



DUFF & PHELPS

Protect, Restore and Maximize Value



# European Chemicals Update

Q4 2020

# Executive Summary

In this edition of Duff & Phelps' European Chemicals Update, we evaluate current trends for key raw materials, prevailing investor sentiment and valuation developments in the featured industrial specialty sub-sector.

Our top insights are detailed below.

Key raw materials in the chemicals sector recovered in Q2/Q3 2020 from the COVID-19 related fall in prices but will likely remain below their pre-COVID-19 levels. The impact of the second wave of COVID-19 cases in Europe will likely continue to suppress Brent crude prices until the end of the year.

Next, the Ifo Business Climate Index for the German chemical industry remained negative in Q3 2020, with current conditions rebounding from the lowest level in Q2 2020. Expectations on performance will continue to improve, with companies generally optimistic about the near future and resolving current challenges.

Finally, in the industrial specialty sub-sector, featured companies show diverse performance in market capitalization, with Sika, EMS-Chemie and Wacker Chemie being the best performers, driven by resilient Q3 earnings.

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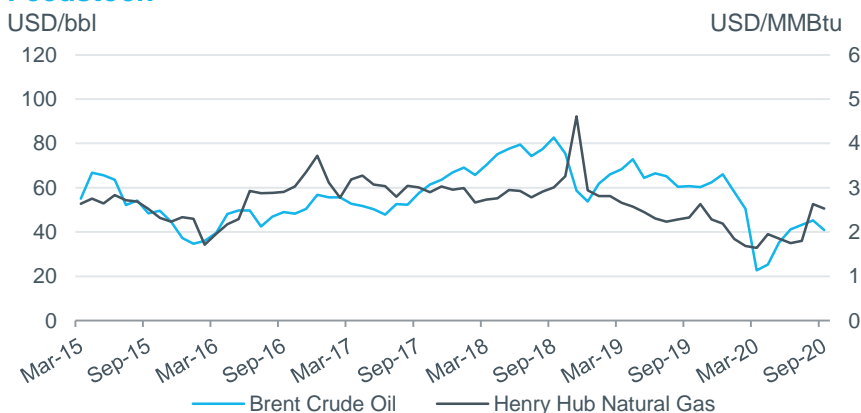
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# Quarterly Market Review

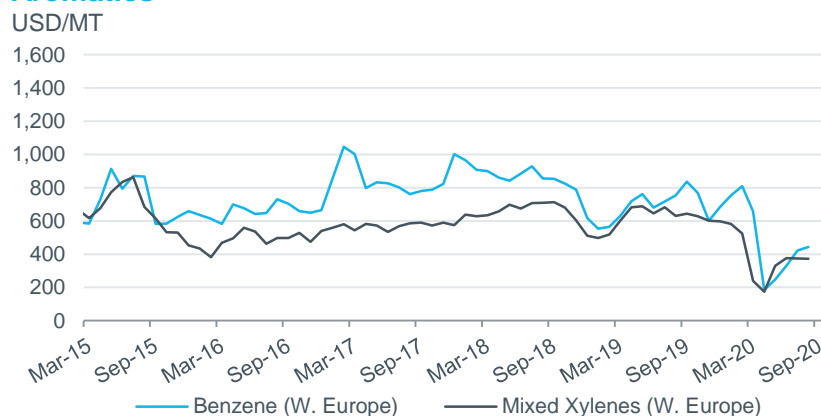
## Key Raw Materials

### Petrochemicals

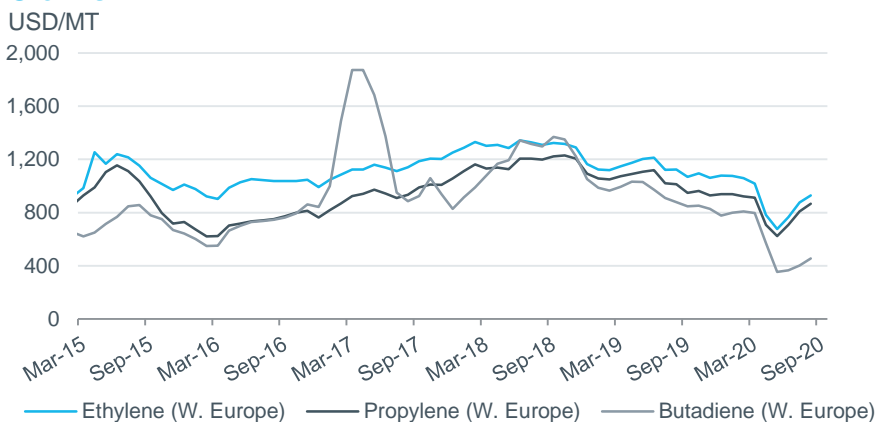
#### Feedstock



#### Aromatics



#### Olefins



#### Key Observations

- Crude oil prices have recovered from the dip caused by the COVID-19 pandemic. Brent increased approx. 80% from its 20-year low in April 2020, however the impact of the second wave of COVID-19 cases in Europe will likely further restrain Brent prices in the near future.
- Aromatics prices continued to improve in Q3 2020 but remained under high inventory pressure.
- Olefins prices have also recovered but remain suppressed following a downward trend since Q3 2018.

#### Definitions:

MMBtu - 1 Million British thermal units; Bbl – Barrels; MT - Metric tons; Bpd – Barrels per day

**Note:** September 2020 data for aromatics and olefins not yet available at Bloomberg at the time of issue. Source: Reuters, Bloomberg as of September 30, 2020

# Quarterly Market Review

## Raw Materials Wrap-Up

Product	Unit	Type	Delivery	Source	Date					Change	
					Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Δq-o-q	Δy-o-y
Naphtha	USD/MT	1 Mo Fwd	CIF NW Europe	Bloomberg	469.9	537.9	153.2	355.5	376.7	6.0%	(19.8%)
Methanol	EUR/MT	Spot	FOB Rotterdam	Polymerupdate	212.0	207.0	159.0	152.0	218.0	43.4%	2.8%
Acrylic Acid	USD/MT	Spot	DDP W Europe	Tecnon Orbichem	1,249.0	1,139.0	1,076.0	951.0	1,049.0	10.3%	(16.0%)
Adipic Acid	USD/MT	Contract	DDP W Europe	Tecnon Orbichem	2,543.0	2,550.0	2,638.0	2,297.0	2,416.0	5.2%	(5.0%)
Caustic Soda (liquid)	USD/MT	Spot	DDP W Europe	Tecnon Orbichem	757.0	747.0	698.0	814.0	816.0	0.2%	7.8%
Chlorine (liquid)	USD/MT	Spot	DDP W Europe	Tecnon Orbichem	246.0	248.0	249.0	254.0	266.0	4.7%	8.1%
Ammonia	USD/MT	Spot	FOB Black Sea	Green Markets	230.0	220.0	227.0	185.0	202.0	9.2%	(12.2%)
Urea (prill)	USD/MT	Spot	FOB Black Sea	Green Markets	240.0	220.0	240.0	210.0	245.0	16.7%	2.1%

