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Metals Deals

Forging Ahead

2012 Outlook & 2011 Review

Mergers and acquisitions activity in the metals industry

pwc

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Methodology

Metals Deals 2011-12 is based on published transactions from the SDC Platinum (Thomson Reuters) database, January 2012. The report includes data from prior years and is the latest in an annual series of metals deals reports. Comparative data for prior years may differ to that appearing in previous editions of our annual analysis. This can arise, for example, as a result of updated information or methodological refinements and consequent restatement of the input database. Analysis encompasses only those deals which are completed in the calendar year, except for figure 5, which is based on pending deals. Deal values are the consideration value announced or reported including any assumption of debt and liabilities. Figures relate to actual stake purchased and are not extrapolated to 100%. The geographical split of the deals refers to the location of the target company or assets. Deals located in the territory of the Russian Federation are included in the totals for central and eastern Europe. The analysis relates to target companies in the supply chain for metals and basic metal products, including recycling. The sector and subsectors analysed includes deals for targets with primary SIC codes that fall into one of the following industry groups: iron ores; ferroalloy ores, except vanadium; steel works, blast furnaces, rolling mills, and finishing mills; iron and steel foundries; primary smelting and refining/nonferrous; secondary smelting and refining/nonferrous; rolling, drawing, and extruding/nonferrous; nonferrous foundries; miscellaneous primary metals products; and metals service centres and offices.

Introduction

Welcome to Metals Deals, PwC's annual analysis of deal activity in the metals industry and our outlook on the prospects for dealmaking in the year ahead. We also take a regional look at what is happening in the main markets around the world.

This year, for the first time, we open our report with our discussion of the outlook for the year ahead and identify some of the main themes we expect to be at work. In our last report, we correctly forecasted the breakout of deal activity which has translated into a 56% year on year increase in total metals deal value and a continuing high number of deals in the sector.

Looking ahead, signals on US growth, the Chinese real estate and construction sector and developments in the eurozone will determine the momentum of future deal flow. If they are positive, we expect momentum to be maintained with a number of themes underpinning buyer and seller decisions. On balance, we anticipate moderate deal growth in 2012 with caution being the watchword. More robust growth is likely to come only when metal prices and other fundamentals – including margins – show continuous sustained improvement.

The report is the latest annual review edition in our *Forging Ahead* series on dealmaking in the sector. It sits alongside our quarterly *Forging Ahead* reports and is one of a range of deals publications from PwC, covering sectors including mining, aerospace & defence, renewable energy, power, and oil & gas. Together the family of deals reports provides a comprehensive analysis of M&A activity across industries worldwide.

Jim Forbes
Global Metals Leader

Report highlights

Momentum staying behind metals deal bounce-back

The current run-rate of over 500 metals deals a year puts deal flow at near historic high levels. Total completed deal value rose from US$26.1bn in 2010 to US$40.7bn in 2011, up 56% year on year and up 170% on its US$15.1bn 2009 trough. Pending deal flow indicates deal value is continuing an upward trend. All eyes will be on the eurozone crisis, the pace of recovery in North America, and the real estate and construction markets in China. Any worries on the last of these two, in particular, could dampen deal flow but, if confidence builds, we expect deal momentum be maintained in 2012.

Supply chain security spurring new alliances

The critical importance of resource supply is producing a mix of vertical integration and horizontal alliance moves as metals companies continue to seek greater certainty over raw materials. We are seeing the emergence of manufacturer alliances, enabling companies to pool investment in order to secure resource stakes. Four Chinese steelmakers formed a consortium to secure a stake in a South American rare metal supplier. This followed a similar move by a group of Japanese and South Korean companies. 2012 began with the announcement that a consortium of German manufacturers has been formed to pursue a strategy to secure future raw material supplies. Vertical integration through minority stakes in miners continues to be a major theme behind metals M&A.

Steel consolidation set to accelerate in 2012

Signals are pointing to a long overdue wave of steel industry consolidation. The Sumitomo-Nippon merger has gained key regulatory clearance and looks set to complete in 2012. The eurozone crisis and market conditions are putting extra pressure on European steelmakers to find answers to the capacity and scale challenges they face. In China, government policy is encouraging the emergence of a small number of steel giants in the next few years and the closure or consolidation of smaller and less efficient steelmakers.

