

# Deal Capsule

## Transactions in Chemicals & Life Sciences

October 2017

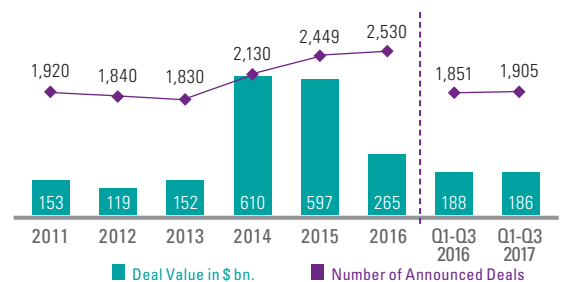
“ The buoyant start to the markets in Q4 and further deleveraging of balance sheets indicates continued M&A momentum. ”

VIR LAKSHMAN | HEAD OF CHEMICALS & PHARMACEUTICALS, KPMG IN GERMANY

### HIGHLIGHTS

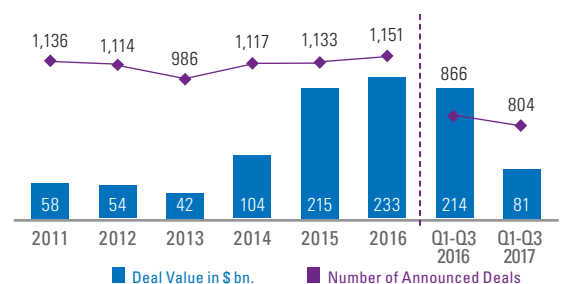
- M&A activity remains solid in life sciences with a high number of announced deals, although deal values are not expected to hit the heady levels of 2014 and 2015.
- Oncology drives M&A in life sciences as key players seek to optimize their portfolios in anticipation of 10.9% CAGR growth to 2030.
- Chemical companies are increasingly focussing their M&A on application industries. Agrochemicals remains an M&A hotspot. The closing of the DowDuPont merger brought with it a spate of anti-trust divestments.
- US and China remain the most active countries in both sectors.
- KPMG’s DealThermometer indicates that the environment for M&A activity will remain moderately strong in both life sciences and chemicals.

FIGURE 1: TRENDS IN LIFE SCIENCES M&A



Sources: Thomson One, KPMG Analysis

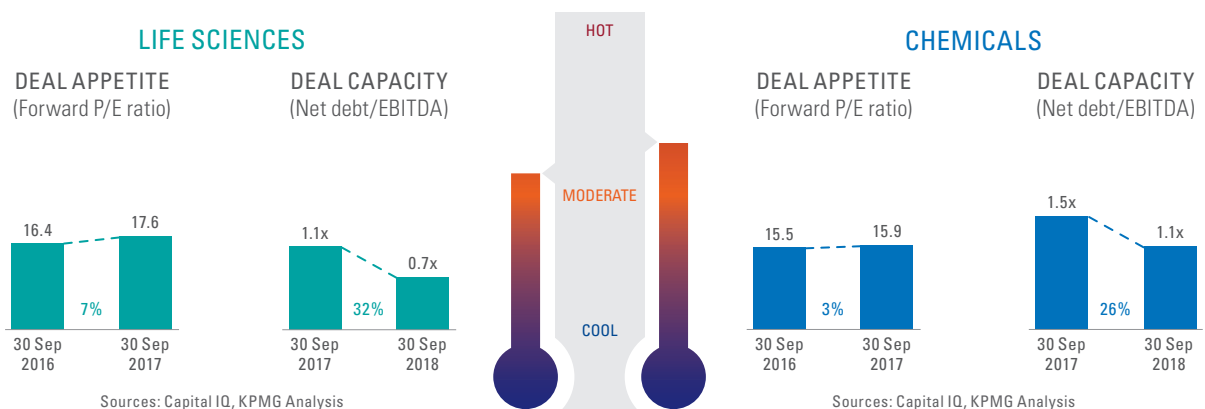
FIGURE 2: TRENDS IN CHEMICALS M&A



Sources: Thomson One, KPMG Analysis

### DEAL THERMOMETER Q1-Q3 2017

KPMG’s Deal Thermometer signals the environment for M&A deals in chemicals and life sciences. It combines the appetite for deals (changes in forward P/E ratios) with the capacity to fund deals (changes in Net Debt/ EBITDA multiples). ‘Hot’ signifies an environment conducive to deal-making.



