

# Solvay Corporate presentation

2019 results, strategy and mid-term plan

### **Forenote**

IFRS 16 has been implemented in the Group's financial statements since January 1, 2019. Comparative information for the first quarter of 2018 in the business review is presented on an unaudited pro forma basis as if the implementation had taken place on January 1, 2018. This information is labelled "pro forma" or "PF". The balance sheet evolution is compared with January 1, 2019, which includes the IFRS 16 impact versus December 31, 2018.

Besides IFRS accounts, Solvay also presents underlying Income Statement performance indicators to provide a more consistent and comparable indication of the Group's financial performance. The underlying performance indicators adjust IFRS figures for the non-cash Purchase Price Allocation (PPA) accounting impacts related to acquisitions, for the coupons of perpetual hybrid bonds, classified as equity under IFRS but treated as debt in the underlying statements, and for other elements that would distort the analysis of the Group's underlying performance.

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# One year in review



New CEO & measures



**G.R.O.W.**Strategy



Our purpose
Shared sustainable
value for all



One Planet
Shared sustainable
value for all



**Efficient solutions**6 solutions



TPC platform
Creation in May



Battery platform

Creation in May



Research centers

Europe, US, China



# **Strategic update**

#### **Portfolio**

- Divestment of Polyamides commodities
- Net Proceeds of €1.2 billion
- Used to reduce pension liabilities and delever net debt

#### **Structure**

- Bonus structure aligned to differentiated business mandates
- New efficiency measures announced
- · Creates a leaner, more efficient organization
- Increases mid-term cost reduction target to min €350m

#### **Customer focus**

 Collaboration with leading auto OEM customer enabled Solvay to win new battery container application in hybrid vehicles











## **2019 Financial results**

Focus on cost, cash and customers in a challenging macro environment



FY NET SALES

Down 2% yoy Price partly offsets volumes

Q4: €2,440 m



FY UNDERLYING EBITDA

Foreign exchange offsets 2.8% decrease

Q4: €525 m



to Solvay Shareholders
from continuing operations

Disciplined focus

Disciplined focus delivers solid results

Q4: €261 m



## **Advanced Materials**

2019 Performance



NET SALES y/y organic



EBITDA
y/y organic

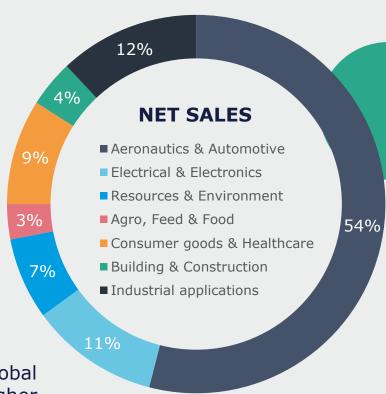




- Double-digit growth in Composite Materials for aerospace offset lower volumes in Specialty Polymers into automotive and electronics
- Higher prices across segment
- Fixed costs up to support future growth
- Efficiency measures only partially offset higher variable costs and destocking

#### **Market Drivers**

- Auto market down due to lower global production, offset slightly by higher sales to EV batteries
- Electronics down due to lower demand of semiconductor and smart devices
- Aerospace growth due to build rate increases across military and commercial aircrafts





## **Advanced Formulations**

2019 Performance



NET SALES y/y organic



EBITDA
y/y organic



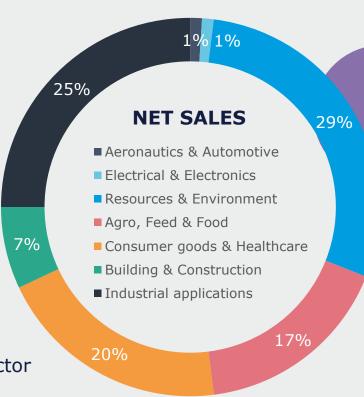
EBITDA margin



- Oil & gas significantly down on lower demand as customers focus on costs
- Lower mining volumes due to production stoppages at some mining customers
- Net pricing positive and cost containment measures could only partially offset the volumes decline

#### **Market Drivers**

- North American shale oil & gas sector remained challenged
- Mining environment soft with world mine production declining by about 0.4% in 2019
- Coatings, Agro, Personal care markets stable





# **Performance Chemicals**

2019 Performance







**EBITDA** 

y/y organic

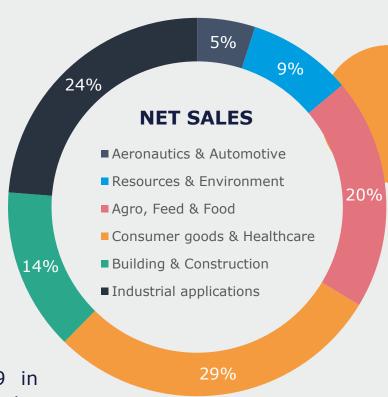


#### **Performance Highlights**

- Higher pricing & healthy demand
- Pricing up in soda ash and peroxides
- Coatis sales down on softer demand in its domestic Brazilian market
- Productivity gains, favorable energy costs

#### **Market Drivers**

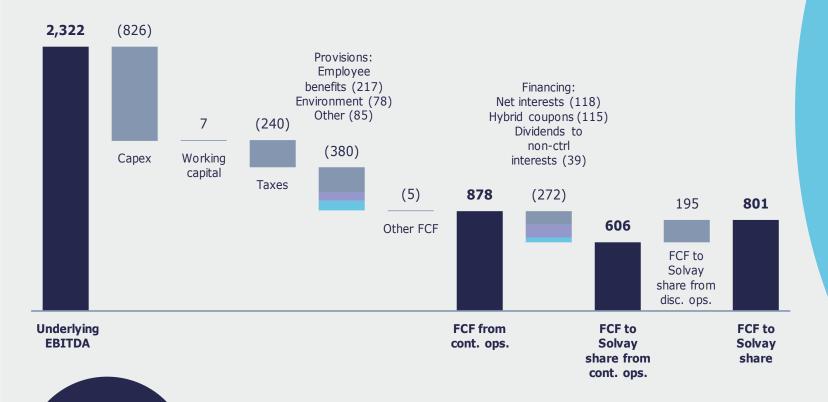
- Healthy demand throughout 2019 in Soda Ash and Peroxides markets, mainly consumer driven
- · Latin American market challenged





# Significant free cash flow generation

**2019** (in € billion)



# 2019 FCF to Solvay shareholders from continuing operations at €606 million

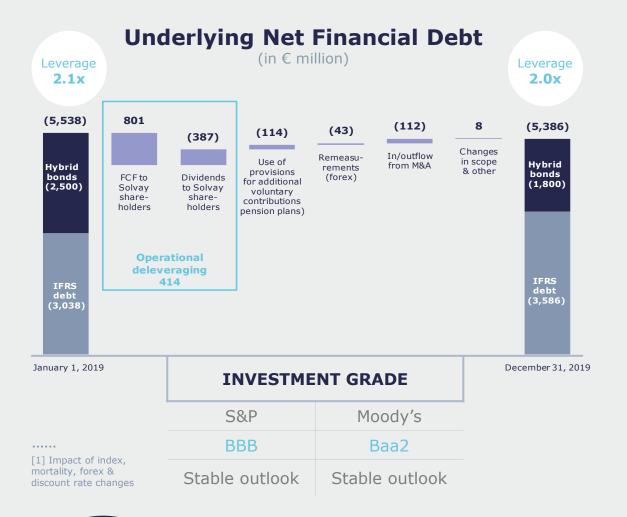
- Strict working capital management
- Capex discipline maintained