**Definitions:**

CIF – Cost, insurance and freight

FOB – Free on board

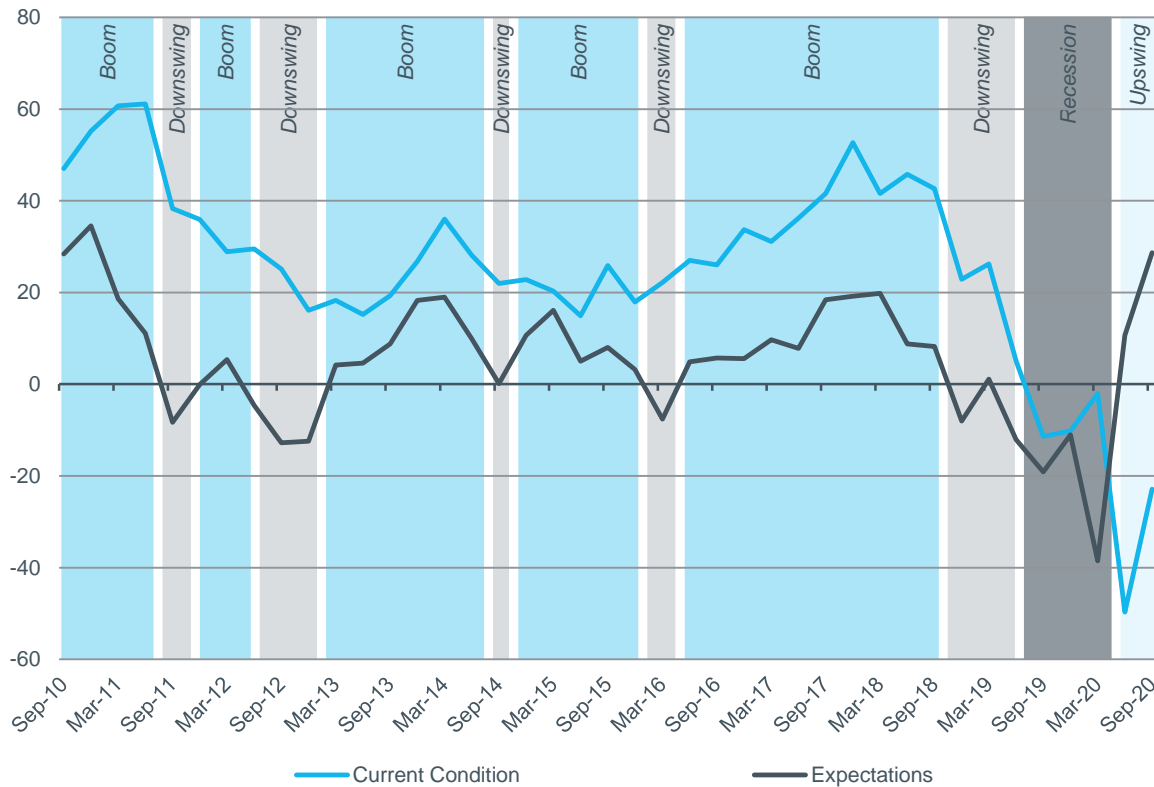
DDP – Delivered duty paid

# Quarterly Market Review

## ifo Survey German Chemical Industry

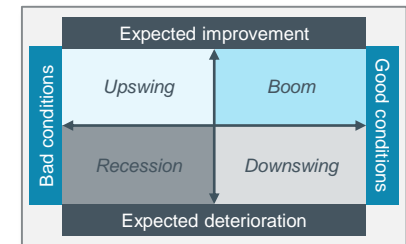
### German Chemical Industry | Business Cycle

Balance in %



### Key Observations

- September 2020 expectations continued to improve after reaching their lowest level at the end of April 2020.
- Although remaining negative, current conditions have rebounded from the lowest level at the end of June 2020.
- This development reflects that German companies are likely regaining confidence in business activities and are anticipating a positive outlook for the near future.



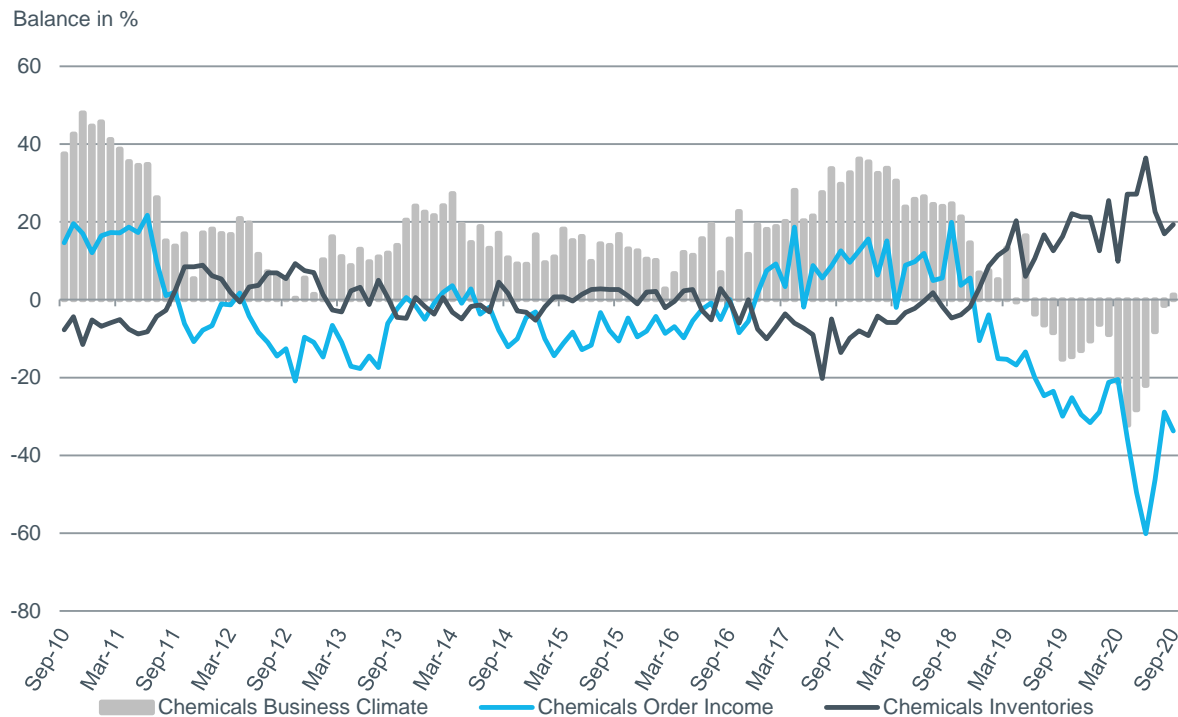
**Note:** Boom: good conditions, expected improvement; Downswing: good conditions, expected deterioration; Recession: bad conditions, expected deterioration; Upswing: bad conditions; expected improvement



# Quarterly Market Review

## ifo Survey German Chemical Industry

### German Chemical Industry | Business Indicators



### Key Observations

- The chemicals business climate turned positive and recovered significantly quarter-on-quarter to 1.2 in September 2020 from -22.0 in June 2020.
- Order income remained negative but rebounded from the lowest level in Q2 2020.
- Although still high, inventory levels have decreased from their peak in Q2 2020.
- A negative order income level and decreasing inventory levels may indicate that chemical customers might put down more orders in the near future.

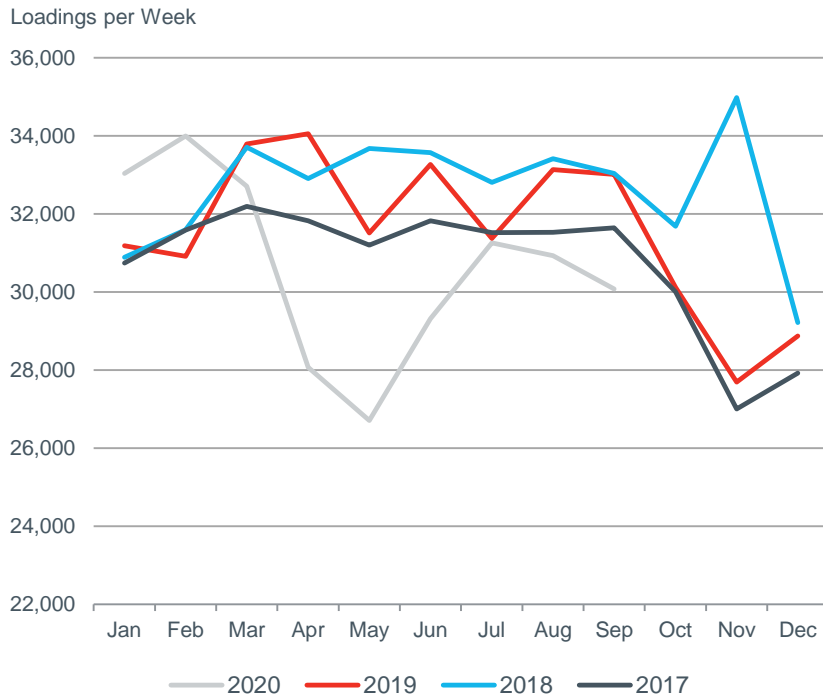
#### Explanatory note

The ifo Business Climate Index is based on ca. 7,000 monthly survey responses from firms in manufacturing, construction, wholesaling and retailing. The firms are asked to give their assessments of the current business situation and their expectations for the next six months. They can characterize their situation as “good,” “satisfactory” or “poor” and their business expectations for the next six months as “more favorable,” “unchanged” or “more unfavorable.” The balance value of the current business situation is the difference between the percentages of the responses “good” and “poor,” and the balance value of the expectations is the difference between the percentages of the responses “more favorable” and “more unfavorable.” The business climate is a transformed mean of the balances of the business situation and the expectations. For the purpose of calculating the index values, the transformed balances are all normalized to the average of the year 2005.

