began a partnership with Mitsubishi Chemical Advanced Materials to find solutions for recycling advanced materials, such as Polyetheretherketone (PEEK), which are used in many long-term implantable medical devices (e.g. for orthopedics, cardiovascular and dental applications). The combination of Mitsubishi's mechanical recycling along with Solvay's chemistry expertise in these advanced materials, will help overcome the challenges faced in these demanding applications.

## Actizone™ innovation to aid the fight against Covid-19



Inspired by a need to find a solution for killing germs amid the Covid health emergency, Solvay quickly made launching Actizone™ a top priority. Actizone™ instantly destroys over 99.9% of microorganisms including corona-viruses for up to 24 hours. Trapped in a protective film, Actizone™ remains on surfaces releasing biocidal actives that instantly kill any germs introduced by fingertips or from aerosolization. Actizone™ is a unique sanitary hygiene solution compared to the disinfectants currently on the market which clean surfaces but do not protect them for longer periods.

## Increasing sustainable solutions in our portfolio to ensure faster growth

We assess the sustainability profile of all our products, from innovation to end of life, using our rigorous Sustainable Portfolio Management (SPM) methodology, which is externally audited and has been recognized by the Harvard Business School. Our 10 year portfolio evolution towards more sustainable solutions\*, aligned with key growth drivers, has already demonstrated higher growth potential, and we expect this trend to continue.

The challenges linked to the Covid crisis demonstrated that Solvay's products are essential. Throughout 2020, we delivered new sustainable solutions and innovations to meet customers' urgent needs. They will help us achieve our target of at least 65% revenue from sustainable solutions by 2030.

> 2x

Share of products based on circular raw materials or energy in Group sales by 2030

65%

Share of sustainable solutions in Group sales by 2030

\* A Sustainable Solution at Solvay is defined as a product in a given application which brings higher social and environmental contribution to our customers' performance and, at the same time, demonstrates a lower environmental impact.

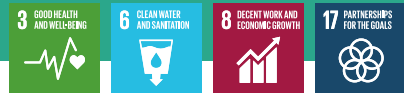


## Better life

Improving quality of life  
for employees and society

€3.1 bn

of sales from solutions  
improving society's  
quality of life



### Products that improve health, safety and air quality

We provide advanced polymers for medical devices and pharmaceutical packaging, as well as active ingredients for drugs (including products for Covid tests and vaccines). Our ultra-filtration membranes for hemodialysis have already treated more than 3 million people worldwide. We also purify the air we breathe: our Solvair® products help clean exhaust fumes in many industries and utilities, eliminating up to 99% of sulfur oxide, fluoride and hydrogen chloride emissions.

### Donations to help communities weather the Covid crisis

Our businesses around the globe provided critical supplies to those in need to help fight the spread of Covid-19, including

- 1,000,000 bottles of disinfectant gel
- 700,000 liters of hydrogen peroxide
- 350,000 masks
- 114,000 pieces of Personal Protective Equipment
- Materials to produce over 6,700 reusable face shields

### Partnership with Boeing to provide Covid-19 face shields



Solvay is supplying high-performance, medical-grade transparent film to Boeing for its production of thousands of face shields critically needed by hospitals and medical workers in the U.S. to protect them from the Covid-19 virus. The film is manufactured with Solvay's medical-grade Radel® PPSU or Udel® PSU, two transparent specialty polymers widely used for medical devices because of their ability to be sterilized and withstand aggressive disinfectants.

Maternity leave time  
extended to

16

weeks and open to  
both co-parents as of  
January, 1st, 2021



### Caring for employees during the crisis

The Covid crisis required us to quickly implement new work models (more than 10,000 employees worked from home) and several cost mitigation measures such as furlough, temporary salary cuts and some job cuts. To help our employees face the impacts of the crisis, we put important measures in place:

- **A safety net for all our employees worldwide**, which provided up to one month of salary to any employee on medical leave due to Covid-19, and ensured full employee health benefits were maintained. Employees who were furloughed received 70% of gross monthly pay for up to 3 months.
- **The Solvay Solidarity Fund** launched in April 2020, which provides financial support and days off to any Solvay employee and dependents who experienced hardship due to the impact of the coronavirus pandemic.
- Anonymous **One Pulse surveys** that were sent every six weeks to take the pulse of our organization and equip Solvay leaders with insights to better help employees navigate the Covid-19 crisis.
- **A special bonus** rewarding all non-executive employees for delivering steadfast performance during the crisis. Thanks to record cash generation for the year, €14.5 million was reserved for this special bonus, which was paid to employees at the end of the year.



### Global Citizen Day 2020

Solvay's Citizen Day initiative is a way to give back to our communities. Since it was not possible to meet in person in 2020, Solvay employees participated in a virtual Citizen Day. Under the theme of education, we created over 250 educational videos for students to foster interest in Science, Technology, Engineering, and Mathematics (STEM). From filming chemistry experiments to hosting virtual site visits, the Solvay team helped to inspire and influence the next generation of leaders.



# Innovate to fuel our growth

Innovation fuels Solvay's short and long-term growth. We had already begun implementing a significant shift in our Research and Innovation (R&I) strategy to ensure a stronger focus on our customers' needs and financial returns, which was accelerated in 2020.

Innovation is in Solvay's DNA: together with Solvay One Planet, it is a key pillar of our G.R.O.W. strategy. It is also at the core of our Purpose – to bring new solutions to the challenges facing the planet and contribute to building a better, more sustainable world.

## New innovation strategy: increasing the value of our portfolio

To accelerate our innovations, in 2020, we implemented a new strategy with three criteria for moving forward with an innovation project: it must advance our G.R.O.W. strategy, it has to be aligned with our Solvay One Planet targets and it must achieve financial returns within a clearly defined timeframe.

While previously each GBU had its own innovation strategy, in 2020, we made the shift to bond our teams together for the first time. Through close collaboration between the R&I, marketing and strategy teams, we conducted a joint review of our pipeline of innovation projects to identify the best opportunities, matching our capabilities with current and future market needs. Breaking down silos allowed us to focus our investments on high-growth potential businesses and projects (the G pillar in our G.R.O.W. strategy) that will increase our revenues. By coming together, we also had a holistic view of the competencies we had and what areas we needed to develop to better meet our customers' needs.

We now embed circularity from the start in our projects to ensure our innovations and solutions fit closely with our Solvay One Planet roadmap and deliver superior growth. All projects in our innovation portfolio are assessed through our Sustainable Portfolio Management (SPM) tool, which tests if they will bring benefits to society and the environment while also demonstrating a lower environmental impact in the production phase.

77%

of expected R&I revenue from sustainable solutions\*

135

Patent applications

\*According to our Sustainable Portfolio Management methodology

“In 2020, we reallocated our resources according to our G.R.O.W. strategy, which led to a significant increase in the value of our innovation portfolio. Now, 80% of our resources are going to larger, high impact projects.”



**Nicolas Cudré Mauroux,**  
Group General Manager Research & Innovation

## Bonding with customers to create more value

Our new organization puts the customer at the center. R&I teams are involved from the beginning when potential projects are evaluated. We have researchers with a marketing profile who actively participate in assessing potential new projects, as they have a deep understanding of the customers' needs and their pain points. This is unique in the industry. These direct contacts with key players in the value chain strengthen our collaborations with customers during the innovation process.

A good example of this collaboration is our Actizone™ innovation, a disinfectant technology, which instantly destroys over 99.9% of microorganisms including coronaviruses for up to 24 hours.

## Increasing agility and speed

Our plans to ramp up our innovation agility were accelerated by the Covid crisis. In 2020, we improved the use of robust methodologies and digital tools (data mining, modeling & simulation, machine learning, IoT in the lab) to maximize productivity.

We also adapted our processes to react to the rapidly changing environment: we delayed some projects and accelerated others. Innovations applied to one industry can be the answer to challenges in other industries as well. One example is our new additive that helps make tomatoes grow faster:

### 👁 Sustainable solutions to make tomatoes grow faster

Solvay teams developed an environmentally-friendly solution for farmers to accelerate the growth of tomatoes grown in greenhouses. By combining a UV protection film (developed by Solvay) with an additive created by a start-up, we can modify the wavelength of sunlight, convert rays usually not absorbed by plants and make them contribute to photosynthesis. This makes tomatoes grow and ripen faster and increases harvests by up to 20%. This technology was first meant for photovoltaic applications, but the teams realized that it could also answer growing needs in another promising market.

“The fundamental work we have done in hard surface disinfection, to understand the mode of action at molecular level, helped us quickly connect with the scientists of one of our customers and discuss their challenges in the context of the pandemic.”



**Jean-Christophe Castaing,**  
Solvay Novicare R&I Open Innovation Director, Solvay Fellow

At Solvay, we are able to combine elements of our diversified portfolio of technologies to provide tailor-made solutions for customers' unmet needs. This is a major source of value that makes us stand out among our competitors.

### 👁 Innovating to phase out PFAS\*

Solvay does not use PFOA or PFNA substances, and consistent with our commitment to environmental stewardship, we phased them out long before the legal requirement to do so. We are now using a limited number of compounds from the PFAS family of chemicals. They are used as processing aids in the manufacturing of specialty polymers for many important industrial applications such as renewable energy installations, hydrogen batteries and lithium batteries. Committed to raising the bar, we mobilized our best experts and quadrupled our research for alternatives. We've now developed a non-fluorosurfactant technology, which was introduced earlier this year to our customers and partners who are qualifying it. We expect the production to be effective by mid-2021. Where the use of these alternatives is not yet possible, we are constantly improving emission treatment technologies enabling nearly 100% containment of our operations from the air and water near our facilities.

\*Per- and polyfluoroalkyl substances

## Start-up mindset

In addition, we implemented a start-up mentality to spur quick innovation delivery and explore new transformational areas. We are currently developing a Group-wide technology scouting effort to identify new, breakthrough technology-based growth opportunities. After a selection process in close alignment with Group's G.R.O.W. strategy, we provide a team with seed funding to develop solutions within a given time period adopting agile management principles. A few selected topics are incubated with more resources to reach a minimum viable solution.

“The Group Technology Scouting effort gives the teams freedom to go beyond while remaining connected with our Strategy. It's about daring to go for our wildest growth dreams!”

**Thomas Canova,**  
R&D Portfolio Management Director



## Three customer-centric growth platforms

We developed three dedicated transversal platforms in 2020 that gather all the Group's technologies and expertise, and provide one unique entry point to the Group for customers. These platforms serve our fast-growing markets such as clean

mobility and clean energy (our Materials businesses), thus contributing to our progress towards the Paris Agreement climate targets. We are investing selectively in these platforms.

# 1

### Leading the way to enable the sustainable batteries of the future

The electric vehicle (EV) battery is a critical, game changer for clean mobility and, even with the economic slowdown from the Covid crisis, demand for batteries is soaring.

At Solvay, we are preparing for the battery market boom. Our Battery Materials Platform aims to achieve €1 billion in market revenue by 2030.

We bring key assets to the table, as no other company has the broad range of technologies required both to create the critical ingredients that go into the battery and recycle the battery at the end of its life.

- As a leading provider of advanced materials and solutions for Li-ion batteries, our unique portfolio of technologies enables the battery to deliver its full performance and our polymers and composite materials help make the battery pack lighter, more resistant, and safer.
- As the global leader in solutions for the extraction and purification of metals, we play a key role in enabling battery recycling, by leveraging our unique expertise in metal recovery. Solvay, Veolia and Renault announced a partnership to recycle critical metals used in lithium ion EV batteries, promising better resource efficiency.
- In the European Battery Alliance, we stand out with our unique value proposition of electrolyte ingredients, electrode binders, separator coatings and metal recovery technologies. The objective of the Alliance is to develop the next generation of batteries by 2030, building an ecosystem across the entire value chain.
- We have invested in our Battery Application Development centers in Seoul (South Korea) and in Bollate (Italy), taking advantage of our global presence to co-develop solutions with customers.

Adressable market  
Electrification

> €25bn

# 2

### Accelerating innovation in Thermoplastic Composites (TPCs)

While the Covid crisis had a significant impact on aerospace markets, in 2020 we saw a growing demand for our TPC solutions in markets such as oil and gas and Urban Air Mobility. With our TPC Platform, we bring the right solution at the best cost to our customers.

- TPCs are a key enabler for demanding applications across many industries: they are 30 to 50% lighter than metals while being tough, durable and chemically resistant. They allow for shorter production cycle times and are inherently more recyclable.
- Solvay provides end-to-end innovation under one roof, from molecules to composites. We are the only player on the market with a diversified portfolio of specialty polymers and composite processing technologies to meet the needs of all applications.
- Most importantly, we co-innovate with our customers, from concept to commercial application, through our state-of-the-art Product Development Center in Alpharetta, Georgia (USA) and our Material Science Application Center in Brussels. In these centers, our customers collaborate with our teams and work together on material and process developments, just as if they were in their own labs. Both teams share know-how and learn from each other. This opportunity to bridge science and industry sets us apart from our competitors.
- Solvay is committed to fully industrializing TPC manufacturing to meet growing demand across industries, including emerging markets such as Urban Air Mobility.

Adressable market  
Aerospace and oil & gas

€500M

# 3

### Launching a Green Hydrogen Platform

In 2020, we launched a Green Hydrogen Platform that will bring together all the innovative material and chemical solutions the Group has to offer to advance the emerging hydrogen economy. Our ambition is to be a leading materials solutions provider for the emerging needs of the hydrogen economy, meeting a global market opportunity.

- At the heart of the platform is Solvay's ion-conducting polymer membrane technology under the brand name Aquivion®, which is a key enabler for the proton exchange membrane (PEM) electrolyser and fuel cell markets, and is crucial for their performance and durability. Our technology has demonstrated its value proposition with customers and we have multiple qualifications underway with sizable sales potential in the next few years.
- Solvay is increasing its resources dedicated to bringing Aquivion® and other hydrogen solutions to market, such as other specialty polymers for various fuel cell components or composites for hydrogen pressure vessels.
- We are increasing our production capacity to accompany the ramp-up plans by some of our key customers.
- With support from European and national funding sources, we are stepping up our research and innovation with the goal of accelerating mass market adoption of our membrane solutions.

Global adressable market  
Green hydrogen

€3bn

### Meeting booming demand in lithium-ion batteries



Solvay is reinforcing its leadership in the lithium-ion battery market by increasing its capacity of high performance polymer Solef® PVDF by more than 50% between 2020 and 2022.

### Solvay and Leonardo launched joint research Lab

In early 2021, Solvay and Leonardo launched a joint research lab for thermoplastic composites, a technology that meets many of the requirements for high rate high volume production in the aerospace industry.

“To be successful in a highly competitive industry like Aerospace, advanced manufacturing companies must rise to new standards of product quality, responsiveness to customers' needs, and processing flexibility. It is therefore fundamental to join efforts across the value chain and develop together high performance solutions, from material development to part manufacture.”

Stefano G. Corvaglia,  
R&D/IP Manager-Engineering,  
Leonardo Aerostructures

3

## Steadfast Governance

↑ Our Jaguar® Range are natural polymers derived from renewable resources that provide hair and body care formulators with a full range of conditioning and texturizing features.

# Strong Governance bodies

**Solvay's governance structure is made up of two complementary bodies – the Board of Directors and the Executive Committee – that are responsible for maintaining a long-term perspective, shaping and implementing the Group's strategy. Together they guide our path towards creating sustainable value for all our stakeholders, in line with our Purpose. The effective, highly collaborative work between these two bodies helped us navigate the Covid-19 crisis successfully.**

The Board of Directors is entrusted with challenging and overseeing our executives in developing strategies – such as our G.R.O.W. strategy and the Solvay One Planet roadmap – while the Executive Committee oversees the Group's business operations.

Our governance is based on strong and continuous interaction between the two bodies. In addition, the Chairman of the Board of Directors and the President of the Executive Committee and CEO maintain regular and constructive dialogue and embrace a culture of total transparency at the highest level.

### Board and Executive Committee bonded to face the crisis

The Covid-19 crisis provided an opportunity for Solvay to test the strength of its governance structure and risk management framework when faced with a sudden shock to our operating environment. In 2019, the Board and the Executive Committee had conducted Solvay's largest listening exercise since our Group's inception to uncover its Purpose. This allowed Solvay to enter the Covid-19 crisis from a position of strength, ensuring its values were aligned with the interests of all stakeholders. The Board was strongly involved in the management of the crisis by:

- Holding 10 working sessions, 5 of which were focused on the crisis, and frequent virtual meetings to monitor Solvay's response.
- Overseeing the swift implementation of necessary measures to protect the health and safety of employees and contractors across all operational sites.
- Receiving regular updates through the results of the "Pulse Survey" put in place by the Executive Committee to monitor the well-being of employees in this specific work environment.
- Overseeing the steps taken to ensure business continuity, supply chain management, and ongoing support to all of Solvay's customers around the world.
- Increasing its interactions with the Executive Committee to ensure that all necessary measures were implemented pro-actively.
- Closely monitoring the evolution of the financial situation of the Group, with a strong focus on the cash flow management (reduction of costs and of Capex, working capital requirement). Restructuring measures were also decided to adapt the structure of the business activities that were severely impacted by the Covid-19 crisis.
- Creating the Solvay Solidarity Fund, which provides support to our employees and their families who experience hardship due to Covid-19. The Fund was supported through voluntary top executive pay reductions and employee donations, as well as generous contributions by our shareholders.