••••

2019 Total FCF to Solvay shareholders at €801 million, including €195 million from discontinued operations → RECORD DELIVERY

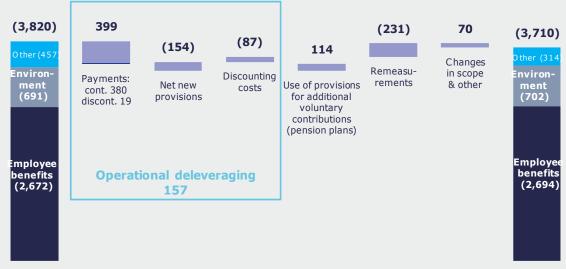


# Strong operational deleveraging



#### **Provisions**

(in € million)



January 1, 2019 December 31, 2019

- **Strong operational deleveraging** of €157m and additional voluntary provisions of €114m
- These largely offset a €231m increase in post-employment provisions from the net effect of lower discount rates and higher returns from plan assets



# 2019 social & environmental results

Constantly focused to respect our commitments

| ct our commitments  | 2019                | 2018         | 2017         |
|---|---------------------|--------------|--------------|
| <b>Greenhouse Gas emissions</b> (scope 1 & 2) in percentage at constant perimeter vs. Y-1 | -5%                 | flat         | -            |
| Sustainable solutions as percentage of Group sales  | 53%                 | 50%          | 49%          |
| Occupational accidents at Group sites per million hours worked                            | <b>0.44</b><br>-18% | 0.54<br>-17% | 0.65<br>-16% |
| Employees involved in societal actions as percentage of employees                         | 47%                 | 33%          | 33%          |
|   |                     |              |              |

# 2020 outlook

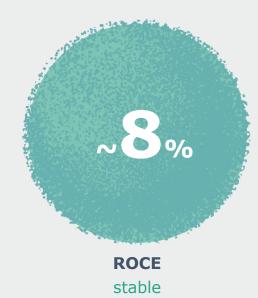
#### Return to growth in second half



Organically from €2,322 million in 2019



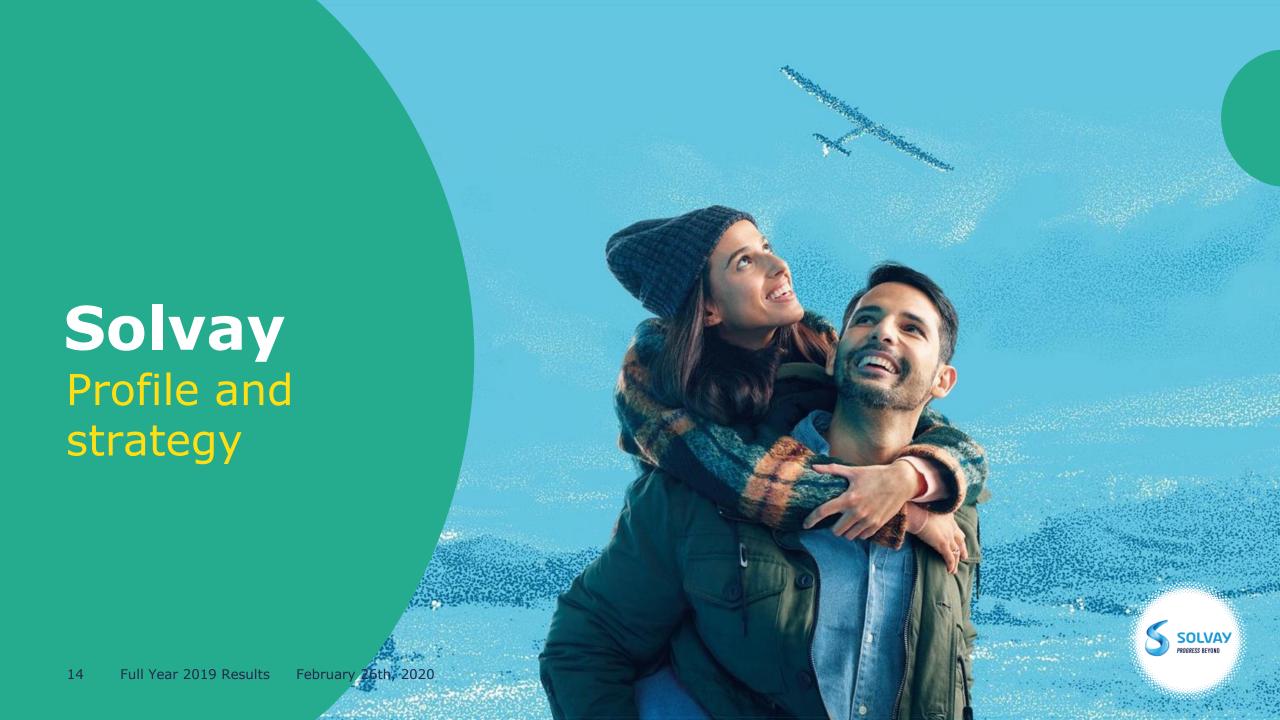




#### **Assumptions included in guidance:**

- 737MAX build rate of ~200 in 2020 versus almost ~600 in 2019 (~30m to 40m FY impact)
- COVID-19 virus uncertainty continues; assumes (~25m Q1) impact
- Macroeconomic environment remains a headwind at least through first half in key markets including auto, electronics, oil & gas
- As a result, first quarter expected to be down by high single-digits





# **Solvay By The Numbers**

€10.2B

net sales 53% sustainable solutions €2.3<sub>B</sub>

underlying EBITDA 23% margin

>50%

revenue in faster growing economies 24,100

People at Solvay

115

Sites globally

#### **Evenly Balanced**

revenue across Europe, the Americas and Asia & RoW

75%

15

of R&I pipeline revenue to be from "Sustainable Solutions"

2,015

R&I employees in 21 major R&I centers €336м

in R&I

>100

nationalities

64

countries

240

New patents In 2018

2630

patents in force

1900

intellectual property agreements



# We bond people ideas and elements to reinvent progress

Our vision

# **Sustainable shared** value for all

PROGRESS BEYOND

#### AT OUT BEST

We Believe in



Purposeful Responsibility



Unity, Not Uniformity



Passion for Performance As Solvay Citizens



We
Care and
Collaborate



We Are Customer Obsessed



We make it happen

We Go Beyond



**As Leaders** 



We Lead
with Purpose,
Heart and
Mind



We
Passionately
Coach People
to Their
Potential



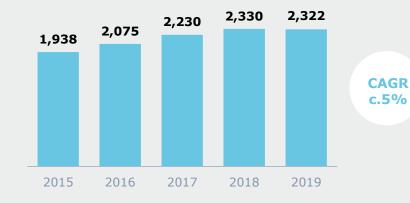
We Learn,

Unlearn and
Relearn

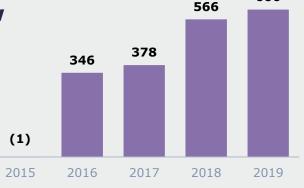


# Financial performance

**Underlying EBITDA** (in € billion)



Free cash flow to Solvay shareholders from continuing operations (in € million)