# Quarterly Market Review

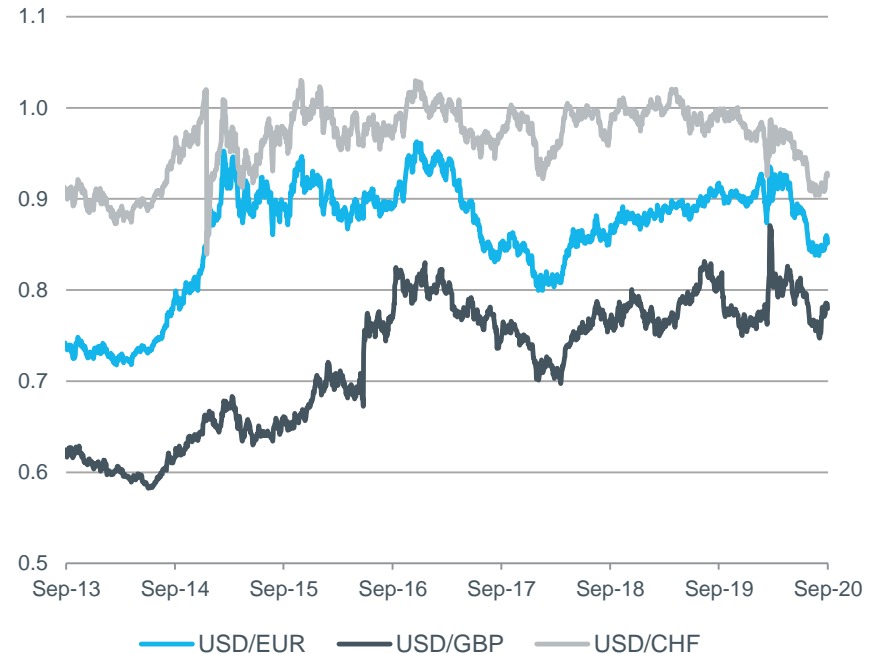
## Economic Environment

### U.S. Weekly Railcar Chemicals Loadings



Source: Association of American Railroads, Bloomberg as of September 30, 2020

### Currency Trends

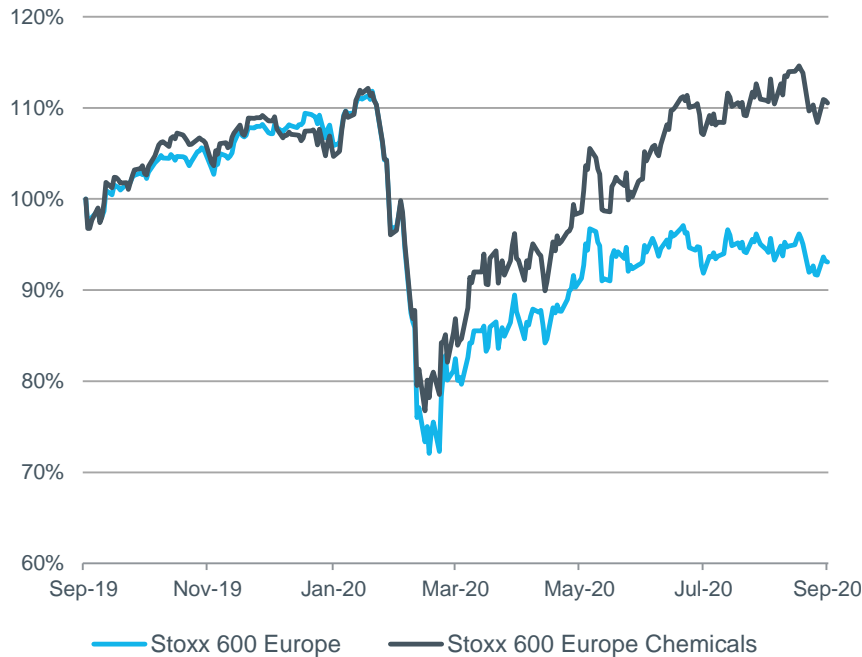


Source: Bloomberg as of September 30, 2020

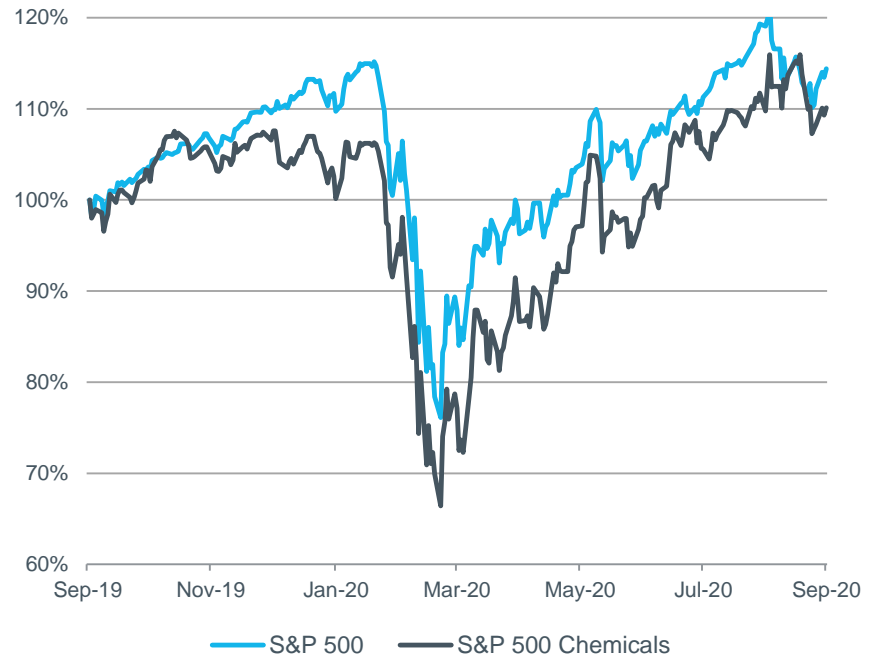
# Quarterly Market Review

## Rebalanced Stock Development in Europe and the U.S.

### Europe: STOXX 600



### U.S.: S&P 500



Source: Bloomberg as of September 30, 2020

Source: Bloomberg as of September 30, 2020

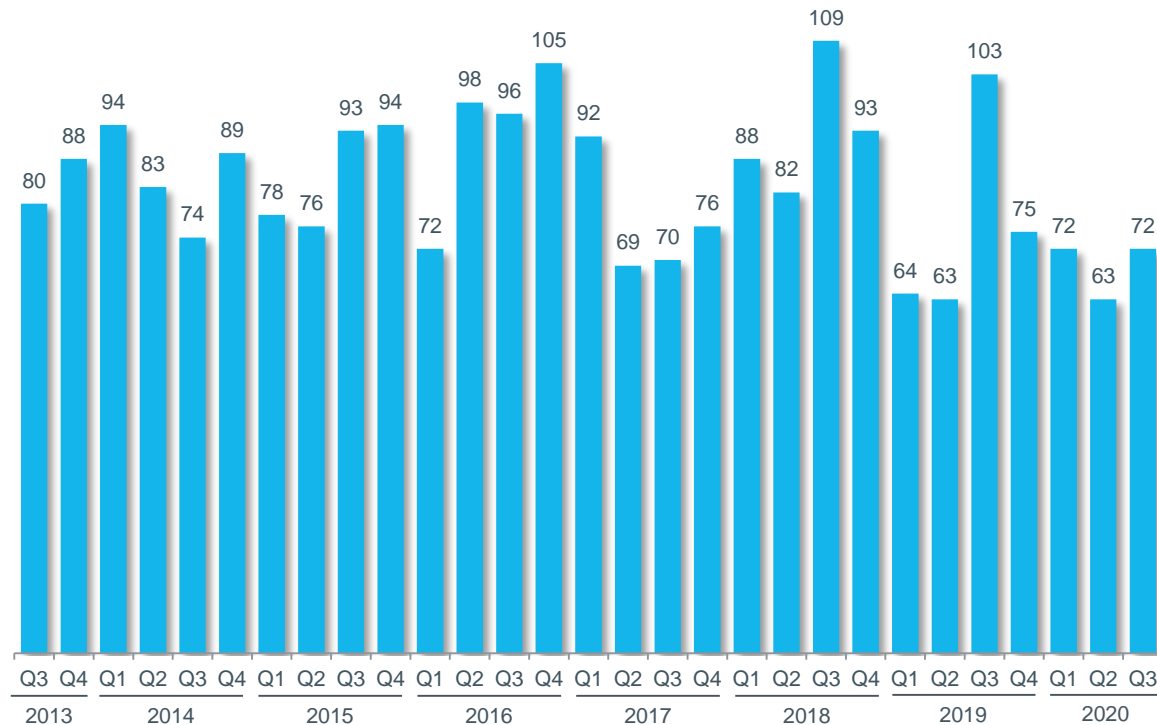


# M&A Transaction Review

## Announced Deals

### European M&A Quarterly Trend

Number of Announced Transactions



### Key Observations

- Twenty one out of the 72 transactions announced in Q3 2020 had a disclosed value totaling EUR 7.2 billion (bn).
- The top 10 transactions announced in the last six months based on reported deal values (see table on next page) have a combined value of EUR 10.0 bn.
- Notable transactions include INEOS's acquisition of BP's petrochemicals business and Firmenich's acquisition of Derives Resiniques Et Terpeniques from French PE firm Ardian.

Source: Capital IQ as of September 30, 2020.

**Note:** Screening includes transactions in which either the target, buyer or seller is from Europe. Announced transactions include bids made, letters of intent, definitive agreements and registered offerings (definition by Capital IQ).

