

***Chemical compounds***  
Third-quarter 2011 global  
chemicals industry mergers  
and acquisitions analysis





Tracey Stover



Anthony J. Scamuffa

### **To our Chemicals Industry readers:**

Welcome to the latest edition of *Chemical compounds*, PwC's analysis of mergers and acquisitions in the global chemicals industry. In this report, you'll find an overview of mergers and acquisitions in the sector during the third quarter of 2011, the significant drivers of these trends, and our expectations for deal activity in the near future.

PwC analysts point to several trends that are influencing deals in our industry:

- **The number of mergers and acquisitions (M&A) dropped** during the third quarter, but the proportion of mega-deals (deals valued at \$1 billion or more) increased. As a result, overall deal values were up, and average deal value jumped more than 50% over the second quarter.
- **Strategic investors remain active**, as suggested by the uptick in mega-deals. A desire to supplement organic growth and to expand into new markets is driving many companies' M&A efforts. Chemical companies continue to benefit from recent cost-cutting and streamlining initiatives, and as cash balances increase, resources are becoming available for larger and more ambitious deals.
- **Deals in China dropped more than 55%** in volume and value compared with the previous quarter. That trend isn't surprising to analysts: Growth in the slowing Chinese economy—impacted by recent domestic policies and weaker international demand for the country's goods—is expected to fall below double digits for the near term, and China's targeted economic growth rate is 7%.

While financial uncertainty remains a reality for global markets, we expect continued recovery in the chemicals deal market, although at a slower pace than had been predicted earlier last quarter. The bottom line: Many chemical companies are well positioned to take advantage of deal opportunities.

We're pleased to present the third-quarter 2011 edition of *Chemical compounds*, which has been designed to provide a deeper understanding of M&A trends and prospects in our sector. We hope you find the report informative and insightful.

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Global Chemicals leader

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US Chemicals leader

## ***Perspectives:***

# Thoughts on deal activity in the third quarter of 2011

The third quarter saw a further decline in deal volume, but as the proportion of mega-deals increased compared with the previous quarter, deal values climbed. Average deal value increased more than 50% over second-quarter 2011, although it remains below recent levels.

Financial deals declined drastically during the third quarter, falling to only 1.25% of total deal volume. Given economic concerns, financial investors might be looking to less cyclical sectors for new investment. Debt fears in the Euro-zone also add to a general pessimism regarding the economy. However, strategic investors remain active, as evidenced by the increased size of deals compared with the previous quarter. A desire to supplement organic growth and to enter new markets drives many companies' M&A efforts. Previous cost-cutting and right-sizing continue to benefit chemical companies as cash balances continue to increase, providing resources for larger and more ambitious deals.

As mentioned above, mega-deals (deals valued at \$1 billion or more) remained constant in terms of volume in the third quarter but increased in value. Driven by US-based acquirers (three of four deals), deal value increased almost 12% to \$11.7 billion. Also of note, although not included in deal volume or value, US-based The Dow Chemical Company signed an agreement with Saudi Aramco to create a joint venture valued at approximately \$20 billion.

In line with the decline in overall deal volume in the third quarter, the level of activity affiliated with BRIC countries (Brazil, Russia, India, and China) for deals valued at \$50 million or more decreased as well. China took a particularly hard hit, declining more than 55% in volume and value compared with the second quarter. This is not surprising as the Chinese economy slows, with growth expected to fall below double digits for the near term. A combination of weaker international demand for goods made in China and recent domestic policies, such as the targeted 7% economic growth rate, have slowed its economy.

Despite these difficulties, we expect the recovery in the chemicals deal market to continue. Despite a significant decline in deal volume last quarter, the deal environment remains solid. While concerns of a double-dip recession remain, strategic investors are committed to growth through inorganic means, and many are well positioned to take advantage of M&A opportunities.

# Commentary

## 2Q & 3Q11 deal activity and value are the lowest since 4Q09

While deal volume continued to decrease in third-quarter 2011 compared with the previous quarter, deal value improved slightly, to \$16 billion. Fewer deals are closing, but they are larger; however, with the exception of second-quarter 2011, this quarter's deal values are the lowest since fourth-quarter 2009.

