



Industry Update  
**Chemicals**  
Q4 2022

## 1

# Financial Performance

## Size Profile, LTM Financials, Forward Estimates

(USD in millions, except per share data)

Company Name	Ticker	Size Profile			LTM Operating Data		Forward Estimates		
		Price at 12/31/22	% of 52 Week High	TEV	Total Assets	LTM Revenue	LTM EBITDA	2022 Est. Revenue	2022 Est. EBITDA
<b>Specialty Chemicals</b>									
The Sherwin-Williams Company	SHW	\$237.33	67.7%	\$75,640	\$22,246	\$21,681	\$3,328	\$23,091	\$4,127
Ecolab Inc.	ECL	\$145.56	61.3%	\$52,851	\$21,037	\$13,881	\$2,734	\$14,909	\$2,996
DuPont de Nemours, Inc.	DD	\$68.63	80.6%	\$48,479	\$44,099	\$17,246	\$4,264	\$12,911	\$3,272
PPG Industries, Inc.	PPG	\$125.74	70.9%	\$37,670	\$20,868	\$17,657	\$2,161	\$17,711	\$2,694
Celanese Corporation	CE	\$102.24	57.9%	\$16,409	\$21,337	\$9,600	\$2,333	\$12,094	\$3,049
<b>Commodity Chemicals</b>									
Dow Inc.	DOW	\$50.39	70.1%	\$54,006	\$59,557	\$59,407	\$9,958	\$51,884	\$7,237
LyondellBasell Industries N.V.	LYB	\$83.03	70.8%	\$42,225	\$36,491	\$53,075	\$7,273	\$46,205	\$5,390
Westlake Corporation	WLK	\$102.54	72.6%	\$18,671	\$20,425	\$16,002	\$4,627	\$14,072	\$3,002
<b>Diversified Chemicals</b>									
Eastman Chemical Company	EMN	\$81.44	62.9%	\$15,844	\$14,985	\$10,901	\$2,217	\$10,243	\$1,848
The Chemours Company	CC	\$30.62	68.1%	\$7,676	\$7,745	\$7,031	\$1,293	\$6,565	\$1,250
Huntsman Corporation	HUN	\$27.48	66.0%	\$7,537	\$8,132	\$9,268	\$1,321	\$7,435	\$961

Source: Capital IQ

## Financial Performance (cont.)

### Size Profile, LTM Financials, Forward Estimates

(USD in millions, except per share data)

Company Name	Ticker	Size Profile			LTM Operating Data		Forward Estimates		
		Price at 12/31/22	% of 52 Week High	TEV	Total Assets	LTM Revenue	LTM EBITDA	2022 Est. Revenue	2022 Est. EBITDA
<b>Industrial Gases</b>									
Linde plc	LIN	\$326.18	92.6%	\$177,462	\$74,323	\$33,763	\$10,735	\$34,403	\$11,288
Air Products and Chemicals, Inc.	APD	\$308.26	93.8%	\$74,765	\$27,193	\$12,699	\$3,797	\$13,465	\$4,827
<b>Fertilizers &amp; Agricultural Chemicals</b>									
Nutrien Ltd.	NTR	\$73.03	62.3%	\$52,336	\$53,824	\$36,792	\$11,781	\$34,231	\$10,541
Corteva, Inc.	CTVA	\$58.78	85.9%	\$45,588	\$40,651	\$17,109	\$3,574	\$18,481	\$3,515
FMC Corporation	FMC	\$124.80	88.5%	\$19,587	\$10,765	\$5,594	\$1,356	\$6,025	\$1,550