# M&A Transaction Review

## Top 10 European Deals Announced During the Last Six Months

EUR in millions

Announced	Acquirer	HQ	Target	HQ	Target Business Description	Stake Acquired	Enterprise Value	LTM Revenue	LTM EBITDA Margin	EV / LTM Revenue	EV / LTM EBITDA
Jun 29, 2020	INEOS	UK	Petrochemicals Business of BP	UK	Petrochemicals Business comprises BP's global aromatics, acetyls and related businesses.	100.0%	4,445.5	n/a	n/a	n/a	n/a
Apr 9, 2020	Firmenich	CH	Les Derives Resiniques Et Terpeniques	FR	Les Derives Resiniques Et Terpeniques develops pine-based ingredients, gum rosin and turpentine for industrial applications.	100.0%	1,700.0	550.0	n/a	3.1x	n/a
Sep 30, 2020	Covestro	DE	Resins & Functional Materials Businesses of Koninklijke DSM	NE	Resins & Functional Materials Businesses of Koninklijke DSM comprises resins, optical fiber coatings, adhesives, and performance materials manufacturing operations.	100.0%	1,610.0	1,012.0	13.1%	1.5x	11.7x
Sep 26, 2020	EQT Partners	SE	Natural Colors Business of Chr. Hansen	DK	Natural Colors Business of Chr. Hansen comprises a food color manufacturing business located in Denmark.	100.0%	800.0	n/a	n/a	n/a	n/a
Sep 28, 2020	InvestIndustrial & Black Diamond Capital	UK	Hexion PSR	RU	Hexion PSR is a resins manufacturing business. The company is based in Russia. Hexion PSR operates as a subsidiary of Hexion Inc.	100.0%	364.7	454.7	n/a	n/a	n/a
May 14, 2020	Tronox	U.S.	TiZir Titanium & Iron	NO	TiZir Titanium & Iron produces pig iron pigment and titanium dioxide to ductile iron foundries.	100.0%	278.0	154.0	24.7%	1.8x	7.3x
Jul 2, 2020	DeLaval	NE	Avon Polymer Products	UK	Avon Polymer Products manufactures rubber and polymer-based products.	100.0%	199.7	56.5	20.6%	3.5x	17.1x
Aug 13, 2020	TFL Ledertechnik	DE	Organic Leather Chemicals Business of LANXESS	DE	Organic Leather Chemicals Business of LANXESS AG includes assets related to leather chemicals manufacturing located in Germany.	100.0%	195.0	n/a	n/a	n/a	n/a
Aug 6, 2020	Nolato	SE	GW Plastics	U.S.	GW Plastics offers contract manufacturing services for injection molded thermoplastic and silicone solutions to healthcare, automotive and filtration industries globally.	100.0%	193.9	174.5	n/a	1.1x	n/a
Aug 26, 2020	Evonik	DE	Porocel	U.S.	Porocel manufactures activated alumina, inert bed supports and specialty adsorbents.	100.0%	177.7	84.6	23.0%	2.1x	9.1x

Source: Capital IQ, Mergermarket and company information.

**Note:** Transactions ordered by value. Includes announcements through September 30, 2020. Figures converted with exchange rate as per the respective announcement date.

# M&A Transaction Review

## Strategic Alliances and Collaborations

### **BASF Invests in Pyrum as Part of its Chemcyclingtm Project: Pyrolysis Oil From Waste Tires as Additional Raw Material Source** *September 2020*

BASF is to invest EUR 16 million (mn) in Pyrum Innovations AG (Pyrum), a technology company specializing in the pyrolysis of waste tires, headquartered in Dillingen/Saar, Germany. With the investment, BASF will support the expansion of Pyrum's pyrolysis plant in Dillingen and the further rollout of the technology.

### **LamKap Bio Group and Lonza Collaborate to Manufacture Bispecific Antibodies for Cancer Treatment** *September 2020*

LamKap Bio Group, a Swiss biotechnology group focused on tumor-targeted antibody-based therapies, collaborates with Lonza to support their product pipeline. Lonza will provide cell line and process development, drug substance manufacturing and drug product services for LamKap's two fully human bispecific antibody products. The early-stage drug product formulation and stability studies will be performed at Lonza's Drug Product Services facility in Basel, Switzerland.

### **Kemira Announces Long-term Polymer Supply Agreement Extension with Ithaca Energy** *September 2020*

Kemira, a global leader in the manufacture and supply of high-quality polymers, has signed a multiyear extension of the current polymer supply agreement with Ithaca Energy that was signed in 2018 to supply polymers to enhance oil extraction performance on one of Ithaca Energy's operated assets in the UK North Sea.

### **Covestro Cooperates with Swiss Company FoamPartner to Create a New Market for Cardyon Based Foams** *August 2020*

Covestro has opened up a further area of application for the use of CO<sub>2</sub> in plastics production to produce foams for the automotive industry using carbon dioxide instead of fossil raw materials. The Swiss company FoamPartner produces foams with the innovative precursor Cardyon for various areas in vehicle interiors.

### **Air Liquide Signs a New Long-term Contract with Leading Steel Producer NLMK** *July 2020*

Air Liquide and NLMK, a leading steel producer in Russia, have entered into a new long-term partnership. Under the agreement, Air Liquide will invest around EUR 100 mn in the flagship site of NLMK in Lipetsk, a combination of three projects which include the construction of a state-of-the-art air separation unit (ASU), the acquisition of existing hydrogen unit for the steel plant and the acquisition of the unit for rare gases production. This project also provides the base for growth of Air Liquide's industrial merchant activity in one of the largest industrial merchant markets in the Moscow region.

### **Royal DSM and Avril Complete Creation of Joint Venture to Develop Plant-based Protein** *July 2020*

Royal DSM, a global science-based company in nutrition, health and sustainable living, and Avril, France's fourth-largest agro-industrial group, have announced the launch of their joint venture, Olatein, to produce canola (rapeseed) proteins for the global food market.

# M&A Transaction Review

## Strategic Alliances and Collaborations

### **Bayer and Siemens Healthineers Present First Synchronized Imaging System Interface for MRI**

*July 2020*

Bayer and Siemens Healthineers jointly developed the hardware and software for the Imaging System Interface (ISI). ISI saves time, improves operational efficiency and reduces the number of steps in the MRI workflow by one third, allowing the user to focus more on the patient. ISI recently achieved CE mark certification.

### **Clariant Catalysts Powers Ineratec's Green Fuel Production**

*July 2020*

Clariant and Ineratec have entered a partnership to develop and commercialize novel technologies for the production of renewable fuels and chemicals. Ineratec is a spin-off of the Karlsruhe Institute of Technology (KIT) specializing in modular chemical reactor technologies for producing sustainable fuels and chemicals. Clariant will provide its extensive catalysis expertise and broad portfolio of syngas conditioning and upgrading catalysts to support Ineratec's groundbreaking gas-to-liquid technology.

### **Merck Advances Bioprocessing Capabilities with Raman Technology Sensor Acquisition**

*July 2020*

Merck, a leading science and technology company has enhanced its advanced bioprocess portfolio through the acquisition of RESOLUTION Spectra Systems, a Meylan, France-based leader in bioprocess analytical monitoring. The company offers Raman spectroscopy analysis through its GMP-ready instrumentation and software.

