

# Our energy Your success



**SOLVAY**

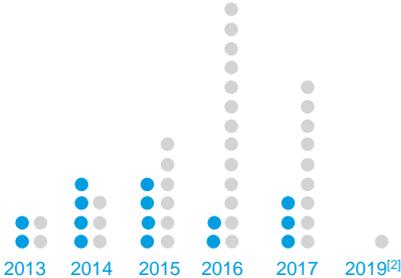
asking more from chemistry®



# Solvay ID



Created by Ernest Solvay in 1863, Solvay is today all about advanced materials and specialty chemicals



2013 2014 2015 2016 2017 2019<sup>[2]</sup>

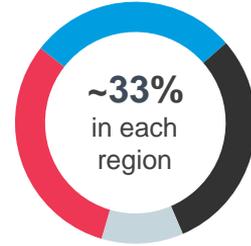
17 Acquisitions 34 Divestments



Advanced Materials  
Advanced Formulations  
Performance Chemicals



Automotive & aerospace  
Electrical & electronics  
Resources & environment  
Agro, feed & food  
Consumer goods & healthcare  
Building & construction  
Industrial applications



Europe  
North America  
Latin America  
Asia & RoW

**€10.3 bn**  
net sales

---

50% sustainable solutions

**€2.2 bn**  
underlying EBITDA

---

Margin 22%

**Top 3**  
market position<sup>1</sup>

**24,500 people**  
**125 ind. sites**  
**21 R&I sites**  
**62 countries**

Including discontinued operations

[1] Applicable to ~90% of portfolio  
[2] Planned divestment of Polyamides

# STRATEGIC CHOICES RESPOND TO MEGATRENDS

## Resource constraints & increased sustainability demand

- Fight for talents 
- Ecosystem at risk 
- Competition for space, lands 
- Climate change 
- Competition of resource usage 

## Evolving demography & consumers behaviors

- Growing world population 
- Urbanization 
- Aging society 
- Health and wellness 
- Changing balance of economic power 

## Innovation acceleration

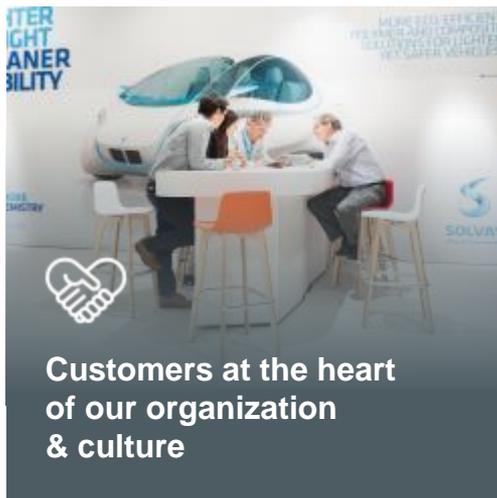
- Digitalization & mobility 
- Miniaturization 
- Life sciences booming 
- Information age 
- Acceleration of cycles 

# A HIGHLY FOCUSED STRATEGIC JOURNEY

**2012 -2018**



**2019-2021+**



# RESSOURCES WE USE



## People

- 100 nationalities
- 24, 500 employees
- 8% working in R&I
- 23% women



## Financial

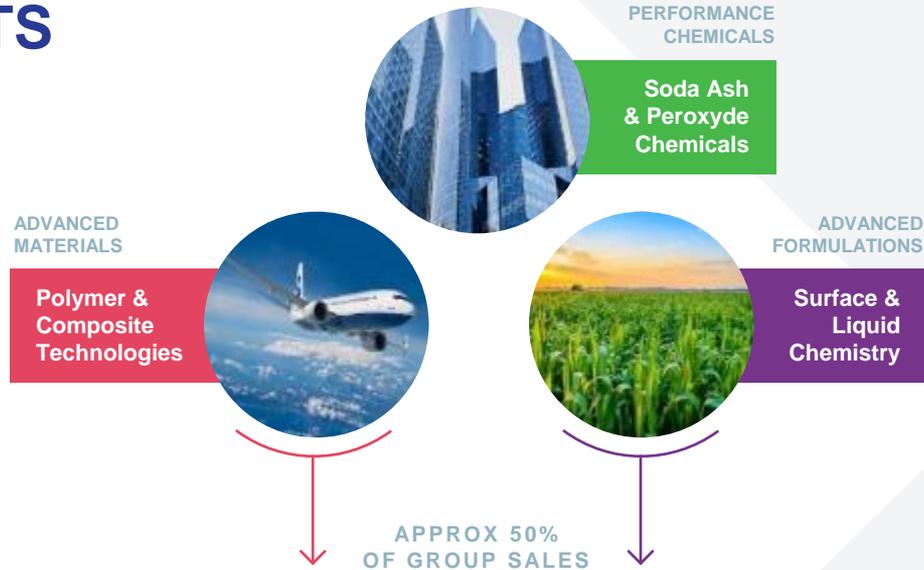
- €711 million of capex from continuing operations invested
- €352 million invested in R&I
- €8 bn Equity attributable to Solvay share
- €5.1 bn Underlying net debt