606

**Underlying** net financial debt



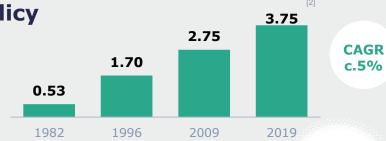


#### **Provisions** (in € billion)











# **Our Businesses are Aligned** to Powerful Megatrends













**MEGATRENDS** 

**Electrification** 

Lightweighting

**Resource efficiency** 

**Healthcare** 

IoT / **Digitalization** 

**Eco-friendly** based solutions

**MACRO DRIVERS** 

- Resource scarcity
- Climate change
- Consumer trends
- Responsible mobility
- Climate change
- Resource scarcity
- Safeguard ecosystem
- Resource scarcity
- Climate change

- Aging population
- Growing middle class
- Digitalization, mobility & wellness
- People connecting digitally
- Digitally interconnected ecosystems
- Health and wellness awareness
- Consumer trends
- Resource scarcity

GROWTH **OPPORTUNITY** 

- ~50% of global car production in EV or hvbrid in 2030
- Global battery demand growth at 20%+ CAGR over the 2018-2030 period
- Composites in aerospace to grow 2x in next 10 years
- Composites in offshore oil pipes / risers to be worth >\$14B in 10 years
- Composites in auto to grow 30% CAGR in next 10 years

- Water treatment to grow at 4%+ CAGR over next 5 years
- Lithium supply to increase 6x by 2030 and copper to add ~4mtpa
- Energy-efficient glass to grow at 4.5% CAGR by 2025

- Global medical plastics to grow >6% in short-term
- Global medical implant to grow at 7% CAGR in shortterm
- IoT sensors to grow >15% CAGR through 2023
- Display capacity to grow at 4% CAGR through 2023
- Semiconductors market to grow at 6% CAGR to 2022

- Organic shampoos to expand at 3.1% CAGR to 2025
- Natural vanillin to grow >10% CAGR by 2024
- Waterborne coatings to grow by 5.7% CAGR by 2025

**ADDRESSABLE MARKET**  >€25B

>€10B

>€50B

>€10B

>€50B

>€10B



# Our G.R.O.W. Strategy

#### A differentiated management approach to drive growth, cash, and returns

| ACCELERAT   | ΓΕ GROWTH  | DELIVER RESILIENT CASH                                  |  | OPTIMIZE RETURNS  |   | WIN                |  |
|---|--|---|--|---|---|--------------------|--|
| MATE  | RIALS  | CHEMICALS   |  | SOLUTIONS   |   | Solvay ONE         |  |
| Materials businesse potential, which                        | Prioritize investments in high margin Materials businesses with high <b>growth</b> potential, which are also our most sustainable solutions  Maximize cash flow generation from our resilient Chemicals businesses where we have a competitive advantage |   | <b>Optimize</b> our Solutions businesses to unlock value and increase returns. |   | Create a <b>winning</b> team and operating model to support a performancedriven culture and win |                    |  |
| Extend position as #1 pure-play advanced materials business |  | Become #1 cash conversion chemical player               |  | Unlock<br>value   |   | with our customers |  |
| Specialty Polymers<br>Composite Materials                   |  | Soda Ash & Derivatives Peroxides Silica Coatis Rusvinyl |  | Novecare<br>Technology Solutions<br>Special Chem<br>Aroma Performance |   |                    |  |
| 35%   | ~28%   | 38%   | ~27%   | 27%   | ~17%  |                    |  |
| 2019 FY<br>NET SALES  | 2019 FY<br>EBITDA MARGIN   | 2019 FY<br>NET SALES                                    | 2019 FY<br>EBITDA MARGIN   | 2019 FY<br>NET SALES  | 2019 FY<br>EBITDA MARGIN  |                    |  |
| 67%   | 3.5%   | 79%   | 1%   | 68%   | 3.3%  |                    |  |
| 2019 FY<br>Cash conversion                                  | 2019 FY<br>R&I Intensity   | 2019 FY<br>Cash conversion                              | 2019 FY<br>R&I Intensity   | 2019 FY<br>Cash conversion  | 2019 FY<br>R&I Intensity  |                    |  |

<sup>[1]</sup> **Cash Flow Return On Investment** measures the cash returns of Solvay's business activities. Movements in CFROI levels are relevant indicators for showing whether economic value is being added, though it is accepted that this measure cannot be benchmarked or compared with industry peers. The definition uses a reasonable estimate of the replacement cost of assets and avoids accounting distortions, e.g. for impairments. It is calculated as the ratio between recurring cash flow and invested capital, where: **Recurring cash flow** = Underlying EBITDA + Dividends from associates and JVs + Recurring income taxes; **Invested capital** = Replacement value of goodwill & fixed assets + Net working capital + Carrying amount of associates and JVs; **Recurring capex** is normalized at 2% of the replacement value of fixed assets net of goodwill values; **Recurring income tax** is normalized at 30% of (Underlying EBIT - Earnings from associates and JVs)











### **Materials**

#### #1 pure play advanced materials business

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

#### **Strong growth opportunities**

- Sustainable automotive
- Sustainable aerospace
- Healthcare
- Electronics



#### Strategic intent Accelerate growth



Upgrade key account resources and e-commerce platforms

**Customers** 

**Investment** Prioritize investments for growth

#### **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



#### Track record

+7% EBITDA growth (organic 2014-2019)



~28% EBITDA margin (2019)

>25% Vitality index (2018) [1]









## Chemicals

#1 cash conversion chemical player

#### World-leaders in essential chemicals to daily life

#### **Mono-technology businesses**

- · Soda ash
- Peroxide
- Silica
- Phenol chain







**EXPANDING HEALTHCARE** 

#### Strategic intent **Deliver resilient cash**

#### Innovation

Focus on process innovation

#### Customers

Leverage best-in-class global production

#### Investment

Selectively invest in

#### **Key levers**

- Adapt organization to focus on cash and returns
- Drive focused productivity and rationalization programs
- Prioritize Capex to maintenance and invest selectively for compelling cash returns, e.g. natural soda ash
- Focus R&I on process innovation



#### Track record

+9% Cash flow growth (organic 2014-2019)



~79% Cash conversion  $(2019)^{(1)}$ 

~27% EBITDA margin (2019)



**OPTIMIZE** 

Returns at WACC (average 2014-2019)



## **Solutions**

#### Unlock value

#### Unique formulation & application expertise

#### **Selective** opportunities to grow

- Natural food ingredients
- Crop care
- Coatings
- Mining solutions







**RESOURCE EFFICIENCY** 



#### Strategic intent **Optimize returns**

Innovation Focus on eco-friendly

**Customers** focus on key Investment

#### **Key levers**

- Innovate selectively in specialty niche markets
- Fix shale oil & gas and other low-return businesses
- Drive efficiency and address fragmented industrial footprint