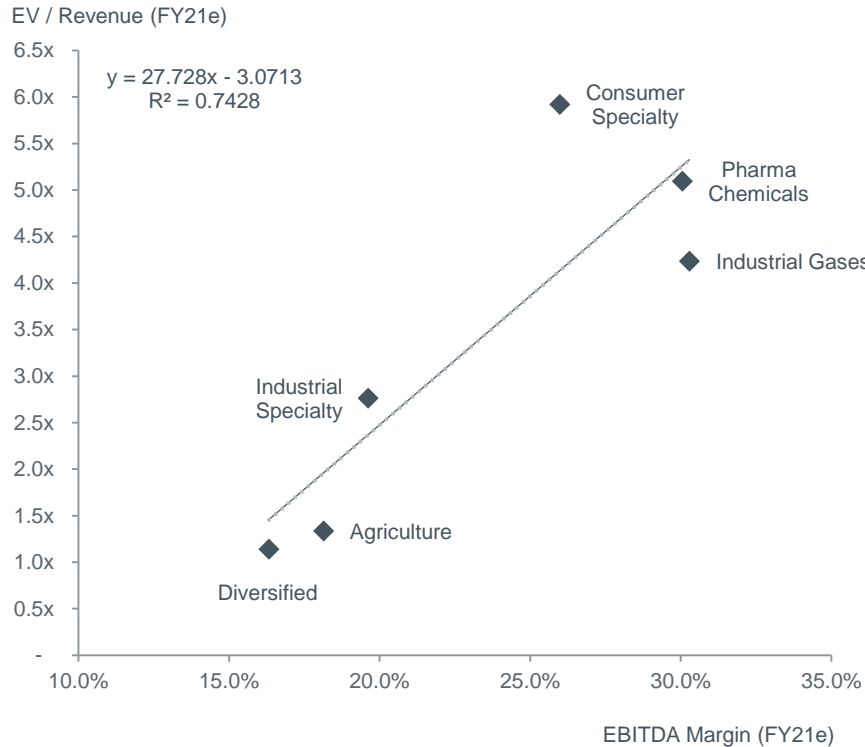


# Public Trading Analysis

## Sub-Sector Summary

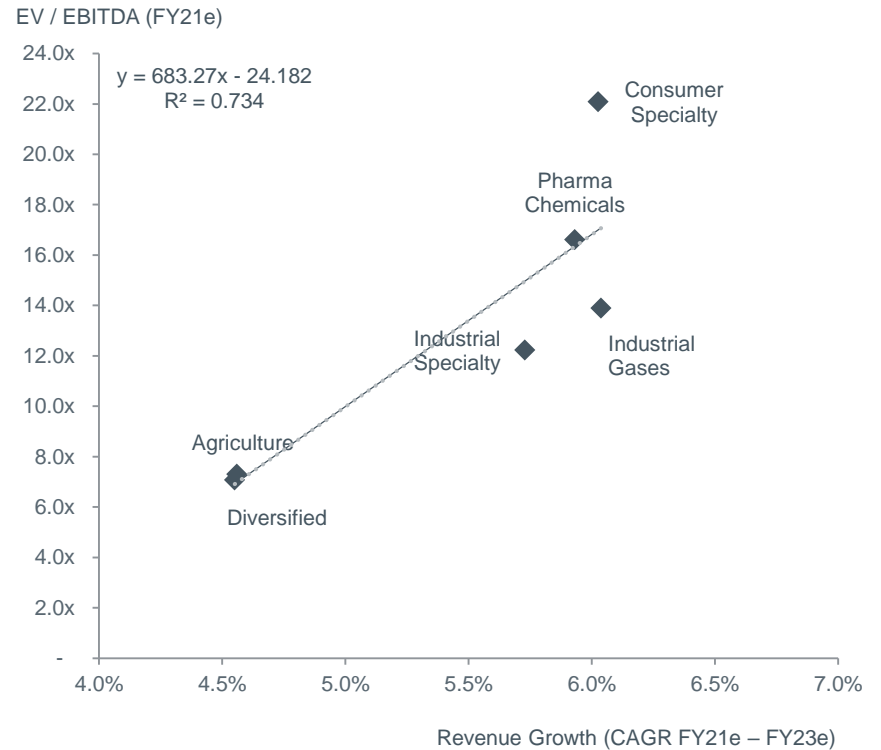
### Regression Analysis

#### EV / Revenue vs. EBITDA Margin



See pages 18-20 for constitution of sub-sectors  
Source: Capital IQ as of September 30, 2020

#### EV / EBITDA vs. Revenue Growth



See pages 18-20 for constitution of sub-sectors  
Source: Capital IQ as of September 30, 2020

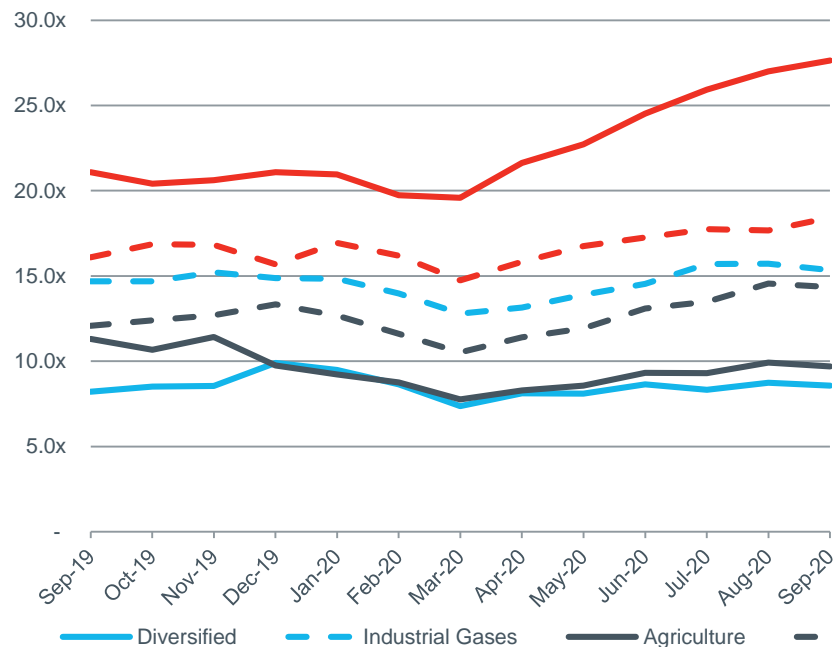
# Public Trading Analysis

## Sub-Sector Summary

### Sub-Sector Trading Multiples (EV / EBITDA)

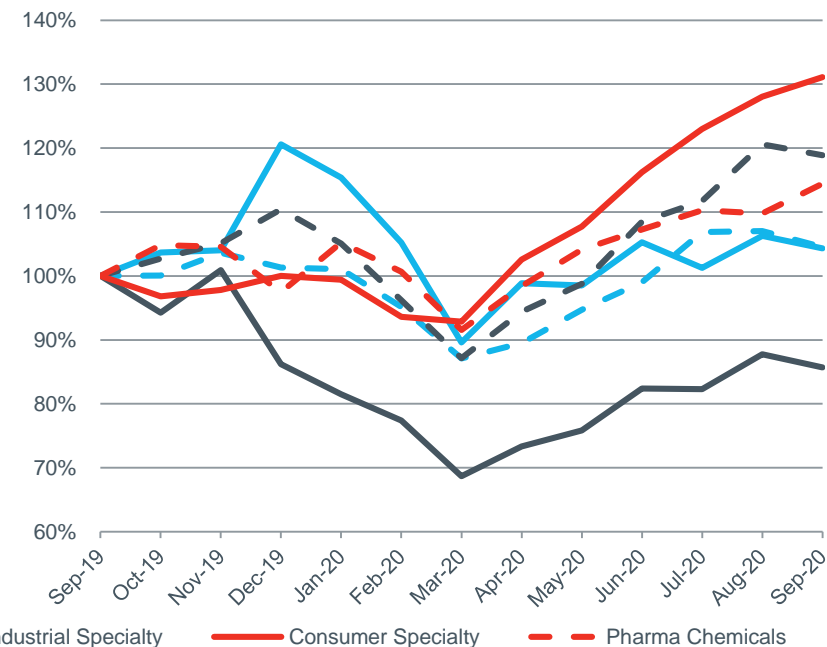
#### LTM Actual

EV / EBITDA



#### LTM Rebased

EV / EBITDA



Source: Capital IQ as of September 30, 2020

#### Definitions:

Enterprise Value: Market Capitalization + Total Debt + Preferred Equity + Minority Interest - Cash and Short Term