Source: Capital IQ

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## Valuation Metrics

## Return Profile, Trading Multiples

Company Name	Ticker	Return Profile					Trading Multiples		
		Return on Assets	Return on Equity	Revenue Growth	EBITDA Margin	EBITDA Growth	5-yr Beta	TEV / LTM Revenue	TEV / LTM EBITDA
<b>Specialty Chemicals</b>									
The Sherwin-Williams Company	SHW	8.0%	73.3%	10.2%	15.4%	-2.9%	1.1x	3.5x	22.7x
Ecolab Inc.	ECL	5.8%	16.3%	11.6%	19.7%	1.0%	1.0x	3.8x	19.3x
DuPont de Nemours, Inc.	DD	3.9%	6.5%	32.0%	24.7%	35.3%	1.3x	2.8x	11.4x
PPG Industries, Inc.	PPG	4.7%	17.3%	7.9%	12.2%	-14.7%	1.2x	2.1x	17.4x
Celanese Corporation	CE	7.3%	34.9%	22.2%	24.3%	14.0%	1.3x	1.7x	7.0x
	<b>Mean</b>	<b>5.9%</b>	<b>29.7%</b>	<b>16.8%</b>	<b>19.3%</b>	<b>6.6%</b>	<b>1.2x</b>	<b>2.8x</b>	<b>15.6x</b>
	<b>Median</b>	<b>5.8%</b>	<b>17.3%</b>	<b>11.6%</b>	<b>19.7%</b>	<b>1.0%</b>	<b>1.2x</b>	<b>2.8x</b>	<b>17.4x</b>
<b>Commodity Chemicals</b>									
Dow Inc.	DOW	7.5%	32.3%	15.8%	16.8%	-1.3%	1.3x	0.9x	5.4x
LyondellBasell Industries N.V.	LYB	10.2%	35.2%	28.6%	13.7%	-9.6%	1.2x	0.8x	5.8x
Westlake Corporation	WLK	12.2%	30.0%	56.3%	28.9%	61.1%	1.2x	1.2x	4.0x
	<b>Mean</b>	<b>10.0%</b>	<b>32.5%</b>	<b>33.6%</b>	<b>19.8%</b>	<b>16.7%</b>	<b>1.2x</b>	<b>1.0x</b>	<b>5.1x</b>
	<b>Median</b>	<b>10.2%</b>	<b>32.3%</b>	<b>28.6%</b>	<b>16.8%</b>	<b>-1.3%</b>	<b>1.2x</b>	<b>0.9x</b>	<b>5.4x</b>
<b>Diversified Chemicals</b>									
Eastman Chemical Company	EMN	6.9%	20.1%	9.4%	20.3%	14.8%	1.5x	1.5x	7.1x
The Chemours Company	CC	8.2%	79.5%	15.1%	18.4%	37.6%	1.9x	1.1x	5.9x
Huntsman Corporation	HUN	7.7%	30.5%	28.3%	14.3%	45.8%	1.1x	0.8x	5.7x
	<b>Mean</b>	<b>7.6%</b>	<b>43.4%</b>	<b>17.6%</b>	<b>17.7%</b>	<b>32.7%</b>	<b>1.5x</b>	<b>1.1x</b>	<b>6.3x</b>
	<b>Median</b>	<b>7.7%</b>	<b>30.5%</b>	<b>15.1%</b>	<b>18.4%</b>	<b>37.6%</b>	<b>1.5x</b>	<b>1.1x</b>	<b>5.9x</b>