### Quarterly chemicals deal activity

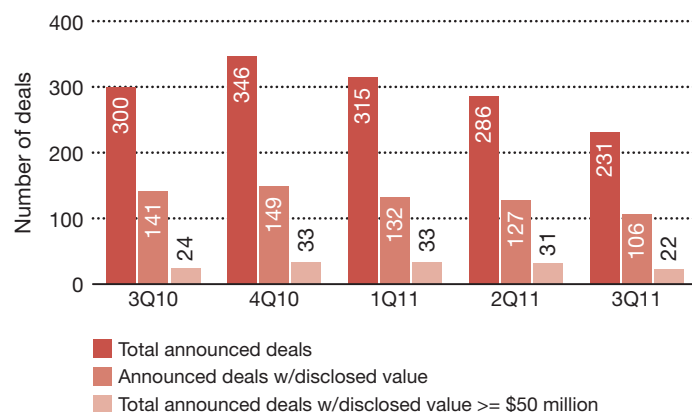
Measured by number and value of deals worth \$50 million or more (4Q08-3Q11)

	2008		2009				2010				2011		
	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	
Number of deals	28	9	22	24	30	23	31	24	33	33	31	22	
Total deal value (\$ bil)	18.1	11.7	5.3	7.8	8.6	22.3	16.3	50.4	24.4	42.0	14.8	16.0	
Average deal value (\$ mil)	645.4	1297.2	239.1	325.6	286.6	971.0	526.6	2100.3	740.2	1271.4	476.4	725.6	

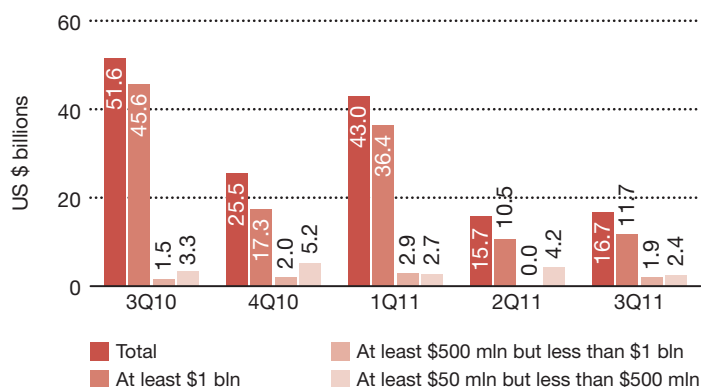
## Significant decline in smaller deal value

The number of deals announced, regardless of size, in third-quarter 2011 declined almost 20% from the second quarter, from 286 to 231. However, for the same period, total deal value increased, gaining almost 6.4%, to \$16.7 billion. This improvement in deal value was driven in large part by increased deal value for mega-deals in the third quarter. While the number of mega-deals announced remained steady at four, deal value increased almost 12% to \$11.7 billion. Total deal value for medium-sized deals (valued at more than \$500 million but less than \$1 billion) improved as well, increasing from zero to almost \$2 billion. On the negative side, however, smaller deals (valued at \$50 million up to \$500 million) declined almost 43%, from \$4.2 billion to \$2.4 billion this quarter.

### Deal activity by number of deals

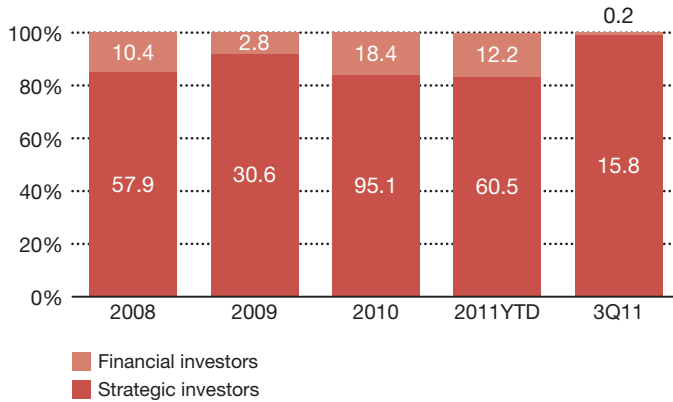


### Deal activity by total deal value



### Deal activity by investor group

Measured by value of announced deals



### Financial deals fall to almost zero

Over the past few years, private equity (PE) firms have faced considerable fundraising challenges, deterring their participation in the deal environment. Until recently, their involvement remained weak, as availability of credit and low returns constrained M&A activity. In 2010, financial investors' contribution to M&A activity increased to the highest levels since the recession began, setting the stage for further improvement. However, that trend reversed this quarter, as financial investments accounted for only 1.25% of deal activity. This is the lowest proportion since PwC began tracking activity by investor group in 2006. This shift may be due to the relative advantage that strategic investors have given their ample cash stockpiles, in addition to generally higher valuations in the sector.