EBITDA: Earning Before Interest, Taxes, Depreciation and Amortization

LTM: Last Twelve Months

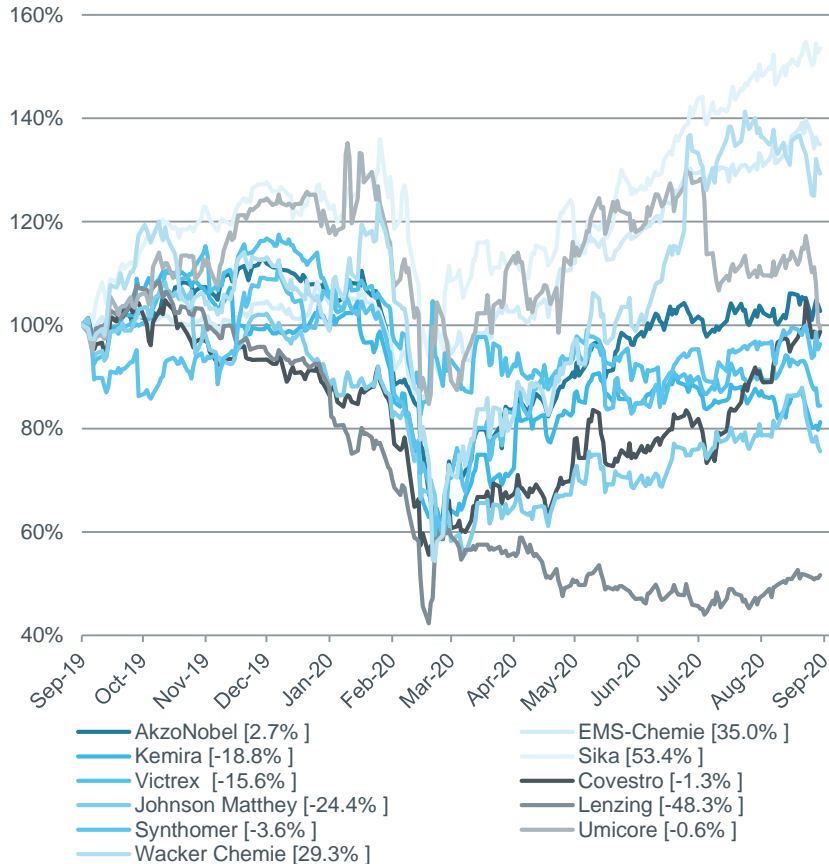


# Public Trading Analysis

## Sub-Sector Focus: Industrial Specialty

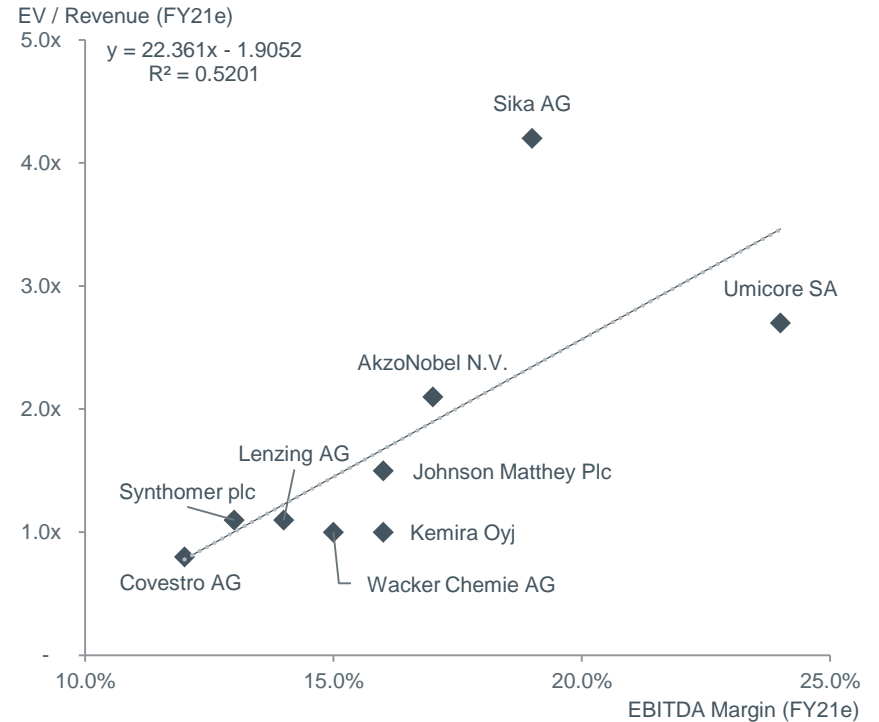
### Share Price Development and Regression Analysis

#### Share Price Development Rebased



Source: Bloomberg as of June 30, 2020

#### EV / Revenue vs. EBITDA Margin



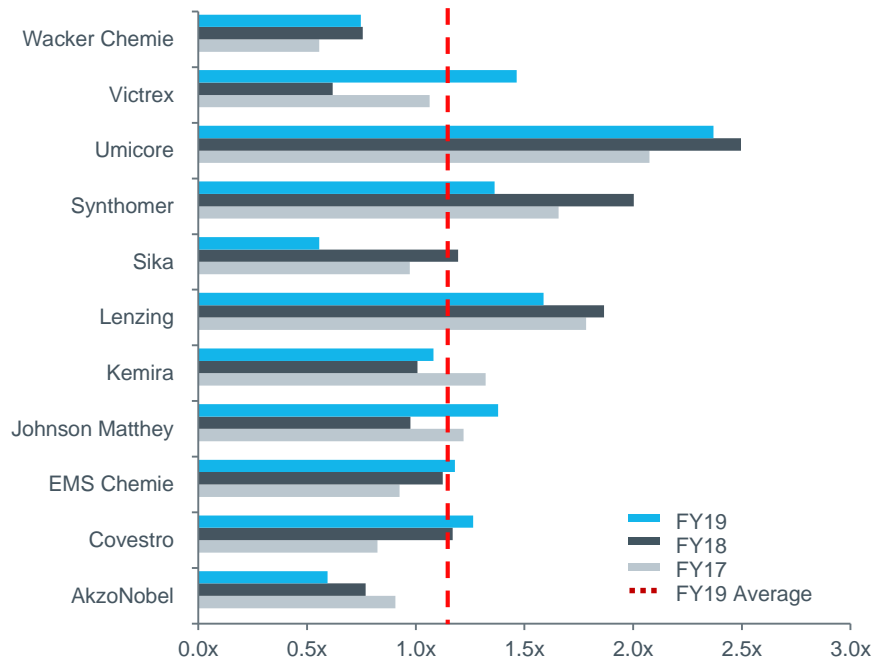
Source: Capital IQ as of June 30, 2020

# Public Trading Analysis

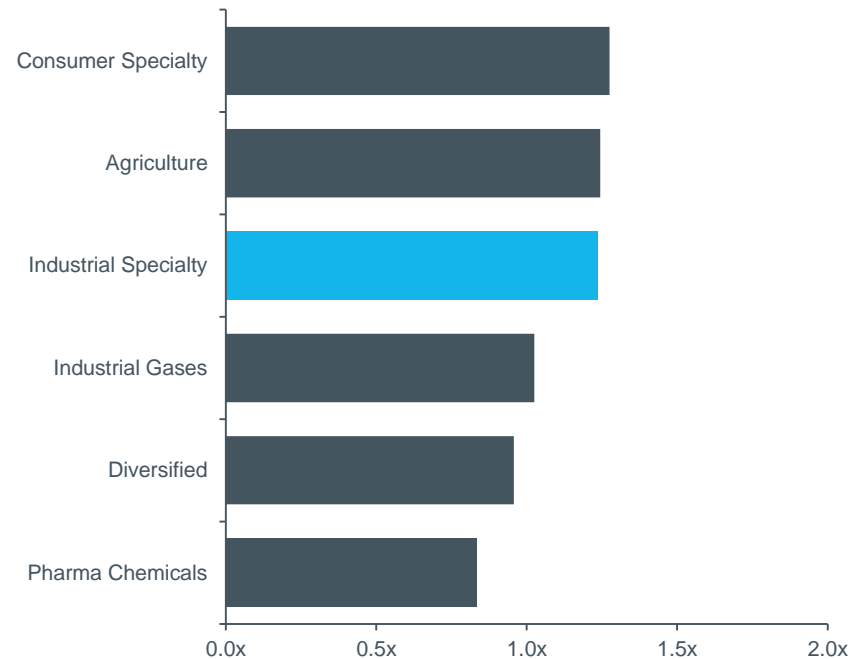
## Sub-Sector Focus: Industrial Specialty

### Capital Expenditure / Depreciation

#### Industrial Specialty



#### Chemicals Sub-Sector Average (FY19)



Source: Capital IQ, Bloomberg as of September 30, 2020

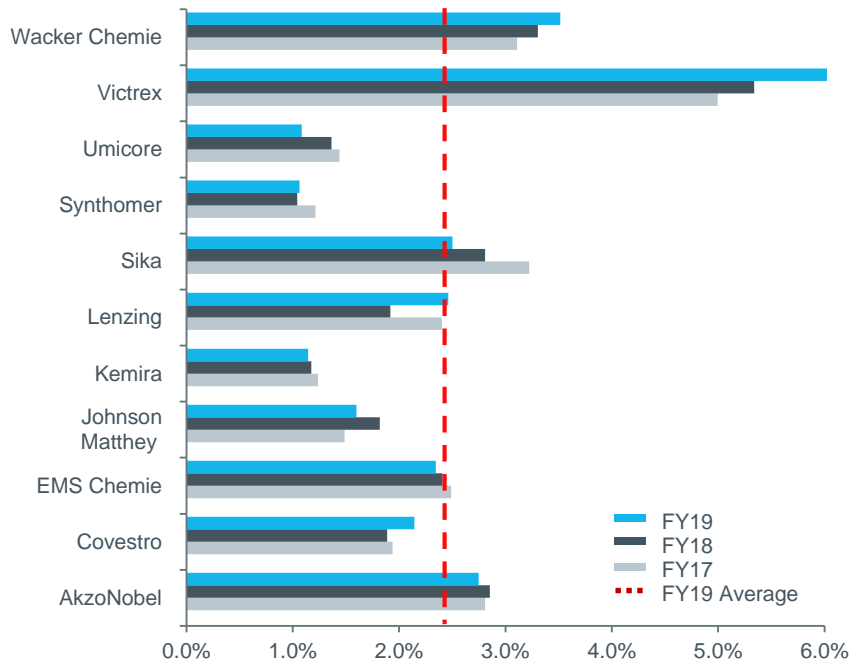
Source: Capital IQ as of September 30, 2020