#### Track record

Returns < WACC (average 2014-2019)



~17% EBITDA margin (2019)



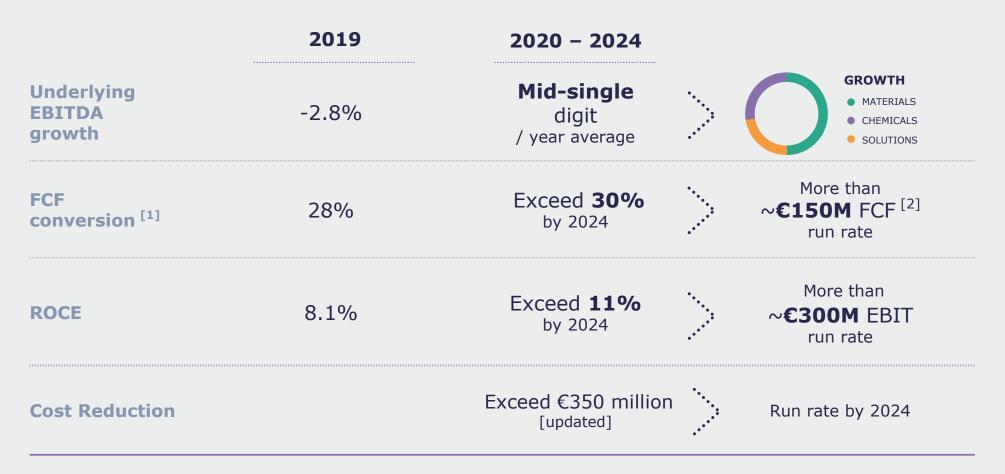






# **Committed to Delivering Enhanced Value**

Mid-term financial targets



All targets are on an organic basis (at constant forex and scope)











### **10 SUSTAINABILITY GOALS BY**





Reduce the environmental impact of our operations at planetary scale: tackle climate & biodiversity

**Coal phase out and no new coal plant:** wherever renewable alternatives exist **Biodiversity:** reduce negative pressure on biodiversity beyond climate change: terrestrial acidification, water eutrophication, marine ecotoxicity

Greenhouse gas emissions: Align its trajectory with "well below 2°C

temperature increase" (2015 Paris Agreement)

-26% (-2%/y)

Achieve 100%

30% reduction



**Sustainable Solutions:** increase the share of revenue in Sustainable Solutions measured by SPM

**Circular economy:** increase the percentage of sales of products based on renewable or recycled resources

**Industrial waste:** reduce non-recoverable industrial waste (landfill or incinerated without energy recovery)

**Water use efficiency:** decrease the impact on freshwater withdrawal by reducing intake of freshwater

**Achieve 65%** vs 50%

**Achieve 15%** vs 7%

30% reduction

25% reduction



**Safety:** a zero accident policy aiming to protect the safety and security of employees

**Inclusion and Diversity:** Gender parity for mid- and senior-level management by 2035

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

Aim for zero accident

Parity vs 24%

Extension to 16 weeks (by 2021)

SOLVAY

# **Our Value Proposition**

#### **Sustainable Solutions Aligned to Megatrends**

- Attractive secular trends drive long term growth
- Advanced materials and specialty chemicals offer sustainable solutions aligned to megatrends
- **Large and growing** market opportunity
- Strong ESG credentials

#### **Geographic Advantage**

- Evenly balanced revenues across Europe, Americas, Asia & RoW
- Customers served out of 61 countries

#### **Unmatched Depth** of Capabilities

- Leadership positions in >75% of our portfolio
- Leverage technologies across businesses to meet complex customer demands and help reduce their total cost of ownership

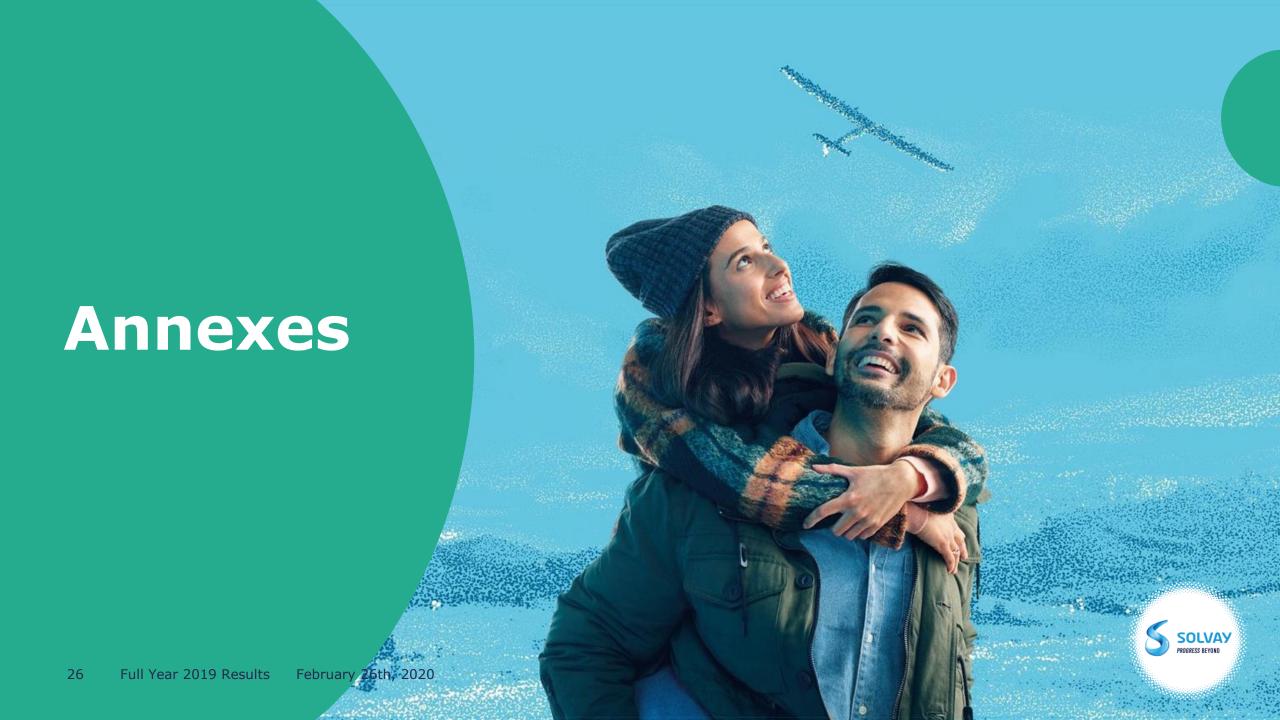
#### **Financial Performance**

- One of the highest EBITDA margins in the industry
- Resilient cash, investment-grade
- Maintained or raised dividend since 1982



**Significant opportunity ahead** driving change through our new strategy, new operating model and new purpose to maximize profitable growth, cash flows and shareholder returns





### **SOLVAY ONE**

#### Disciplined centrally allocated resources

#### **CAPEX**

- Contain Group Capex at 7-8% sales
- Prioritize at Group vs GBU level
- Redirect resources from ~40% to ~60% to Materials and selective growth opportunities
- Capex minimization through digitalization
- Strict returns criteria:
  - **IRR 15%**
  - **ROCE 20%+**