# BOARD OF DIRECTORS

## Actively engaged in supporting Solvay executives through the crisis

The Board values all shareholders and treats them fairly. It has continuously striven to adopt governance best practices that go beyond what is required by Belgian market practice, reflecting Solvay's status as a global company.

In 2020, in addition to their specific focus on managing the impact of Covid-19 on Solvay and its stakeholders, the Board of Directors' discussions, reviews, and decisions were focused on the annual review of Group's strategy, strategic projects (acquisitions, divestments, capital expenditures, etc.), capital allocation, financial reporting, risk management, intra-group restructuring, and the reports and resolution proposals to the Shareholders' Meeting.

The Board's 15 members have a 4-year mandate and an age limit of 70. Five of the 15 Directors were appointed in the last three years, including Aude Thibaut de Maisières in 2020. At the end of the Ordinary Shareholders' Meeting on Tuesday, May 11, 2021, six Board Directors will be proposed for a new mandate while two new Directors will be proposed to join the Board to replace leaving members.

### Diverse complementary skills and high-level experience

Solvay Board members collectively bring a wide set of skills and experiences matching the Group's current and future needs. Their expertise ranges from strong experience of international industries and markets, for many at the executive level, to functional domains like human resources or finance.

The Nomination Committee reviewed the composition of the Board of Directors to ensure that the relevant skills and experience are represented to best oversee Solvay's long-term strategy while ensuring continuity and stability to navigate the Covid-19 crisis. This review resulted in the proposal of the Board to the AGM for mandate renewals and new Board members.

Board of Directors  
at year end 2020

10  
meetings

98.6%  
attendance rate

14  
non executive members  
of which:

7  
nationalities

8  
women  
Directors

11  
independent  
Directors

An increasingly diverse  
and independent Board

Board	2010	2015	2020
Nationalities	7	7	7
Number of women	2	5	8
Independence	8	10	11

### Four specialized committees

The Board comprises four specialized committees that provide recommendations on areas of focus that fall within their domain.

Committee	Members	Meetings	Attendance rate
Audit	8 (6*)	6	100%
Finance	7 (3*)	6	97.2%
Compensation	6 (5*)	3	95.2%
Nomination	6 (5*)	4	96.4%

\* Independents

The Audit and Nomination Committees are both led by an independent Director with the Compensation Committee being led by the Chairman of the Board of Directors.

### Sustainability, a collective Board responsibility

The oversight of Solvay's sustainability roadmap is the responsibility of the whole Board and not delegated to one Board Committee. ESG risks and opportunities are an integral part of Solvay's risk management process and are reviewed by the Risk Committee. The Audit Committee is now reviewing all our strategic objectives and our financial and extra-financial data.

### Focus on talents and innovation

The Board self-assessed in January 2020, as it does every 2 or 3 years, to identify how it can improve its functioning and better follow best practices. The evaluation was based on the Guberna (Belgian Association for Governance) questionnaire. As a result, going forward the Board will devote more time to talent acquisition and innovation topics at Board meetings. All Directors shared positive feedback regarding the interaction and way of working with the new CEO and the Executive Committee.

# EXECUTIVE COMMITTEE

## Bonding closer to overcome the crisis

The Executive Committee fulfills its entrepreneurial role and fosters operational agility. Its members work closely together to drive Solvay's overall performance. It gives shape to the strategy, steers the Group's business portfolio, and ensures that value creation targets are met.

Through the crisis the Executive Committee's focus was on strengthening care for employees, meeting our customers, and actively updating investors and shareholders about Solvay's actions to manage the Covid-19 crisis.

The Executive Committee considered the Covid-19 crisis to be an opportunity to accelerate transformation at Solvay:

- New ways of working fostering efficiency and team spirit**  
Prior to the crisis, a new rhythm was set up by the Executive Committee, with monthly deep-dive reviews of People, Strategy, Finance, Innovation and some other specific topics depending on current events. Once the crisis hit, the Executive Committee quickly adapted its own ways of working, switching from weekly to daily meetings, with automated data reporting to follow the business and operational evolution on a daily basis.
- Increased engagement with leaders**  
Weekly calls with the full Senior Leadership Team - including GBU presidents and Function leaders – were set up to ensure proximity in uncertain times, take the “pulse” from the field and share best practices. The Executive Committee will maintain these meetings, albeit less frequently.
- Balance the short- AND long-term**  
The Executive Committee focused on ensuring safety, cash, operational continuity and investments for the short-term while selectively and decisively investing in the future (such as our battery and hydrogen platforms) for the long-term.

Executive Committee  
at year end 2020

13  
meetings

100%  
attendance rate

6  
members  
of which:

1  
woman

5  
nationalities

An increasingly international  
Executive Committee

ExCom	2010	2015	2020
Nationalities	4	4	5
Number of women	0	0	1

“We acted with speed and rigor to strengthen our engagement with customers, colleagues and communities. This was key in our efforts to protect employees and ensure business continuity during the crisis.”

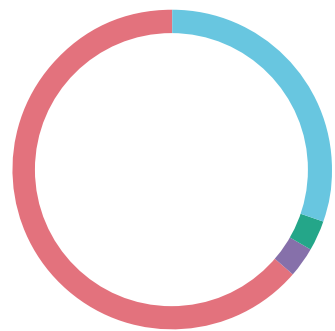


Hua Du,  
Member of the Executive Committee

### Sustained dialogue with investors

In October 2020, we held our first ESG-focused webinar to present our Solvay One Planet program and our commitment to the Science Based Targets initiative (SBTi). The webinar, hosted by our CEO, was attended by current shareholders, potential investors and market analysts among others. Overall, in 2020, Solvay held 37 events, consisting of 13 digital roadshows and 24 digital conferences, in countries across Europe, North America and Asia with institutional investors to explain how Solvay was adapting to the Covid-19 crisis. The CEO and the CFO participated in many of these meetings, highlighting how the management was preparing for the rebound.

## Solvay's ownership structure



Our ownership structure reflects the long-term vision of the Board.

- Solvac SA ("Solvac") gave notice that it held 30.71% of Solvay's capital on March 28, 2018. Solvay's largest shareholder, Solvac SA is a public limited liability company established under Belgian law, founded in 1983 and its annual reports indicate that its primary asset consists of shares in Solvay.
- Solvay Stock Option Management SRL (SSOM) notified Solvay that its shareholding amounted to 3.013% on March 28, 2018.
- Blackrock Inc., an institutional investor, gave notice on December 31, 2020, that it holds a 2.90% interest.
- The remaining shares for approximately 64% are thereby held by institutional and retail shareholders.

# Compensation policy

To promote the right behavior and drive performance that creates sustainable value, Solvay's compensation policy incorporates not only financial targets in line with Solvay's G.R.O.W. strategy but also sustainability targets that are aligned with Solvay's One Planet objectives.

Solvay's approach to compensation has evolved over the years to reflect market best practice as well as investor feedback. The support given by shareholders to Solvay's compensation policy and report at last year's general meeting reflects the Board's effort to ensure that management's interests are aligned with all stakeholders, including shareholders.

People at all levels of the organization are rewarded with pay packages based on personal contributions as well as business and sustainability objectives. This balance supports both short-term business goals and sustainable value creation. 2020 was the sixth year of our Group-wide Global Performance Sharing program that applies to employees with grade below S15 who are not covered by the Group Short Term Incentive. This program has an 80% financial / 20% sustainability split. It aims to give our employees a stronger sense of belonging by involving them in Group results.

## Covid-19 impact on compensation and solidarity

The compensation policy approved at last year's general meeting demonstrated its resilience during Covid-19. Despite the uncertainty facing the business and the markets it serves, the compensation policy continued to promote the right behavior and drive the right performance from Solvay's employees.

To ensure the management was focusing on the relevant short-term objectives to navigate Covid-19, the Board used its discretionary power to adjust the weight of the two financial criteria within the Short-Term Incentive plan to place greater importance on cash management. No other adjustments were considered necessary by the Board.

Salaries for all employees, including executives, were frozen in 2020. Furthermore, all of Solvay's senior executives (including the CEO and Members of the Executive Committee) contributed 15% of their base salary, matched by Solvay, to the Solvay Solidarity Fund to support employees experiencing hardship as a result of Covid-19. At the end of 2020, all non-executive employees were awarded a special bonus for delivering steadfast performance throughout the crisis.

## Leadership compensation focused on G.R.O.W whilst navigating Covid-19

Solvay's compensation structure for its Executive Committee is designed in accordance with the "pay-for-performance" approach approved by the Board, 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.

### CEO compensation structure in 2020



\* Pre-Covid: Underlying EBITDA growth (70%); FCF to shareholders (20%)

Individual performance targets are linked to the long-term vision of the Group, the deployment and execution of the G.R.O.W strategy, and the deployment of enterprise leadership culture and human capital strategy among others. For 2020, mitigating the impact of Covid-19 has also been an important consideration when evaluating individual performance.



# Materiality analysis

In line with its vision to create sustainable shared value for all, Solvay bases its sustainability priorities on a materiality analysis. This approach identifies economic, environmental, and social aspects on which Solvay has the most impact, positive or negative. All the Group's main risks are linked to materiality topics except safety and cyber-risks which are of moderate materiality because their impact on daily operations is limited – they become material only in case of harmful acts.

Materiality table\*

Category	Moderate materiality	High materiality and Priorities
Governance	<ul style="list-style-type: none"><li>Customer privacy</li><li>Data security</li><li>Selling practices and product labeling</li><li>Risk management</li></ul>	<ul style="list-style-type: none"><li>Management of the legal, ethics and regulatory framework</li></ul>
Climate	<ul style="list-style-type: none"><li>Physical impacts of climate change</li></ul>	<ul style="list-style-type: none"><li>Greenhouse gas emissions</li><li>Energy</li><li>Biodiversity</li></ul>
Resources	<ul style="list-style-type: none"><li>Supply chain and procurement</li><li>Materials sourcing and efficiency</li></ul>	<ul style="list-style-type: none"><li>Product design &amp; lifecycle management</li><li>Air quality</li><li>Water and wastewater</li><li>Waste</li></ul>
Better life	<ul style="list-style-type: none"><li>Recruitment, development and retention</li><li>Product quality</li><li>Access &amp; affordability</li></ul>	<ul style="list-style-type: none"><li>Employee health and safety</li><li>Employee engagement and well-being</li><li>Diversity and inclusion</li><li>Customer welfare</li><li>Corporate citizenship</li><li>Hazardous materials</li><li>Critical incident risk management</li></ul>

\* Solvay uses two external references for its materiality analysis:

- Global Reporting Initiative (GRI) for the materiality analysis process;
- Sustainability Accounting Standards Board (SASB) for the list of aspects and for prioritization criteria.

## 2020: emphasis on climate change, biodiversity and social aspects

- Material aspects have been categorized under Governance, Climate, Resources, Better Life to be consistent with the presentation of Solvay's priorities in Solvay One Planet.
- Biodiversity has been moved up from “moderate materiality” to “high materiality and priority”. The evidence of stakeholder interest in this topic is strong enough for us to consider it a priority even if as of today, financial impact on Solvay is low.
- The list of priorities has been adapted, in line with the priorities of the Solvay One Planet sustainability ambition, which gave a greater focus on impacts.
- “Waste and Hazardous Materials” has been split in two distinctive aspects, respectively under Resources and Better Life.

The Covid-19 crisis confirmed the priorities defined during the Solvay One Planet preparative work, and in particular:

- An increased emphasis on **climate change and biodiversity**, with evidence of the link between human activities and the pandemic, and the changes in air quality during lockdown phases.
- An increased emphasis on **social aspects**, with evidence of minorities being the most vulnerable populations.

# Risk management

A robust risk-management process supported by strong governance is critical in a context of global economic and political uncertainty, changing growth dynamics, shortening market cycles, rapid technological evolution, as well as increased sensitivity and expectations related to climate change and energy transition.

Solvay's annual risk review – endorsed by the Solvay's Board of Directors – helps the Group achieve its strategic objectives, both financial and extra-financial, and comply in full with laws, regulations, and the Solvay Code of Business Integrity.

## A robust risk management process

Solvay's systematic risk management approach is integrated within its strategy, business decisions, and operations. Risk assessment always takes sustainability into consideration. The anticipation, identification, management, mitigation, measuring, monitoring and prevention of risks are as integral to Solvay as the inherently related identification, management and optimizing of opportunities. This is demonstrated by substantial risk-related processes and provisions that Solvay maintains from the Board of Directors to front-line workers, supply chain partners and customers.

Although risks frequently involve more than one category, we divide our risk management into four broad categories: those involving the environment, people, economic and reputational topics. We also broadly place risks in three main categories: “main risks” (most critical), “emerging risks,” and “other risks”.

Managing risk is the responsibility of teams at all levels of the Group. Through our dynamic and highly decentralized process, key players are tasked with assessing the risks that fall within their areas of authority and expertise.

Solvay's risk management process







	Risk analysis & decision	Implementation	Monitoring
Board	Input through survey on Group risks		Annual Group Risks assessment & validation
Audit Committee	Input through survey on Group risks		<ul style="list-style-type: none"><li>Assess effectiveness of risk management</li><li>Quarterly presentation by risk owners</li><li>Periodic assessment of Group risks (minimum annual)</li></ul>
Senior Leadership Team	Defince risks at businesses & functions	<ul style="list-style-type: none"><li>Mitigation plan developed with risk owners accountable for delivery</li><li>Ongoing systematic progress update</li><li>Regular update (minimum annual)</li></ul>	
Executive Committee	Input the decision on Group risks	<ul style="list-style-type: none"><li>Oversees progress as individual Risk Sponsors</li><li>Ad-hoc risk sessions + Group risks dashboard 2/year</li></ul>	
Group Risk Committee*	Decides Group risks		

\* The Group Risk Committee is the Executive Committee extended to the Heads of Industrial, Sustainable Development, Legal and Communications functions

Managing main risks

At Group level, the Executive Committee identifies Solvay's main risks and ensures they are adequately managed. They are also part of our annual strategic review.

While the Group's key risks are reviewed periodically by our Audit Committee, in 2020, the Board was further involved in the risk identification process as well as in the annual Group risk management assessment and validation.

Criticality*	Stakeholders	Risk	Trend
Very High 	<ul style="list-style-type: none"><li>Employees</li><li>Local Communities</li><li>Customers</li></ul>	Security	
	<ul style="list-style-type: none"><li>Suppliers</li><li>Employees</li><li>Planet</li><li>Investors</li></ul>	Compliance and business integrity	
	<ul style="list-style-type: none"><li>Planet</li><li>Local Communities</li></ul>	Environment impact & Controversies	
	<ul style="list-style-type: none"><li>Employees</li><li>Local Communities</li><li>Suppliers</li></ul>	Operations safety	
High	<ul style="list-style-type: none"><li>Customers</li><li>Local Communities</li><li>Employees</li><li>Planet</li><li>Investors</li></ul>	Climate change	
Emerging risks**			
	<ul style="list-style-type: none"><li>Customers</li><li>Local Communities</li><li>Planet</li><li>Investors</li></ul>	Regulatory framework for chemicals sustainability	Emerging

\* The criticality level is determined by combining the risk's two ratings (impact and level of control) at the time of the assessment

\*\* Emerging risks: newly developing or changing risk that may have, on the long term, a significant impact which will need to be assessed in the future.

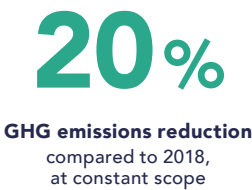
Main changes in 2020

**Focus on the cyber security risk:**

This year, in light of the Covid-19 context, home office working has expanded the so-called attack surface of Solvay, with many end-point devices connected directly to the internet, instead of from our sites. In addition, cyber threats are increasing on a yearly basis in general, thus increasing the risk for the Group. To mitigate these risks, Solvay launched an internal communication campaign which included an internal phishing simulation email to our employees to test their reaction. This improved our ability to apply the latest security patches to our employees' workstations remotely. Also, the threat to intellectual property has increased over the past 5 years (leading for instance to a EU program to protect EU intellectual property).

Focus on the environmental impact & controversies:

We have seen some environmental controversies that have raised concerns among the public. We share those concerns and take the health and safety of our people as well as the environmental impact of any chemical product we use seriously. Science helps us identify legacy methods that can be updated and we take every opportunity to improve and showcase our innovation, by going above and beyond regulations. Instead of approaching Environmental, Social, and Governance (ESG) issues as negatives to be managed, we are turning them into strong tailwinds that drive us in a positive way. The Group has a strategy to manage substances of concern and develop alternatives that reduce human and/or environmental impact. Our response to the PFAS issue is a great example of how we are using science to find new and better solutions. We have set internal goals and quadrupled R&I resources to reach these goals and are taking measures to phase out the use of fluorosurfactants as soon as practicable. More information in the litigation section HSE related proceedings & Note F39 Financial Statement of the Annual Report.