Source: Capital IQ

## Valuation Metrics (cont.)

### Return Profile, Trading Metrics

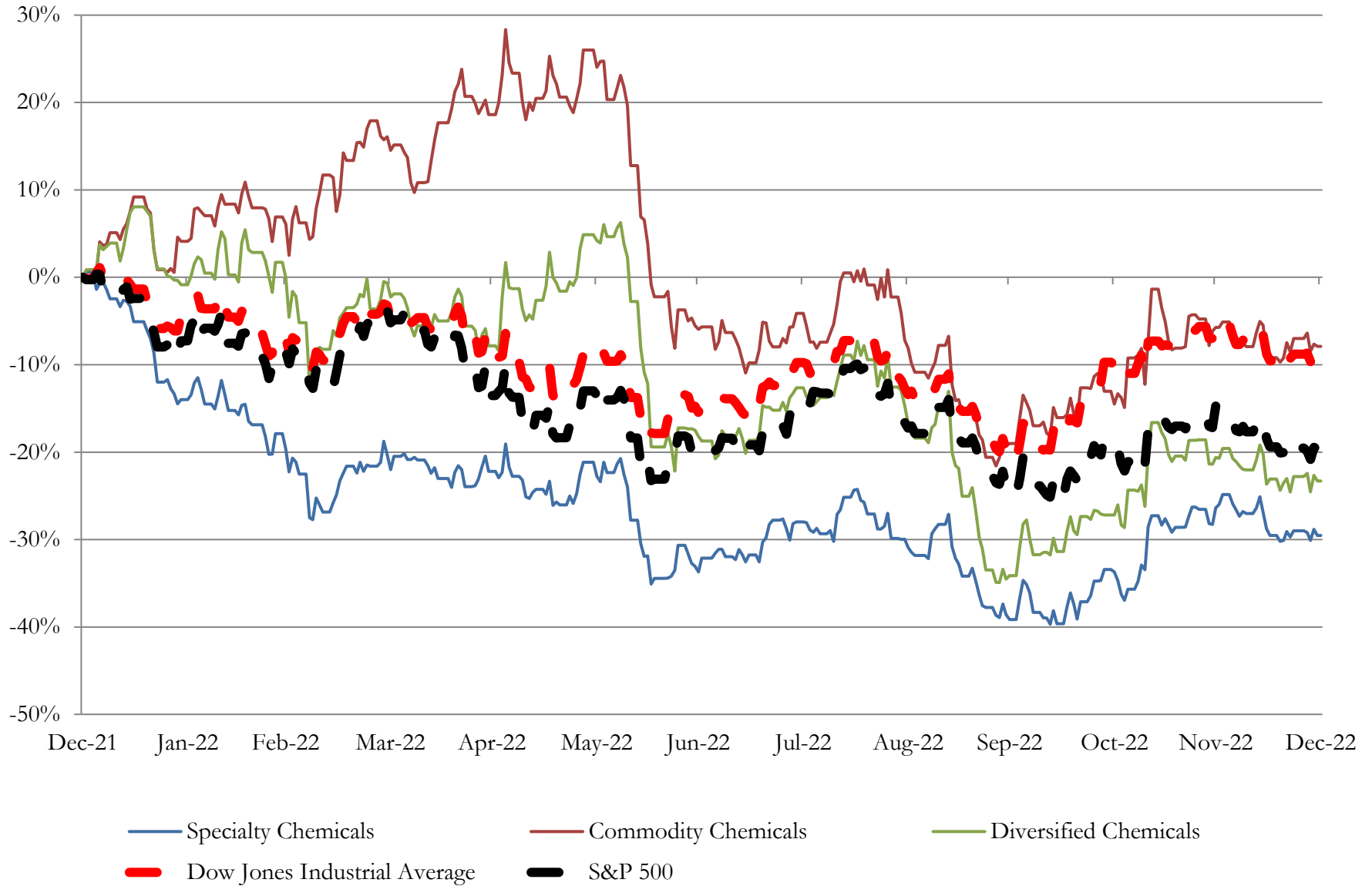
Company Name	Ticker	Return Profile					Trading Multiples		
		Return on Assets	Return on Equity	Revenue Growth	EBITDA Margin	EBITDA Growth	5-yr Beta	TEV / LTM Revenue	TEV / LTM EBITDA
<b>Industrial Gases</b>									
Linde plc	LIN	5.0%	9.4%	13.4%	31.8%	8.4%	0.9x	5.3x	16.5x
Air Products and Chemicals, Inc.	APD	5.7%	16.2%	23.0%	29.9%	3.3%	0.9x	5.9x	19.7x
	Mean	5.3%	12.8%	18.2%	30.8%	5.9%	0.9x	5.6x	18.1x
	Median	5.3%	12.8%	18.2%	30.8%	5.9%	0.9x	5.6x	18.1x
<b>Fertilizers &amp; Agricultural Chemicals</b>									
Nutrien Ltd.	NTR	12.4%	31.3%	55.6%	32.0%	142.8%	N/A	1.4x	4.4x
Corteva, Inc.	CTVA	3.6%	5.6%	11.2%	20.9%	0.3%	0.8x	2.7x	12.8x
FMC Corporation	FMC	7.0%	23.0%	16.9%	24.2%	9.9%	0.9x	3.5x	14.4x
	Mean	7.6%	15.5%	26.8%	38.4%	63.4%	0.8x	2.5x	10.5x
	Median	7.0%	13.8%	22.6%	22.6%	77.7%	0.8x	2.7x	12.8x