#### R&I

- Contain Group R&I at ~€350M/year
- Prioritize at Group vs GBU level
- Redirect resources from ~35% to >50% to Materials and selective growth opportunities











## **SOLVAY ONE**

#### Cost reductions of €300 to €350M

#### **SIMPLIFICATION & SYNERGIES**



#### **Complete Current Simplification Program**

 Announced in 2018, to be completed by FY2020

#### **Launch New Synergy Program**

- Reduce indirect spend through improved group-wide policies
  - Technical goods & services
  - General and IT expenses
- 'Order to Cash' program
  - Reduce logistics & packaging costs
- Zero-Based Budgeting



- **MATERIALS**
- CHEMICALS
- SOLUTIONS
- CORPORATE



Total gross savings €300-350M run-rate by 2024

#### **PRODUCTIVITY MEASURES**

# € 200M run-rate by 2024

#### **Continued operational** cost reductions

- Yield improvements
- Raw material & energy efficiency

#### **Overall Equipment Effectiveness (OEE)**

For better asset utilization

#### Benefiting from deployment of digital

 Manufacturing Capex avoidance, improving yield and effectiveness











# **SOLVAY ONE**

Cash management

#### REDUCING **PENSIONS** & INTERESTS



Lower pension cash service by >€40M run-rate as from 2020

- Deploy ~€0.5B of proceeds from sale of Polyamide to reduce pension liabilities
- Return > WACC
- Better security for pension obligations

**Decrease interest payments** by >€35M run-rate by 2024

Deleveraging net debt by ~€0.6B with proceeds from sale of Polyamide & consistent operational FCF growth

#### REDUCING WORKING **CAPITAL NEEDS**



**Order-to-cash program** 

- A leaner enterprise-wide supply chain
- Inventory management and warehousing

Reduce working capital / sales ratio by 1-2% of sales











~€500M more cumulative cash from operations by 2024

## 2020 P&L Considerations



# **Underlying EBITDA**



#### **FCF Conversion**

# To be "flat to modestly down" (0% to -3%) organically compared to €2,322 million in 2019

- Growth to be back-ended as macroeconomic headwinds expected to continue into 2020:
  - Improvement in key markets (auto and electronics) expected in the second half
  - Oil and gas market to remain significantly challenged again this year
  - Resilience thanks to mitigation, including pricing, headcount efficiency, other cost measures and accelerated technology penetration
- Q1 2020 to be down by "high single digits" on:
  - Boeing 737MAX production of 200 aircraft in 2020 compared to close to 600 in 2019. The net impact, after mitigation efforts, is expected to be between €30 million and €40 million in 2020
  - Estimated COVID-19 impact approximately
     €(25) million

#### To be at around 28%

- Continued focus on working capital and on disciplined capex management
- Pension cash-out will reduce by more than €40 million, following voluntary contributions
- Cash-out for financial charges will be about €20 million lower as a result of the reduction and optimization of net financial debt



# Mostly exposed to the U.S. dollar, with the main sensitivities per US\$/€0.10 change

- EBITDA sensitivity of ~€(125) million based on the end of 2019 rate of US\$/€1.15
  - ~2/3 on conversion
  - ~1/3 on transaction, the latter being mostly hedged
- Net debt sensitivity of ~€100 million based on the end of 2019 rate of US\$/€1.12



# **Our Businesses are Aligned** to Powerful Megatrends













**MEGATRENDS** 

**Electrification** 

Lightweighting

**Resource efficiency** 

High-performance polymer technology portfolio

**Healthcare** 

**Digitalization** 

New-generation

displays

OLED & flexible

**Eco-friendly** based solutions

**OUR SOLUTIONS** & VALUE **PROPOSITION** 

- Binders & membranes for I i-ion <
  - **Electrolyte** technology
- Next-generation Li-ion

 Improving engine efficiency & downsizing

- **Thermoset** composites
- Aerospace structures

- Flexible risers
  - Extraction technologies
- Cu flotation
- Li extraction
- Thermoplastic composites
- Aerospace industry
- Automotive industry
- Flexible risers
  - Soda ash, Peroxides & Silica

Dialysis

Disinfection

- Eco-efficient glass
- Air pollution control
- Eco-efficient tires

Medical devices

Long-term implants

- Dialysis membranes
- Pharma packaging
- Semiconductor industry consumables

**High-purity** 

chemicals

- **Bio-based** ingredients
- Vanillin: Flavors & fragrances
- Guar: Agro & nutrition Home & personal care products

#### Waterborne solutions

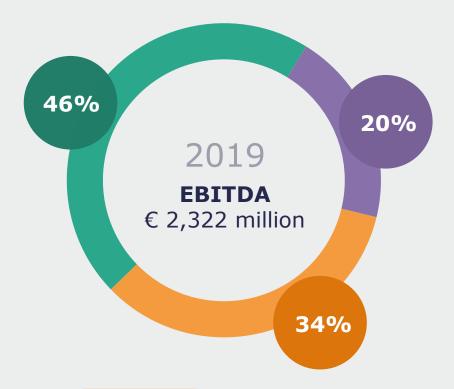
Coatings

# Performance Chemicals growth partly compensates decline in Advanced segments

#### **Advanced Materials**

Organic growth -9.3%

- Double-digit growth in Composite Materials for aerospace offset lower volumes in Specialty Polymers into automotive and electronics
- Higher prices across segment
- Fixed costs up to support future growth
- Efficiency measures only partially offset higher variable costs and destocking



#### **Advanced Formulations**

Organic growth -12%

- Oil & gas significantly down on lower demand as customers focus on costs
- Lower mining volumes due to production stoppages at some mining customers
- Net pricing positive and cost containment measures could only partially offset the volumes decline

Corporate & Business EBITDA and excluded from the pie chart as the contribution is negative

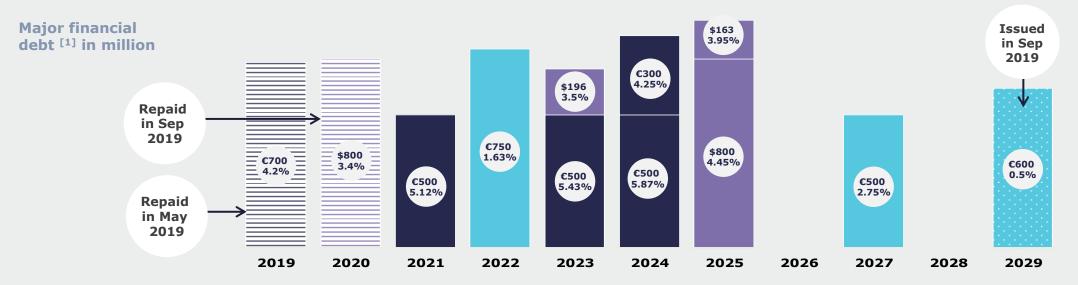
**Performance** Chemicals

Organic growth +10%

- Higher pricing & healthy demand
- Pricing up in soda ash and peroxides
- Coatis sales down on softer demand in its domestic Brazilian market
- Productivity gains, favorable energy costs