## Natural resources

- €0.65 bn energy costs
- €2.8 bn raw materials expenses
- 127 pj Energy consumption
- 488 M m3 total water intake

# OUR CORE STRENGTHS



# MARKETS WE SERVE



**NEXT GENERATION MOBILITY**

Aerospace    Automotive

**RESOURCES EFFICIENCY**

Mining    Oil & Gas    Agro



# MORE SUSTAINABLE MOBILITY



**AUTOMOTIVE**



**AEROSPACE**



**BATTERIES**

Doing more  
with less

↑ **MORE**

Cleaner and more  
energy-efficient  
**mobility**

Enhanced  
**lightweighting & fuel  
efficiency**

**Higher performance  
and energy storage**

↓ **LESS**

**Reduce impact  
to environment**

**Reduce CO<sub>2</sub>  
emissions**

**Reduce cost  
per kWh**

**~50% of Advanced Materials sales**

# RESOURCE CONSTRAINTS REQUIRE MORE EFFICIENT SOLUTIONS



MINING



OIL & GAS



AGRO

Doing more  
with less

↑ MORE

Higher throughput  
and yield of metals  
& minerals

Maximize cost  
performance and  
fracturing efficiency

Targeted use  
of ingredients for  
seeds & crops

↓ LESS

Reduce impact  
to employees and  
environment

Less clean  
water usage

Reduce  
environmental  
impact

~42% of Advanced Formulations sales

# HOW WE WIN OUR COMMITTED TALENTS

## 2018 SOLVAY PEOPLE SURVEY

76%

Employee  
engagement index



83%

Employees feel proud  
to work at Solvay



49%

E-learning  
exposure



## Solvay Cares



## Circular economy



ELLEN  
MACARTHUR  
FOUNDATION

# HOW WE WIN

## INNOVATION A KEY ENABLER OF CUSTOMER-INTIMACY



**21**

R&I  
centers

**€ 352 m**

Investments

**2,200**

R&I  
employees

R&I  
ecosystem



**18%**

New sales  
ratio

**> 75%**

R&I pipeline in  
“Sustainable  
Solutions”

**264**

Patent  
applications

Dynamic  
innovation  
portfolio  
management



**1,500**

Intellectual  
Property  
agreements

**€ 80 m**

Venture  
investments

**15**

Digital Industrial  
Plants

Open  
innovation



# LISTENING TO CUSTOMERS TO DEVELOP OPPORTUNITIES



Less fuel  
More efficiency

## SolvaLite™

40% lighter than metal  
Faster cure  
Composites



Replacing toxic  
product

## Jaguar® C162

Less irritant  
Better resource efficiency  
Polymers



Looking for  
miniaturization

Higher  
performance

## Kalix® bio-based

40% of petrol consumption reduced  
Polyamide



More planes  
Stringent  
regulations on CO<sub>2</sub>

## FUSEPLY™

improved build rates and lightweighting  
Composites



Growing population

Demand for greater  
agricultural yields

## AgRHO®

- more nutritional value and less waste
- for yields of over 20-30%

Surfactants



Substitution  
to synthetic  
vanillin

## Rhovani® Natural CW

- Sustainable sourcing and process
- New purification process to vanillin (99,5%)

Aroma and fragrance

# VALUE WE CREATE

## Providing sustainable solutions to Customers

- > 80% of our portfolio assessed with SPM
- 50% net sales with sustainable solutions
- 42% net promoter score

## Environmental footprint

- 5.5 kg CO2 eq. per €EBITDA GHG intensity
- 32.4 thousand tons Industrial hazardous waste
- 7 thousand tons Nitrogen oxides
- 3.7 thousand tons Sulfur oxides

## People

- 76% employee engagement index
- 0.54 Occupational accidents per million hours worked
- 9% employee turnover

## Suppliers

- 40,000 suppliers
- 810 critical suppliers
- 76% local suppliers

## Local communities

- 33% employees involved in local societal actions

## Investors & shareholders

- Dividend growth over 30 years
- €2.2 bn Underlying EBITDA
- 6.9% CFROI
- €830 M FCF from continuing operations
- €3.75 dividend per share