Update on Climate risks

In 2020, Solvay focused on four topics

- Review of climate-related risks and opportunities for each product in each market with our Sustainable Portfolio Management tool.
- The 2040 scenario analysis made in 2019, in line with the TCFD recommendations and using the International Energy Agency's Sustainable Development scenario as reference, has remained unchanged, as evolutions of the IEA Sustainable Development scenario were minor and did not justify an update to the long term analysis. The study showed a positive impact on sales (resulting from the risks identified in the SPM review) outweighing the negative impact on costs.
- The mapping of acute climate-related physical risks with insurers. Seven production sites are located in areas with a 2% annual change of exposition to floods. 11 sites production sites are located in wind exposed areas.
- The mapping of water scarcity risks was updated in 2019 based on a database from Hoekstra & al (2016). 21 sites have been identified as "at risk", combining location, water consumption and business interruption costs. Action plans are being implemented for each plant, based on their specific situation.



# Sustainability from Board to shop floor

Our teams have been encouraged to play their own part in our Solvay One Planet roadmap through actions in their daily lives that have a positive impact in fighting climate change and preserving the environment. We have seen significant personal engagement by our employees in making sustainability relevant and palpable throughout the Group.

## Driving sustainability

### Board of Directors & Executive Committee Definition of strategy & monitoring

#### The Board is the leading sponsor of Solvay's sustainability approach

- The Board oversees and approves the Group's sustainable development commitments.
- CSR risks are an integral part of the company's risk management process and are reviewed by the Risk Committee.
- The Audit Committee now reviews all data, both financial and extra-financial.
- The Board is trained on sustainability matters annually.

#### 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.



### Corporate Sustainable Development Function Coordination & supervision

- Defines and deploys Solvay One Planet.
- Consolidates the Solvay Way self-assessment.
- Presents the results to the Board of Directors and the Executive Committee.
- Trains the Board of Directors on sustainability matters.



### Global Business Units Deployment in GBUs

#### Heads of Sustainability in GBU leadership teams

- A single point of contact for the leadership team and the GBU President on sustainability topics.
- 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.

#### Solvay Way: Champions and correspondents ensure the deployment of the process in all Solvay sites, GBUs and Corporate Functions

- Motivate their colleagues to meet specific targets.
- Set action plans to improve their processes and practices.
- Assess their own progress.
- Identify areas for improvement for each stakeholder group.
- Design improvement plans to enhance integration of sustainability in their entities.



### Employees Day-to-day actions

#### Employees

- Involved in Solvay One Planet actions.

"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

## 👁 Reinforce a culture of sustainable development

Our people are involved in several key societal actions every year:

- Our 2020 virtual **Citizen Day** to promote science education included the creation of the Future Innovator's Library, a platform that houses educational videos created by Solvay employees to inspire young girls and boys.
- We held a series of **One Planet Talks**, which were webinars and discussions around Climate, Resources and Better Life. The sessions include insight from experts, executives, partners, customers and our employees to better understand how to create sustainable shared value while improving our impact in the fields we consider as priorities.
- Through our **Stop Office Waste** initiative we encourage our teams to contribute to reducing our environmental footprint in our office environment. We are taking steps to generate zero food waste, become paperless and eliminate all single use plastic.
- Our employees donated over 800 days off to the **Solvay Solidarity Fund** to provide fellow employees with more time off to care for loved ones or deal with other challenges associated with the Covid-19 crisis.



4

Ready for  
the rebound

48

↑ Our Aquivion® innovation is a key material for hydrogen production. It is crucial for electrical storage and conversion devices such as fuel cells, electrolyzers and flow batteries used in conjunction with zero-emission electricity sources.

## In step with global business trends

Our world is growing and this brings a threat to our planet: we are consuming its resources at an unsustainable rate. Chemistry is a core component of products and solutions used every day. It's also the key to recycling what we use, saving natural resources, fighting climate change, and improving people's quality of life. Our wide and diversified portfolio of products offers innovations that help meet these global challenges, 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.

### Our business environment

After an already sluggish 2019, 2020 proved to be one of the most challenging years on record for the global economy. The pandemic has had differentiated impacts across the economy and the rebound for each market is not expected to occur at the same time. Despite the downturn, we have also seen an acceleration in some key growth drivers and trends, for which our portfolio of products can provide solutions. These include:

- A confirmation of an existing trend of consumer interest in eco-friendly based solutions chemicals.
- An opportunity to put the emphasis on a green recovery with the European recovery plan and its strong focus on zero-emission mobility, and Chinese legislation to stimulate electric vehicles and cleaner mobility.
- An acceleration of the digital transformation, adjustments in work patterns, and an increased role for Robotic Process Automation (RPA) and Artificial Intelligence (AI) in numerous sectors, including the chemical industry.

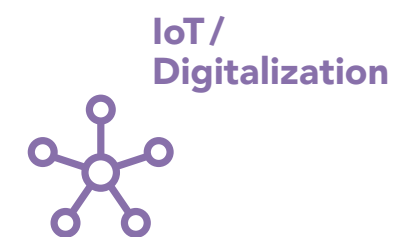
Our businesses are aligned with six powerful global trends



Electrification



Resource Efficiency



IoT/  
Digitalization



Lightweighting



Expanding  
healthcare



Eco-  
friendly  
based  
solutions

49



# Electrifi

As countries begin to emerge from Covid-19 lockdowns, achieving climate neutrality has become even more of a priority. Several forward-looking nations have introduced green stimulus packages to revive their economies, particularly focusing on the automotive industry's transition to electric and hybrid vehicles. As a result, demand for batteries continues to grow, underpinned by a buoyant consumer electronics market as well. This highly demanding business (i.e. batteries) requires innovative technology for faster charging, enhanced battery pack design and higher energy density batteries. Chemistry is the key to closing the loop (e.g creating the circular batteries of the future), and we aim to be at the heart of the most innovative circular economy solutions.

~50%

Amount of electric or hybrid vehicles in global production by 2030<sup>1</sup>

>20%

CAGR growth in batteries between 2018 and 2030<sup>2</sup>



## Challenges for customers

- Availability of raw materials such as lithium and rare earths as the need for electric vehicle (EV) battery materials grows dramatically.
- Scaling-up infrastructures, the capacity of the electrical grid and the potential for vehicles to inject into and receive power from the system.
- Recyclability of batteries as conventional recycling processes come with high costs, a high CO<sub>2</sub> footprint, and critical metals in spent EV batteries are not always recovered at their maximum value. The lower grade metal mixes are not always suitable for production of new batteries.



## Opportunities for Solvay

Solvay's contribution to the electric vehicle battery value chain is twofold, making our position highly unique:

- Solvay is present in the EV and hybrid battery value chain, providing high-performance materials for lithium-ion batteries, from salts and additives for the electrolyte to specialty polymers for the binders and separators.
- Solvay is the only company to have a chemical refining process that optimizes the extraction and purification of critical metals such as cobalt, nickel and lithium and transforms them into high-purity raw materials for new batteries.

Sources: 1: Roland Berger, 2: World Material Forum, Global Battery Alliance



## Spotlight

### Bonding to build the circular batteries of the future

In 2020, we partnered with Veolia – and Renault joined in early 2021 – to create a circular economy consortium that will enable the production of circular electric vehicle (EV) batteries. The consortium will offer new solutions that will contribute to a cleaner mobility, help fight climate change and bring better resource efficiency. Our unique chemical refining process that extracts and transforms critical materials complements Veolia's process to unlock the full metal value contained within spent batteries and Renault's ability to repair first-life batteries to extend their automotive lifespan.



TRENDS

# Lightweighting



The global drive to reduce CO<sub>2</sub> emissions and efficiently use 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. There is also a wide variety of customized and modular products, made possible by novel machining capabilities such as additive manufacturing.



## Challenges for customers

The main challenges beyond light-weighting are maintenance and repair, sustainability/recycling, crash simulation/mechanical resistance, cost reduction and faster production cycle.

Addressable market  
**> €10 bn**



## Opportunities for Solvay

Solvay innovations put us in a strong position to offer our customers light-weighting 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. In 2020 we saw a growing demand for our TPC solutions in markets such as oil and gas and Urban Air Mobility.



## Spotlight

### Innovating with our customers to create tailor-made thermoplastic composites

To meet the challenges facing the industry, and to enable faster development in thermoplastic composites, Solvay opened new dedicated innovation centers, in Brussels (Belgium) and Alpharetta (USA). They offer state-of-the-art assets and capabilities to support customers in the early-stage design, prototyping and testing of parts; this dramatically reduces the time-to-market of our materials. Solvay's center in Brussels will host part of the new Joint Lab recently created with Leonardo to develop novel composite materials and production processes critical for the future of the aerospace industry. This collaboration will strengthen our leadership position as supplier of innovative composite materials for aerospace and other markets.

**+30%**

CAGR growth in composites in Automotive in next 10 years<sup>1</sup>

**>\$14 bn**

Growth of composites in offshore oil pipes/risers<sup>2</sup>

Sources: 1: Roland Berger,  
2: UBS Global Research – October 8, 2019



# Resource

Air, soil and water pollution, the growing pressure on biodiversity and the continuing bid to reduce CO<sub>2</sub> emissions are driving the search for new resource-efficient solutions. Industrial innovation is growing, enabling more efficient use of resources, through modular design and manufacturing methods that incorporate the principles of recycling and the circular economy.

# efficiency



## Challenges for customers

Doing more with less, through savings on energy (lightweighting), 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 a broad range of solvent extractants for the purification and concentration of metals.
- 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.
- Our soda ash is used to develop eco-efficient glass for triple-glazed windows.
- Our formulations for eco-friendly production processes are used in water and soil management.
- Our polymers are used to manufacture food packaging that can safely be reused and recycled.
- They are also used in filter bags and membranes to treat the gases emitted by multiple industries.

Sources: 1: World Material Forum, Global Battery Alliance, 2: Accenture 2019, 3: Solvay internal research



x6

Increase of lithium supply by 2030 and Copper to add ~4Mt per year<sup>1</sup>



## Spotlight

### High quality copper extractants to fuel EV battery growth

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

Backed by Solvay's technical know-how and applications expertise, these products are known to improve copper transfer and selectivity, and operational reliability.

50%

consumers ready to pay more for a product designed to be reused or recycled<sup>2</sup>

+4%

Growth in water treatment over the next 5 years<sup>3</sup>



TRENDS

# Expanding healthcare

Healthcare and wellness are becoming a central priority. Growth in the health and wellness market is expected to continue at an annual rate of >6% in the coming years. In 2020, the Covid-19 pandemic put the importance of health and hygiene in the spotlight.



## Challenges for customers

- Patients are ever more informed about and involved in their healthcare.
- There's a growing need for more biocompatible materials and high-performance materials that can support aggressive disinfectants/chemicals used to prevent hospital-acquired infections.
- In the nutrition field, demand for food supplements is growing.



## 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 and biocompatible polymers are used for hemodialysis membranes.



## Spotlight

### Single-use spinal surgery kits that fight infection

Today, stronger disinfectants are used to clean medical equipment to help prevent the spread of Hospital Acquired Infections. Standard materials may crack and break, but Solvay's range of specialty polymers have the chemical resistance to withstand repeated exposure. Our Ixef® PARA product is increasingly used in single-use kits for spinal surgery. More effective than reusable instruments, it improves efficiency in the operating room and helps eliminate the root causes of infections in the surgical environment.

+7%

CAGR Growth in medical implant in short-term<sup>1</sup>

>6%

Growth of medical plastics in short-term<sup>2</sup>



Sources: 1: Medical Implants Market: Global Industry Trends, Share, Size and Forecast, Report by 2023, Kenneth Research, August 1, 2019, 2: BCC Research – 2018 report



TRENDS

# IoT / Digitalization



Digital technologies are transforming the way we work and the way we consume, generating disruptive new business models. The growing demand for hyper-connectivity, the rapid development of 5G and exponential growth of data are key market drivers. This is resulting in miniaturization, the development of the Internet of Things (IoT), and a need for components that consume less energy. 5G driven by hyper-connectivity requires new high performance polymers with specific magnetic/electrical requirements, creating new opportunities.

**+4%**

CAGR growth in display capacity through 2023<sup>1</sup>

**+6%**

CAGR growth in semiconductors through 2022<sup>2</sup>

**>15%**

CAGR growth in IoT sensors through 2023<sup>3</sup>



## Challenges for customers

The need for semiconductor minimization, faster connectivity speeds, higher frequencies and low-loss signals and coatings for sensing & monitoring systems, as technology and 5G networks continue their rapid expansion.

Addressable market

**>€50**  
bn



## Opportunities for Solvay

- We provide advanced materials for applications to meet the growing demand for hyper-connectivity including miniaturization technologies.
- We offer solutions for semiconductor industry consumables based on high-purity chemicals used in high-temperature and chemical-resistant materials.
- Our high-performance polymers are used in new-generation OLED and flexible displays.

Sources: 1: Solvay internal research, 2: PwC publication, 2019, 3: BCC Sensors Technologies and Markets – July 2018



## Spotlight

### Solutions for 5G antennas

Xydar® LCP (liquid crystal polymer) is a glass fiber or mineral-filled resin that features excellent flow properties such as outstanding strength at extreme temperatures, inherent flame retardant and resistance to virtually all chemicals. These unique physical properties mean it can be injection molded into thin-wall elements. Due to its low moisture absorption and outstanding flow properties, it is the optimal material choice for 5G antenna substrates and housings.



TRENDS

# Eco-friendly based solutions

Consumer behaviors are shifting towards wellness: this includes a desire for a better quality of life, a healthier work-life balance, reduced stress and higher quality food. These new priorities drive their purchases for more organic and natural products. This trend will only strengthen as consumers become more cautious about their health and the impacts products may cause on the environment.



## Challenges for customers

The higher cost of eco-friendly based solutions compared with fossil-based technologies.



> 10%

CAGR growth in natural vanillin by 2024<sup>1</sup>



## Spotlight

### Sustainable shampoos ingredients

Mackadet® OPR-2 is a new generation of naturally based, microplastic-free opacifier. Biodegradable, naturally-derived, it provides a creamy white and soft appearance for body washes and shampoos. This innovative technology answers the consumer demand for pure, simple and renewable cosmetic formulations.

+ 5.7%

CAGR growth in waterborne coatings by 2025<sup>1</sup>



## Opportunities for Solvay

- Solvay is a leader in bio-based ingredients.
  - We are a top producer of natural vanillin, produced through bio-fermentation of the ferulic acid extracted from rice bran.
  - 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 and nutrition and home & personal care.
- Our waterborne coatings solutions address the challenges of adhesion to difficult substrates and overall durability while answering ever-stricter regulations. We work closely with customers to provide more responsible solutions that meet their specific needs.

1: Solvay internal research



+ 3.1%

CAGR growth in organic shampoos through 2025<sup>1</sup>



# Sustainable value creation model

In line with our Purpose and our Solvay One Planet sustainability program, we are committed to optimizing the use of our resources to reduce our impact on people and the environment. Our G.R.O.W. strategy is aligned with powerful global trends that drive growth in our end-markets. It builds on Solvay's unique and diversified portfolio of technologies and its ability to innovate and develop sustainable solutions, using our Sustainable Portfolio Management (SPM) methodology.

Throughout the crisis, our business model has proved to be a key advantage and contributed, along with our balanced end-markets exposure, to making us prepared for the rebound. We have accelerated the transformation of our organisation and this helps us work more efficiently and effectively together to create more value for our stakeholders and the planet.

## Resources we use



### PEOPLE

Representing more than 100 nationalities and cultures, 48% of our employees are located in Europe, 18% in Asia and the Rest of the world, 24% in North America and 10% in Latin America. 8% work in Research & Innovation.

**+23,000**  
Employees

**24%**  
of women



### FINANCIAL

We have selectively invested €611 million of Capex from continuing operations in our growth businesses and €291 million to develop innovative sustainable solutions.

**€5.4bn**  
Equity attributable to Solvay share<sup>1</sup>

**€4.1bn**  
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.

**4,450Kt**  
Raw materials

**103pj**  
Energy consumption

**314Mm<sup>3</sup>**  
Freshwater intake

## How we create value

Our G.R.O.W. strategy is aligned with global business trends that drive growth in our end-markets.

### G

#### MATERIALS

#### Unique high-performance polymers and composite technologies

Innovative solutions for cleaner mobility (lightweighting, batteries, CO<sub>2</sub> and energy efficiency), electronics and healthcare.

**31%**  
of Group EBITDA<sup>2</sup>

### R

#### CHEMICALS

#### World leaders in essential chemicals for daily life

Chemical intermediates used in a broad range of applications in end-markets like Building, Industry, Healthcare, Personal and Home care, Feed and Food.

**42%**  
of Group EBITDA<sup>2</sup>

### O

#### SOLUTIONS

#### Unique formulation & application expertise

Customized specialty formulations for surface chemistry & liquid behavior, maximizing yield and efficiency and minimizing environmental impact. Used in diverse markets like Agro, Food, Electronics, Consumer goods.

**27%**  
of Group EBITDA<sup>2</sup>

### W

#### SOLVAY ONE

#### New operating model and culture

Customers are at the heart of our new more agile organization and performance-driven culture.