# **Balanced maturities allowing flexibility** Deleveraging and reduced of cost of debt



| Period                                    | December 31, 2018 |                 |             | December 31, 2019 |                 | Variation over the period |               |                 |               |
|---|-------------------|-----------------|-------------|-------------------|-----------------|---------------------------|---------------|-----------------|---------------|
|   | Face<br>value     | Avg<br>maturity | Avg<br>cost | Face<br>value     | Avg<br>maturity | Avg<br>cost               | Face<br>value | Avg<br>maturity | Avg<br>cost   |
| EUR bonds                                 | 1,250             | 6.0             | 2.08%       | 1,850             | 6.6             | 1.56%                     | ↑ +600        | ↑ +0.6          | ↓ -0.5        |
| EUR perpetual hybrid bonds <sup>[2]</sup> | 2,500             | 3.3             | 4.97%       | 1,800[4]          | 3.4             | 5.27%                     | <b>↓ -700</b> | ↑ <b>+0.1</b>   | ↑ <b>+0.3</b> |
| USD bonds                                 | 1,714             | 4.6             | 3.88%       | 1,063[3]          | 5.5             | 4.22%                     | ↓ -681        | ↑ <b>+0.9</b>   | ↑ <b>+0.3</b> |
| Total major debt                          | 5,464             | 4.3             | 3.97%       | 4,683             | 5.1             | 3.58%                     | <b>↓ -781</b> | ↑ +0.8          | ↓ -0.4        |
|   | in € million      | in years        | in %        | in € million      | in years        | in %                      | in € million  | in years        | in % points   |



# 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

1 year

**Performance Share** Units (\*)

3 years

Stock Options (\*)

3 years following the grant year

**PERFORMANCE MEASURES** 

**PERFORMANCE** 

**PERIOD** 

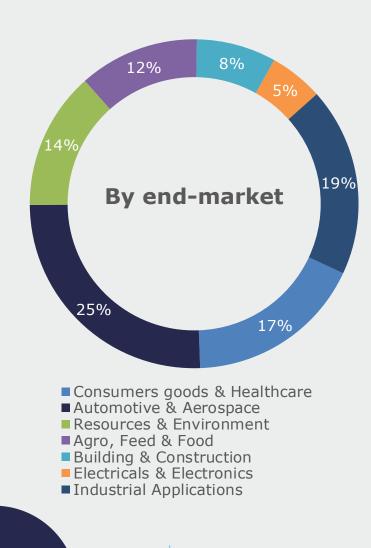
- Underlying EBITDA growth
- Free Cash Flow converstion
- Sustainable Development
- Individual Objective

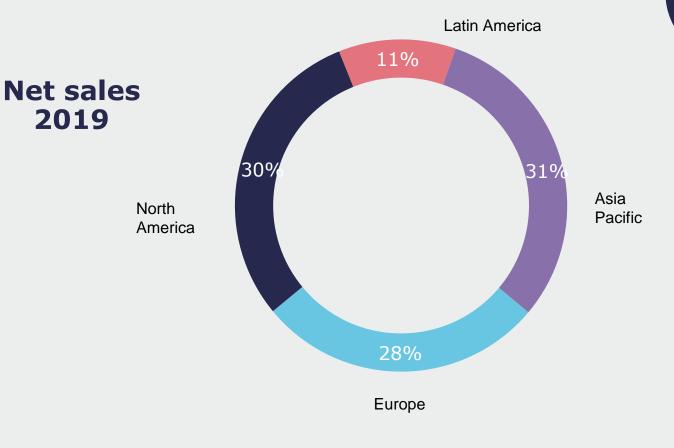
- Sustained underlying EBITDA growth on YoY basis
- ROCE %
- Reduction of GHG (CO<sub>2</sub>) emissions
- Share price
- Dividend value

 Share price increase



# Solvay's profile by market and region







# Digitalization as key enabler for further value creation



Increase asset performance

Leveraging data analytics

Improve reliability of equipment

 Monitoring and predictive modeling for failure prevention

Improve productivity of shop floor

Mobile dashboards and digital resources for operators

# Example in Specialty Polymers

- +18% tons/yr gain in fluids
- +26% tons/yr gain in HFP
- +15% tons/yr gain in PVDC & PVDF

# DIGITALIZATION FOR CUSTOMERS

- Real-time data analysis
- Technical recommendations
- Reduce process variability

# Example in Technology Solutions

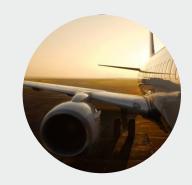
- Real-time data enables ongoing interaction with customer
- Immediate recommendations on new solutions
- Virtual tech support with immediate benefit to customers' bottom line



# From science to product to outcome to impact



**Oxystrong®** Waste water treatment solution



**CYCOM<sup>TM</sup>** Composites for lighter and safer structures for planes



Ryton® PPS Solution for 5G devices and communication



**Jaguar**® Natural hair & body care solution



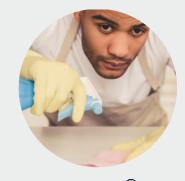
Rhovanil® Vanillin taste in food



Interox® PicoPlus for the highest purity in electropics manufacturing



**CYANEX®** Solution for more efficient lithium recovery



**Augeo**® Sustainable cleaning solution



Zeosil® Silica benchmark for green tires



**SOLVair®** Clean air solutions

## **Automotive**

#### We make cars more efficient

#### MARKET DRIVERS

Fuel efficiency / lightweighting regulations driving CO<sub>2</sub> reductions

- EU target 95g CO2/km by 2020
- US target 50% reduction on new vehicles by 2025

#### Shift to electrification

- ~30% CAGR hybrid & plug-in electric vehicles in 10 years
- · Increasing polymer weight per car  $6kg ICE \rightarrow 12kg P(HEV)$
- · Content doubles with move toward hybrid vehicles





LIGHTWEIGHTING





#### **HOW WE WIN**

Broadest portfolio of advanced materials

• Greater use of high-performance polymers to meet more critical applications

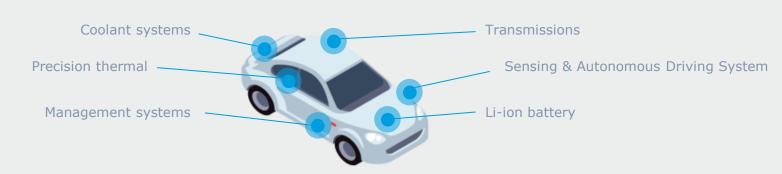
#### Deep customer relationships

- Strategic collaborations across OEMs
- Alliance on next generation battery development