# CONSTANTLY FOCUSED TO RESPECT OUR COMMITMENTS



2016 - 2018



Delivery

2016 - 2018



**-20% GHG Intensity**  
kg CO<sub>2</sub> eq. Emissions / € EBITDA

**40% Sustainable solutions**  
% Group Sales

**-24%**

**50%**

**+7.5%**

**Mid-to-high single digit EBITDA growth**  
Underlying % yoy



**-10 % Accident rate**  
Acc. with medical treatment / m working hours

**75% Employee engagement**  
Index

**-30%**

**76%**

**€2.7bn**

**>€2.4 bn Free Cash Flow**  
cumulative



**25% Societal actions**  
% employees involved

**33%**

**+0.8pp**

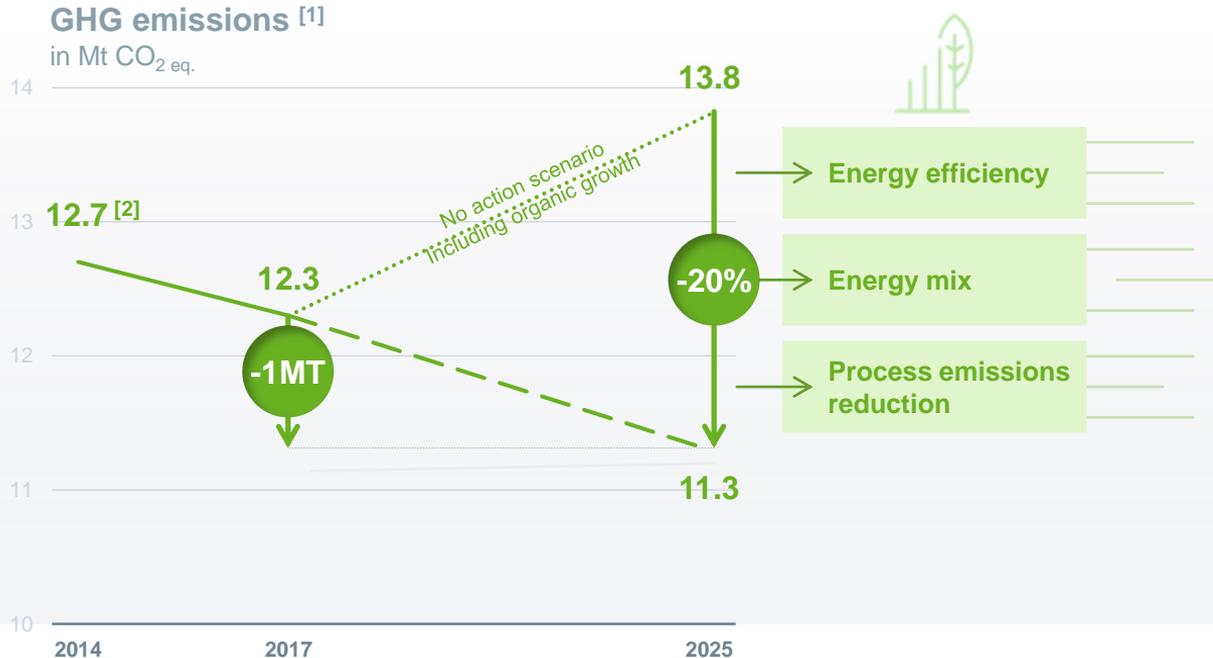
**+ 0.5 – +1.0 pp CFROI**  
increase



# PROGRESS ON 2025 SUSTAINABILITY OBJECTIVES



# ABSOLUTE REDUCTION IN GHG EMISSIONS HIGHER GROWTH & REDUCED STRATEGIC RISK



## Raising our ambition in absolute value

- -1MT by 2025
- -20% emissions reduction vs no action scenario

### ✓ Coherent and integrated into our operations

- Operational - CAPEX: CO<sub>2</sub> €25/t
- Strategic – SPM: CO<sub>2</sub> €75/t
- Governance – 20% long term incentives

### ✓ Proactive engagement with key customers

# LINKING SOLVAY'S SUSTAINABILITY EFFORT TO COST OF CREDIT

## WHAT

- Agreement of the new terms in existing **€2 billion revolving credit facility** linking the cost of credit to a reduction in greenhouse gases

## WHY

- To **integrate sustainability** into all key aspects of our business
- To be in the front line of **future cost differentiation** based on financial and extra-financial scoring
- Initial step of **successful teaming up** with our banks

## IMPACT

- 
- Discount/premium to reflect the breakthrough CO2 emission reduction objective
  - Recognition of the collective efforts towards more sustainability

# SODA ASH ENERGY TRANSITION EXAMPLES



Rheinberg, Germany

## Efficiency programs to secure customer supplies

### A new woodpower biomass boiler at Soda Ash plant

- Cutting the site's **CO2 emissions by 30%** or 190 kt/year
- Scheduled to be on stream in May, 2021

Other initiatives to curb the carbon footprint of soda ash production:

- New energy-efficient gas turbine in Rosignano, Italy
- Modernization of the gas cogeneration unit in Bernburg, Germany