## Where we create value

- Aerospace and Automotive
- Consumer goods, Home, Personal & Health care
- Resources & Environment
- Agro, Feed & Food
- Electronics
- Building
- Industrial applications

## Value we create

### Economic output

**€1.9bn**  
Underlying Ebitda

**€0.9bn**  
FCF to Solvay shareholders from continuing operations

**€3.75 per share**  
Dividend 2020 recommended<sup>3</sup>

**€195M**  
Income taxes

**473**  
Core suppliers

### Environmental output

**10.1Mt CO<sub>2</sub>eq.**  
Greenhouse gas emissions<sup>4</sup>

**Air emissions 2Kt**  
Nitrogen oxides  
**2.9Kt**  
Sulfur oxides

**27PJ**  
Solid fuels

**107**  
Pressure on biodiversity<sup>5</sup>

**70Kt**  
Non-recoverable industrial waste

**313Mm<sup>3</sup>**  
Intake of freshwater

**52%**  
Net sales with sustainable solutions

**5%**  
Circular economy<sup>6</sup>

### Social output

**0.40 per million hours worked**  
Medical Treatment Accident Rate<sup>7</sup>

**24.6%**  
Women in mid and senior management levels

**16 weeks**  
Maternity leave time open to all co-parents

**€14.5M**  
Special Covid bonus

**€10.2M**  
Global Performance Sharing Plan<sup>8</sup>

**15%**  
Employee turnover

**€1.9M**  
Group donations and sponsorship

1: Excluding hybrid bonds

2: Excluding the contribution from corporate and business services,

3: Recommended to the Shareholders meeting on May 11, 2021,

4: (scope 1 & 2) at constant perimeter;

5: In number of animal or plant species potentially impacted in one year. ReCiPe method for biodiversity impact assessment,

6: Circular economy indicators are still in the development phase, in the frame of the Circulytics® approach, co-developed with the Ellen MacArthur Foundation;

7: Rate of accidents with medical treatment, with or without work stoppage; employees and contractors;

8: All employees worldwide S14 grade or below

# Value chain

Before our solutions become part of everyday life, they are modified time and again from raw materials extraction to production, processing, 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 unlock more value. Our new End-to-End Value Chain initiative will take customer service even further and optimize internal resources.

"Specialty Polymers GBU has successfully embarked on our End-to-End transformation in early 2020, focusing on breaking down silos across the GBU, enhancing planning, and empowering our Quality team to raise process capability."



Ihab Elia,  
Global Supply Chain and Purchasing VP,  
Specialty Polymers GBU

## End-to-End value creation



Involvement of Global Business Unit in production step		● Yes	● Partial	● No
Materials				
Specialty Polymers	●	●	●	●
Composite Materials	●	●	●	●
Chemicals				
Soda Ash & Derivatives	●	●	●	●
Peroxides	●	●	●	●
Silica	●	●	●	●
Coatis	●	●	●	●
Solutions				
Novecare	●	●	●	●
Technology Solutions	●	●	●	●
Special Chem	●	●	●	●
Aroma Performance	●	●	●	●

## Meet each customers' specific needs

Solvay's End-to-End Value Chain reinvention program improves our customers' experience by offering a differentiated service model that will meet each customer's specific needs. Our goal is to enhance the efficiency of our value chain while delivering the most value at the lowest financial and environmental cost. This means bonding teams to define the best harmonized processes, tools and organization, from materials sourcing to final delivery and collecting payment.

In 2020, our cross-functional central team together with GBUs lowered our inventory requirements, while improving delivery performance to the customers. "Introducing differentiated approaches to manage our value chains allowed us to save €50M and to better serve our customers", said Tobias Fehre, Program director, End-to-End Value Chain reinvention. "Further sustaining these improvements and further elevating our customer interaction are the next priority."

The GBU Specialty Polymers is one of the first GBUs to roll out the new approaches.



# 2020 Scorecard

In 2020, we accelerated the implementation of our G.R.O.W. strategy and the transformation of the Group. We also unveiled our Solvay One Planet sustainability roadmap, which includes ten bold environmental and societal strategic objectives to be achieved by 2030 to help us address our impacts related to Climate, Resources and Better Life. Despite the Covid-19 crisis, we made progress on all our objectives; we even raised the bar by committing to the Science Based Targets initiative (SBTi).

## Economic

### Underlying EBITDA growth

**Performance 2020: €1,945 million (-16.2%)**

- Down 16% for the full year 2020, as a result of lower sales volumes, reflecting the impact of the Covid-19 crisis. The decisive cost measures we took in 2020, together with our pricing policy, have enabled us to contain the decline in EBITDA to 14%, on an organic<sup>1</sup> basis. Resilient demand in healthcare, consumer goods, personal care, and electronics contributed to mitigate the sharp decrease in civil aero and oil & gas volumes.
- The EBITDA margin was 21.7% for the year (1% less versus 2019). These results reflect both the quality and resilience of the portfolio, and the delivery of cost mitigation actions.

## Economic

### Free Cash Flow<sup>2</sup>

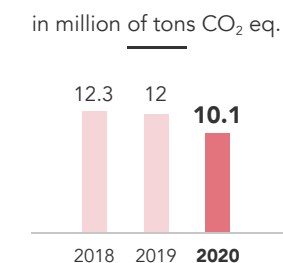
**Performance 2020: €963 million (+58.8%)**

- The strong improvement of the Free cash flow reflects the record cash generation in 2020 (7th consecutive quarter with positive FCF). It is due to significant structural improvement and continued discipline in working capital management, reduced cash taxes, lower capex and pension cash costs.

## Climate

### Align greenhouse gas emissions<sup>3</sup> with Paris Agreement and commit to SBTi

- Greenhouse gas emissions fell by 20% in 2020. The structural decrease (unrelated to the global economic slowdown) since 2018 is 8%, which is about twice the annual average required to be in line with the Paris Agreement. This improvement is mainly due to several climate-energy transition projects.
- We continued to intensify our involvement in the production of renewable electricity: in 2020, twenty sites derived part of their electricity supply from renewable sources, such as solar or wind. This represents a total of 0.11 Mt CO<sub>2</sub> eq. avoided.



2030 Objective

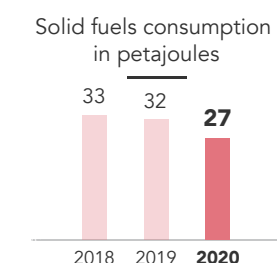
**-26%**

compared to 2018, at constant scope

## Climate

### Phase out coal wherever renewable alternatives exist

- Fuel consumption from non-renewable sources decreased in 2020, mainly due to the lower level of activity resulting from the Covid-19 crisis. The use of solid fuels decreased by 15.6% compared to 2018, in line with our Solvay One Planet objective of phasing out coal by 2030. Over the same period, renewable fuel consumption increased by 1 petajoule (PJ).
- In 2020, eight sites derived part of their heat production from biomass, which represents a total of 6 PJ.



2030 Objective

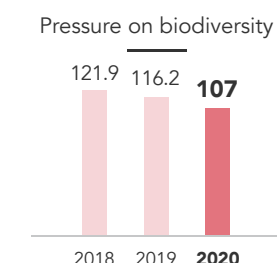
**100%**

compared to 2018

## Climate

### Reduce negative pressure on biodiversity<sup>4</sup>

- In 2020, Solvay reduced its pressure on biodiversity by 12% compared to 2018.
- We were one of 30 companies out of 65 that passed the test to receive the recognition from Act4Nature International coalition, an initiative that encourages corporate action for the protection, enhancement, and restoration of biodiversity.



2030 Objective

**-30%**

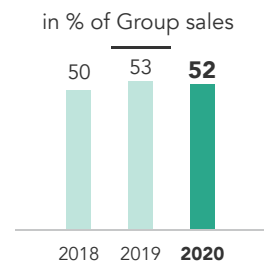
compared to 2018



Resources

## Increase sustainable solutions

- By the end of 2020, 52% of our sales in the assessed portfolio of product-application combinations\* are qualified as sustainable solutions, which is stable compared to the previous year.
- Extensive cradle-to-grave Life Cycle Assessments were performed for 96% of our products put on the market, compared with 94% last year.



**2030 Objective** ★

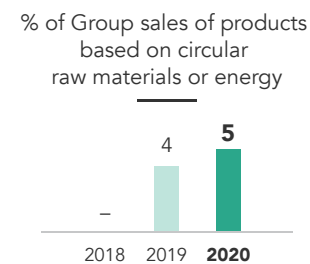
**65%**  
of Group sales

\*according to our Sustainable Portfolio Management (SPM) methodology

Resources

## Increase circular economy<sup>5</sup>

- We have increased by 1pp, to 5% of the Group's sales, the part of products manufactured with bio-based raw materials, recycled-based raw materials, or renewable energy. We are using the Circulytics® tool, co-developed with the Ellen MacArthur Foundation, to monitor the deployment of circularity throughout our businesses.



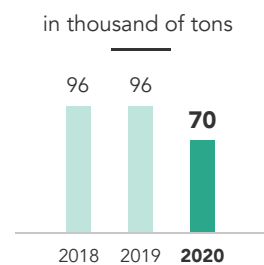
**2030 Objective** ★

**More than double**  
compared to 2018

Resources

## Reduce non-recoverable industrial waste

- In 2020, we reduced our non recoverable industrial waste (both hazardous and non-hazardous) by 27% compared to 2018.
- In 2020, we launched a global waste tender with the ambition to reduce waste spending. We will build partnerships with key suppliers that will focus on innovative ways to treat our waste in a sustainable manner and promote material valorization where possible.



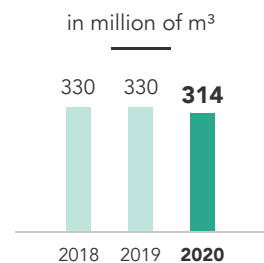
**2030 Objective** ★

**-30%**  
compared to 2018

Resources

## Reduce intake of freshwater

- Freshwater intake has been stable since 2018.
- Two water reduction projects implemented in 2020 at our plant in Devnya, Bulgaria, have already resulted in a net freshwater intake reduction (impact of covid excluded) of 1.5 million cubic meters compared to 2019.



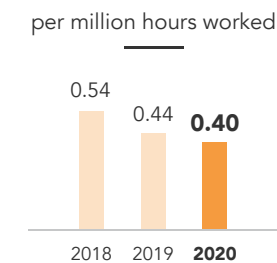
**2030 Objective** ★

**-25%**  
compared to 2018

Better life

## Medical treatment accident rate<sup>6</sup>

- In 2020, the medical treatment accident rate (MTAR) decreased by 26% compared to 2018. This improvement is due to the Group's "Creating Safety" approach for employees and contractors, and to the reduced number of working hours, notably linked to the lower activity from the pandemic. To adapt to the crisis and ensure a safe working environment, we took immediate measures including a teleworking plan that involved more than 10,000 people. Stringent safety protocols were implemented to secure the health of everyone on industrial sites.



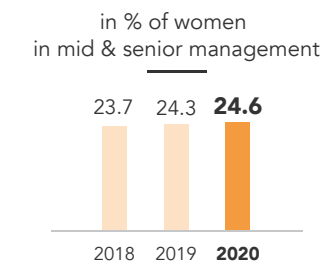
**2030 Objective** ★

**Zero**  
accident

Better life

## Accelerate inclusion & diversity Parity in mid & senior management

- In 2020, the number of women in mid & senior management increased by approximately 1pp, to 24.6%, compared to 2018. To foster improvement in this area, we have implemented a specific recruiting requirement that a woman must be one of the top three candidates for any mid or senior management position.



**2035 Objective** ★

**50%**  
of women in mid & senior management

Better life

## Foster gender equality Extend maternity leave time and open it to all co-parents

- Solvay's new maternity, paternity, and co-parent leave policy which increases leave from 14 to 16 weeks was signed in 2020 by the Solvay Global Forum. It is available to any co-parent regardless of gender and it also includes parents who adopt.

★

**Extended to 16 weeks**  
as of January 1st, 2021

1: Organic growth excludes forex conversion and scope effects

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.

3: Total emissions (scopes 1 and 2)

4: In number of animal or plant species potentially impacted in one year. ReCiPe method for biodiversity impact assessment.

5: Circular economy indicators are still in the development phase, in the frame of the Circulytics® approach, co-developed with the Ellen MacArthur Foundation.

6: Rate of accidents with medical treatment, with or without work stoppage; employees and contractors.

# Ratings

Solvay is committed to achieving strong ratings in both financial and sustainability indexes to maintain our stakeholders' trust. Feedback from ratings agencies is invaluable to measure our strengths as well as areas where we need to improve.

## Strong assets to build on

Ratings agencies found several strengths, including our Sustainable Portfolio Management (SPM) methodology and its use to make strategic decisions. The SPM is a risk and opportunities analysis we do for each product in each market, according to multiple sustainability criteria. They also singled out our Solvay Way sustainability reference framework, which has enabled around 50% of our employees to be actively involved in sustainability action plans in 2020. The agencies commend our strong materiality analysis (based on best practices such as GRI, SASB) and the high-quality of reporting with our Annual Integrated report, ranked in the top 10 by the World Business Council for Sustainable Development (WBCSD) for the 3rd consecutive year. They commend our labor relations – especially our IndustriAll agreement, training programs and social dialogue – and our product stewardship, which is recognized as best-in-class.

## Turning ratings into learnings to improve

We take ratings agencies' comments on areas for improvement very seriously. The agencies want us to address operational eco-efficiency and the need to reduce emissions faster. We are doing this through our Solvay One Planet commitments, focusing on reducing emissions and effluents that could impact biodiversity. They refer to climate change risks and opportunities and water risks at the short, medium and long term: while rating agencies








would like to see more disclosures on main risks and financial impacts, we prefer to analyze according to multiple dimensions, including financial, environmental, social, and reputational impacts. We also need to progress further on sustainable procurement actions and ethics in the value chain. They mention that improvement is needed in tax and fine transparency and note continuing media controversies involving Solvay.

The Group is strongly involved in the WBCSD working groups: our CFO Karim Hajjar is an active member of the “Redefining value” program. The goal of the program is to improve decision-making and external disclosure, eventually transforming the financial system to reward the most sustainable companies.

### Solvay among the world's 100 most sustainably managed companies

Solvay made the Wall Street Journal's inaugural list of the 100 Most Sustainably Managed Companies in the World, ranking 52nd among the more than 5,500 publicly-traded businesses surveyed. The Wall Street Journal wrote that Solvay had notched “high marks on air quality, employee health and safety, and human rights and community relations.”

## Our main indexes<sup>1</sup>

	<b>MSCI<sup>2</sup> World Index</b> In 2020, Solvay received a rating of AAA (on a scale of AAA-CCC) in the MSCI ESG Ratings assessment.	<b>BEL 20</b>	<b>BEL 20 Index</b> Solvay is a long-time component of the Brussels-based BEL 20 Index.		<b>EcoVadis supplier sustainability ratings</b> Solvay is in the top 1% of chemical companies rated by EcoVadis.
	<b>ISS-ESG</b> Solvay is rated as a “Prime Company” with a score of B by the ISS-ESG, ranking among the leaders in chemicals.		<b>FTSE 4 Good<sup>3</sup></b> Solvay is in the FTSE-4Good Index.		<b>CDP<sup>4</sup></b> Solvay is ranked “B” by the CDP in the Climate Change 2020 questionnaire.
	<b>Ethibel Sustainability Index (ESI)</b> Solvay has been confirmed as a constituent of the Ethibel Sustainability Index (ESI) Excellence in 2020.		<b>Vigeo Eiris</b> Solvay is a component of the Euronext Vigeo World 120 Index, ranking #2 in the chemical sector at the end of 2020.		

1: Last updates on December, 2020, 2: MSCI ESG Research provides MSCI ESG Ratings on global public and a few private companies on a scale of AAA (leader) to CCC (laggard), according to exposure to industry-specific ESG risks and the ability to manage those risks relative to peers.  
3: FTSE International Limited and Frank Russell Company 4: An international organisation, CDP analyzes how companies integrate climate change in their strategies

# 2021 Outlook

First quarter 2021 EBITDA is estimated to be between €520 million and €550 million, and Free cash flow is expected to be between €600 and €650 million for full year 2021. Free cash flow indications reflect the benefits of reduced pension and financial charges, higher restructuring costs, reinvestment in working capital and capex to support innovation and growth.

Additional structural cost savings are estimated at €150 million in 2021, more than offsetting fixed cost inflation, expected at around €75 million. This would take cumulative cost reductions over 2 years (2020-2021) to €325 million.



5

Essential for all

↑ Solef® PVDF, a high performance material for Li-on batteries, has been awarded the Efficient Solutions label by the Solar Impulse Foundation.

## Markets

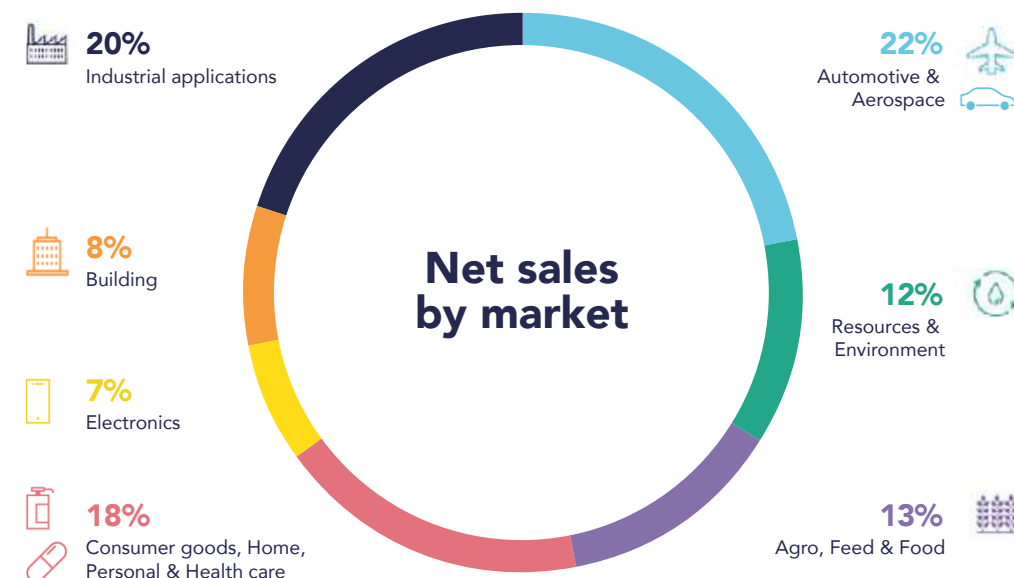
Solvay's businesses are closely aligned with the powerful trends driving growth in our end-markets. Our broad portfolio of technologies, our expertise and deep customer relationships have allowed us to build robust positions in seven fast-growing markets, where we hold a number one or two position and where our innovative and competitive solutions can bring value and meet our customers needs.