#### Leveraging core competencies

Knowledge to integrate design, materials and processes

Solvay outpaces growth 3X





~15%

# **Aerospace**

We make aircraft lighter & more efficient







#### **MARKET DRIVERS**

**4.3% annual growth** in passenger traffic

#### **10%** → **50%** by weight

 Significant increase of composites on new aircrafts vs. legacy aircrafts

**~40,000** new aircrafts in next 20 years

#### **HOW WE WIN**

#### Broad customer base

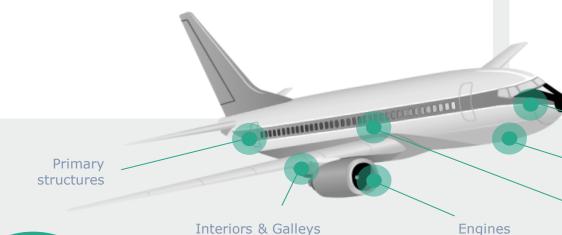
- Positions with major global OEMs in US, Europe, China & Russia
- Long-term contracts on key programs across commercial & military sectors

#### Technology leadership

- Thermoset & thermoplastic composites
- · Resin infusion & bonding technology
- LEAP engine technology

Surface coatings

- Airbus A220 wing technology
- Winglet aerodynamic technologies



Secondary structures

Bonding & Multifunctionality



Tim minimini

~10%

# Thermoplastic composites









For aerospace, automotive and oil & gas

#### MARKET DRIVERS

#### Why Thermoplastics?

#### Fast cycle time

- · SEnabling increased build rates
- More efficient part assembly

#### Performance and durability

- High strength
- Unrivaled toughness
- Weight reduction

#### Environmental resilience

- Resistance to aggressive fluids
- Corrosion resistance

#### **HOW WE WIN**

#### **Investments**

- Capacity expansions in aero (Sept 2019)
- New capacity for oil & gas (Oct 2019)
- Two innovation center openings (Oct 2019)
  - Brussels
  - Atlanta USA

#### Customer partnerships

- Supplying aero for >30 years
- New customer agreement in oil & gas

#### Addressable market size (aero + oil & gas)

• € 500M





# We are a technology leader for mission critical battery materials



**ELECTRIFICATION** 

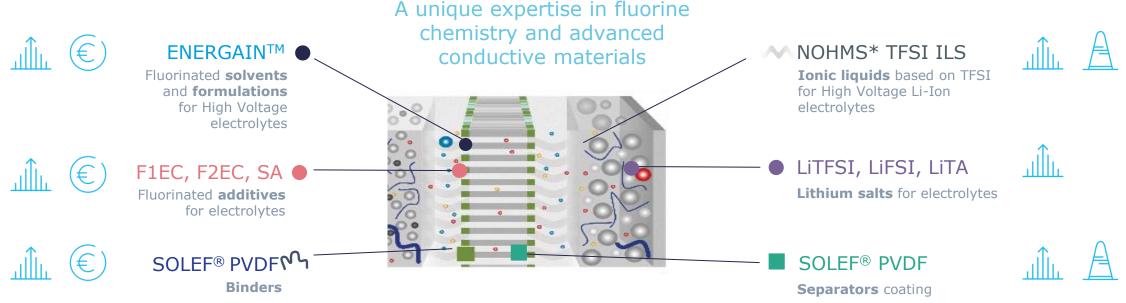


LIGHTWEIGHTING









**Towards Solid-state battery** 



**HIGHER PERFORMANCE** 



**LOWER COST** 





# Broadest portfolio of advanced materials differentiating Solvay from competition

| Aromatics Fluoropolymers | <b>High Perf Composites</b> |
|--------------------------|-----------------------------|
|--------------------------|-----------------------------|

|                                      | НРРА     | PPS      | PAEK     | PSU      | PTFE     | PVDF     | PFA      | FKM      | PFPE     | Carbon<br>Fiber | Thermoset<br>Prepreg | Resin<br>Infusion | Adhesives<br>&<br>Surfacing<br>films | Thermo-<br>plastic<br>prepreg | Out-of-<br>Autoclave<br>prepreg |
|--------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------------|----------------------|-------------------|--------------------------------------|-------------------------------|---------------------------------|
| SOLVAY asking more from chemistry*   | <b>V</b> | <b>V</b> | <b>✓</b> | <b>✓</b> | <b>✓</b> | <b>✓</b> | <b>V</b> | <b>✓</b> | <b>✓</b> | <b>✓</b>        | <b>✓</b>             | <b>✓</b>          | <b>✓</b>                             | <b>✓</b>                      | <b>✓</b>                        |
| ARKEMA                               | <b>/</b> |          | <b>\</b> |          |          | <b>✓</b> |          |          |          |                 |                      |                   |                                      |                               |                                 |
| ■ <b>BASF</b> We create chemistry    | <b>\</b> |          |          | <b>V</b> |          |          |          |          |          |                 |                      |                   |                                      |                               |                                 |
| Gelanese                             |          | <b>✓</b> |          |          |          |          |          |          |          |                 |                      |                   |                                      | <b>✓</b>                      |                                 |
| DAIKIN                               |          |          |          |          | <b>V</b> | <b>V</b> | <b>V</b> | <b>V</b> |          |                 |                      |                   |                                      |                               |                                 |
| DSM<br>BHIGHT SCHMEL BRIGHTER LYNNS. | <b>✓</b> |          |          |          |          |          |          |          |          |                 |                      |                   |                                      |                               |                                 |
| dyneon                               |          |          |          |          | <b>V</b> | <b>V</b> | <b>V</b> | <b>V</b> | <b>V</b> |                 |                      |                   |                                      |                               |                                 |
| OW OUPDN                             | <b>✓</b> |          |          |          | <b>V</b> |          | <b>✓</b> | <b>✓</b> | <b>V</b> |                 |                      |                   |                                      |                               |                                 |
| EMS                                  | <b>V</b> |          |          |          |          |          |          |          |          |                 |                      |                   |                                      |                               |                                 |
| @ EVONIK                             | <b>✓</b> |          | <b>✓</b> |          |          |          |          |          |          |                 |                      |                   |                                      |                               |                                 |
| HEXCEL                               |          |          |          |          |          |          |          |          |          | <b>✓</b>        | <b>✓</b>             |                   |                                      |                               | <b>V</b>                        |
| KUREHA                               |          | <b>✓</b> |          |          |          | <b>✓</b> |          |          |          |                 |                      |                   |                                      |                               |                                 |
| <b>TORAY</b> Innovation by Chemistry |          | <b>V</b> |          |          |          |          |          |          |          | <b>V</b>        | <b>V</b>             |                   |                                      | <b>V</b>                      | <b>V</b>                        |
| victrex'                             |          |          | <b>✓</b> |          |          |          |          |          |          |                 |                      |                   |                                      |                               |                                 |



# **Electronics**

Beyond smartphones

#### MARKET DRIVERS

#### Double digit growth expected

- The growing demand for hyper-connectivity and the fast development of 5G
- Exponential growth of data, leading to necessary miniaturization
- Internet of Things
- · Need to reduce the energy consumption of components

#### Innovation is key to anticipate the fast moves in this industry.

More specifically, 5G and Internet of things, will open many new markets where Solvay's expertise and customer intimacy will be key assets.