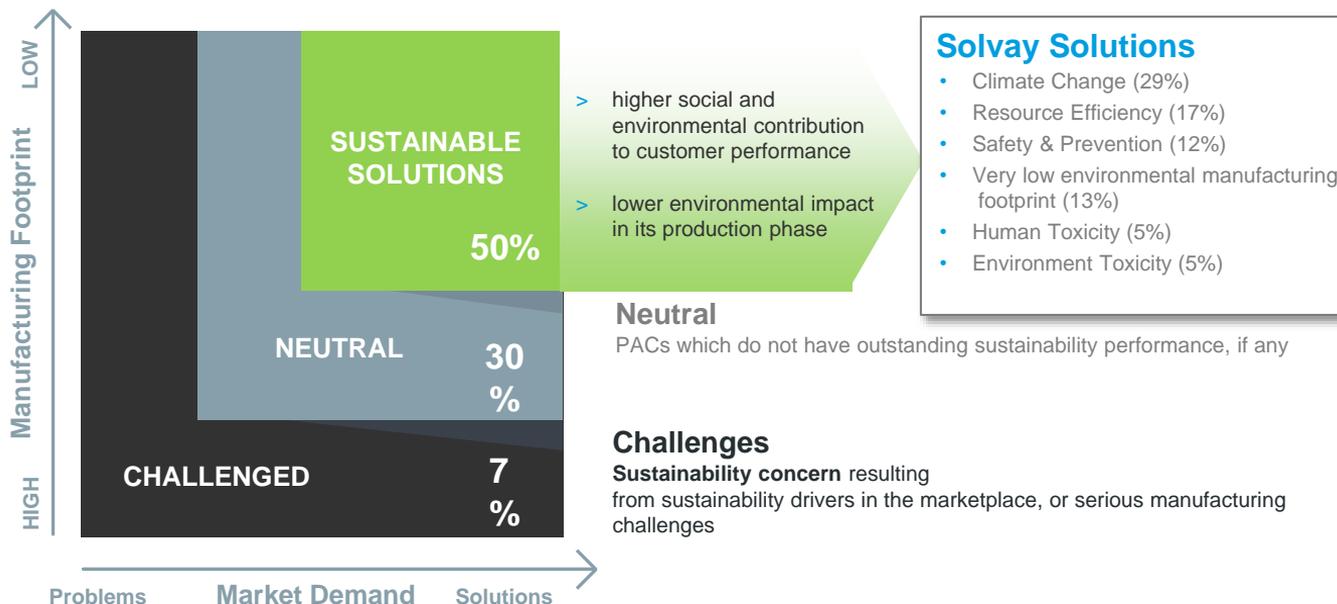
### At soda ash and bicarbonate plants

- Increase of the production capacity of soda ash by **500 kt** and sodium bicarbonate by **100kt** in the next two year
- Use of data analytics, digital projects and selective debottlenecking



# INTEGRATING SUSTAINABILITY INTO DECISION-MAKING DRIVES SUPERIOR FINANCIAL VALUE GROWTH

Target is to cover at least >80% of business revenue



M&A



60% CAPEX



80% R&I

# SOLVAY *Way* APPROACH AND MANAGEMENT

## CONSTANTLY IMPROVING HOW WE DO BUSINESS

Solvay Way is our CSR approach: it translates our ambitions for more sustainable development into concrete actions and clear responsibilities

### A key reference framework: 22 Commitments towards our 6 Stakeholders

- **49 practices**, from the highest level of management to the operational level.
- **Self assessment each year** to evaluate our progress in sustainability

Supported by a **Solvay Way Network**: more than 200 "Champions" and "Correspondents"

**Global Profit sharing includes Solvay Way** performance for all employees



EMPLOYEES



CUSTOMERS



PLANET



INVESTORS



SUPPLIERS



COMMUNITIES

# PROMOTING DIVERSITY OF TEAMS BY CREATING AN INCLUSIVE CULTURE

- 2017 Diversity and Inclusion considered as highly material for the Group
- By 2020, **20% of senior executive positions** to be **women**

- Promoting a diversity and inclusion mindset in the group's sites is key to ensure open-mindedness among teams, which is recognized as a major value to enable better business decisions in everyday operations.
- Assessing the processes in place in the sites to ensure that a diversity and inclusion mindset is adopted by all employees.



# AN EXPERIENCED, DIVERSIFIED AND PROACTIVE BOARD OF DIRECTORS



- Reviews the Group strategy and strategic projects and performance
- Oversight of sustainability policy, risk management and management succession planning
- High Board meeting attendance of 97%
- Regular evaluation by an independent third party



## Board of Directors Tenure Mix

Number of Directors



## Diverse and complementary skills

Chemical sector	Finance	Industrial expertise
Energy	Digital and IT services	Research



9 nationalities



40% Board members are women

# SOLVAY BOARD COMPOSITION: 15 DIRECTORS

## MAJORITY OF INDEPENDENT\* NON EXECUTIVE DIRECTORS



Nicolas **Boël**  
CHAIRMAN OF THE BOARD



Charles **Casimir-Lambert**



Jean-Marie **Solvay**



Bernard **de Laguiche**



Hervé **Coppens d'Eeckenbrugge**



Evelyn **du Monceau**



Françoise **de Viron**



Amparo **Moraleda**

### ILHAM KADRI



**CEO**  
Chair of the Executive Committee

- Vast experience in leading multinationals
- Knowledge of Solvay strategic markets
- Strong customer-focused mindset



Gilles **Michel**



Marjan **Oudeman**



Agnès **Lemarchand**



Rosemary **Thorne**



Matti **Lievonen**



Philippe **Tournay**



Independent directors



Less than 4 years appointment



5-12 years appointment



More than 12 years appointment

# SUSTAINABILITY STRONGLY EMBEDDED IN BOARD AGENDA



## Group strategy

- Major investment decisions include a sustainability challenge that encompasses an exhaustive Sustainable Portfolio Management analysis of the potential investment
- CO2 price integrated in profitability analysis for CAPEX decisions



## Compensation policy

- The Long Term Incentive includes 20% on GHG reduction
- 10% of Short Term Incentive relates to achievement of Sustainable Development objectives (ranking of Solvay in non-financial indexes, accident rate, societal actions, this performance measure includes progress with Solvay Way, etc.)