# Life Sciences

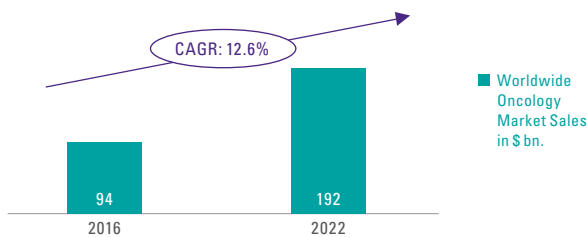
The total deal value of the top 10 announced deals in Q1-Q3 surpassed the \$100 billion mark. A CAGR of 12.6% to 2022 is forecasted for oncology prescription sales, driving interest in these assets as demonstrated by three oncology deals in the top 10. Again, US and China clearly dominate as the most active countries in life sciences M&A.

## ONCOLOGY: IMMUNOTHERAPY

The global oncology market is expected to grow by 12.6% per year, reaching sales of \$192 billion by 2022, representing nearly 20% of the total prescription drug sales volume. An aging population is expected to lead to growing cancer incidence. Rising healthcare costs and increasing R&D expenses drive changes in the oncology paradigm. The recent KPMG publication *The future of oncology – a focused approach to winning in 2030* envisages an end to the ‘one-size-fits-all’ therapy, and with it the blockbuster model. The age of personalized medicine is no doubt one of the greatest trends to provide substantial patient and payer benefit for a generation.

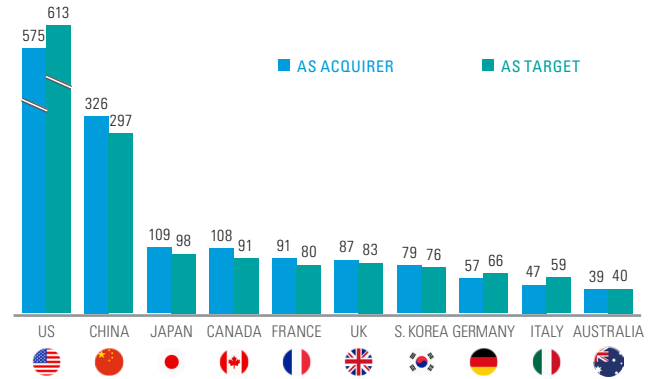
Gilead Sciences, Inc. announced the \$11.9 billion acquisition of Kite Pharma, Inc., a clinical-stage biopharmaceutical company founded in 2009 in the emerging field of cell therapy. Kite’s most advanced therapy candidate, axi-cel, a chimeric antigen receptor t-cell (CAR-T) therapy is under priority review by the U.S. FDA. Approval is expected in the United States in Q4 2017 and in Europe in 2018. With near-term product opportunities and a strong pipeline, Gilead’s aim is to strengthen its position in oncology. The deal was announced two days prior to the first ever CAR-T FDA approval given to Novartis AG’s Kymriah.

FIGURE 3: ONCOLOGY – WORLDWIDE SALES IN \$ BN



Sources: Evaluate Ltd., KPMG Analysis

FIGURE 4: TOP COUNTRIES IN LIFE SCIENCES M&A Q1-Q3 2017\*



\* Number of announced deals  
Sources: Thomson One, KPMG Analysis

Merck & Co., Inc. announced the acquisition of Rigontec GmbH with \$137 million upfront payments and contingent payments of up to \$416 million. The acquisition strengthens Merck’s immuno-oncology portfolio. Rigontec focusses on a part of the innate immune system to induce immediate and long-term anti-tumor immunity. Rigontec was founded in 2014 as a spin-out from the University of Bonn and has already raised more than €29 million through a recent Series A financing round from a consortium of investors including Boehringer Ingelheim Venture Fund, Forbion Capital Partners, High-Tech Gründerfonds, MP Healthcare Venture Management, NRW.BANK, Sunstone Capital and Wellington Partners Life Sciences.