Source: Capital IQ

# 3

## LTM Equity Performance

### Major Indexes



Source: Capital IQ

## 4

## Recent M&amp;A Activity

Last Twelve (12) Months as of December 31, 2022

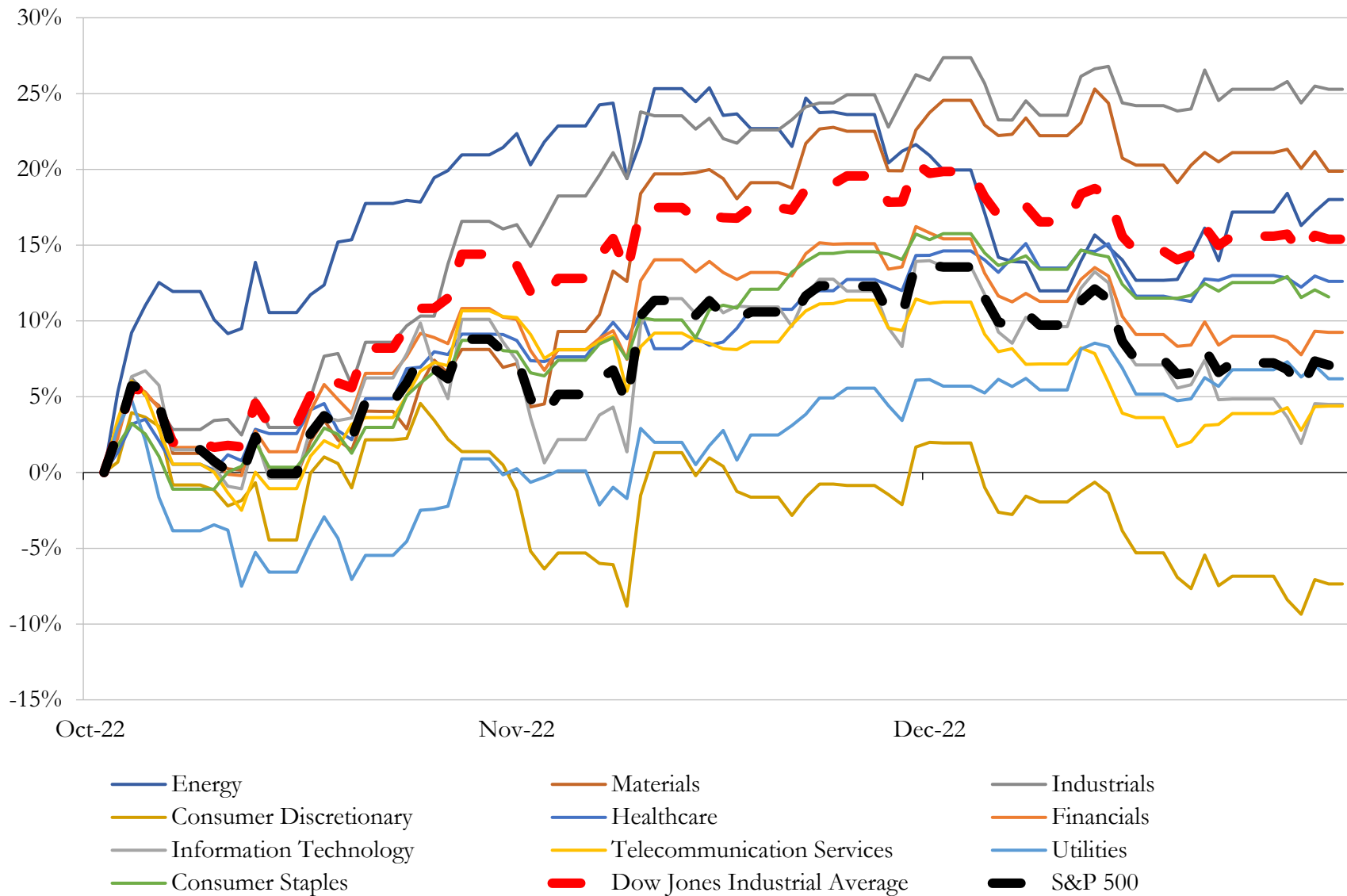
(USD in millions)