Although the largest deals announced this quarter were not private equity exits, it seems reasonable that currently high M&A valuations could lead PE investors to seek to divest chemical portfolio holdings to strategic investors. This would seem to be the preferred exit strategy for many PE firms, as compared with initial public offerings, given the recently poor equity market performance.

## Increased mega-deal value driven by US acquirers

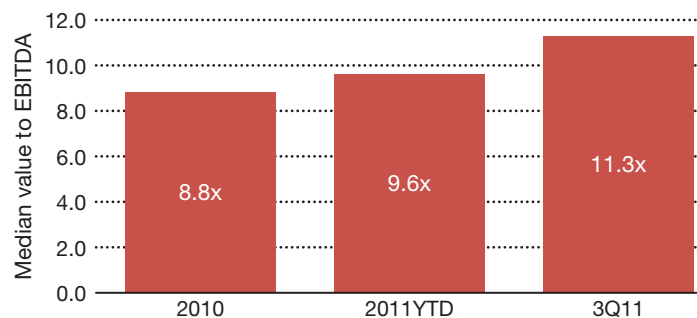
There were four mega-deals in the third quarter, the same as in the second quarter. However, deal value for the third quarter mega-deals was \$11.7 billion, compared with \$10.5 billion in the second quarter, an increase of more than 11%. Of the four mega-deals announced in the third quarter, three were valued between \$1 billion and \$5 billion, and the fourth was valued at more than \$8 billion. Three of the four were by US-based acquirers, and the fourth involved a US-based target.

The highest valued deal this quarter was the announced merger in July of US-based cleaning and sanitation products manufacturer Ecolab with water treatment chemical producer Nalco Holdings. The deal, valued at \$8.11 billion, follows several recent smaller deals by Ecolab, including OR Solutions (surgical fluid warming and cooling systems), the Cleantec business of Campbell Brothers (cleaning and hygiene products mainly for the Australian market), and the commercial laundry unit of Dober Chemicalis. Ecolab will issue approximately 68.9 million shares and will make a cash payment of \$1.6 billion to Nalco stockholders, representing an offer value of \$5.4 billion. Also, Ecolab will assume \$2.7 billion of Nalco's debt, bringing the total deal value to about \$8.1 billion.

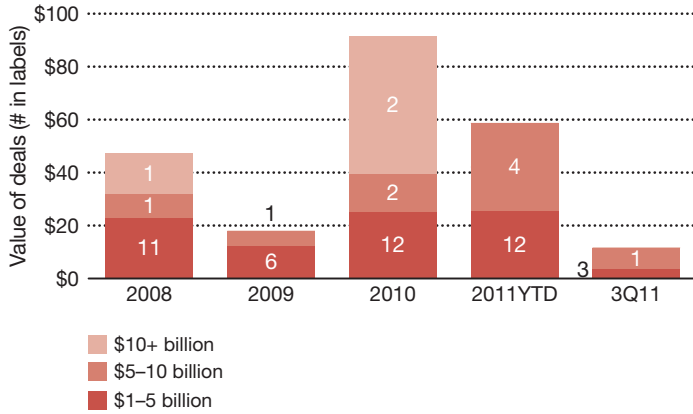
In the second deal, in September, US-based Tronox, the world's third-largest producer and marketer of titanium dioxide pigment, agreed to acquire the mineral sand operations of Exxaro Resources Ltd., a South Africa-based iron ore and coal mining company, for approximately \$1.3 billion. Exxaro's mineral sands operations produce the key titanium bearing ore feedstock used in the production of titanium dioxide pigment. To move forward with the transaction, Tronox will form a new Australia-based holding corporation, New Tronox, to combine its assets with Exxaro's mineral sands operations.

## Deal valuation by median deal value/EBITDA multiple

Measured by Value/EBITDA for deals worth \$50 million or more



**Mega-deals (2008-10, 2011YTD, 3Q11)**



In the only mega-deal not involving a US-based acquirer, it was announced in July that Switzerland’s Lonza Group, one of the world’s leading suppliers to the pharmaceutical, healthcare, and life science industries, will acquire all of the shares of US-based Arch Chemicals. The deal is valued at \$1.2 billion. The merger helps Lonza Group diversify its product line, and after completion of the deal, Lonza will have the world’s largest microbial control business.