TABLE 1: WORLDWIDE PROJECTED LEADING ONCOLOGY PRODUCTS IN 2022

PRODUCT	COMPANY	2016 SALES (\$ BN)	2022 SALES (\$ BN)	CAGR 2016-2022
Revlimid	Celgene Corp.	7.0	14.2	13%
Opdivo	Bristol-Myers Squibb Co. + Ono Pharmaceutical Co., Ltd.	4.7	9.9	13%
Keytruda	Merck & Co., Inc. + Otsuka Holdings Co., Ltd.	1.4	9.5	38%
Imbruvica	AbbVie, Inc. + Johnson & Johnson	2.2	7.5	23%
Ibrance	Pfizer, Inc.	2.1	7.1	23%

Text in purple indicates joint ventures / collaborations.

Sources: Company Reports, Evaluate Ltd., KPMG Analysis

Bristol-Myers-Squibb Co. (BMS) announced the acquisition of IFM Therapeutics LLC, a biotech company focussing on the development of immunotherapies to treat cancer, autoimmunity and inflammatory disorders. The transaction will give BMS full rights to IFM’s preclinical agonist programs STING and NLRP3. The deal consists of \$0.3 billion upfront payments and potential milestone payments up to \$1.0 billion.

BMS intends to collaborate with Halozyme Therapeutics, Inc., obtaining the license to use Halozyme’s ENHANZE drug-delivery technology for the development of their immun-oncology medicines. The technology allows a faster delivery of large volume injectable medications and eliminates restrictions on the volume of biologics that can be delivered subcutaneously.

## GERMAN LS COMPANIES ON EXPANSION TRAIL

Fresenius Medical Care AG & Co. KGaA, part of Fresenius SE & Co. KGaA, announced the \$2.0 billion acquisition of NxStage Medical, Inc., a US supplier of dialysis devices and products for home care and critical care. NxStage will add 3,400 employees to Fresenius’ portfolio with sales of approximately \$366 million, of which approximately 57% is generated in the home care segment. Fresenius generates 72% of its sales in North America.

German drug discovery alliance and development partnership company Evotec AG completed the \$0.3 billion acquisition of Aptuit LLC, a partner research organization for integrated outsourced drug discovery and development services. The transaction strengthens Evotec’s position as one of the leading players in the external innovation marketplace.

### Financial investors eyeing German targets

The German Federal Financial Supervisory Authority (BaFin) has permitted exemption from the one-year-exclusion period for the submission of a revised takeover offer, allowing Bain Capital LP and Cinven Partners LLP to make a revised offer for

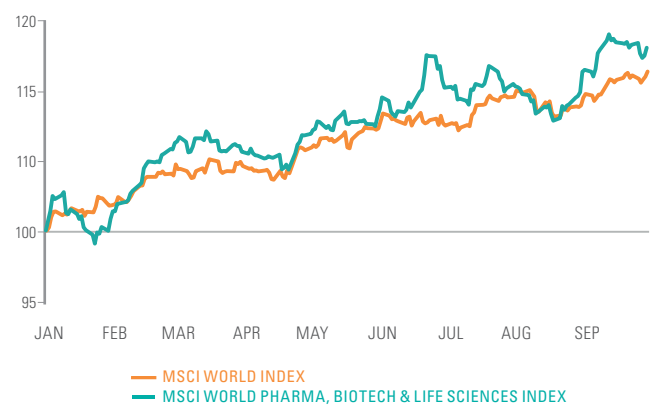
the acquisition of STADA Arzneimittel AG. This enabled Bain and Cinven to exceed the minimum acceptance threshold of 63%.

The shareholders of Biotest AG have approved the voluntary public tender offer by Tiancheng (Germany) Pharmaceutical Holdings AG. Tiancheng offered €28.50 per ordinary share and €19 per preference share, valuing the business at approximately \$1 billion. Tiancheng is controlled by Chinese CREAT Group Corp., which is mainly engaged in equity investments. Biotest provides plasma proteins and biological drugs, specializing predominantly in the fields of clinical immunology, hematology and intensive medicine. CREAT, already a shareholder in Biotest’s peer Shanghai RAAS, has recently invested in Bio Products Laboratory Ltd., a British manufacturer of a wide range of plasma products.