More than half of the Group's portfolio is now solidly positioned as Sustainable Solutions with sales generated in markets related to strong sustainability trends like clean mobility, resources efficiency or eco-friendly based solutions.

The World Alliance for Efficient Solutions created by the Solar Impulse Foundation has awarded its Efficient Solutions label to twelve Solvay strategic products for their role in protecting people and the environment in a profitable way. Solvay was one of the first technological partners of Solar Impulse, which achieved the first-ever solar flight around the world in 2016. 15 Solvay technologies and products and more than 6,000 parts made with our material were aboard the solar aircraft.

We provide solutions to various end-markets

in % of Group net sales





# Automotive & Aerospace



Electrification    Lightweighting    Resource Efficiency

## Cleaner mobility

Customer demand for sustainability and stringent regulations on CO<sub>2</sub> and particulate emissions are driving the industry to develop cleaner mobility systems. Lightweighting, the shift to electric and hybrid vehicles, and fuel efficiency are key market drivers in the automotive and aerospace industries.

### Automotive: innovating to make the cars cleaner and more efficient

#### Lightweighting

Solvay has strong expertise in composite materials, an innovative alternative to metal and solid plastic structures to make vehicles lighter. We are the only company in the world that can combine its best in class portfolio of specialty polymers with a strong expertise in composite technologies to create thermoplastic composites (TPC) that both reduce weight and manufacturing time, answering key challenges in the industry. The market need for TPCs is sharply growing in the transportation industries.

#### Electrification

Solvay is at the cutting edge of battery innovation with solutions that address the needs of the entire battery system. Our materials enable the operation of next generation batteries, offering enhanced safety, energy density and power at a lower cost. And, by leveraging our unique expertise in metal recovery, we play a key role in enabling battery recycling.

#### Powertrain efficiency

Our specialty polymers, like our thermoplastics product ranges, help to build lighter and more fuel-efficient internal combustion engines. They are also key in developing hybrid electric vehicles that combine gasoline engines and electric motors to achieve the best balance of fuel economy and demand on batteries.

#### Green and clean technologies

Our silica products designed for tire manufacturers can reduce rolling resistance by up to 25%, for about 7% lower fuel consumption. Several Solvay solutions are used in automotive catalytic converters to minimize pollutant emissions while boosting performance.

### OPtalys®



#### Reducing emissions and controlling particulate matter

OPtalys® is a material that enhances the catalytic activity and the durability of the advanced gasoline catalytic converters in automotive, enabling compliance with ambitious emission standards. It has also been optimized for hybrid engines and is compatible with current and future biofuels, which tend to generate slightly different types of pollutants.

### SolvaLite™



#### A range of composites for lighter, more fuel efficient vehicles

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.

## Aerospace: materials for more energy-efficient flying

### Aircrafts and space exploration

From world-leading commercial airplane manufacturers to space exploration programs, Solvay serves the entire aerospace industry. We provide innovative composite solutions from airframes to interiors, electrical, air and fluid systems as well as propulsion. Our advanced composite materials make aircrafts lighter and therefore more fuel efficient, while increasing safety and design appeal. Our technology leadership includes the Airbus A220 wing and the LEAP engine used in Boeing and Airbus single-aisles programs.

### Urban Air Mobility\*

#### Our solutions for an emerging market

Solvay is well positioned with its thermoset and thermoplastic composites that have the ability to significantly reduce both weight and costs compared to metal, with added benefits such as higher design flexibility and increased manufacturing efficiency.

#### ▶ LEARN MORE

on our solutions for

Automotive

Aerospace

Urban air mobility

\*Express delivery drones, Air Taxi, Heavy cargo, Surveillance, Defence



# Resources & Environment



Resource Efficiency



## Environmental protection and affordable resources

Growing concerns over sustainability and stringent regulations on CO<sub>2</sub> are shaping the future of the mineral resources and environment protection markets.

### Clean technologies: solutions for renewable energy production

#### Renewable energy

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. With more than 250,000 solar panels producing enough power annually for 15,000 homes, Solvay is among the top 10 companies in the US with the largest installed solar capacity and the only manufacturing company in this top ten.

#### Water and air treatment, soil remediation

Our solutions to support air and water treatment and soil remediation address the requirements of more challenging regulations, and use filtration, gas separation, absorption, and chemical reactions.

### Mining: a more efficient use of scarce resources

Solvay's specialty mining reagents help our mining customers improve metal yield while reducing consumption of water and energy compared to traditional recovery methods. They meet the most stringent safety and environmental requirements while reducing operating costs in the recovery of many metals and minerals.



#### Sustainable solutions for mining

Cyanex® 936P enables the production of high-purity lithium salts in a matter of hours, rather than 12 to 18 months under conventional evaporation methods (which require massive amounts of water), and regardless of weather conditions. With this new process, the lithium-free (and unpolluted) saltwater can be re-injected into the salt pan, saving billions of liters of water. The product also helps reduce the operators' environmental footprint by eliminating the need for large evaporation ponds.

### Oil & Gas: innovative solutions to improve efficiency and reduce costs

Our high-performance specialty polymers and thermoplastic composites improve operating efficiency and lower total cost of ownership. Used in oil & gas in offshore fields, which require longer, heavier and costlier pipes, they offer both the mechanical reinforcement of steel and lower weight for offshore oil and gas pipes, potentially reducing the weight of a single pipe by dozens of tons.

▶ LEARN MORE

on our Energy solutions

Environment

Mining

Oil & Gas



#### Disinfecting municipal wastewater

A critical step in municipal wastewater treatment is the final disinfection of the water prior to discharge into the environment or reuse for irrigation and recreational purposes. The Peracetic Acid Oxystrom® is an economic and sustainable solution for municipal wastewater disinfection. An efficient removal of pathogenic bacteria, viruses and protozoan parasites from treated wastewaters decreases the risk of waterborne infections.



# Agro, Feed & Food



Eco-friendly  
based solutions



Resource Efficiency



## Eco-friendly agriculture, healthier food

Feeding a growing global population is the key market driver in Agriculture, requiring greater yields, more eco-friendly products and better resource management. Consumers are demanding healthier, more natural and more convenient food.

### Agriculture: feeding everyone with the only planet we have

#### Crop protection, plant nutrition, seed and grain care

Solvay offers an array of products and solutions that enable all segments of the agricultural industry to improve yield with more sustainable agricultural practices, e.g. using bio-sourced seed stimulant.

#### New technologies

We also offer pioneering automation and digital technology, including on-target drift control adjuvants for agricultural spray drones.

### Food: making products healthier and more convenient

#### Flavors, aromas and food ingredients

Solvay is the market reference for vanillin and natural vanillin solutions. We offer the food and beverage industry a wide range of products for food preparation, preservation, healthier living, and food safety. For example our new generation of vanilla flavors allow food professionals to reduce sugar contents without compromising taste.

#### Packaging

We can provide materials for safe, reliable and convenient food packaging with our High Barrier Polymers that combine water vapor, oxygen barrier and good heat-sealing properties.

### 👁️ Aqualisan®



#### Our aquaculture solutions for shrimp farming

Aqualisan® is a premium, effective and environmentally friendly water conditioning solution that eliminates a wide range of waterborne pathogens and kills bacteria likely to cause shrimp diseases. The Aqualisan® program has been launched to improve shrimp survival rate and enables farmers to achieve a higher harvest weight.

### 👁️ Green solutions for crop protection



Consumer demand, regulation and the urgent need to preserve the environment are driving a clear shift in agricultural practices. In particular, the agrochemical industry is investing heavily in greener solutions including biologicals and microorganisms. Solvay is helping its customers in this transition by launching its brand new portfolio of additive solutions for biopesticides specifically designed to answer the unique technical challenges of formulating microorganisms.

### Feed: supplements for healthier livestock and fish farming

#### Animal nutrition, health and welfare

Solvay offers a range of highly efficient feed supplements for livestock that prevent and control diseases, and optimize the flow of nutrients that are essential for animal health. These solutions, as well as our insect and hygiene control solutions for livestock, are effective and safe for humans, animals and the environment.

▶ LEARN MORE

on our solutions for

Agriculture

Food industry

Feed industry



# Consumer Goods, Home, Personal & Health Care



## Enhancing the quality of life

End consumers want more natural and bio-based solutions in the products they use daily. They want easy-to-use, multifunctional and safe solutions. The world's growing population, advances in treatments and health technologies, wider healthcare coverage in developing markets and high sterilization capabilities drive the demand on the healthcare market.

### Consumer goods: performant and eco-friendly

#### Home & Personal care

Our personal care portfolio focuses on “clean beauty” and most of our products are plant-based ones (e.g. made from natural guar polymers). They cleanse, condition and protect consumers' hair, skin and teeth and can be found in over 2.5 billion bottles of personal care products every year, enhancing the lifestyle of millions of consumers around the globe.

In Home care and Hygiene, we support more sustainable lifestyles through our solutions for long-lasting disinfection or low energy washing.

#### Textiles and fibers

Our solutions bring performance and healthcare benefits that are enabling a new generation in textiles. We developed the world's first biodegradable polyamide yarn, allowing clothes to quickly decompose after being properly discarded, as well as an additive that protects the textile against viruses.

#### Sports and leisure

Our specialty polymers and composites are greatly appreciated by the major brands of sports equipment for their high rigidity and the quality surface appearance they provide.

### Jaguar®



#### A naturally-derived polymer for hair and skin care

Two innovative natural ingredients from Solvay are helping L'Oreal “nourish hungry hair” with their new line of hair-care products marketed in Europe. The line is created with 98% of the ingredients derived from natural origin, including our cationic guar Jaguar® and Jaguar® HP guar. Solvay sustainably sources its guar from smallholder farms in Bikaner, Rajasthan, India through the Sustainable Guar Initiative (SGI), a program that includes (NGO) TechnoServe, Solvay, L'Oreal and Henkel among others.

### Interox® H<sub>2</sub>O<sub>2</sub>



In the pharma industry, where human consumers and animals are the end-users, product quality must be irreproachable. Medical device, isolator and room decontamination must also be sterile to ensure safety and patient wellbeing. Whether in vaporized form for the pharmaceutical aseptic filling industry or as a disinfectant for medical devices, Interox® grades offer the highest possible quality on the market.

## Healthcare

### Medical equipment and devices

We are a world leader in thermoplastics used to manufacture dialysis membranes with excellent biocompatibility. That enables us to improve comfort for an estimated 3 million patients undergoing a.o. dialysis, orthopedic (knee, hip, spine) or cardiovascular procedures.

Solvay offers the broadest selection on the market of medical grade thermoplastics for implantable and medical devices in fields such as surgical instruments, sterilization cases and single use instruments. Our biomaterials for long-term exposure applications are suitable for implantable devices, orthopedics and dental devices.

### Pharmaceuticals

We provide the pharmaceutical industry with packaging, medical devices and cleaning agents: we are in 1 in every 4 pharmaceutical blister packs globally.

### Solutions for Covid-19

Our solutions are implemented for the manufacturing of hygiene, health and safety products. RhodaPhos® Phos is a key ingredient in all PCR tests used to detect the Covid-19 virus.

▶ LEARN MORE

on our solutions for

Consumer Goods

Healthcare

# Electronics

Electrification Digitalization



## Connectivity and high-performance

Growing demand for hyper-connectivity, the 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.

### Semiconductors and other electronic components

Our specialty polymers provide high-performance solutions for structural and electronic components and our high purity chemistry is a key enabler for the semiconductor industry. Our products meet customers' demands for materials with high levels of purity, temperature resistance and chemical resistance.

### Displays

Our portfolio offers a new generation of materials for OLED, delivering high-quality diffuse light and potentially flexible displays. Our high-purity phosphines derivatives are used to manufacture quantum dots that produce the most vivid colors and the brightest display, in the production of high definition Quantum Dot TVs.

### Smart devices

Our specialty polymers can meet the growing demand for miniaturization, multi-function and enhanced performance. Our high-performance polyamide can replace metal in components where strength, rigidity and aesthetics are important (such as mobile phones, tablets and laptops), while offering unparalleled design flexibility.

LEARN MORE  
on our solutions for  
Electronics

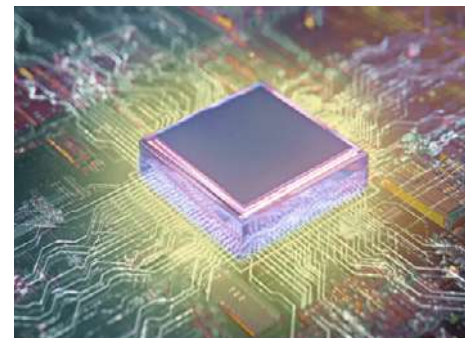
## Ryton® PPS



### High performance polymer for 5G applications

Our broad portfolio of specialty polymers offers unparalleled performance, enabling manufacturers to successfully design their next generation of 5G equipment and devices. Ryton® PPS meets performance requirements for telecom equipment antenna components, network device components, smart device structural parts, connectors, etc.

## Galden® PFPE



### Polymers for semicon testing, soldering and heat transfer fluids

Solvay provides high-performance materials for semiconductor processes. These specialty polymers are engineered with superior cleanliness, excellent chemical stability and high heat tolerance to meet today's demand for long term reliability and efficiency in advanced semiconductor applications. Our Galden® PFPE fluids are a key component in power electronic cooling. Their unique compatibility with sensitive components, their low relative viscosity and their wide operating temperature range give them the ability to act as heat transfer liquids in extreme conditions.

# Building

Eco-friendly based solutions Resource Efficiency



## Longer-lasting, and more energy efficient buildings

We answer the growing demand for longer-lasting residential and commercial buildings that consume less energy (as buildings represent 40% of the world energy consumption), include safe water management and enhance their users' well-being.

### Energy savings

We offer insulation and cooling & heating solutions for more energy-efficient buildings. We help develop solutions for energy saving triple-glazed windows with our soda ash, and sustainable foaming agents used for insulation.

### Protection & safety

Our wide range of products answer markets' needs for added functionalities and sustainability, like our waterborne coating formulations or additives for paint which offer exceptional corrosion resistance and adhesion to difficult substrates. Our line of non-toxic additives are used to formulate low Volatile Organic Compounds paints.

### Resource efficiency

Cities increasingly reuse rainwater for plants and trees. This requires large quantities of plastic piping and fittings, for which Solvay provides key components. Our protective films also increase the efficiency of urban solar panels.

LEARN MORE  
on our solutions for  
Building

## Cyasorb® Cynergy Solutions



### Sustainable materials

Our Cyasorb® Cynergy Solutions UV stabilizers prolong the service life of polyolefin plastic-based construction materials; they improve 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.

## Alve-One®



### Safer foaming solutions

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, Alve-One® solutions help fulfil the plastic industry's need to move towards a circular economy, while achieving specific properties needed for insulation, strength and lightweighting.





# Industrial Applications



Eco-friendly  
based solutions



Resource Efficiency

## Efficiency and value

Manufacturers must comply with ever-stricter regulations and rely on innovations for more efficient processes and more competitive products. They are also facing constraints on resources, including requirements to reduce energy and water consumption.

### Metal & Surface treatment

We create ingredients and formulate products that modify and clean the surface of several metallic and organic substrates, improving the performance of finished products and enhancing their shelf life.

### Industrial equipment

We have created and formulated specific polymer products that can replace metal in harsh conditions and are suitable for highly demanding industrial equipment applications, as they combine resistance to corrosion, extreme temperatures and aggressive chemicals.

### 3D printing technologies

We provide dedicated polymer grades used in cutting edge 3D printing technologies.

▶ LEARN MORE

on our solutions for

Industrial Applications

## Solef® PVDF AM



### 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 volumes applications, much faster than traditional manufacturing. Solvay is collaborating with PrinterPrezz to develop 3D printing solutions for implants and other medical devices. Through this partnership Solvay will help accelerate the advancement of 3D printed medical devices, which will provide better patient outcomes.

## Sipomer®



### Enhanced adhesion on difficult surfaces

Our Sipomer® range of additives offers excellent corrosion resistance and exceptional adhesion to difficult substrates, such as aluminum, cold steel, glass, concrete, aged alkyd, wood, and plastic in waterborne systems. They can boost binder performances in terms of adhesion and corrosion resistance. They also offer a viable solution for direct-to-metal applications.