Also in July, US-based specialty chemicals manufacturer OM Group announced that it would acquire Vacuumschmelze GmbH of Hanau, Germany, a global market leader in advanced materials and specialty magnetics. The deal was completed in August with consideration in the form of cash and common stock valued at approximately \$1 billion. The acquisition of Vacuumschmelze, which makes advanced materials for industries such as automotive, clock manufacturing, electrical engineering, and electronics, is expected to help OM Group enter the alternative energy market.

Finally, although not included in the deal activity, it should be noted that in July, The Dow Chemical Company announced a joint venture with Saudi Aramco to create a chemical company called Sadara to develop the world’s largest integrated chemical site. With an expected annual capacity of 3 million tons, the facility will be located in Jubail Industrial City II (Saudi Arabia). Valued at approximately \$20 billion, construction is expected to begin by year-end. This deal is an example of further movement into this region.

## Mega-deals in 2010

Month announced	Target name	Target nation	Acquirer name	Acquirer nation	Status	Value of transaction in US\$ billion	Category
Aug	Potash Corp of Saskatchewan	Canada	BHP Billiton PLC	United Kingdom	Pending	39.76	Fertilizers & Agricultural Chemicals
Dec	Sil'vinit	Russian Fed	Uralkaliy	Russian Fed	Completed	12.03	Fertilizers & Agricultural Chemicals
Feb	Airgas Inc	United States	Air Products & Chemicals Inc	United States	Withdrawn	7.65	Specialty Chemicals
Apr	LyondellBasell Industries NV	Netherlands	Creditors	Netherlands	Completed	6.84	Commodity Chemicals
Sep	JNFL	Japan	Investor Group	Japan	Completed	4.75	Commodity Chemicals
Jan	Quattor Participacoes SA	Brazil	Braskem SA	Brazil	Completed	4.13	Other
Feb	Terra Industries Inc	United States	Yara International ASA	Norway	Withdrawn	4.10	Fertilizers & Agricultural Chemicals
Jun	BorsodChem Zrt	Hungary	Yantai Wanhua Polyurethanes Co	China	Completed	1.70	Specialty Chemicals
Mar	Styron Corp	United States	Bain Capital Partners LLC	United States	Completed	1.63	Commodity Chemicals
Nov	Sino Polymer New Materials Co	China	Lumena Resources Corp	China	Completed	1.47	Specialty Chemicals
Oct	Makhteshim Agan Industries Ltd	Israel	China National Agrochemical	China	Pending	1.44	Fertilizers & Agricultural Chemicals
Jun	Albaugh Inc	United States	Makhteshim Agan Industries Ltd	Israel	Withdrawn	1.28	Fertilizers & Agricultural Chemicals
Nov	IFCO Systems NV	Netherlands	Brambles Investments Ltd	United Kingdom	Completed	1.25	Commodity Chemicals
Dec	Xianglu Petrochemicals(Xiamen)	China	Heilongjiang Heihua Co Ltd	China	Pending	1.11	Specialty Chemicals
Aug	AWB Ltd	Australia	Agrium Inc	Canada	Completed	1.10	Fertilizers & Agricultural Chemicals
Feb	Fosfertil	Brazil	Mineracao Naque SA	Brazil	Completed	1.03	Fertilizers & Agricultural Chemicals

## Mega-deals in 1H11

Month announced	Target name	Target nation	Acquirer name	Acquirer nation	Status	Value of transaction in US\$ billion	Category
Jan	The Mosaic Co	United States	Creditors	United States	Completed	8.88	Fertilizers & Agricultural Chemicals
Mar	Lubrizol Corp	United States	Berkshire Hathaway Inc	United States	Completed	8.79	Commodity Chemicals
Jan	Danisco A/S	Denmark	DuPont Denmark Holding ApS	Denmark	Pending	7.21	Other
Apr	Rhodia SA	France	Solvay SA	Belgium	Completed	4.64	Specialty Chemicals
Feb	PTT Aromatics & Refining PCL	Thailand	PTT Chemical PCL	Thailand	Pending	3.78	Other
May	International Specialty Prods	United States	Ashland Inc	United States	Completed	3.20	Specialty Chemicals
Feb	Sued Chemie AG	Germany	Clariant AG	Switzerland	Completed	2.63	Specialty Chemicals
Jan	Elkem AS	Norway	China Bluestar(Group) Co Ltd	China	Completed	2.18	Other
Mar	Chevron Corp-Pembroke Refinery	United Kingdom	Valero Energy Corp	United States	Completed	1.83	Other
Jun	Vale Fertilizantes SA	Brazil	Vale SA	Brazil	Intended	1.39	Fertilizers & Agricultural Chemicals
Apr	Evonik-Carbon Black Business	Germany	Rhône Capital and Triton Partners	United States	Completed	1.30	Specialty Chemicals