## CAPITAL INDEX

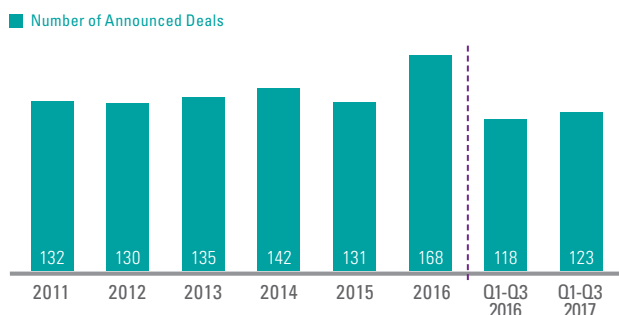
Reflecting the strong year to date performance of several life sciences players, such as AbbVie Inc. which has generated a return of more than 40% since the beginning of the year, the MSCI World Pharma, Biotech & Life Sciences Index has outperformed the MSCI World Index by more than two percentage points.

FIGURE 6: DEVELOPMENT OF LIFE SCIENCES SHARE PRICES Q1-Q3 2017



Sources: Bloomberg, KPMG Analysis

FIGURE 5: GERMAN DEAL PARTICIPATION AS TARGET OR AQUIRER



Sources: Thomson One, KPMG Analysis

# Life Sciences

The deal value of the global top 10 announced deals in Q1-Q3 2017 was **\$ 106.2 billion**

TABLE 2: GLOBAL TOP DEALS ANNOUNCED IN Q1-Q3 2017

BIDDER	TARGET	THERAPY AREA	DATE OF ANNOUNCEMENT	DEAL STATUS	TOTAL VALUE <sup>1</sup>
Johnson & Johnson	Actelion Ltd.	Pulmonary arterial hypertension	26 Jan 2017	Completed	30.0
Becton, Dickinson & Co.	C.R. Bard, Inc.	Vascular, urology, oncology, and surgical specialty products	23 Apr 2017	Pending	24.0
Gilead Sciences, Inc.	Kite Pharma, Inc.	Cell therapy in oncology	28 Aug 2017	Completed	11.9
Thermo Fisher Scientific Inc.	Patheon N.V.	Contract development and manufacturing	15 May 2017	Completed	7.2
<i>New Mountain Capital LLC</i>	VWR Corp.	Wholesaler of laboratory products, services and solutions	5 May 2017	Pending	6.4
Cardinal Health Inc.	Medtronic PLC – patient care deep vein thrombosis & nutritional insufficiency business	Patient care deep vein thrombosis and nutritional insufficiency	18 Apr 2017	Completed	6.1
<i>Cinven Partners LLP and Bain Capital LP</i>	STADA Arzneimittel AG	Generics, OTC	12 Feb 2017	Pending	5.6
Takeda Pharmaceutical Company Ltd.	ARIAD Pharmaceuticals Inc.	Oncology	9 Jan 2017	Completed	5.2
<i>Pamplona Capital Management, LLP</i>	PAREXEL International Corp.	Clinical research, consulting, medical communications and technology solutions	20 Jun 2017	Completed	5.0
Fresenius SE & Co. KGaA	Akorn, Inc.	Generics and branded prescription drugs	7 Apr 2017	Pending	4.8

<sup>1</sup> All numbers are in US\$ billion *Financial investors are italicized* *Figures in green are estimated values*  
Sources: Thomson One, KPMG Analysis