Iron ore producers look beyond current iron ore prices

Iron ore producers are seeking deals that strengthen their options whatever the direction of future price trends. The merger of Cliffs Natural Resources and Consolidated Thompson was a major consolidation move in North America which, at the same time, strengthened vertical relationships into the Chinese steel end-market. In South America, Vale and Norsk Hydro's aluminium deal, although a sale of assets by Vale, also represents a diversification play away from iron ore, with the Brazilian company becoming Norsk Hydro's second largest shareholder.

2012 deal outlook: caution will be the watchword

Uneven and uncertain world demand forms the backdrop for metals dealmaking in 2012. Encouraging economic signals in the US are contrasting with the recession in Europe. The cross-Atlantic differences have been reflected in a striking split between US and European steel prices. US/German prices were typically about US$20/tonne apart over the last decade but ended 2011 with a US$128/tonne divergence[1]. China remains one of the most important demand drivers. It purchases more than half of global iron ore trade.

All eyes will be on developments in the eurozone crisis, the pace of recovery in North America, and the real estate and construction markets in China. Significant negative news on one of these fronts could tilt the balance between optimism and pessimism. Any major weakening of either US or Asian demand is likely to have a negative impact on dealmaking. Similarly, positive signals will encourage deal flow. In Europe, the continuing eurozone crisis is a worry. But, if it is combined with continued growth in the other major markets, it may not dampen overall deal flow. Instead it could hasten long-awaited European steel consolidation and perhaps prompt outside buyers to take advantage of low European valuations.

The eurozone crisis may not dampen overall deal flow if there is continued growth in the other major markets. Indeed, recession in Europe is likely to spur consolidation moves.

The US and China will be key

The current upturn in the US will play an important role. The latest International Monetary Fund (IMF) expectation is for US growth to be maintained at 1.8% in 2012[2]. Any strengthening of momentum will reinforce domestic confidence and that of China. But a faltering in the US recovery is likely to have the opposite effect and, in turn, dampen the outlook for China. Given this background, dealmakers will be keeping a careful eye on signals from both these major markets. Until sufficient signals come to deliver confidence in a sustained period of growth, caution is likely to be the watchword for dealmakers in 2012.

Chinese demand remains considerable

There are signs of cooling in China's real estate sector, which is responsible for nearly half of total steel demand in China. At the same time, the government's drive against inflation is curbing funding for infrastructure projects. But some policy easing is possible as the government seeks to avoid too sharp an impact on growth. Any policy easing will, in turn, feed into steel demand. And the big picture is that, while Chinese growth will be slower, it will still be substantial. The IMF January 2012 forecast, sharply revised down in the light of the Europe debt crisis, still anticipates Chinese growth at 8.2% in 2012[3]. Coming on top of previous 9-10% per annum growth, this means that absolute growth will remain very high as it will be from an overall economic base that is about a third larger than just three years ago.

1 Financial Times, US and Europe steel prices diverge sharply, 3 January 2012.
2 IMF, World Economic Update, 24 January 2012.
3 Ibid.

The aerospace, automotive and energy infrastructure markets are providing end-market growth hotspots for metals companies.

Eurozone crisis could spur consolidation

Eurozone worries did not prevent a significant upturn in European as well as worldwide metals deal value in 2011. But, worries about a further recession, constraints on financing and fears of a worst case eurozone collapse will inevitably cause dealmakers to continually reassess their options over the coming months. Some form of eurozone realignment remains a very real possibility. A climate of 'rolling uncertainty' looks set to continue through 2012 in the absence of sustained growth signals or strong leadership from policy makers. If economic growth signals turn positive, then 'rolling uncertainty' could turn into 'growing confidence'. However, further adverse events would be likely to cause a strain on manufacturers. The effect will be to constrain some but, also, possibly to accelerate long-awaited consolidation of the sector in Europe.