## Yearly workshop on global sustainable development issues

- The whole Board is responsible for looking at sustainability
- The main strengths and weaknesses of the Group, identified by the evaluation of non-financial rating agencies as well as self-assessment matrix<sup>1</sup>
- Performance of the Group with respect to the societal and environmental targets
- Solvay internal sustainability team trains the Board members

# BALANCED REMUNERATION

## SUSTAINABLE VALUE CREATION INTEGRATED IN SOLVAY'S COMPENSATION STRATEGY

Base salary is positioned at the market median of Solvay's peer group, currently composed of 17 European multinational companies<sup>1</sup> incorporated in six different European countries (Belgium, France, Germany, Netherlands, Switzerland, and the UK) and active in the chemical and/or the industrial sectors.

### SHORT TERM (THIS YEAR)

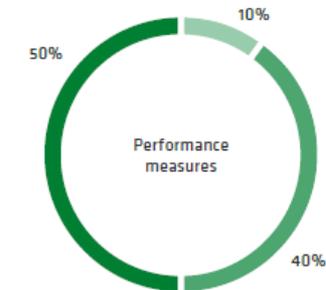


**Purpose:** The base salary reflects the individual's experience, skills, duties, and responsibilities, and the contribution of the individual and role within the Group.



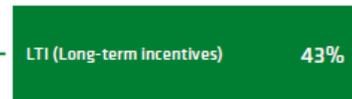
**Purpose:** Short-term incentives are linked partly to Group performance and partly to individual performance to drive and reward the overall annual performance of executives.

#### Target STI: 100% of Base Salary



- Group performance - Underlying EBITDA under cash constraint
- Individual objectives
- Sustainable development indicators

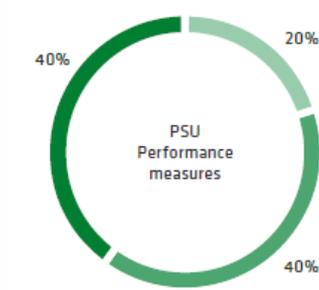
### LONG TERM



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



#### Target LTI: 150% of Base Salary



- Underlying EBITDA growth
- CFROI improvement
- Greenhouse Gas intensity reduction<sup>1</sup>

<sup>1</sup> new criteria applicable with effects from LTIs granted in 2018

# SUSTAINABLE VALUE CREATION INTEGRATED IN GROUP COMPENSATION STRUCTURE



## Fixed Compensation and Benefits



## Short and Long Term Variable Compensation

	Annual Base Salary	Pension & Benefits	Short term incentive	Performance Share Units (*)	Stock Options (*)
Performance Period			1 year	3 years	3 years
Performance Measures			<ul style="list-style-type: none"> <li>Underlying EBITDA </li> <li><b>Sustainable Development</b> </li> <li>Individual Objective</li> </ul>	<ul style="list-style-type: none"> <li>Underlying EBITDA growth </li> <li>CFROI %</li> <li><b>Greenhouse Gas Intensity Reduction</b> </li> </ul>	<ul style="list-style-type: none"> <li>Share price</li> </ul>

(\*) The corresponding number of stock options (SOP) is determined at grant date, based on the fair market value of the SOP. The PSU value is the closing share price on the grant date.

# INVENTORIES OF SOLVAY IN MARKETED PRODUCTS

## SUBSTANCES OF VERY HIGH CONCERN (SVHC) / SUBSTANCES REQUIRING ATTENTION (SRA)

The Solvay reference list for Substances of Very High Concern **SVHCs** (S-**SVHC** and SRA Reference list) was established in 2015 with three categories (black, red, and yellow lists) to characterize substances' level of risk management and control:

**Black list S-SVHCs:** already undergoing a regulatory process of phasing-out with a known deadline in at least one country or zone, or a restriction for Solvay relevant uses;

**Red list S-SVHCs:** currently included in regulatory lists of substances that could enter into a process of special authorization or restriction in the medium-term;

**Yellow list SRAs:** substances requiring specific attention, i.e. substances under scrutiny by authorities, NGOs, scientists, and industries due to their current hazardous properties or potential effects.

- 35 SVHCs may be present in one or more products put on the market. Analysis of safer alternatives (ASA) are planned for a total of 128 combinations of products/applications. Of the 50 analyses of safer alternatives completed as of December 31, 2018:
- 16 have led to effective replacement: **SVHC** substitution or reduction below required threshold, or production stopped;
- 18 are ongoing (alternative identified and discussed with customers to be implemented);
- 16 have no available alternatives (no substitute available or not allowed by regulations or not requested due to the application in the final product).