**CHIP TESTING PUMP** 



**O-RING** & SEALING



**VACUUM PUMP SEALING** 



**WEARABLE** 



DIGITALIZATION

**COVER FILMS** 



**ACOUSTIC** 



**SMART SENSOR PACKAGING** 



net sales

#### **HOW WE WIN**

We target advanced technology markets driven by strong long-term trends with a portfolio of solutions

- Specialty polymers providing high performance solutions for structural and electronic components
- · Recognized expertise in high purity chemistry for the semiconductor industry
- New generation materials for OLED, delivering high quality diffuse light from thin and potentially flexible displays



BANDS



COMPONENTS



## **Healthcare**

### We improve comfort for others

#### MARKET DRIVERS

#### +5-7% CAGR

- Health care coverage in developing markets
- The growing care needs of elderly populations (ageing and growing populations and increasing life expectancy)
- Advances in treatments and health technologies
- High sterilization capabilities

We improve comfort for over 2 million patients undergoing a.o. dialysis, orthopedic (knee, hip, spine) or cardiovascular procedures.

We provide 50 to 90% reduction in medical device cost while enabling greater design freedom and improved ergonomics through lightweighting.

We are in 1 in every 4 pharmaceutical blister packs globally which is over 400 billion pills.



**HEALTHCARE** 





#### Patient care:

World leader in thermoplastics used for high performance membrane

#### Pharma packaging

World leader in high barrier polymers to package pharmaceuticals

#### Technology leadership

- Medical grade plastics for limited exposure applications
- Biomaterials for long-term exposure applications
- 3D additive manufacturing compatibility



**HEMODIALYSIS MEMBRANES** 



**PACKAGING** 



LONG-TERM IMPLANTS



SURGICAL **INSTRUMENTS** 



CASE & TRAYS



**HOW WE WIN** 



## **Home & Personal care**

#### Performant & convenient

#### MARKET DRIVERS

#### Attractive market potential: GDP+

- Request for more natural and bio based solutions
- Growing customer base
- Enhanced performance and convenience
- Demand for Personalized and Premium Products
- Digital tools enabling the niche brands

Our Products can be found in over 2.5B bottles of personal care products every year, enhancing the lifestyle of millions of consumers around the globe.

We support more sustainable lifestyles in Home & Hygiene through our solutions for long lasting disinfection, low energy washing, and fabric enhancement, present in over 1.5B bottles every year.

#### **HOW WE WIN**

We provide our customers with portfolio of innovative polymers and surfactants

- Homecare and I&I: solutions & ingredients for fabric care, dish care and surface care that enhance the performance
- Personal care: natural & synthetic polymers, surfactants, fragrances and precipitated silica serving the hair/skin/oral care and cosmetics markets
- Food packaging: high performance materials for safe, reliable and convenient food packaging
- Aroma: world's largest integrated producer of vanillin for the flavors & fragrances industries







~10%

## Soda ash & Bicarbonate









#### MARKET DRIVERS

#### Resilient growing soda ash demand

Mix of consumer and industrial-driven demand

#### Environmental standards supporting future growth

- Insulation glazing & solar panels
- Plastics substitution in container glass
- Air pollution control from land facilities (power plants, incinerators) to shipping vessels
- Lithium extraction to fuel (EV) batteries



#### **HOW WE WIN**

#### We offer security of supply

- Global network of world-class and local assets
- Capacity addition of 1.4 Mt capacity in soda ash and bicarbonate by 2022

#### We are technology and cost leaders

- Strong asset base, based on scale, access to marine transport and natural soda ash
- Digitalization & manufacturing excellence drive cost competitiveness
- Focus on reducing CO2 footprint
- Development of sustainable bicarbonate solutions



~ 15% CONSTRUCTION

15%

FOOD **PACKAGING** 



~ 15% HOME & HEALTH CARE

~15%

**RESOURCES** 

& FNVIRONMENT

(flue gas tratment, mining, ...)



~ 30% CHEMICAL **INDUSTRY** 



**AGRO** 



~ 10% & FOOD



~16%

net sales

>10%

(average 2016-2019)

~75%

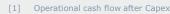
Cash

(2019)

Cash flow

growth<sup>[1]</sup>

conversion<sup>[2]</sup>



Operational cash flow after Capex and WC before payment of taxes and liabilities

<sup>[3]</sup> Solvay internal estimate, based on external data (IHS, CFRA)

# **Peroxides**

# RESOURCE

### Resilient demand & strong cash conversion

#### MARKET DRIVERS

#### Resilient & growing H<sub>2</sub>O<sub>2</sub> & (HP)PO markets

- Diversity of markets decreases cyclicality
- Applications in Agro / Food, Consumer Goods, Electronics, Energy / Environment to grow at GDP+
- HP-PO capacity to grow at ~4% CAGR to 2024 as one winning technology

#### Sustainability is a key growth driver

 Versatility of use, efficiency and sustainability profile of peroxides drives demand & new applications



#### **HOW WE WIN**

#### We partner with our customers

- Offering a global footprint for security of supply
- Building long term partnerships to joint develop business
- Developing selectively high value applications close to the markets

#### We offer best-in-class technology

- Unique ability to build small to mega-plants
- 3 mega HP-PO plants (>60% of WW HP-PO capacity) with long term contracts with BASF, Dow & Saudi Aramco in PO/PU chain, with stable return mechanism





~ 25%
CONSUMER
GOODS



~5%
AGRO & FOOD
(aqua-culture,
animal feed, ...)



~ 30% INDUSTRY & CHEMICALS (including HPPO)



~ 5%
CONSTRUCTION

~**6**% net sales

>25% Cash flow growth<sup>[1]</sup> (average 2016-2019)

~85% Cash conversion<sup>[2]</sup>



Full Year 2019 Results | February 26th, 2020

[1] Operational cash flow after Capex and WCbefore payment of taxes and liabilities

~ 5%

(mining, ...)

RESOURCES & ENVIRONMENT

[2] (EBITDA - Capex) / EBITDA

# **ADR** program for us investors

| ADR program for US investors |               |
|------------------------------|---------------|
| ADR symbol                   | SOLVY         |
| Platform                     | OTC           |
| CUSIP                        | 834437303     |
| DR ISIN                      | US834437305   |
| Underlying ISIN              | BE0003470755  |
| SEDOL                        | BD87R68       |
| Depositary bank              | Citi          |
| ADR ratio                    | 1 ORD: 10 ADR |

#### **Benefits** of ADR's

- Clear and settle according to US standards
- Convenience of stock quotes and dividend payments in US dollars
- Purchase in the same way as other US stocks via a US broker
- Cost effective means of building an international portfolio

#### **Contact CITI** to create **Solvay ADRs**

New York Michael O'Leary michael.olaery@citi.com +1 212 723 4483

London Mike Woods michael.woods@citi.com +44 207 500 2030

Solvay serves the needs of US customers with solutions meeting their demand for performance and sustainability. As of 2017, Solvay employs 6,400 people at 44 industrial sites, six Formulation Centers, seven Research and Innovation Centers and three North American headquarters in Alpharetta, Georgia; Houston, Texas; and Princeton, New Jersey. With the acquisition of Cytec at the end of 2015, Solvay reinforced its place as an advanced materials and specialty chemicals company, committed to developing chemistry that addresses key societal challenges.

In 2017, construction was completed on "Solvay Solar Energy, Jasper County, SC" solar farm, a 900-acre, 71 megawatt facility south of Charleston, South Carolina, underscoring the Group's global sustainability commitment.





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