FIGURE 7: LIFE SCIENCES ANNOUNCED DEALS BY SIZE OF TRANSACTION Q1-Q3 2017\*

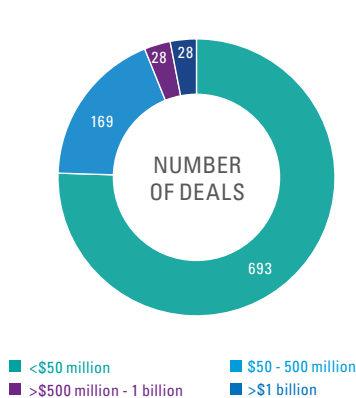
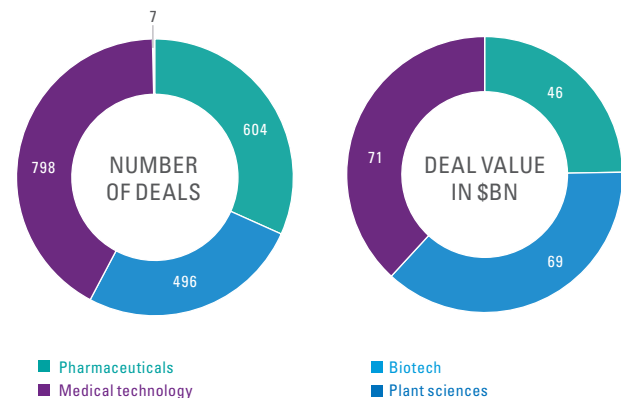


FIGURE 8: LIFE SCIENCES ANNOUNCED DEALS BY CATEGORY Q1-Q3 2017\*



\* Includes deals with a disclosed deal value.  
Sources: Thomson One, KPMG Analysis

\* Includes all deals, with disclosed and undisclosed deal value.  
Sources: Thomson One, KPMG Analysis

# Chemicals

The deal value of the global top 10 **announced** deals in Q1-Q3 2017 was **\$53.4 billion**

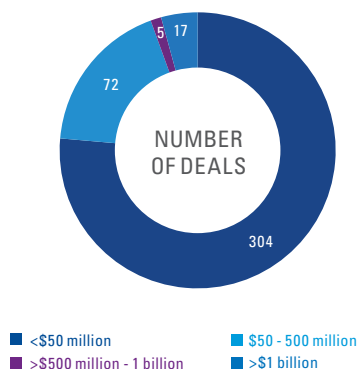
TABLE 3: GLOBAL TOP DEALS ANNOUNCED IN Q1-Q3 2017

BIDDER	TARGET	BUSINESS AREA	DATE OF ANNOUNCEMENT	DEAL STATUS	TOTAL VALUE <sup>1</sup>
PPG Industries, Inc.	Akzo Nobel N.V.	Paints, coatings and specialty chemicals	9 Mar 2017	Withdrawn	28.8
Clariant AG	Huntsman Corp.	Specialty chemicals	22 May 2017	Pending	10.0
<i>Stone Canyon Industries, LLC</i>	Mauser Group N.V.	Packaging technologies	7 Feb 2017	Completed	2.3
International Petroleum Investment Company	Williams Olefins LLC	Polymer grade ethylene and propylene	17 Apr 2017	Completed	2.1
BASF SE	Solvay SA – polyamides business	Polyamides	19 Sep 2017	Pending	1.9
<i>MBK Partners Ltd.</i>	Daesung Industrial Gases Co., Ltd. (Goldman Sachs-led consortium 2)	Industrial gases	24 Feb 2017	Completed	1.8
China Petroleum & Chemical Corp. (Sinopec)	Shanghai SECCO Petrochemical Co., Ltd. (50%)	Olefins, polymers and other derivatives	27 Apr 2017	Pending	1.7
Yunnan Chuangxin New Material Co., Ltd.	Shanghai Enjie New Material Technology Co., Ltd.	Chemical preparations	3 May 2017	Pending	1.6
FMC Corp.	DuPont Corp. – crop protection business	Crop protection	31 Mar 2017	Pending	1.6
H.B. Fuller Co.	Royal Adhesives & Sealants LLC	Adhesives and sealants	4 Sep 2017	Pending	1.6

<sup>1</sup> All numbers are in US\$ billion *Financial investors are italicized* Figures in blue are estimated values

Sources: Thomson One, KPMG Analysis

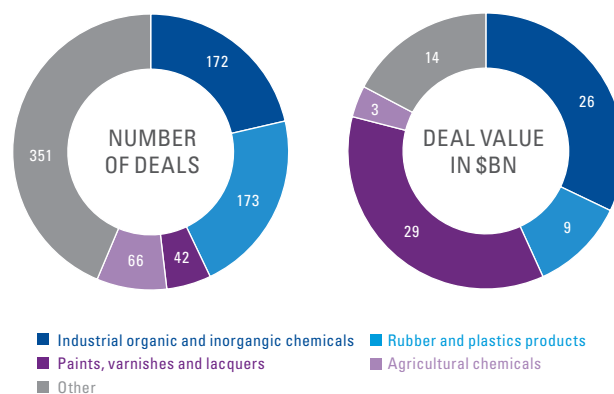
FIGURE 9: CHEMICALS ANNOUNCED DEALS BY SIZE OF TRANSACTION Q1-Q3 2017\*



\* Includes deals with a disclosed deal value.