# Case studies

Environment, Social and Governance (ESG) is at the heart of everything we do at Solvay. The challenges created by Covid-19 clearly demonstrate why Solvay's core operations and our approach to ESG under our Solvay One Planet program are critical to the world's wellbeing. Chemistry is essential. Working closely with our suppliers and customers, we are reinventing progress by enabling sustainable solutions, aligned with global trends, that will help fight climate change, preserve resources and enhance quality of life. Today, using our Sustainable Portfolio Management (SPM tool), 52% of our solutions – more than €5bn of our sales – have higher growth potential thanks to their strong sustainability credentials.



## Fighting climate change



### Context

- The transportation industry is looking for cleaner, safer and more energy efficient solutions to reduce CO<sub>2</sub> emissions.
- The move toward hybrid vehicles doubles Solvay's polymer content.
- By 2030, electric vehicles are expected to account for 30% of new cars, just in Europe.

### Our solution

#### Improving performance and durability of EV batteries

A high-performance material for Li-ion batteries, our Solef® PVDF has been awarded the Efficient Solutions label by the Solar Impulse Foundation for its role in improving the performance and durability of electric vehicles. This polymer is used to manufacture battery components (binders and separators) that are used as a battery separator coating in electric vehicles. As a partially fluorinated material, it is particularly stable, which enhances the safety performance of the battery. It enables higher voltages and high-temperature resistance as well as faster charging.

### Impact on Cleaner mobility

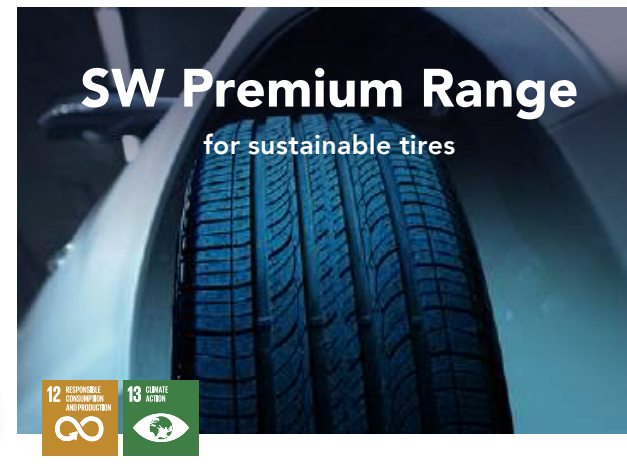
**€10M**

Sales in 2019

it can save up to

**1.67Mt CO<sub>2</sub>** \*

emissions over a vehicle's useful life



### Context

- Growing concerns about sustainability and stringent regulations on CO<sub>2</sub> are driving the automotive industry to develop cleaner, safer and more energy efficient solutions.

### Our solution

#### Efficient tires that reduce a vehicle's CO<sub>2</sub> emissions

Our Silica SW Premium Range of products are used to create tires that reduce rolling resistance by up to 25%, helping lower fuel consumption by ~7%. They do this by making tire gum more consistent and preventing it from heating up. Our latest innovative grade Premium SW is among the most affordable and efficient ways to cut CO<sub>2</sub> emissions from vehicles.

### Impact on Cleaner mobility and Protecting natural resources

**~€300M**

Sales

**87kt**

natural rubber savings in vehicle use phase

potential saving

**16Mt**

CO<sub>2</sub> emissions per year

\*Impact calculation and related CO<sub>2</sub> savings based on an electricity decarbonized supply



## Fighting climate change



### Context

- In the aerospace market, there is high demand for advanced solutions to accelerate build rate at a lower cost and produce lighter, more fuel-efficient aircraft.
- Using composite materials instead of aluminum can reduce maintenance hours by 44 to 65%.
- It can also cut CO<sub>2</sub> by 50% by 2050.

### Our solution

#### Enabling cleaner aircraft mobility

Our composite technology offers an attractive value proposition for aircraft manufacturers: it reduces the weight of the aircraft, which increases the fuel efficiency and reduces emissions. Our Cycom® range of products offer solutions for the most technically challenging composite applications. This range 'of preregs and resin systems are the industry standard for stiffness, impact resistance and thermal performance. In addition, Cycom® 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.

### Impact on Cleaner mobility

**€600M**

Sales

up to

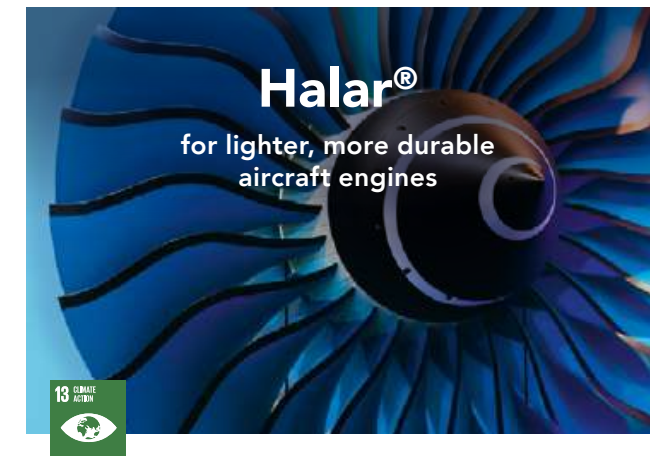
**-25%**

fuel consumption

up to

**-79Mt**

CO<sub>2</sub> emissions in use phase



### Context

- Lightweighting is a key challenge for the aerospace industry as it allows fuel efficiency and CO<sub>2</sub> emissions reduction.
- Up to 50% composites by weight on wide-bodies.
- <10 to 25% composites by weight on narrow-bodies.

### Our solution

#### Halar® for the LEAP engine\*

Solvay's Halar® ECTFE, a high-performance polymer thermoplastic film, is used as a protective layer on the Leading Edge Aviation Propulsion (LEAP) engine acoustic ring panel that protects against the harsh environment typical at the entrance of an aircraft engine. It is strong and tough and its resistance to erosion, abrasion, and aircraft chemicals and fluids make it ideal for this application. Halar® was used as the lightweight, flexible, topcoat for the photovoltaic cells on the Solar Impulse aircraft.

### Impact on Cleaner mobility

**-15%**

reduction of CO<sub>2</sub> emissions possible compared to traditional engines

\* The LEAP engine is a product of CFM International, a 50/50 joint company between GE and Safran Aircraft Engines.





## Fighting climate change



### Context

- The automotive industry's priority is the need for light materials (for body, chassis, interior, powertrain and under-the-hood application) to increase energy efficiency.
- Lightweighting that does not compromise vehicle safety or comfort is now the main lever for solving this automotive industry challenge.

### Our solution

#### A unique solution to improve adhesive performance in the automotive industry

Aluminium cannot be welded, so bonding must be used for automotive applications, but this can reduce the material's strength. Solvay's Addibond™ 275 provides a solution. Adding it to the surface prior to bonding improves adhesive strength and enhances durability over time, especially in severe conditions. Addibond™'s benefit to customers is also in the improvement of Health, Safety and Environment (HSE) management for their clients: it allows for a process that is free of chrome and heavy metal and results in minimal process waste, saving water and lowering temperature requirements.

### Impact on Cleaner mobility and Better life (safety)

4g of Addibond™ can translate to savings of  
**300kg**  
in CO<sub>2</sub> emissions per car annually



### Context

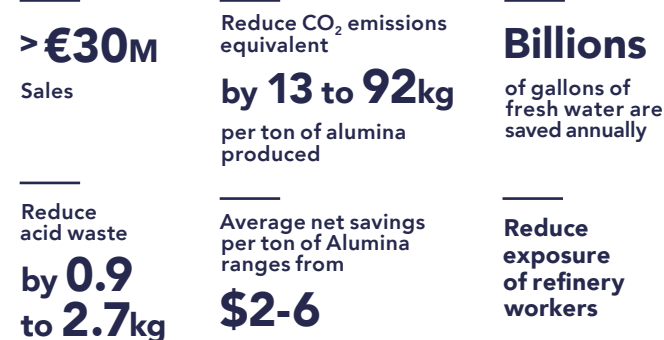
- Alumina is the primary raw material for aluminum.
- High consumption of water and energy needed to descale alumina manufacturing equipment.
- Hazardous de-scaling operation needed in addition.

### Our solution

#### Helping alumina refineries reduce energy, water consumption and costs

MAX HT® eliminates scale directly at the source, which reduces energy, fresh water consumption and related costs for alumina production. It also increases the safety of refinery workers who, in many cases, are no longer exposed to hazards associated with acid cleaning. MAX HT® is labelled as an Efficient Solution by the Solar Impulse Foundation for preventing the formation of impurities and contaminants in heaters, resulting in optimized energy consumption and reduced emissions.

### Impact\* for Cleaner mobility, Protecting resources and Better life



\*Impact varies depending on various refinery conditions



## Protecting natural resources



### Context

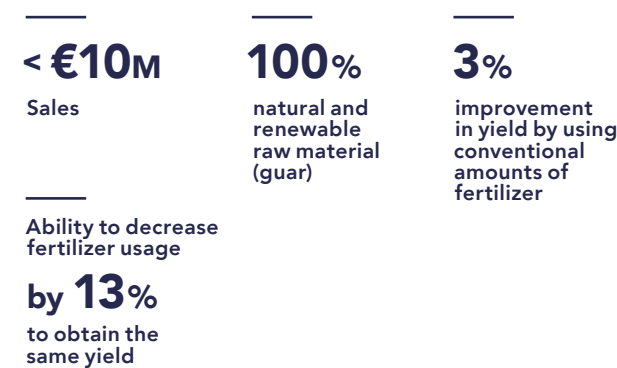
- The agricultural industry needs to ensure greater yield and better resource management to feed a growing global population.
- Most agricultural areas worldwide today are vulnerable to drought, extreme temperatures and high winds that can considerably reduce crop quality and yields.
- Strong shift in consumer behavior towards bio-based solutions for better quality of food.
- Increased use of renewable raw materials from dedicated crops & scraps.
- Biostimulant market to grow >10% CAGR by 2024.

### Our solution

#### Our 100% biostimulant to encourage seed growth

Solvay's biostimulant, AgRHO® S-Boost™ is made from a 100% natural and renewable raw material: guar beans, a legume cultivated in Northern India. With its unique mode of action, AgRHO® S-Boost™ shapes soil properties around the seed to favor water and nutrient uptake, enhance germination, strengthen root development and ultimately increase yield. This reduces the need for fertilizer.

### Impact on Protecting resources and Better life (Nutrition)



### Context

- Natural vanillin to grow >10% CAGR by 2024; vanillin is the most widely used ingredient in food industry but natural vanilla derived from beans is limited in supply and expensive.
- Strict regulations to ensure global food security.
- Strong shift in consumer behavior towards bio-based solutions for better quality of food.
- Use of renewable raw materials from dedicated crops and scraps.

### Our solution

#### A 100% vegetable-based alternative to natural vanillin

Solvay is the historic leading producer of vanillin. We have developed an entirely natural grade, Rhovanil® Natural CW, produced from a natural raw material extracted from non-GMO rice bran oil. It 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.

### Impact on Protecting resources and Better life (Nutrition)





## Protecting natural resources



### Context

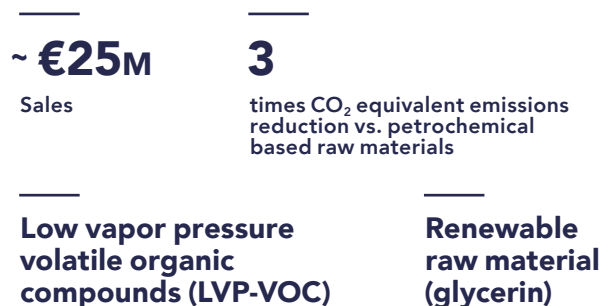
- Fragrance markets, especially in Air Care, are looking for bio renewable, sustainable and safer alternatives to petrochemical solvents, that also provide good solubilization feature, stability, adequate volatility and improvement of fragrance long-lasting.
- Home Care markets, especially in Surface Care, focus on sustainability, high performance cleaning and competitiveness.
- The demand for innovative vegan products is a clear trend (Vegan Society registered).

### Our solution

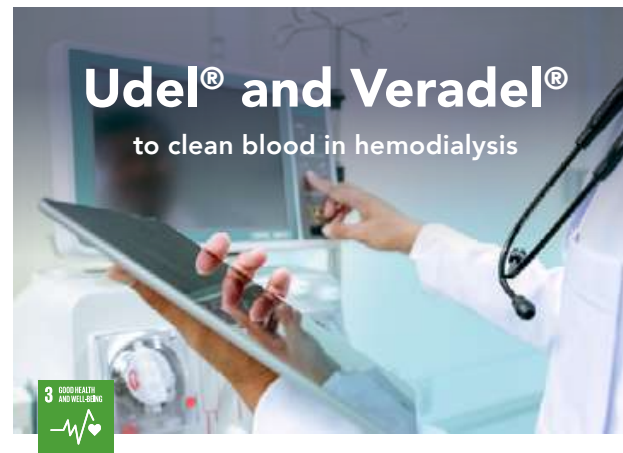
#### Bio-based solvents to protect health and the environment

Augeo® is an innovative line of solvents developed from glycerin, a renewable source, based on safer alternatives, sustainability and performance. This eco solvent is composed of versatile molecules, with high solubility power and low odor. More than high performance solvents, our bio-based solvents are aligned with the most restrictive global legislations (EPA-Inert, Safer Choice) as well as with environmental needs, in addition to meeting the demands for vegan raw materials. They present a low carbon footprint and are not toxic to humans or to the environment.

#### Impact on Better life, Climate and Protecting resources



## Improving quality of life



### Context

- Need for hemodialysis rising globally, due to a combination of aging populations, increasing kidney failure factors such as obesity, and better access to healthcare, particularly in Asia where the number of untreated patients is estimated to be high.
- Medical polymers market to grow >6% in the short-term.
- Medical implants market to grow 7% in the short-term.

### Our solution

#### Polymers that improve hemodialysis

In collaboration with hemodialysis equipment manufacturers, Solvay developed specific polysulfone polymers for hemodialysis: Udel® and Veradel®. These high-purity, high-performance grades of sulfone polymers have an excellent biocompatibility. Patients' blood can be put in contact with it before going back into their arteries without any risk, and this has been the case for over 25 years. As a world leader in sulfone polymers, we are committed to serving this market to help improve the quality of life for those in need.

#### Impact on Better life (Healthcare)



\*Estimation



## Improving quality of life



### Context

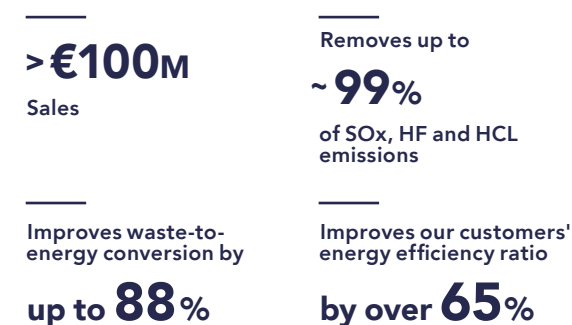
- Ever-stricter regulations for air quality.
- Growing demand for innovations for more efficient processes and more competitive products to address air pollution, especially in Asian markets.
- +4% growth in water treatment by 2025.

### Our solution

#### Solvair® for a cleaner and safer environment

Our Solvair® products for air emissions help clean exhaust gases across many industries and municipal activities, thanks to our sodium-based sorbent, produced worldwide. They have received the Solar Impulse Foundation's World Alliance's Efficient Solutions label.

#### Impact on Climate and Better life



### Context

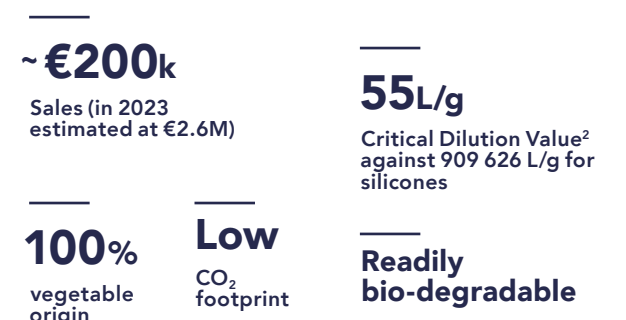
- Consumers are gravitating towards simple, natural and eco-friendly hair care products.
- Hair care formulators must design silicone-free solutions that protect the integrity of the hair and scalp and guarantee top-quality results with the respect of the planet.
- An expected +3.1% CAGR growth in organic shampoos by 2025.

### Our solution

#### A 100% plant-based alternative to silicone

Mackaderm® LIA is a biodegradable and sustainable alternative to silicone in hair applications (shampoo, conditioner, treatment). It can be implemented in clear shampoos with excellent performance. This hair moisturizing emollient closely imitates the properties of silicone and is COSMOS<sup>1</sup> certified as a naturally-derived silicone replacement in sustainable formulations.