## Mega-deals in 3Q11

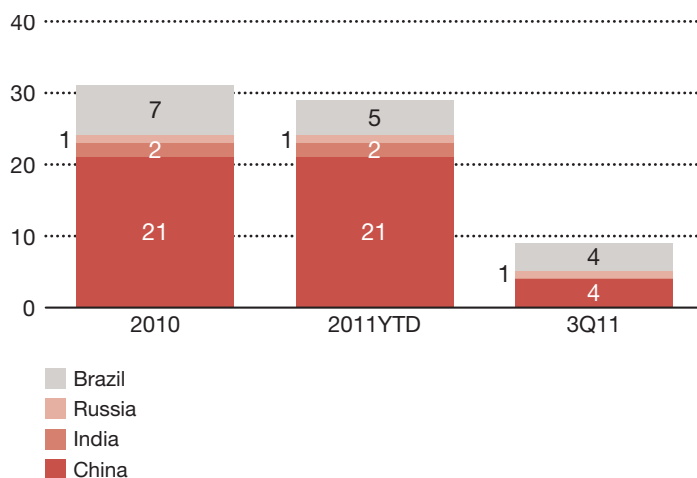
Month announced	Target name	Target nation	Acquirer name	Acquirer nation	Status	Value of transaction in US\$ billion	Category
Jul	Nalco Holding Co	United States	Ecolab Inc	United States	Pending	8.11	Specialty Chemicals
Sep	Exxaro-Mineral Sand Op	South Africa	Tronox Inc	United States	Pending	1.33	Other
Jul	Arch Chemicals Inc	United States	Lonza Group Ltd	Switzerland	Pending	1.20	Specialty Chemicals
Jul	Vacuumschmelze GmbH & Co KG	Germany	OM Group Inc	United States	Completed	1.01	Other

### China-affiliated transactions decreasing

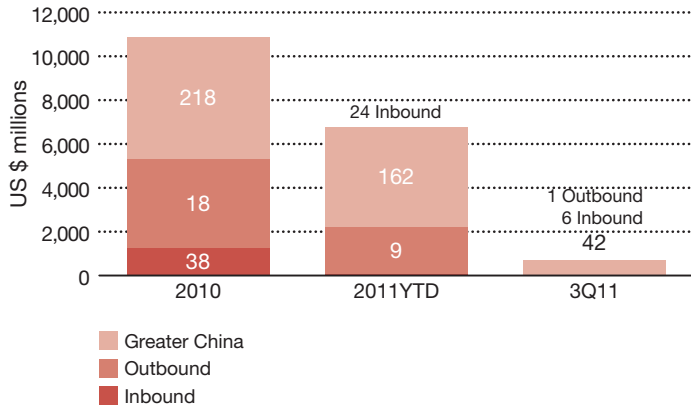
In line with lower deal activity in the third quarter, the level of activity related to BRIC countries for deals valued at \$50 million or more declined as well. China and Brazil generated the majority of the BRIC-related activity. Of nine deals announced for BRIC targets, four were for targets in China, and four were in Brazil. Of nine deals announced by BRIC acquirers, four were by Chinese companies and two were by Brazilian companies. While an improvement for Brazil, this was a decline in activity of more than 55% for Chinese targets and acquirers. Of the four Chinese deals, all were local market, and while the Chinese market may continue to consolidate, some overseas expansion can be expected in the future by the largest producers.