Close Date	Target	Acquirer	Implied TEV
Mar-22	Hexion Holdings Corporation	American Securities LLC	\$3,333
Mar-22	Kraton Corporation	DL Chemical Co., Ltd.	\$2,568
Sep-22	GCP Applied Technologies Inc.	Compagnie de Saint-Gobain S.A.	\$2,307
Apr-22	Ferro Corporation	Prince International Corporation	\$2,161
Feb-22	Performance Adhesives Business of Ashland LLC	Arkema S.A.	\$1,650
Jul-22	Microbial Control Business Unit of International Flavors & Fragrances Inc.	LANXESS Aktiengesellschaft	\$1,300
Apr-22	Adhesive Resins business of Eastman Chemical Company	Synthomer plc	\$1,000
Oct-22	Quadion LLC	Trelleborg Sealing Solutions US, Inc.	\$950
May-22	Quality Synthetic Rubber, Inc.	Dätwyler Holding AG	\$625
Dec-21	Elessent Clean Technologies Inc.	U.S.-China Green Investment Management Ltd.; Dussur; BPGC Management	\$510
Apr-22	Raven Engineered Films, Inc.	Industrial Opportunity Partners, LLC; Industrial Opportunity Partners IV	\$350
Oct-22	Zymergen Inc.	Ginkgo Bioworks Holdings, Inc.	\$273
Jul-22	Marrone Bio Innovations, Inc.	Bioceres Crop Solutions Corp.	\$264
Apr-22	Scientific Design Company, Inc.	Saudi Basic Industries Corporation	\$260
Mar-22	dlhBOWLES Inc.	ABC Technologies Holdings Inc.	\$255
Jun-22	Trecora Resources	Balmoral Funds LLC	\$254
Sep-22	Nucera Solutions LLC	Chase Corporation	\$250
May-22	Biomaterials business of DuPont de Nemours, Inc.	Huafon Group Co., Ltd.	\$240
Dec-22	McCann Plastics, Inc.	HEXPOL AB (publ)	\$120
Mar-22	Purification Solutions Business of Cabot Corporation (NYSE : CBT)	OEP Capital Advisors, L.P.	\$111
Feb-22	U.S. Amines Limited	AdvanSix Inc.	\$98
Nov-22	Assets of Elite Polymer Solutions	Allied Tube and Conduit Corporation; Atkore HDPE, LLC	\$92
Feb-22	Intertech Plastics, Inc.	TriMas Corporation	\$64
Oct-22	Attapulgate business assets of BASF SE	Clariant International Ltd	\$60
Mar-22	Tucson Rubber Corporation	Effox-Flextor-Mader, Inc.	\$24
Feb-22	Business assets of ProFlow Solutions	Jacam Catalyst, LLC	\$11
Sep-22	Surfactant Business and Associated Assets of PerformanX Specialty Chemicals,	Stepan Company	\$10
May-22	Petro X Solutions, Inc.	Good Hemp, Inc.	\$4
Jul-22	Epicor Incorporated	Evoqua Water Technologies Corp.	\$4
Aug-22	Significant portion of assets of XG Sciences, Inc.	NanoXplore Inc.	\$3