Sources: Thomson One, KPMG Analysis

FIGURE 10: CHEMICALS ANNOUNCED DEALS BY CATEGORY Q1-Q3 2017\*



\* Includes all deals, with disclosed and undisclosed deal value.

Sources: Thomson One, KPMG Analysis

# Chemicals

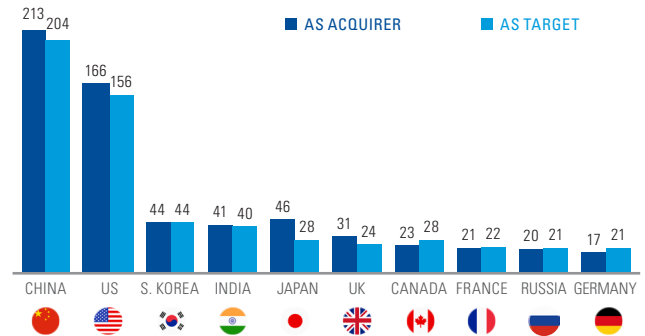
The number of announced deals remained fairly stable compared to the previous period. Chemical companies are focussing increasingly on the acquisitions of players in application industries. China expands its lead as the most active country in chemicals M&A ahead of the US.

## INCREASING DEMAND IN APPLICATION INDUSTRIES

BASF SE announced its acquisition of Solvay SA's global polyamide business for approximately \$1.9 billion. The deal complements BASF's engineering plastics portfolio and expands the company's position in transportation, construction, industrial applications and consumer industries. This will enable BASF to strengthen its market position in Asia and South America. BASF intends to integrate the business into its performance materials and monomers divisions.

H.B. Fuller Co. (HB) announced the acquisition of Royal Adhesives & Sealants LLC for \$1.6 billion. Royal is a leading manufacturer of high-value specialty adhesives and sealants, expected to generate approximately \$0.7 billion in revenues and an 21% adjusted EBITDA margin in fiscal year 2017. Royal adds 19 manufacturing facilities in five countries with about 1,500 employees globally to the HB portfolio. Engineering and construction account for half of the company's revenues, giving HB the opportunity to strengthen its market position in aerospace, automotive and construction markets. 97% of revenues are generated in North America and Europe, increasing HB's geographic presence in these areas.