#### Impact on Climate and Better life



1: International reference for organic and natural cosmetic products  
2: Volume of water needed for the dilution of a product down to a concentration with no foreseeable harmful impact on aquatic species (Expressed in L/g). Mackaderm® LIA shows a much less aquatic ecotoxicity than Silicones solutions as it is diluted rapidly in a small volume of water at no foreseeable harmful impact



# Progressing with our stakeholders



## Customers



## Employees



## Investors

### How we bonded in 2020

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

- Solvay Solidarity Fund to enhance solidarity between employees
- Pulse surveys every six weeks to improve our people's well-being
- Intense communication between CEO and employees using digital tools (Q&A sessions, virtual visits on sites) during the crisis and furlough
- 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

- Direct contact with institutional and individual investors and shareholders (digitally)
- Rating agencies questionnaires, credit rating agencies, proxy voting agencies
- Participation in diverse financial events via digital tools
- First Solvay ESG webinar
- Creation of Solvay Solidarity Fund by the Group together with shareholders

### High materiality aspects

- Product design and lifecycle management
- Customer welfare
- Hazardous materials

- Employee health and safety
- Inclusion and diversity
- Employee engagement and well-being

- Shared, sustainable value creation in the short, mid and long term

### 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 solutions in line with circular economy principles

- More transversality through breaking down silos
- Engagement on sustainability principles by employees from top management to shop floor
- The Covid-19 had a heavy impact, with the need to implement furloughs, and about 10,000 employees working remotely, 80% of them for the first time. Employees and managers had to adapt

- Solid financial performance and consistent shareholder reward
- Sustainability and focus on long-term value creation
- Strong focus on innovation, governance, ethics and transparency
- Fast evolution of sustainability reporting frameworks, with the convergence announcement of CDP, CDSB, GRI, IIRC, SASB, and the announcement of IFRS of a possible involvement in extra-financial reporting

### Our responses

- About 120 customers representing about 20% of our sales require Solvay's EcoVadis evaluation
- Solvay in the top 1% of companies assessed by EcoVadis in the chemical industry
- 21 Key Account Managers to simplify customers access to the Group; optimized organisation to improve customer service, including in supply chain
- Launch of Solvay Green Hydrogen innovation platform with a new membrane technology (Aquivion®)
- Launch of two Solvay innovations to fight viruses

- €15M raised by Solvay Solidarity Fund, with financial and non-financial support given to 1,600 employees (6,200 people); more than 800 days off donated by employees
- Extended maternity leave time for coparents (Solvay Cares)
- Special Covid bonus
- Launch of Solvay CEO Sales Awards (annual)
- Creation of a Sales academy to boost sales teams' skills
- Mobile working as Group global standard
- Global Performance Sharing plan
- 100% employees covered by collective agreement

- Launch of Solvay One Planet stepping up our sustainability commitments
- Dividend paid for 2019 with many investors donating up to 15% of the dividend final payment to contribute to the Solvay Solidarity Fund.
- Delivery on costs reduction and record cash-generation, with clear ESG credentials
- Portfolio simplification and accelerated transformation of the organization in ONE more agile and efficient Group

### Our challenges

- EcoVadis' 360° screening identified controversies, fines or penalties over environmental/social issues in the last five years
- Reducing greenhouse gases Scope 3 emissions linked to processing, use and end of life of sold products

- Implementation of our plan to better align the organisation with G.R.O.W. strategy (500 roles to be reduced by end 2022)
- Involve employees in Solvay One Planet initiatives, e.g. Stop Office Waste project

- Climate action confirmed as priority topic
- Facing challenging environment in key markets
- Impact of Covid-19 crisis
- Impact on reputation related to controversies due to effluents or emissions

In the context of the Covid-19 crisis, we saw an acceleration of the priorities in our Solvay One Planet sustainability roadmap published just before the pandemic. We continue to bond with our stakeholders, listen to their expectations, and build on their feedback to move

forward. We are committed to working together to address our impacts regarding climate change (e.g. with customers and suppliers, to reduce the environmental footprint of our products), natural resources and quality of life.



## Suppliers



## Local Communities



## Planet (NGOs & Governments)

### How we bonded in 2020

- Regular Performance Review on site
- Supplier commitment to Solvay Supplier Code of conduct
- Corporate Social Responsibility questionnaire
- 3rd party assessments through EcoVadis and TFS

- Engagement at site level within Solvay Way framework: developing and steering relationship with local stakeholders
- Annual Citizen Day at Group level

- Constructive dialogue with public authorities on issues of legitimate interest to Solvay
- Participation in global and regional trade associations: WBCSD, ICCA, BusinessEurope, CEFIC
- Partnership with the Ellen MacArthur Foundation
- Partnership with the Solar Impulse Foundation

### High materiality aspects

- Product design and lifecycle management

- Air quality
- Water and wastewater
- Waste
- Societal actions
- Critical incident risk management
- Hazardous materials

- Greenhouse gas emissions
- Energy
- Pressures on biodiversity
- Management of the Legal, Ethics and Regulatory framework

### Our stakeholders' expectations

- More collaboration on goal setting, strategic thinking and sustainability

- Contribution to local material aspects
- Sensitivity to local environmental and social issues

- Acceleration of actions to reduce Greenhouse gas emissions and address climate change
- Confirmation of UN SDGs as reference for sustainability priorities at planetary scale
- 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"

### Our responses

- 473 core suppliers
- 1,730 suppliers assessed through EcoVadis. Solvay is the 4th best performer in terms of suppliers assessed amongst the TFS members.

- About 4,700 employees worldwide virtually participated to Solvay's 2020 Citizen Day on education, reaching about 190,000 students
- €100,000 donation to Indian guar farmers (from Solvay Solidarity Fund)
- €100,000 donation to renovate a hospital satellite in Solvay community in Devnya, Bulgaria, (from Solvay Solidarity Fund)

- Confirmation of SDGs where Solvay can have most impact across the value chain: SDGs 7, 13, 14 & 15 on Climate; SDG 12 on Resources; and SDGs 3, 6, 8 & 17 on Better Life
- 10 ambitious goals defined through our new Solvay One Planet sustainability roadmap

### Our challenges

- EcoVadis assessment recommended better documentation of sustainable procurement actions and third party due diligence on ethics
- Reducing Scope 3 greenhouse gases emissions linked to raw materials extraction and processing

- Take action on biodiversity: monitor and reduce pressure on biodiversity beyond climate change
- Sensitive handling of social media, which can make a local issue global
- Controversies related to effluents or emissions

- Solvay One Planet targets
- Greenhouse gas emissions reduction: double reduction speed to align with "well below 2°C temperature increase" (2015 Paris Agreement) and achieve -26% by 2030 (Baseline 2018)
- Coal: phase out coal for energy by 2030 wherever available technologies and renewable or waste-to-heat sourcing exist
- Reporting of corporate metrics in line with the UN SDGs (WEF initiative)



# Bonding for a Better life

Our commitment  
to responsible capitalism



Solvay is proud of the legacy of its founder Ernest Solvay who was one of the first corporate leaders to implement what we call today Corporate Social Responsibility (CSR), placing a strong emphasis on responsible capitalism and the well-being of employees. In 2020, our commitment to providing a better life and managing our people with purpose, heart and mind was in the spotlight through our Solvay Solidarity Fund, our Citizen Day initiative, and actions to care for employees and communities during the Covid-19 pandemic and beyond.

## H elping employees through hardship with the Solvay Solidarity Fund

The Solvay Solidarity Fund was launched on April 9, 2020 to provide additional support, both financial and non-financial (i.e. days off) to any Solvay employee and dependents who experience adversity due to the coronavirus pandemic. It also supports Solvay communities that are severely impacted by the crisis. By the end of 2020, the fund had raised €15 million thanks to voluntary contributions by shareholders, the Group's directors, CEO and Executive Committee members, management members and employees. The Chairman of the Board decided to give his entire compensation for six months while Senior management committed to contribute 15% of their compensation for the rest of the year.

Former Solvay CEO Christian Jourquin chairs the Fund Management Committee, which manages the distribution resources. As CEO Ilham Kadri said, *"I am proud of all the shareholders and senior leaders in Solvay for readily volunteering to contribute towards the welfare of those employees in need. These steps translate Solvay's Purpose into concrete examples and meaningful action."*



"Thank you SO much for the gift. Honestly, I can't tell you how much this is appreciated and will help our family during this time. It feels like a big weight was lifted off our shoulders."

Solvay employee,  
Houston, Texas



**"Solvay is not only a company with plants ; it is a human community to which we belong as shareholders. Solidarity is an unconditional part of Solvay values: we pioneered social welfare, caring for our employees' wellbeing since the creation of the company. Today, I am proud to be a shareholder of this company that acts consistently with its values, and is modern in its commitments."**

**Xavier Desclée**  
Solvay family shareholder

€15M	More than	Support given to over
raised	800	1,600
	days off donated by employees	families (6,500 people)



Solvay's Sustainable Guar Initiative is empowering Indian farmers with tools and knowledge for cultivating their crops.

Belgian microbiologist Dr. Peter Piot, the special advisor to the EU President Ursula Von der Leyen on Covid-19 and the director of the London School of Hygiene and Tropical Medicine, and Professor of Global Health, was appointed as Honorary Chairman of the Solvay Solidarity Fund to advise the fund throughout the pandemic. As he explained, *"I was inspired by the quick action taken by Solvay to build this infrastructure to support its own employees and organizations in need."*

As part of its charitable giving, the Solvay Solidarity fund dedicated **€100,000 to guar farmers in Bikaner, India** – who play a key role in Solvay's value chain – to help them cope with the impacts of the Covid-19 crisis. The funding will provide agricultural supplies, additional sanitary equipment, water reservoirs, and menstrual hygiene resources.

The Solvay Solidarity Fund also made another **€100,000 contribution to Devnya Hospital, Bulgaria**, where Solvay has a strong presence with its soda ash plant. The donation paid for the fast renovation of a dedicated medical antenna to meet the community's urgent needs, as the region was hit hard by the second wave of the pandemic. Sixty people have been admitted in this antenna and 50 have recovered and been discharged.

*"I have seen first hand how the Fund provides much needed financial support to employees and their families. The donations help bridge the gap for employees whose household income was heavily impacted because of job losses or furlough. It also provides additional time off to employees to take care of their loved ones who are ill or their children who are not able to go to school at this time."*



**Alexandra Casler**  
Site Human Resources Manager,  
Princeton, New Jersey

**€100,000**  
donation to Indian guar farmers, part of Solvay's extended workforce

## Educating students virtually on STEM and skill building for Citizen Day

Through our annual Solvay's Citizen Day, we live our Purpose by volunteering our time and bonding with our communities. Since physical meetings were not possible in 2020, we transformed Citizen Day into a virtual effort to educate students in our communities about STEM topics, the work we do at Solvay, and how chemistry is the key to reinventing progress. Employees created over 250 educational videos, several of which are now stored in our Future Innovators' Library.

"Our founder would be proud of us, of you, of what we do in such difficult times. It's not common that we increase paternity/maternity leave in a Covid-19 crisis, where a lot of companies, including Solvay, are suffering and yet we do it. This is a real signal that you take care of the employees – you are not only customer-obsessed, you are also human-obsessed."



**Albert Kruff**  
Solvay Global Forum Coordinator

€100,000

donation to renovate a hospital satellite in Solvay community in Devnya, Bulgaria

### Extended maternity, paternity and co-parent leave

To promote diversity and gender equality, in 2020 we increased our global maternity leave policy to 16 weeks and extended it to all co-parents employed by the company regardless of gender or sexual orientation. The policy also now includes parents who adopt. As Solvay CEO Ilham Kadri explained, *"To help women to get to the top, let's give their spouses the opportunity to help them during one of the key steps in a family life."*

The extended Solvay Cares benefit program was signed by the Solvay Global Forum of union representatives. Solvay Cares provides a minimum level of company social benefits that cover major healthcare costs, disability leave, maternity leave, paternal leave, adoption leave and life insurance. The Solvay Cares benefits in many cases surpass the level of benefits already in place in several countries.

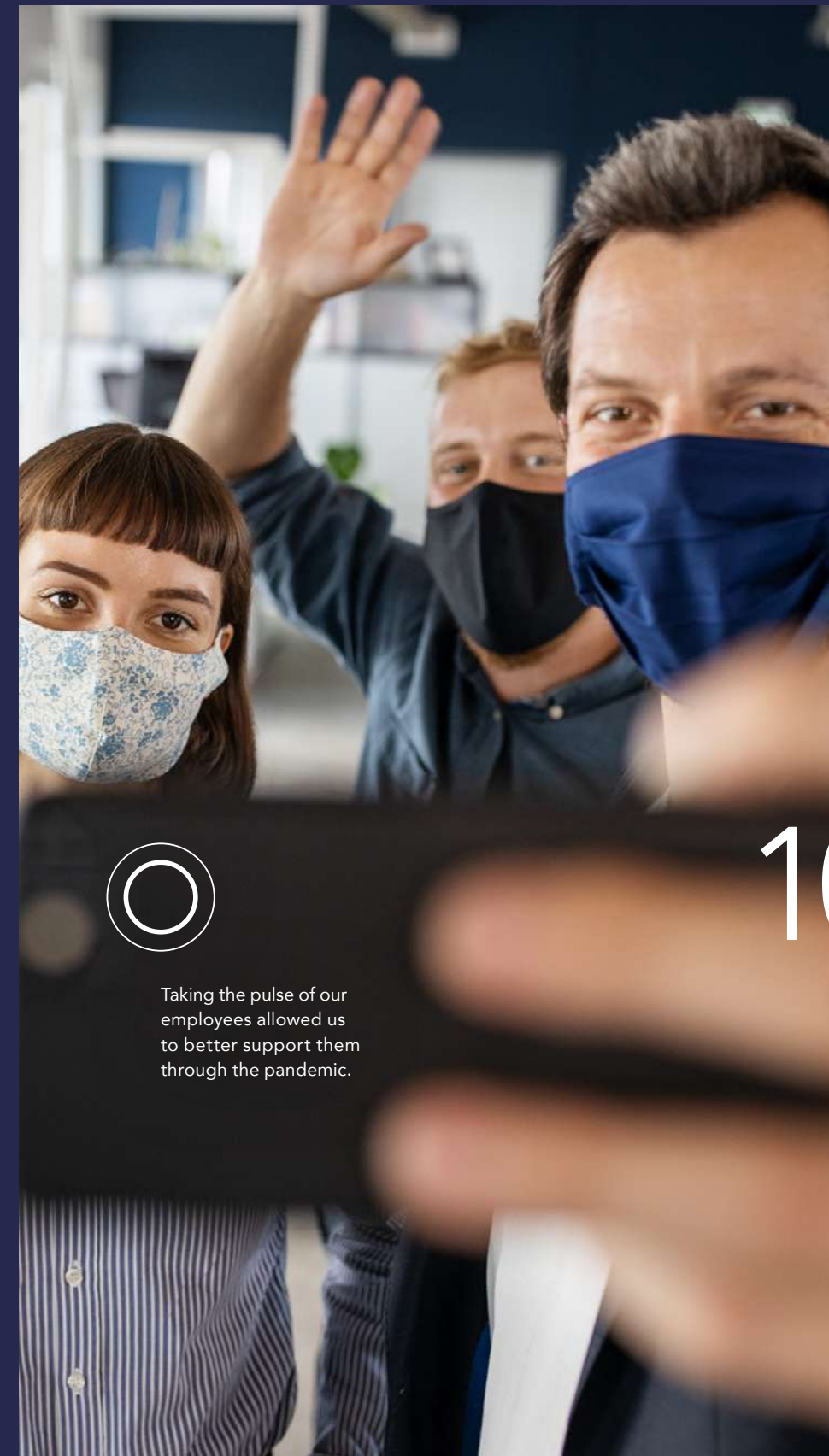
### Safety net and special bonus during the Covid crisis

In addition to the Solvay Solidarity Fund, in 2020 Solvay was one of the first companies to announce an umbrella scheme that ensures employees are protected by providing up to one month of salary to any employee who is on medical leave due to Covid-19, maintaining full employee health benefits and guaranteeing 70% of gross monthly base pay for up to 3 months in case of furlough.

We also dedicated a portion of the cash generated this year – €14,5 million – to award a special bonus to all non-executive employees in appreciation for their hard work during the crisis.

### Pulse surveys to better manage employee well-being

When the Covid crisis hit and employees were suddenly faced with numerous challenges, we quickly initiated One Pulse surveys every six weeks to find out how our 23,000 employees were doing. The primary objective is to look after their well being throughout a difficult time of confinement, furlough and health concerns. We also want to help them adapt to the rapidly changing culture of the company.



Taking the pulse of our employees allowed us to better support them through the pandemic.

4

Surveys in 2020

13

Languages

10,700\*

answers from

52

countries

\*survey in November, 2020



# Bonding with our communities

## A Citizen Day dedicated to virtual education



Solvay employees bonded to offer a learning experience to students worldwide.

Through our annual Solvay Citizen Day, we live our Purpose by bonding and volunteering in our communities. Since physical meetings were not possible in 2020, we transformed Citizen Day into a virtual effort to educate students in our communities about STEM\* topics, the work we do at Solvay, and how chemistry is the key to reinventing progress in so many areas.

**T**he theme of Solvay Citizen Day 2020 was *We Educate, We Bond*. Employees from all over the world connected with students virtually in different ways by offering coaching sessions, giving virtual classes for a local school or presenting a production, technology or solution at Solvay. Some employees created educational videos which demonstrated scientific experiments that parents and students could do at home, while others explained what they do in their day-to-day jobs or how Solvay's products, solutions, technologies contribute to solving societal and environmental challenges today.

For instance, Matt Clauss, Regional Sales Director, Technology Solutions, in the United States held a virtual session for students on UV additives and recycling for plastics. "Even with the virtual platform, the kids were energized and engaged to learn about our business and how we positively contribute to society," Matt explained. "I'm excited to watch our future heroes grow and develop a passion for science, life and the community."