Source: Capital IQ

# 5 Change in Market Capitalization by Sector

Last Three (3) Months as of December 31, 2022



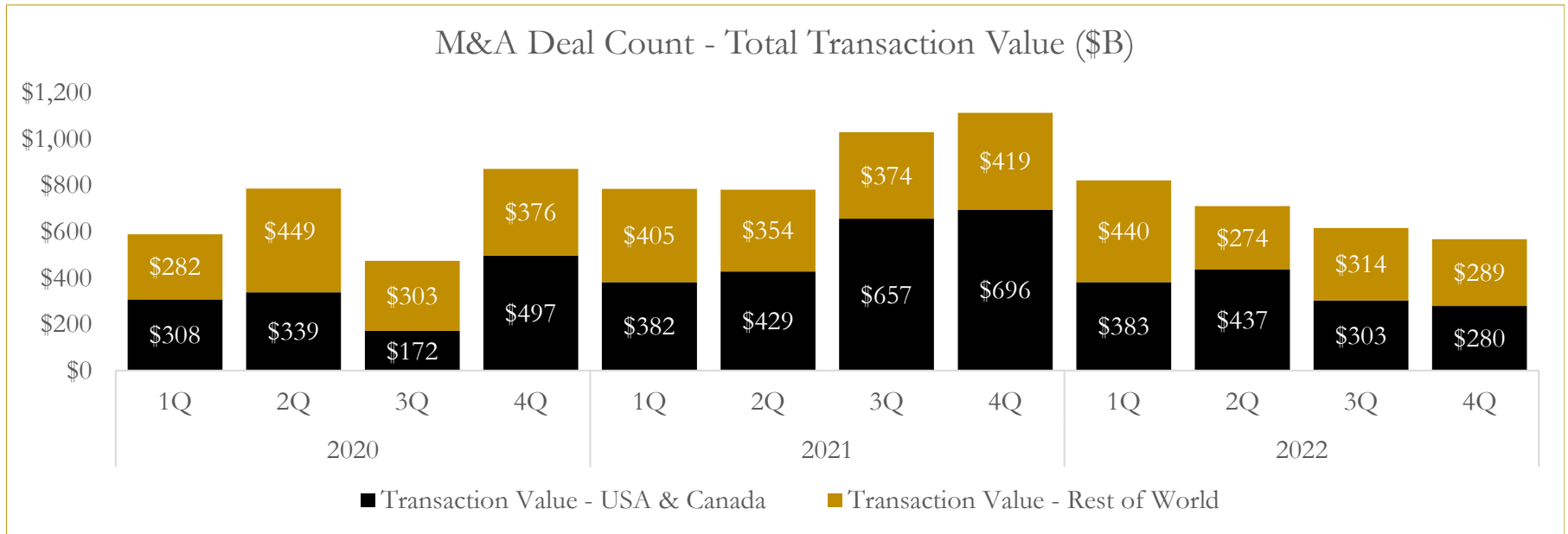
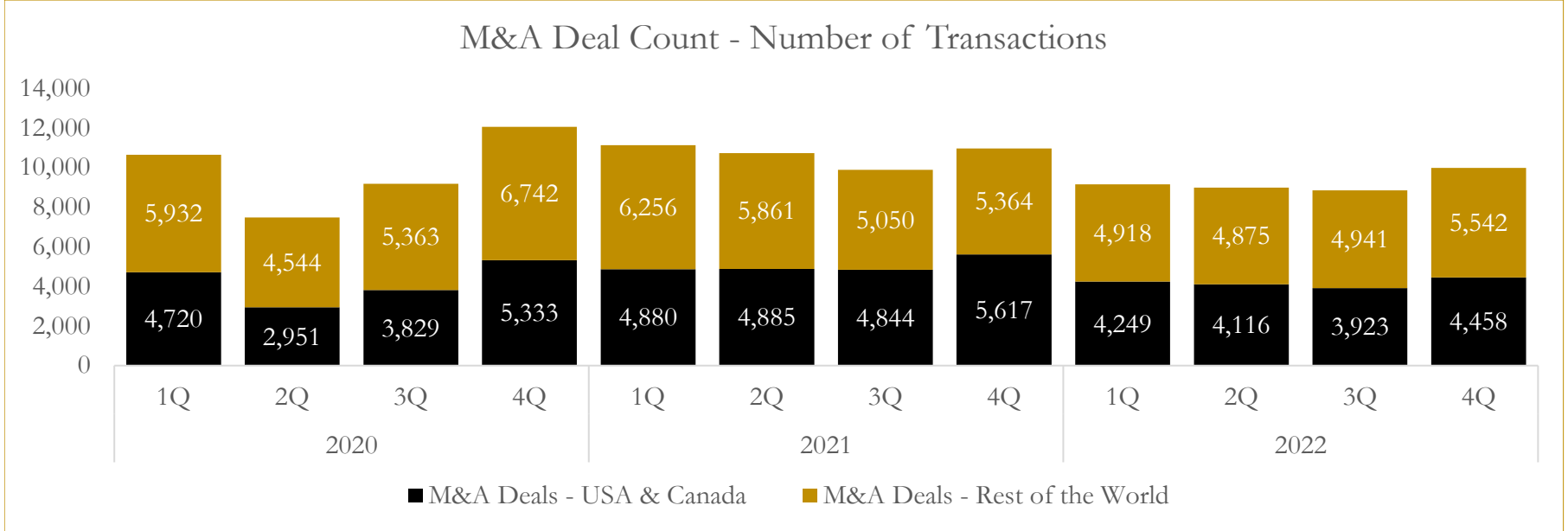
Source: Capital IQ



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## M&A Deal Flow Statistics

Last Three (3) Years as of December 31, 2022



Source: Capital IQ

## About Houlihan Capital

Houlihan Capital is a leading, solutions-driven valuation, financial advisory and boutique investment banking firm. We pride ourselves on being thought leaders in an ever-changing landscape.

Houlihan Capital is SOC-compliant, a FINRA and SIPC member and committed to the highest levels of professional ethics and standards.

### Valuation & Financial Advisory

We provide an array of services that include enterprise valuations, portfolio valuation, valuation of carried interest, transaction opinions, tax and financial reporting compliance, purchase price allocations, and a wide variety of consulting services through our Financial Advisory Group.

### Investment Banking

Through our Investment Banking Group, we offer sell-side/buy-side advisory and capital raises. Through our Special Situations desk, we provide services that fit outside the archetypal verticals, including liquidity solutions, transactional advisory, and secondary market advisory and trading.

### Litigation Support

Our team provides support for a wide variety of situations including commercial and shareholder disputes, derivatives and structured finance litigation, and fraudulent conveyance.

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