# Q1 2019 RESULTS IN LINE WITH EXPECTATIONS

**- 0.6%**  
vs Q1 2018

organic growth

Underlying  
EBITDA

€ 571 m

EBITDA margin

**22%**

sustained

> 49%

**ADVANCED  
MATERIALS**

Organic growth:  
**-5.7%**

> 21%

**ADVANCED  
FORMULATIONS**

Organic growth:  
**-1.7%**

> 30%

**PERFORMANCE  
CHEMICALS**

Organic growth:  
**+9.9%**

**+ 1.0%**  
vs Q1 2018

continuing operations

Underlying  
EARNINGS  
PER  
SHARE

€ 2.01

Total underlying  
EPS

**+ 18%**

**FREE  
CASH FLOW  
TO SOLVAY  
SHAREHOLDERS**

continuing  
operations

€ (91) m  
vs €100 m in 2018

# Advanced Materials Exposed to markets with different dynamics

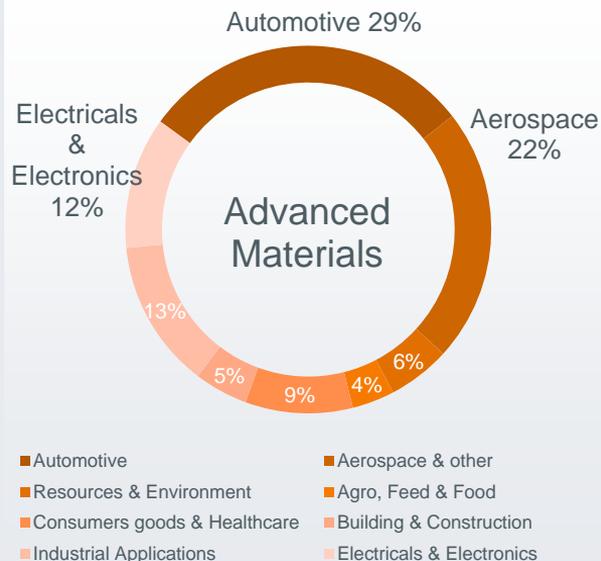
Polymer &  
Composite  
Technologies



## Market drivers

- **Automotive market down**  
*-5.3%<sup>(1)</sup> global production decline in 1Q19*
- **Electronics market**  
*Lower demand in smart devices and semiconductors*
- **Aerospace market growth**  
*Build rate increases across commercial and military aircrafts*

## Our markets



## Q1 delivery

Organic sales growth **-0.1%**

- Volume and mix impact -1.4%
- Pricing impact +1.3%

Organic EBITDA growth **-5.7%**

EBITDA margin **26%**

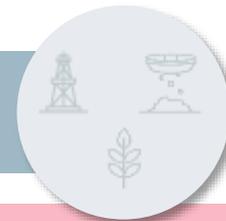
(1) Based on LMC data as of end of March 2019