### Distribution of BRIC deals by target nation

Measured by number of announced deals worth \$50 million or more



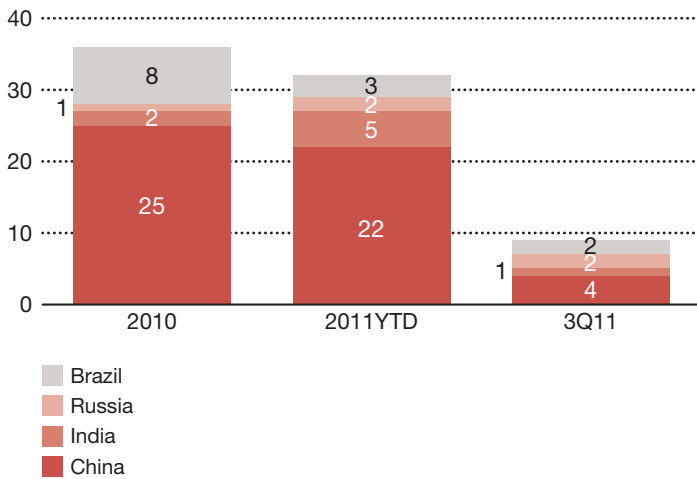
**Greater China deals (2010, 2011, 3Q11)**



Overall, Chinese deal activity fell to 49 deals (all values including undisclosed) in the third quarter, a decline of almost one-third from the previous quarter, indicating that recent consolidation activity might be slowing.

**Distribution of BRIC deals by acquirer nation**

Measured by number of announced deals worth \$50 million or more



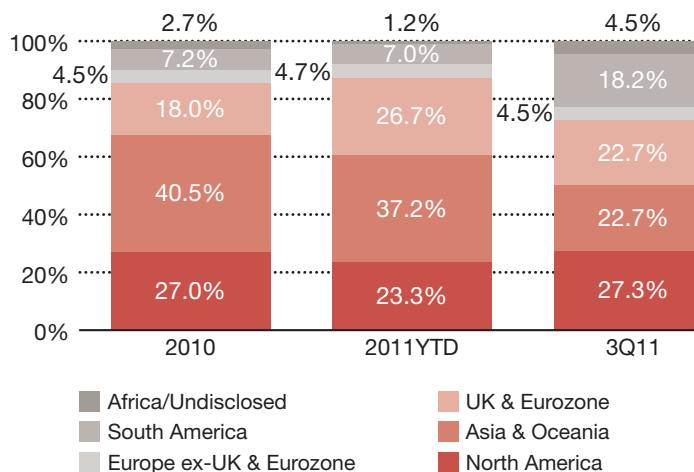
### Americas drive activity in third quarter

During the third quarter, targets in North America drove activity, helped by US-based mega-deal activity. Also of note, targets in South America increased significantly, rising from 3.6% in the second quarter to more than 18.2% in the third quarter. Activity in Asia and Oceania declined, primarily because of diminished activity in China, as previously discussed.

For acquirers, both deal volume and value were led by North America-based companies, likely due to the relative size of these companies and a more consolidated chemical market. Asia and Oceania had the second-largest proportion of deals. More than half of activity in Asia and Oceania involved Chinese acquirers. A considerable portion of the activity in Asia involved local market deals, particularly in China, where Chinese companies sought controlling interests in local operations. We expect this region will continue to drive deal activity, although at a slower pace, as China continues to consolidate inefficient operations.