FIGURE 12: TOP COUNTRIES IN CHEMICALS M&A Q1-Q3 2017\*

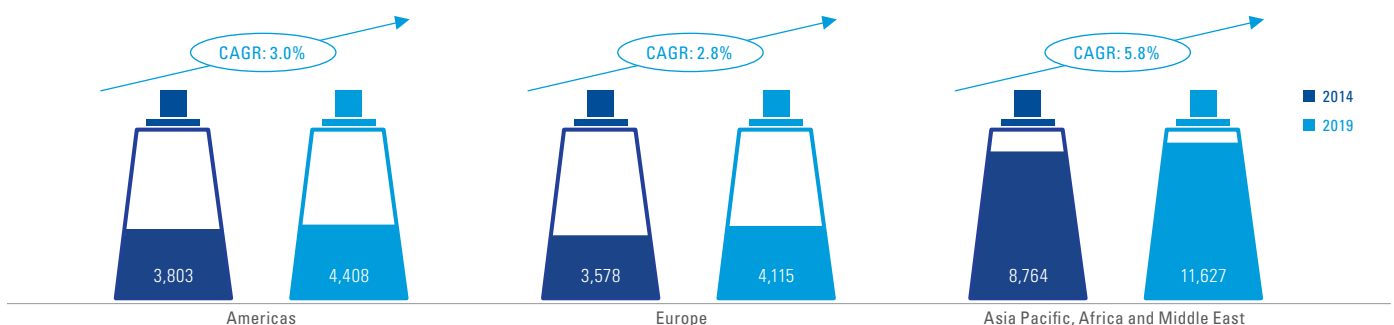


\* Number of announced deals  
Sources: Thomson One, KPMG Analysis

After PPG Industries, Inc.'s persistent attempt to acquire Akzo Nobel N.V. and three rejected offers, Akzo is itself seeking to grow through acquisition. By announcing a double acquisition of U.K.-based Flexcrete Technologies Ltd. and Disatech SAS in July 2017, Akzo is further strengthening its industrial coatings, aerospace and automotive coatings businesses. Flexcrete markets its concrete repair and protection solutions in 65 countries worldwide, with more than 50% export sales, allowing Akzo to expand its range of services in numerous key industrial markets such as commercial infrastructure and chemical processing. The acquisition of French manufacturer Disatech, finalized in September 2017, will also contribute to a broader portfolio of coatings and films for the aerospace and transport sectors.

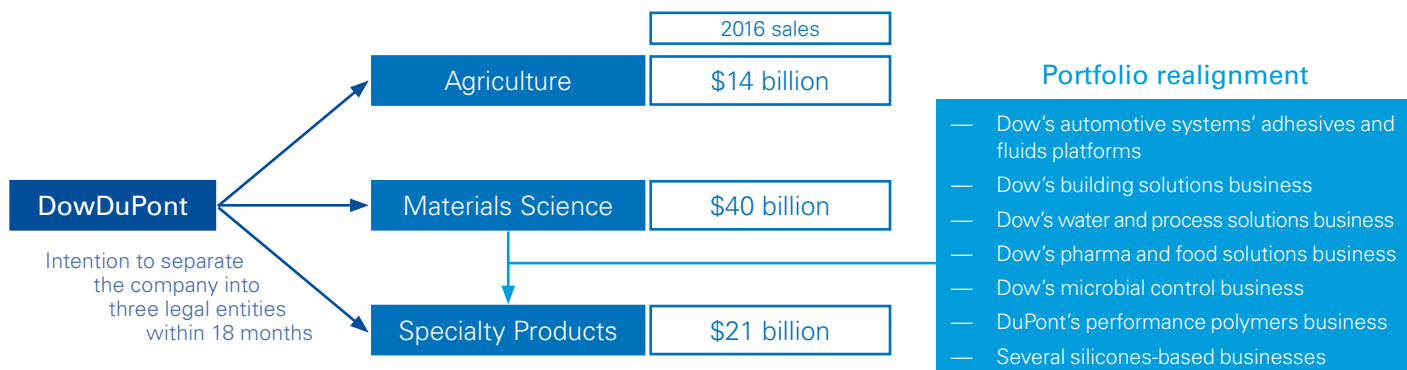
Further, Akzo has demonstrated its keen interest in driving innovation by initiating its *Chemicals Startup Challenge "Imagine Chemistry"*, powered by KPMG. Aiming to identify progressive startups that strategically fit into Akzo's businesses, the challenge has selected ten winners, who will receive additional support enabling the realization of their ideas.

FIGURE 11: WORLDWIDE ADHESIVES AND SEALANTS DEMAND IN 1,000 METRIC TONS



Sources: Statista, Adhesives & Sealants Industry, KPMG Analysis

FIGURE 13: SEPARATION OF DOWDUPONT INTO THREE DIVISIONS



Sources: Press releases, KPMG Analysis

## DOWDUPONT PLANTING SEEDS FOR GROWTH

The Q4 2015 announced \$62.1 billion merger of equals between The Dow Chemical Co. and E.I. du Pont de Nemours and Co. has been completed successfully. The merged holding company DowDuPont which is to be organized in three divisions – Agriculture, Materials Science and Specialty Products – is targeting run-rate cost synergies of approximately \$3 billion within the first 24 months of the merger closing. Potentially, further \$1 billion in growth synergies are expected. The three divisions through tax-free spin-offs are intended to operate within their own legal entities. DowDuPont announced a realignment of businesses with forecast 2017 sales of \$8 billion from the materials science division to the specialty products division.