### Future Innovators' Library

The educational videos created for Solvay Citizen Day can be found on the [Future Innovators' Library](#), which is a virtual learning hub designed to help broaden learning experience for students in creative and fun ways. The online learning portal created for Solvay's Citizen Day will continue to remain online with the long-term objective of democratizing and popularizing STEM subjects for children, students, and people of all ages around the world.

\*STEM: Science, Technology, Engineering and Mathematics



So-Jung Han, 9 years old, winner of the Citizen Day's painting contest in Korea, was inspired by the videos posted in our Future Innovator's Library.

### A partnership to inspire young girls to pursue STEM

The Future Innovators' Library was created in partnership with [greenlight for girls \(g4g\)](#), an NGO dedicated to inspiring girls (and boys) of all ages and backgrounds to pursue a STEM education. Their international network and robust experience in creating fun learning opportunities to make science more accessible made them an ideal partner for Solvay's first large scale, global educational project.

Solvay's Citizen Day 2020 was very much in the spirit of our founder Ernest Solvay who strongly supported scientific education and in line with the United Nations' Sustainable Development Goals aiming to improve education globally.

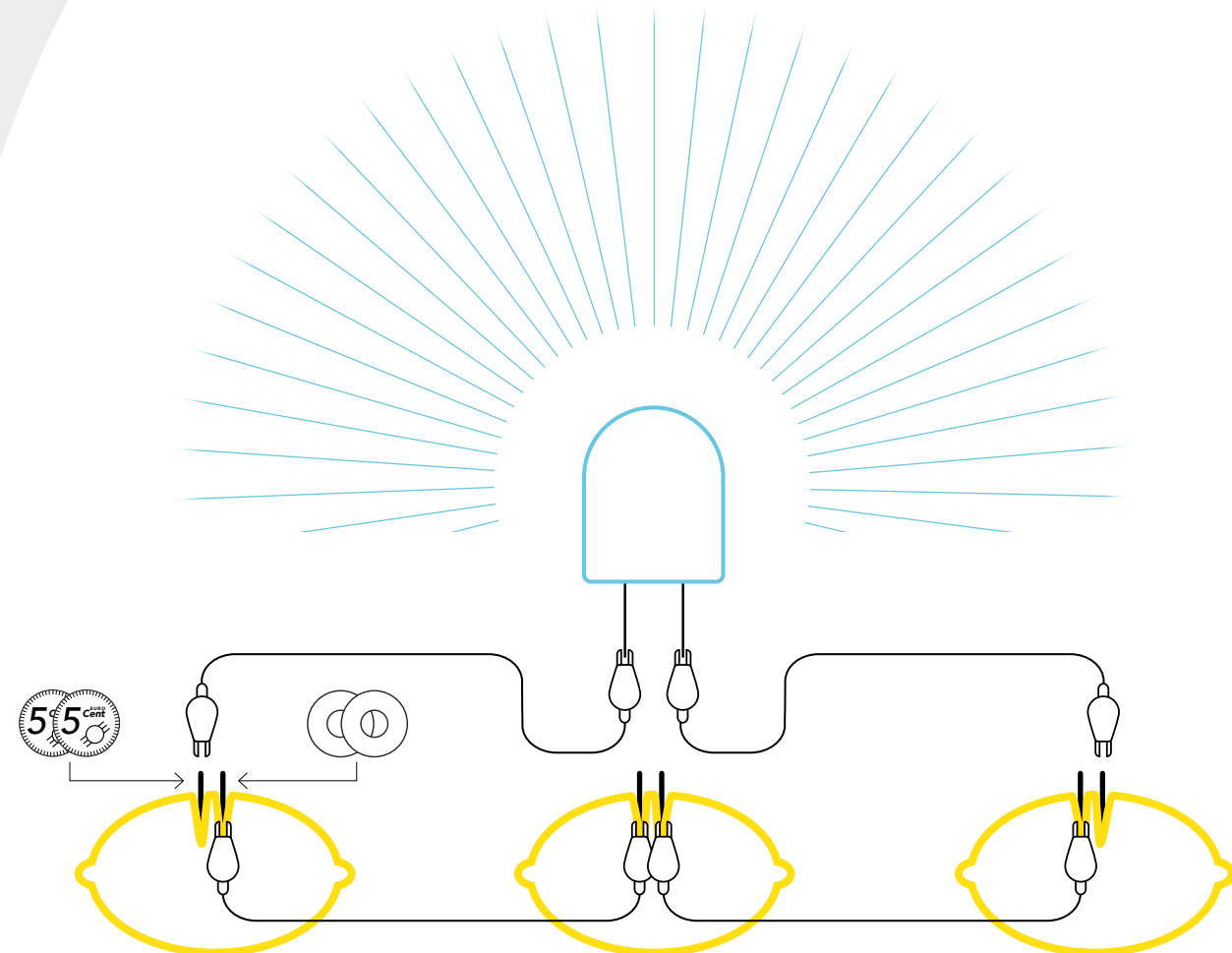


## How to create a battery with lemons

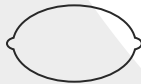



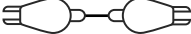

Our CEO Ilham Kadri also participated by running an educational experiment for students at Solvay's Research and Innovation Center in Brussels on how to make a battery out of lemons.

### HOW TO DO IT

1. Slice the lemons
2. Insert 2 coins and 2 washers in each one
3. Connect the lemons with the crocodile clips
4. The LED is on!



### WHAT YOU NEED

3x  Lemon	1x  LED diode	6x  5 Cent coin	6x  Zinc coated washers	4x  Crocodile clips	1x  Knife
--	--	--	--	---	--

"As a proud participant to the validation committee for the Future Innovator's Library, I hope that the videos created by Solvay employees will be the spark that inspires many children to develop their scientific vocations. They are the ones who will have to go beyond and face the environmental challenges that science will have to solve in the coming years."



**Alberto Sancibrián**  
Human Resources, Torrelavega, Spain

190,000

students reached  
in November 2020

"Our goal is to inspire more girls and children around the world to take up STEM subjects, and we need great partners, such as Solvay, to do this. The Future Innovator's Library empowers Solvay's employees to share their expertise and truly, make a difference."



**Mélissa Rancourt**  
Founder and Chairman of greenlight for girls (g4g)

4,700

employees  
participated

### Watch the videos

Solvay Citizen Day  
around the world



How to purify water?





# Bonding to advance circular batteries of the future

Solvay's partnership with Veolia and Renault

Chemistry is the key to the circular economy and at Solvay we want to play a leading role in this transition. As part of Solvay's commitment to protecting natural resources, in 2020 we partnered with the global utilities group Veolia to create a circular economy consortium that will enable the production of circular electric vehicle (EV) batteries by offering new solutions that promise better resource efficiency. In 2021, Groupe Renault, a top automotive player, joined the partnership.

15%

Group revenues

generated by renewable or recycled materials

**T**he consortium focuses on optimizing the reuse of critical metals in spent EV batteries, as they currently are not always recovered at their maximum value. With the number of electric vehicles on the road expected to grow from 8 million in 2020 to 116 million worldwide by 2030, ensuring stable access to raw materials is a strategic challenge.

## How the consortium will breathe new life into spent EV batteries

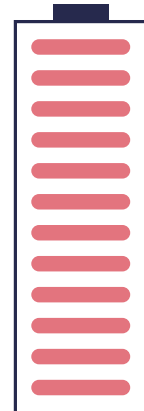
A circular economy means reinventing the way we do business. It requires novel partnerships, collaboration and bonding across the value chain to build the right ecosystem that brings together each company's unique expertise.

Solvay's technologies are essential in closing the loop of circular economy. We are a leader in applying our chemical refining capabilities to optimize the extraction and purification of critical metals such as cobalt, nickel and lithium and transform them into high-purity raw materials for new batteries. Solvay is also present in the EV and hybrid battery value chain thanks to its high-performance specialty polymers for binders and separators and specialty additives for electrolytes.

Solvay, Veolia and Renault will leverage their respective technologies and core competences at each step of the value chain. Our work complements Veolia's process to collect, transport, dismantle and mechanically process end-of-life batteries, extracting value metals through a hydrometallurgical battery recycling process. This is reinforced by Renault's ability to repair first-life batteries to extend their automotive lifespan, develop second-life applications for energy storage and set up a system for collecting and recycling batteries.

The three partners have already set up a pre-industrial demo plant in France to extract and purify end-of-life EV battery materials.





# 1,350%

## Increase within the next 10 years

With the number of electric vehicles on the road worldwide expected to grow from 8 million in 2020 to 116 million by 2030, ensuring stable access to raw materials is a strategic challenge.

"We are proud to reinforce our commitment to battery recycling by joining forces with Veolia and Solvay. Together, we will leverage our strong presence on the entire EV value chain in Europe to take a competitive position in the battery materials market and generate value beyond our core business."



**Luca de Meo**  
CEO of Renault

### Moving from traditional recycling to a circular economy solution

Conventional recycling processes fail to offer a cost-effective reuse solution for the materials in spent EV batteries. Typically, recycling results in lower grade metal mixes, which is wholly unsuitable for new batteries. The conventional process is also high in cost and generates a high CO<sub>2</sub> footprint.

Moving to a circular economy solution will ensure access to critical raw materials, decrease recycling costs, and lower the CO<sub>2</sub> footprint of the recycling process.

Establishing such a consortium is strategically important for Solvay, as it addresses our Solvay One Planet objectives and our determination to help to build a more circular economy. As part of that effort, Solvay joined the Ellen MacArthur Foundation in 2018 as a Strategic Partner and as the only multinational chemical company leading the way towards a circular economy.

"Given the magnitude of the environmental issues the world is facing, ecological transformation is an urgent need. We are collectively taking a step further towards closed-loop solutions to preserve natural resources. This shows how companies working together can think up and implement new solutions that both better our environment and renew our economies."



**Antoine Frérot**  
CEO of Veolia

"This is a great example of partnership in the value chain that makes the circular economy a reality for battery materials. We are thrilled to partner with Veolia and Renault and we view them as a critical link in closing the loop. This project exemplifies how we walk the talk with our sustainability roadmap as we aim to more than double revenues generated in a circular economy by 2030."



**Ilham Kadri**  
CEO of Solvay Group

"With the launch of its Solvay One Planet plan, the company is sending a strong signal to the chemical industry and its value chain that the circular economy is happening – and that Solvay wants to lead the way."



**Ellen MacArthur,**  
Founder and Chair of Trustees,  
Ellen MacArthur Foundation



# Bonding with customers to reduce emissions

Our collaboration with Givaudan

As investors, customers and new talent increasingly ask companies to raise the bar on sustainability, it is no longer a nice-to-have. We are making bold sustainability commitments but we know we cannot do it alone. We can achieve so much more by partnering with our customers to transform the value chain and meet the end users' need for zero or low carbon products and services. This will significantly grow our business and our customers' business, while helping to enable a better, more sustainable world.

## **S**olvay and Givaudan: partners to achieve ambitious climate targets

As part of this effort, we signed on to the Science Based Target initiative (SBTi), committing to further reduce our own emissions and work closely with our partners to reduce emissions in the value chain. One thousand companies participate in the initiative, including many of our key strategic partners.

One of our valued partners on this SBTi journey is our key strategic customer, Givaudan, the world's largest company in the flavour and fragrance industries. Givaudan buys products from Solvay that are mainly derived from the guaiacol chain such as vanillin and the bio sourced solvent Augeo®.

Givaudan has already set its target to reduce value chain emissions by 20% from 2015 to 2030. Our actions to reduce our own emissions are already helping customers like Givaudan fulfill their SBTi commitment.

“With Solvay, we have a serious partner in line with our vision to create shared sustainable value. It's an immense journey. Collaboration is the key to creating healthier and more sustainable products.”



**Willem Mutsaerts,**  
Head of Global Procurement and  
Sustainability and EXCOM Member,  
Givaudan.

In 2020, we collaborated with our customers for a series of virtual events to raise awareness about sustainability and our Solvay One Planet commitments. Givaudan was our guest for our November 27 event and during the session Willem Mutsaerts, Head of Global Procurement and Sustainability and EXCOM Member at Givaudan said, “*we cannot work in the future with suppliers that don't have an ambitious program to reduce the impact of the environment. This is critical for you, this is critical for us, and this is critical for the world.*”

To progress on our mutual sustainability goals, in 2020 we decided to strengthen our partnership with Givaudan with a new contract that will include CO<sub>2</sub> savings. Explaining the closer partnership Guillaume Meunier, Executive Key Account Manager at Solvay said, “*We've started to agree with Givaudan about what kind of governance we will have and how we will work together. For example, we discussed creating a steering committee to meet twice a year that will advance innovation topics on top of the sustainable topics that we're going to cover.*”

At a workshop with sustainability experts from both organizations, we agreed to move forward on several initiatives:

1. In 2021 check, through a certified and independent organization, that we use the same values to measure the CO<sub>2</sub> emissions of our products in the value chain. This will ensure that both of our companies are on the same page.
2. Together we identified different projects that can help us reduce our collective greenhouse gas footprint. We are using renewable energy to power several sites that supply products for Givaudan: to provide a few examples, our site in Baton Rouge, Louisiana, USA, which supplies ethyl vanillin, is powered by solar energy and we use biomethane for Melle site in France that supplies cyclopentanone. Soon we will use biomethane as well in St-Fons where we'll supply vanillin for Givaudan.
3. Another way to reduce CO<sub>2</sub> emissions is to ramp up the production and use of biosource solvents. We will position Augeo®, our biosource solvent, as a potential alternative to the 100% of fossil carbon based solvents. By doing this we could potentially save 8kt of CO<sub>2</sub> emissions per year.

#### **The next step: bio-based products of the future**

Beyond our mutual commitments to reduce CO<sub>2</sub>, the main focus of our partnership with Givaudan is to move towards bio-based products in the future. Five years ago, our biosourced products were only 4% of our overall sales to Givaudan. In 2020 that number has increased to 40%.





## Layout, concept, consulting and production (print & online)

nexxar, Austria  
www.nexxar.com

## Layout Management Report, printing

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www.chriscom.be

## Content, writing

Solvay Communications, Investor Relations,  
Sustainable Development

## Publication management

Solvay Communications

## Photos

Cover, pages 2, 12, 13, 23, 36, 48, 72, 113: Alexandre Darmon / Art in Research; Pages 4, 18, 21, 26, 32, 39: Solvay / Jean-Michel Byl (for Nicolas Boël, Karim Hajjar, Hervé Tiberghien, Pascal Chalvon, Hua Du); 6: Emmanuel Crooy (for Ilham Kadri); 10: Unsplash / Chuttersnap; 11, middle, p31: iStock / nortonrsx; 11, right: Shutterstock / chairaij; 16: Solvay (for Amni Virus); 17: Shutterstock / Gargonia; 24, 1st: Shutterstock / Josh Miller; 24, 2nd: Shutterstock / Bernd Vogel; 24, 3rd: Shutterstock / Ezequiel Gimenez; 25: Unsplash / Finding Dan | Dan Grinwis; 27: Solvay (for Rheinberg); 28: Shutterstock / syazniaizat; 29: Shutterstock / JpegPhotographer; 30: Solvay (covid-19 face shield); 31, 1st: iStock / nortonrsx; 31, 2nd: Solvay; 33: Solvay (for JC Castaing); 35: Shutterstock / asharkyu; 50: iStock / PlagueDoctor; 52: Unsplash / ben neale; 54: Unsplash / Michele Bergami; 56: iStock / Hiranman; 59: Unsplash / Gian Cescon; 60: Unsplash / Jose Maria Sava; 62: Solvay; 65: Solvay (for Ihab Elia); 74: Unsplash / Matt Boitor; 75: iStock / xieyuliang; 76: Shutterstock / Matyas Rehak; 77: Solvay; 78: Shutterstock / bunnavit pangsuk; 79: Unsplash / Michael Callaghan; 80: Shutterstock / Cookie Studio; 81: Shutterstock / nimon; 82, 1st: Shutterstock / Sunshine Studio; 82, 2nd: Shutterstock / Connect world ; 83: 1st: Shutterstock / SBWorldphotography; 83, 2nd: Solvay; 84, 1st: iStock / kynny; 84, 2nd: iStock / AzmanL; 86, 2nd: Solvay; 87, 1st: Unsplash / Ross Parmly; 87, 2nd: Shutterstock / Dmetsov Alexey; 88, 1st: Shutterstock / bibiphot; 88, 2nd: iStock / ozgurdonmaz; 89, 1st: Unsplash / David Holifield; 89, 2nd: iStock / alexkladoff; 90, 1st: iStock / Maridav; 90, 2nd: Shutterstock / Sirisak\_baokaew; 91, 1st: iStock / spooh; 91, 2nd: iStock / skynesher; 94: Getty Images / Roc Canals; 97: Solvay (Alexandra Casler); 99: iStock / alvarez; 100: Unsplash / Massimo Botturi; 103 Solvay (Alberto Sancibrian) and greenlight for girls (g4g) for Mélissa Rancourt; 104: Shutterstock / Henri Koskinen; 107: Renault; Veolia; Ellen MacArthur Foundation; 108: Unsplash / Aziz Ayad; 110: Givaudan; 111: iStock / Marianogueira

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