Pie-chart represents 2018 net sales per end-market

# Advanced Formulations

## Lower volumes mitigated by higher prices

Surface &  
Liquid  
Chemistry



### Market drivers

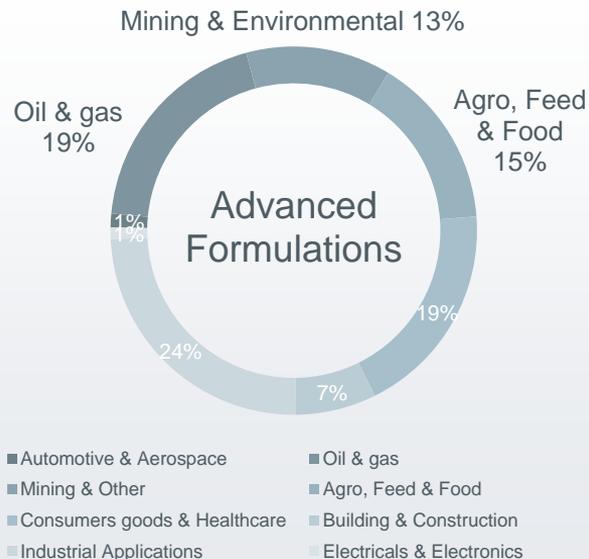
#### → Oil and gas

*Lower volume in North America  
(shale oil & gas stimulation activity)*

#### → Mining

*Stable demand environment*

### Our markets



### Q1 delivery

Organic sales growth **-4.4%**

→ Volume and mix impact -7.9%

→ Pricing impact +3.3%

Organic EBITDA growth **-1.7%**

EBITDA margin **17%**

Pie-chart represents 2018 net sales per end-market

# Performance Chemicals

## Solid demand and higher pricing

Soda ash & Peroxide chemicals



### Market drivers

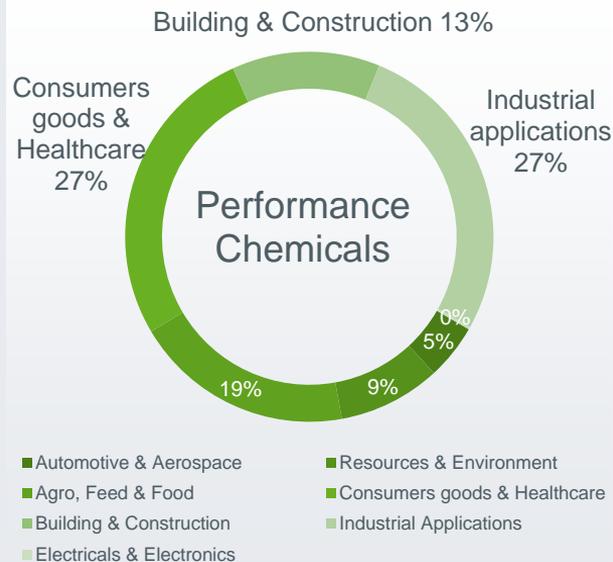
#### → Solid demand

*Good demand in soda ash and peroxides markets*

#### → Positive pricing

*Pricing well up in soda ash this year; Peroxides prices also supportive*

### Our markets



Pie-chart represents 2018 net sales per end-market

### Q1 delivery

Organic sales growth **+7.4%**

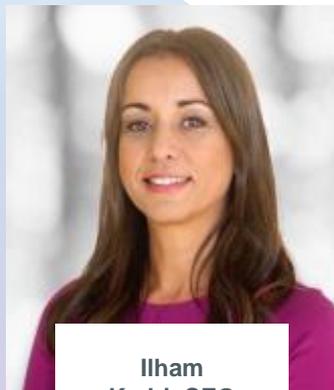
→ Volume and mix impact +1.1%

→ Pricing impact +6.3%

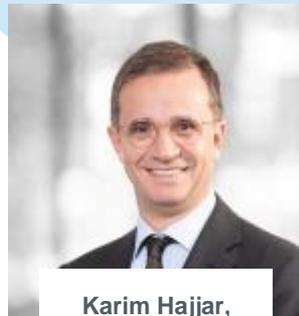
Organic EBITDA growth **+9.9%**

EBITDA margin **29%**

# A NEW EXECUTIVE COMMITTEE



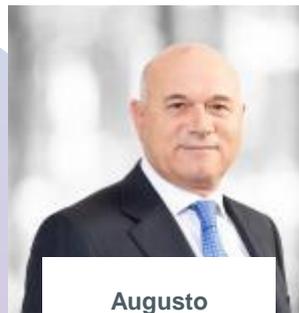
**Ilham  
Kadri, CEO**



**Karim Hajjar,  
CFO**



**Vincent  
De Cuyper**



**Augusto  
Di Donfrancesco**



**Hua Du**

# 2019 OUTLOOK

## ADJUSTED TO CURRENT MARKET CONTEXT



### EBITDA growth

Underlying  
excluding scope and forex conversion

- Organic growth<sup>[1]</sup>  
**flat to modest decline**
- Q2 down versus 2018



### Free Cash Flow

to Solvay shareholders  
from continuing operations

- **€490 million**<sup>[2]</sup>  
exceeding dividend pay-out
- Allowing for debt deleveraging  
of ~€100 million

[1] Organic growth, excluding scope & forex conversion effects and IFRS 16 effect, compared to 2018 pro forma of €2,330 million  
[2] vs 2018 pro forma of €566 million, already including IFRS 16 effect

# WHY INVEST IN SOLVAY?



## Leading Advanced Materials and Specialty Chemicals company

Top-notch chemistry that addresses sustainable mobility and improves resource efficiency, creating financial value & value for society at large.

# 1



## Innovative and sustainable solutions to the market of the future

Innovation towards impactful circular economy ; collaboration with game-changers to spark the impact of cleaner and sustainable solutions globally.

# 2



## Customer obsession

Answers to fast-pacing demand: rapid technological innovation, top-tier talent, personalized service and faster response times.

# 3



## Solid Financial Performance

One of the highest EBITDA margins within diversified chemical companies: propelled by volumes, underpinned by efficiency.

# 4



## Consistent Shareholders Reward

Dividend Increase for 35 years  
2018 dividend: €3.75  
~5.5% CAGR since 1982.

# 5

# Disclaimer



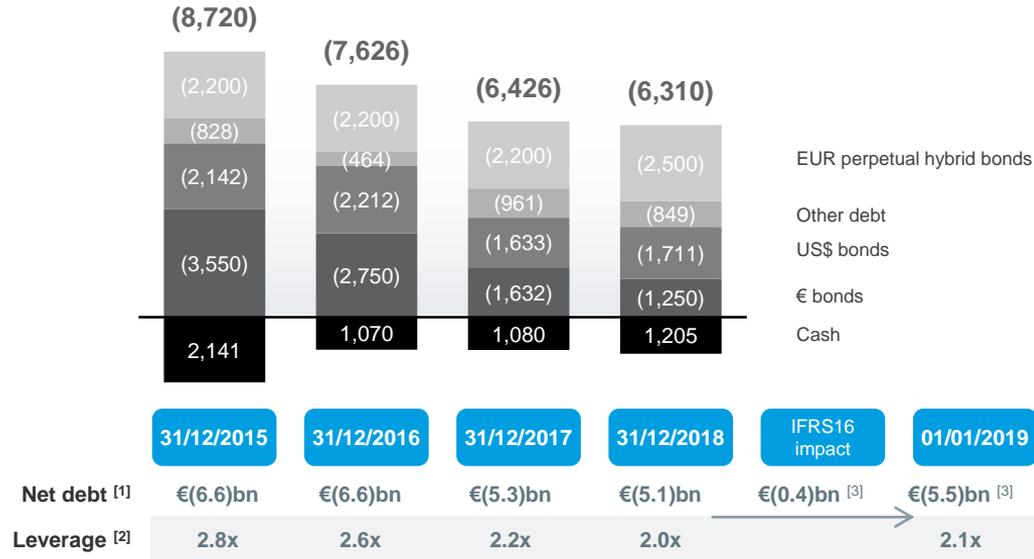
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Consequently, actual results or future events may differ materially from those expressed or implied by such forward-looking statements. Should known or unknown risks or uncertainties materialize, or should our assumptions prove inaccurate, actual results could vary materially from those anticipated. The Company undertakes no obligation to publicly update or revise any forward-looking statements