# Public Trading Analysis

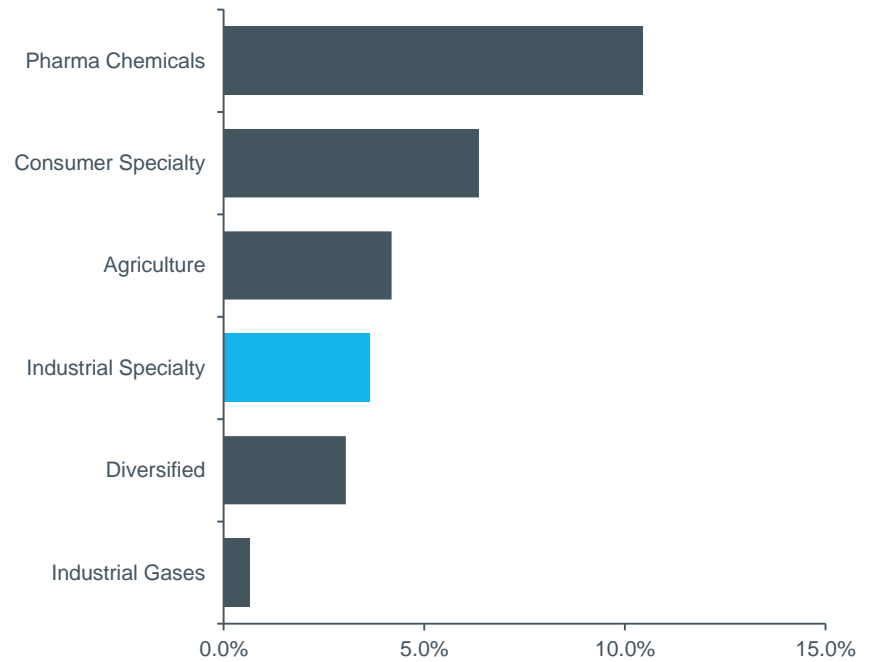
## Sub-Sector Focus: Industrial Specialty

### Research and Development Expenditures in % of Sales

#### Industrial Specialty



#### Chemicals Sub-Sector Average (FY19)



Source: Capital IQ, Bloomberg as of June 30, 2020

Source: Capital IQ as of June 30, 2020

# Public Trading Analysis

## Company Trading Statistics

<i>EUR in millions (except for share price)</i>	<b>Share Price</b> <i>(in EUR)</i>	<b>52 Week Share Price</b> <i>(in EUR)</i>			<b>Market Cap</b>	<b>Enterprise Value</b>	<b>Revenues</b>	<b>EBITDA</b>		<b>EBITDA Margin</b>	<b>EV/EBITDA</b>	
<b>Company Name</b>	<b>30-Sep-20</b>	<b>Low</b>	<b>High</b>	<b>% of High</b>			<b>LTM</b>	<b>LTM</b>	<b>FY2020</b>	<b>LTM</b>	<b>LTM</b>	<b>FY2020</b>
<b>Diversified</b>												
Arkema SA	90.6	42.5	99.5	91%	6,919.6	8,104.6	8,259.0	1,168.0	1,166.3	14.1%	6.9x	6.9x
BASF SE	52.0	37.4	72.2	72%	47,742.5	69,031.5	58,675.0	6,436.0	6,664.0	11.0%	10.7x	10.4x
Clariant AG	16.9	13.0	22.2	76%	5,552.6	6,975.8	3,861.0	443.8	572.5	11.5%	15.9x	12.2x
Evonik Industries AG	22.1	15.1	27.6	80%	10,280.0	13,250.0	12,585.0	1,882.0	1,909.5	15.0%	7.0x	6.9x
LANXESS AG	49.0	25.7	64.6	76%	4,226.7	5,076.7	6,480.0	919.0	837.3	14.2%	5.5x	6.1x
Solvay SA	73.5	52.8	106.5	69%	7,596.5	10,549.5	10,514.0	1,923.0	1,898.0	18.3%	5.5x	5.6x
<b>Average</b>										<b>14.0%</b>	<b>8.6x</b>	<b>8.0x</b>
<b>Agriculture</b>												
Israel Chemicals Ltd.	3.0	2.3	4.3	71%	3,862.0	6,072.4	4,401.2	583.8	702.8	13.3%	10.9x	8.6x
K+S AG	5.9	4.5	13.6	43%	1,125.0	4,333.4	3,858.0	459.3	491.1	11.9%	9.4x	8.8x
KWS Saat SE	72.0	39.2	74.0	97%	2,376.0	2,944.9	1,268.1	193.5	223.7	15.3%	15.2x	13.2x
Tessenderlo Group NV	32.1	19.6	34.9	92%	1,383.1	1,649.3	1,752.9	280.9	297.2	16.0%	5.9x	5.6x
Yara International ASA	32.7	25.1	36.4	90%	8,813.0	12,021.5	9,950.1	1,594.2	1,878.4	16.0%	6.2x	5.3x
<b>Average</b>										<b>14.5%</b>	<b>9.5x</b>	<b>8.3x</b>

Source: Capital IQ as of September 30 2020, and includes the most actively traded European chemical companies for respective covered sectors.

# Public Trading Analysis

## Company Trading Statistics

Company Name	Share Price	52 Week Share Price			Market Cap	Enterprise Value	Revenues	EBITDA		EBITDA	EV/EBITDA	
	(in EUR)	(in EUR)					LTM	LTM	FY2020	LTM	LTM	FY2020
	30-Sep-20	Low	High	% of High			LTM	LTM	FY2020	LTM	LTM	FY2020
<b>Industrial Specialty</b>												
AkzoNobel NV	86.4	45.7	92.1	94%	16,702.6	18,593.6	8,563.0	1,175.0	1,345.3	13.7%	15.8x	13.8x
Covestro AG	42.4	23.5	48.8	87%	7,744.3	9,073.3	10,965.0	781.0	999.1	7.1%	11.6x	9.1x
EMS-Chemie Holding AG	767.3	461.0	799.3	96%	17,946.3	17,756.9	1,783.1	546.4	529.1	30.6%	32.8x	33.6x
Johnson Matthey Plc	26.0	17.8	36.3	72%	4,997.2	6,239.4	16,515.1	781.7	799.5	4.7%	8.2x	8.0x
Kemira Oyj	10.9	8.0	15.0	73%	1,662.3	2,520.4	2,574.9	367.5	394.9	14.3%	6.9x	6.4x
Lenzing AG	47.0	35.4	97.9	48%	1,247.9	2,042.5	1,891.2	226.3	177.6	12.0%	9.0x	11.5x
Sika AG	210.1	116.1	211.4	99%	29,777.9	33,282.0	7,341.0	1,287.3	1,271.2	17.5%	25.9x	26.2x
Synthomer Plc	3.5	2.0	4.1	85%	1,480.3	2,206.1	1,573.5	181.4	238.9	11.5%	12.1x	9.2x
Umicore SA	35.6	27.2	49.3	72%	8,551.0	9,961.2	19,880.1	684.0	740.8	3.4%	14.6x	13.4x
Victrex Plc	20.2	18.1	28.3	71%	1,743.4	1,697.0	339.7	142.1	105.6	41.8%	12.3x	16.1x
Wacker Chemie AG	82.9	30.0	85.8	97%	4,118.3	4,657.9	4,693.3	488.0	576.3	10.4%	9.5x	8.1x
<b>Average</b>										<b>15.2%</b>	<b>14.4x</b>	<b>14.1x</b>
<b>Industrial Gases</b>												
Air Liquide SA	135.5	94.9	143.9	94%	63,903.3	78,835.8	21,240.8	5,461.5	5,832.5	25.7%	14.4x	13.5x
Linde Plc	202.8	124.9	221.8	91%	106,381.4	119,103.4	24,166.4	7,323.8	7,138.6	30.3%	17.0x	16.7x
<b>Average</b>										<b>28.0%</b>	<b>15.7x</b>	<b>15.1x</b>

Source: Capital IQ as of September 30 2020, and includes the most actively traded European chemical companies for respective covered sectors.

**Note:** Based on company filings and press releases, following the merger of Praxair, Inc. and Linde AG, a new legal entity Linde plc has been established with headquarters in the UK and shares listed in both Frankfurt Stock Exchange (XETRA:LIN) and New York Stock Exchange (NYSE:LIN). In accordance, our coverage for Linde AG has been replaced by Linde Plc.