### Regional distribution of deal volume by target region

Measured by number of announced deals worth \$50 million or more

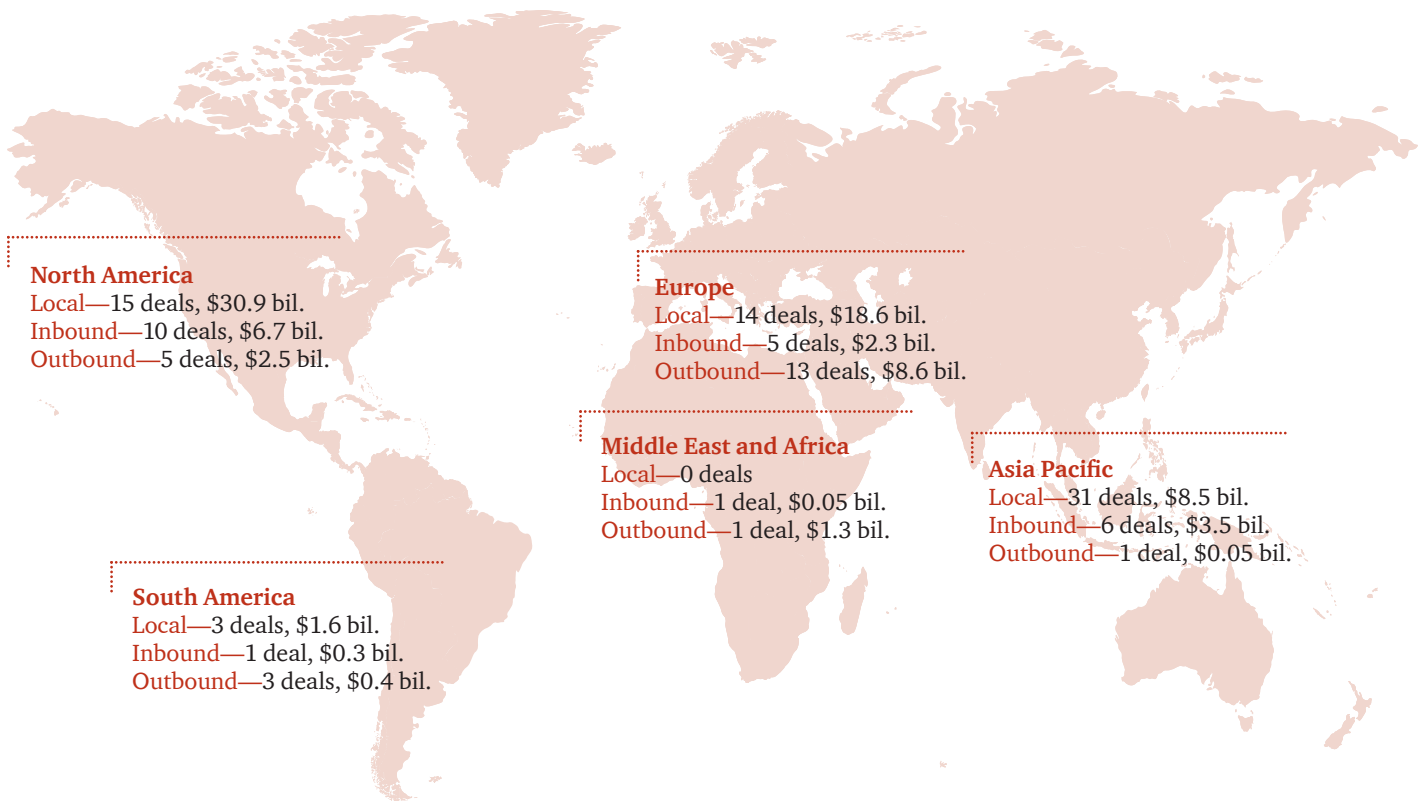


## North America and Europe drive local deal value

North America and Europe drove local deal value in the first three quarters of 2011, with \$30.9 billion and \$18.6 billion, respectively. Deal volume was driven by 31 local deals in Asia and Oceania, many involving China. However, these deals were, on average, substantially smaller than those in more developed regions. The increase in North American deals was driven by activity in the United States, with a variety of regions making deals there; all four of the mega-deals involved either US-based targets or acquirers. Europe, on the other hand, was the primary driver for outbound volume and value, with 13 deals valued at \$8.6 billion in the first three quarters of 2011. This could be due to European investors seeking higher growth rates than may be available from domestic economies, as well as concerns about local economic conditions.

### Global chemicals M&A activity

Measured by number and value of deals worth \$50 million or more (2011YTD)