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# EFFICIENT CAPITAL STRUCTURE LEADING TO REDUCED COST OF DEBT

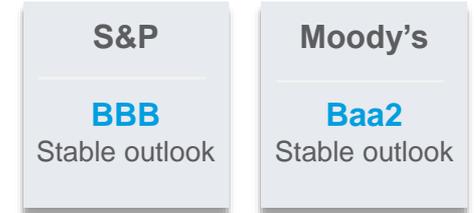
Underlying financial debt <sup>[1]</sup> evolution in € billion



Significant deleveraging by divestments and operations

DELEVERAGING CONTINUES

INVESTMENT GRADE



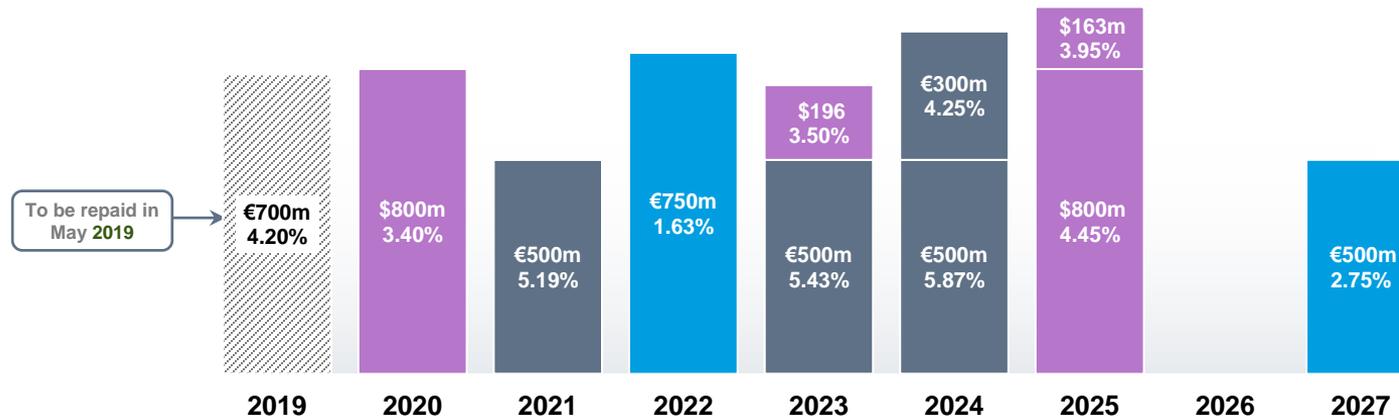
<sup>[1]</sup> Underlying debt includes perpetual hybrid bonds (considered as equity under IFRS)

<sup>[2]</sup> Net debt / underlying EBITDA of last 12 months

<sup>[3]</sup> Impact from IFRS16 implementation

# DEBT PROFILE: BALANCED MATURITIES ALLOWING FLEXIBILITY

Major financial debt <sup>[1]</sup> in million



	December 31, 2018			March 31, 2019			May 12, 2019 <sup>[4]</sup>		
	Face value	Avg maturity	Avg cost	Face value	Avg maturity	Avg cost	Face value	Avg maturity	Avg cost
<b>EUR bonds</b>	1,250	6.0	2.08%	1,250	5.8	2.08%	1,250	5.8	2.08%
EUR perpetual hybrid bonds <sup>[2]</sup>	2,500	3.3	4.97%	2,500	3.1	4.97%	1,800 <sup>[4]</sup>	4.2	5.27%
<b>USD bonds</b>	1,714 <sup>[3]</sup>	4.6	3.88%	1,745 <sup>[3]</sup>	4.4	3.88%	1,745 <sup>[3]</sup>	4.4	3.88%
<b>Total major debt</b>	5,464	4.3	3.97%	5,495	4.1	3.97%	4,795	4.7	3.93%
	in € million	in years		in € million	in years		in € million	in years	

[1] Major debt only, excluding cost of currency swaps

[2] At first call date

[3] USD 1,960 million

[4] Solvay to exercise the first call option on the €700 million hybrid bond on May 12, 2019



**SOLVAY**

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