# Public Trading Analysis

## Company Trading Statistics

EUR in millions (except for share price) Company Name	Share Price	52 Week Share Price			Market Cap	Enterprise Value	Revenues	EBITDA		EBITDA	EV/EBITDA	
	(in EUR)	(in EUR)					LTM	LTM	FY2020	LTM	LTM	FY2020
	30-Jun-20	Low	High	% of High			LTM	LTM	FY2020	LTM	LTM	FY2020
<b>Consumer Specialty</b>												
Chr. Hansen Holding A/S	94.8	54.6	98.6	96%	12,485.8	13,388.5	970.0	400.2	428.9	41.3%	33.5x	31.2x
Croda International Plc	68.8	42.0	69.4	99%	8,800.4	9,444.2	1,469.8	389.0	433.0	26.5%	24.3x	21.8x
Koninklijke DSM NV	140.6	82.2	142.2	99%	23,841.9	26,084.9	8,974.0	1,057.0	1,634.5	11.8%	24.7x	16.0x
Givaudan SA	3,685.6	2,325.6	3,805.4	97%	34,014.5	38,326.8	5,939.3	1,205.7	1,324.5	20.3%	32.1x	28.9x
Symrise AG	118.0	71.2	120.3	98%	15,980.3	17,668.5	3,536.7	735.9	780.8	20.8%	24.0x	22.6x
<b>Average</b>										<b>24.1%</b>	<b>27.7x</b>	<b>24.1x</b>
<b>Pharma Chemicals</b>												
Bayer AG	53.3	44.9	78.3	68%	52,373.0	88,146.0	43,479.0	11,126.0	12,035.5	25.6%	7.9x	7.3x
Lonza Group Ltd.	527.9	279.4	543.5	97%	39,214.8	42,304.4	5,646.5	1,563.2	1,586.2	27.7%	27.4x	26.7x
Novozymes A/S	53.7	34.1	56.1	96%	14,980.6	15,624.1	1,920.6	665.4	663.4	34.6%	23.5x	23.6x
Merck KGaA	124.6	76.2	128.7	97%	54,151.6	66,741.6	16,924.0	4,396.0	4,607.5	26.0%	15.2x	14.5x
<b>Average</b>										<b>28.5%</b>	<b>18.5x</b>	<b>18.0x</b>

Source: Capital IQ as of September 30 2020, and includes the most actively traded European chemical companies for respective covered sectors.

**Definitions:**

Enterprise Value: Market Capitalization + Total Debt + Preferred Equity + Minority Interest - Cash and Short Term Liabilities

EBITDA: Earning Before Interest, Taxes, Depreciation and Amortization

LTM: Last Twelve Months

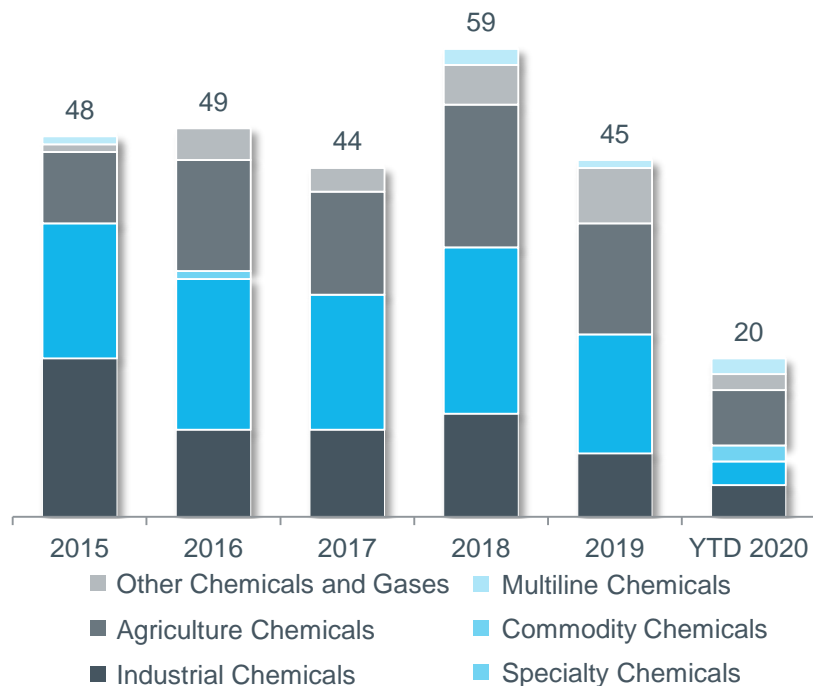


# Venture Capital Activity Review

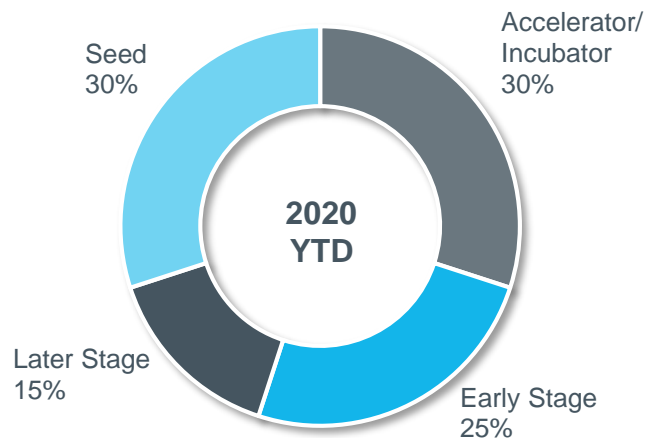
## Announced Funding Rounds

### European Venture Capital (VC) Funding Trend

Number of Announced VC Funding Rounds



VC Stage Split



# Venture Capital Activity Review

## Sub-Sector Focus

### Selected Startups that Received VC Funding

#### PlasmaBound Raised EUR 1.1 mn of Venture Funding for Novel Surface Treatment in a Deal Led by Atlantic Bridge Capital

June 2020



Funding raised to date approx. EUR 1.2 mn

Irish start-up PlasmaBound, a University College Dublin (UCD) spin-out, has created patented technology, called controlled polymer ablation (CPA), that enables companies in the automotive, aerospace and wind turbine industries to achieve light-weighting goals with simplified and fully automated workstreams while meeting fuel efficiency and carbon emissions requirements.

#### Graphmatech Raised USD 2.0 mn from Existing Investors, Including ABB Technology Venture and Innoenergy

February 2020



Funding raised to date approx. EUR 2.5 mn

Graphmatech, a Sweden-based company manufactures a graphene material product named Aros Graphene, with multiple application areas. The product can be fully integrated in other materials such as polymer composites and can also be used as an additive in different types of batteries to increase energy storage capacity and charging speed, as well as thermal paste which can be used for cooling electronics and reducing electricity consumption.

#### 2D Fab Raised SEK 6.0 mn in an Oversubscribed Issue from Selected Investors Including E14 Invest and ALMI Invest Mitt

April 2019



Funding raised to date approx. EUR 1.2 mn

2D Fab, established in 2013 as a spin-off from Mid Sweden University, produces graphene flakes using graphite from the Swedish Woxna Graphite (owned by the Canadian company Flinders Resources). The graphite enables the production of larger and higher-purity graphene flakes compared to other graphite sources. The capital will primarily be used to expand the production capacity and to intensify the relationship with potential volume customers.

#### AFULudine Raised EUR 1.2 mn of Venture Funding from Bourgogne Franche Comté Croissance

April 2019



Funding raised to date approx. EUR 1.6 mn

AFULudine is a France-based manufacturer of lubricants intended to provide customized industrial products. The company's environmentally friendly lubricant technology offers innovative and non-oily lubrication solutions with low viscosity, enabling industrialists, individuals and craftsmen to perform post-processing operations directly and free from constraints of degreasing. The funding will be used to finalize the acquisition of a unit of production of its lubricant AFU.

# Upcoming Events

Q4 2020 and Q1/Q2 2021



## The Global ManuChem Strategies

03/01/2021 to 03/02/2021 | Berlin, Germany

<https://www.global-manufacturing-chemicals.com/>

The annual Global ManuChem brings together over 150+ manufacturing, supply chain and engineering leaders who are responsible for process optimization, digital manufacturing and excellence strategies. Topics include:

- Utilizing lifecycle data along the chemical manufacturing value chain
- Maintenance and asset management as value drivers
- Optimizing productivity, effectiveness and excellence
- Rethinking business models amid changing markets and stakeholder expectations
- Managing volatile working environments

**Note:** Please refer to the web pages for updates on events. All trademarks, trade names, or logo referred herein are the property of their owners.

## Events Ticker

### FPSO Europe Congress 2021

02/15/2021 to 02/18/2021 | London, United Kingdom

<https://www.fpsonetwork.com/events-fpsoeuropecongress>

### European Chemistry Partnering

02/24/2021 to 02/26/2021 | Virtual Conference

<https://european-chemistry-partnering.com/>

### ICE Europe

03/09/2021 to 03/11/2021 | Munich, Germany

<https://www.ice-x.com/europe/2021/english/>

### Pharmapack Europe

05/19/2021 to 05/20/2021 | Paris, France

<https://www.pharmapackeurope.com/>

### Chemspec Europe 2021

05/19/2021 to 05/20/2021 | Frankfurt, Germany

<https://www.chemspeceurope.com/2021/english/>

### ACHEMA

06/14/2022 to 06/18/2021 | Frankfurt, Germany

<https://www.achema.de/en/>

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