# PwC's chemicals experience

## Deep chemicals experience

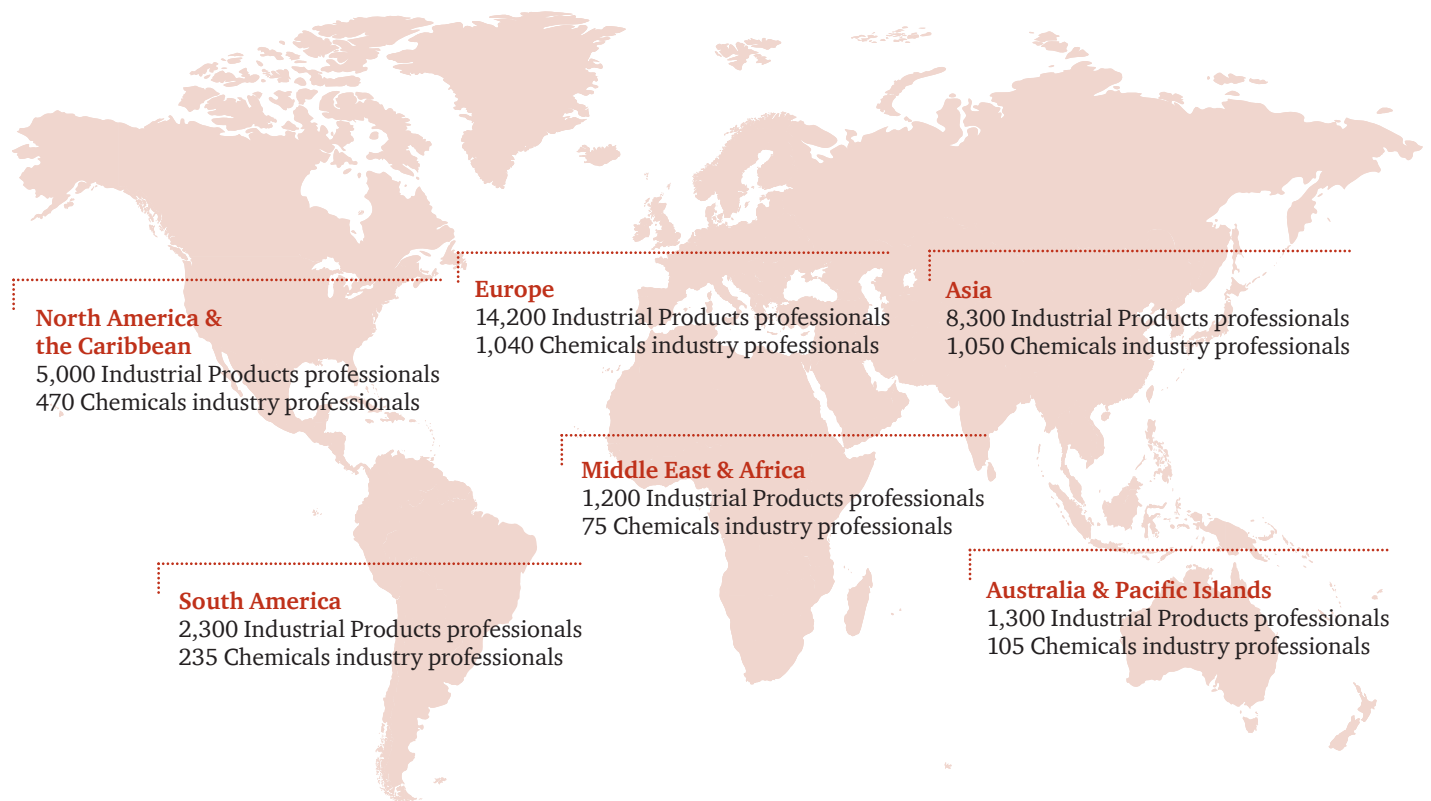
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## Quality deal professionals

PwC's Transaction Services practice, with more than 6,500 dedicated deal professionals worldwide, has the right industry and functional experience to advise you on all factors that could affect the transaction, including market, financial accounting, tax, human resources, operating, IT, and supply chain considerations. Teamed with our Chemicals Industry practice, our professionals can bring a unique perspective to your deal, addressing it from a technical aspect as well as from a chemicals industry point of view.

## Global connection

PwC's Chemicals Industry practice is part of an Industrial Products group that consists of more than 32,000 professionals, including more than 17,000 providing Assurance services, 8,300 providing Tax services, and 7,000 providing Advisory services.



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## Methodology

*Chemical compounds* is an analysis of deals in the global chemicals industry. Deal information was sourced from Thomson Financial using the Thomson-defined industry sector of Chemicals and Allied Products for target, and other selected industries acquired by companies that are part of the Thomson-defined Chemicals and Allied Products designation. This analysis includes all mergers and acquisitions for disclosed or undisclosed values, leveraged buyouts, privatizations, minority stake purchases and acquisitions of remaining interest announced between January 1, 2008 and September 30, 2011 with a deal status of completed, intended, partially completed, pending,

pending regulatory approval, seeking buyer, seeking buyer withdrawn, unconditional (i.e., initial conditions set forth by the acquirer have been met but deal has not been completed) or withdrawn. Geographic categories generally correspond to continents with exceptions for Australia (included in the Asia Pacific category), Europe (divided into Western and Eastern categories based upon UN definitions) and the Middle East (defined as a separate category based upon US CIA World Factbook). Where the number of deals is referenced in this analysis it means the number of all deals with disclosed or undisclosed values unless otherwise noted.



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