### Divestments resulting from the merger

Before the closing of the DowDuPont deal, FMC Corp. had announced the acquisition of DuPont's crop protection business for \$1.2 billion in cash and \$425 million for working capital. DuPont also receives the health and nutrition business from FMC. These anti-trust driven divestments include the products Rynaxypyr and Cyazypyr, both covered by full patent protection, which are expected to generate revenues exceeding \$1 billion in 2017. DuPont's crop protection business will increase FMC's presence in Asia and Europe and even out crop protection revenues throughout the four major regions, North America, Latin America, Europe and Asia.

Dow announced the divestment of a select portion of its corn seed business in Brazil to Chinese CITIC Agricultural Industry Fund Management Co., Ltd., for \$1.1 billion. The transaction was intended to meet regulatory conditions imposed by Brazil's Administrative Council for Economic Defense concerning the closing of the DowDuPont transaction.

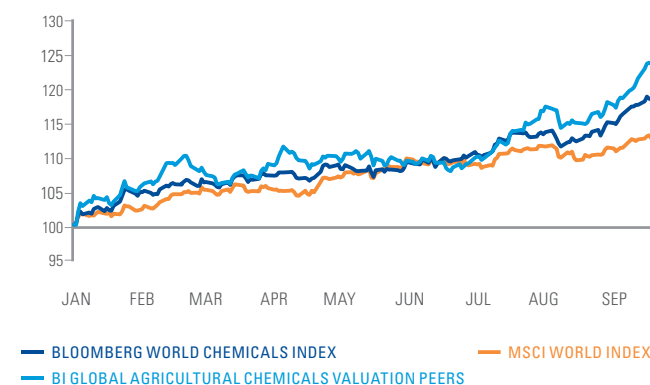
### DuPont's digital solutions in agrochemicals

DuPont is pursuing further its digital farming ambitions by acquiring Granular, Inc., a leading provider of software and analytic tools to support farms improving efficiency, profitability and sustainability. The transaction includes Granular's Farm Management Software, which collects and examines data on farm business processes as well as AcreValue, a digital platform for farmland real estate, enabling an integrated customer service.

## CAPITAL INDEX

Bloomberg World Chemicals index outperformed the MSCI World Index by more than six percentage points. The agricultural chemicals subsector takes the lead in Q1-Q3 2017 with 24.8% growth, driven by FMC Corp. growth of 56.6%.

FIGURE 14: DEVELOPMENT OF CHEMICAL SHARE PRICES Q1-Q3 2017



Sources: Bloomberg, KPMG Analysis

## BASIS OF DATA PREPARATION

Values and volumes used throughout the report are based on announcement date as provided by Thomson Reuters' database Thomson One as of 30 September 2017, extracted up to and including 04 October 2017, and supplemented by additional independent research. Data available after publication date is incorporated in subsequent editions. This edition presents revised data for the years 2011 to 2016. This report includes disclosed and undisclosed values for M&A transactions including minority stake purchases, acquisitions of remaining interest, and recapitalizations and it explicitly excludes self-tenders and spinoffs. The published numbers of deals and deal values are based on the analysis of target companies which operate in the following subsectors:

### Life Sciences

- Medicinal chemicals & botanical products
- Pharmaceutical preparations
- In vitro and in vivo diagnostic substances
- Biotechnology – biological products, except diagnostic substances
- Pharmaceutical wholesale
- Medical devices and diagnostics
- Plant sciences

### Chemicals

- Clay, kaolin, ceramic & refractory minerals
- Chemical and non-metallic mineral mining, except fuels
- Fertilizers and agricultural chemicals
- Industrial gases
- Specialty chemicals
- Chemical wholesale
- Plastics and rubber components

KPMG's Deal Thermometer is based on financial data as provided by S&P Capital IQ of public companies in the same sector as noted above with a market capitalization at quarter end of at least a \$1 billion. For the life sciences sector, this comprises 290 public companies. For the chemical sector, this comprises 194 public companies.

All figures in this report are shown in US Dollars (\$) unless otherwise stated.

### Sources

Online databases:

- Thomson One (Thomson Reuters)
- Mergermarket
- S&P Capital IQ
- Bloomberg
- Evaluate Ltd.
- Various companies' press releases

## Imprint

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