Energy among a number of bright spots

Infrastructure renewal and expansion in the energy sector is proving to be a bright spot for steelmakers. In North America, new sources of shale gas and oil from tar sands are requiring new pipeline connections and fuelling demand for tubular drilling products. A major expansion of onshore and offshore windpower in Europe is creating demand for turbine steel while world solar growth is keeping silicon manufacturers busy. Similar generation and infrastructure growth is a feature of the major growth economy markets in Asia and South America. Such growth is coming on top of a healthy rebound in the automotive sector and a burgeoning civil aerospace order book that is having a positive impact on aircraft metals suppliers. An important missing piece of the jigsaw in North America and Europe is recovery in the residential construction sector.

China consolidation to gain momentum

Consolidation in the Chinese steel sector has been on the cards for some time and is now ripe to gather momentum. The industry has long been characterised by overcapacity and fragmentation with government policy seeking to create a smaller number of steel giants. In Hebei province, home to a significant portion of the country's steelmakers, the provincial government is reportedly planning to reduce the number of its steel mills from 88 to 10 during the 2011-15 period[4]. The latest central government five year plan sets targets for reduced energy intensity, water usage and CO2 emissions that will put further pressure on smaller and inefficient steel plants to close or consolidate[5]. A slowdown in steel demand will add further momentum to such consolidation. But it is yet to be seen how strong the consolidation push will prove to be. The Indian metals sector is also ripe for consolidation and 2011 saw the completion of a landmark deal between JSW Steel and Ispat Industries. Consolidation has been rare among Indian companies but the JSW/Ispat move may spur other companies to consider deals.

Raw materials self sufficiency remains a main theme

The quest for security of supply and reduced dependence on the contract pricing strategies of the large mining companies remains a main deal driver that will continue into 2012. South Korea's Posco, the world's third largest steelmaker, expects its investments in Australia, Brazil, Canada and Africa will lift the company's self-sufficiency in raw materials from the current 20% to 50%[6]. Beijing is also pursuing a strategy of seeking ownership of half the supply requirement with the Chinese government declaring that Chinese companies should step up overseas investments in iron ore, a key steelmaking ingredient, with the goal of having half of China's iron-ore imports come from Chinese-invested mines[7]. The quest to secure raw materials does not stop at iron ore – as we discuss in the next paragraph, Indian companies and others are facing coking coal shortages.

Consolidation, long-awaited in Europe and also in the highly fragmented Chinese metals industry, is set to be a strong theme in the period ahead.

4 China Daily, Steel industry plan forged, 27 January 2011.

5 Government of China, 12th Five-Year Plan, 5 March 2011.

6 Financial Times, Posco to invest in Australian mining venture, 17 January 2012.

7 Financial Times, China steel consortium takes Brazil stake, 2 September 2011.

New alliances and new deal structures are emerging as companies look to gain greater muscle and scale in the bid to secure natural resources and capitalise on growth markets.

Supply chain security concerns widen

The search to secure raw materials supply is a now well established M&A trend in the sector. The main focus has been on iron ore but, increasingly, the rare earth minerals that are used in a range of high technology applications are part of the story. There have been increased concerns about Chinese policies that can have the effect of limiting the export of its own rare earths. This was the subject of a World Trade Organisation ruling at the end of January 2012. Earlier in the same month, it was announced that German steelmakers Georgsmarienhütte Holding, Stahl-Holding-Saar and ThyssenKrupp, as well as copper producer Aurubis, had joined a 12-strong commodities alliance of leading German industrial companies, coordinated by the Federation of German Industry. One of the stated goals of the alliance is to take shareholdings in commodity projects to achieve a long-term improvement in the supply of raw materials to industry. Natural disasters, such as the Japan earthquake and Thailand floods, have also added to concerns about supply chain fragility. Concerns about security of supply are not restricted to metals raw materials. Chinese and Indian steelmakers, for example, are facing shortages in coal for energy and in coking coal due to high prices and inefficiency in the domestic coal sector, leading them to consider international supply and M&A options.

Divestitures deal flow likely to continue

Companies in North America and now particularly in Europe continue to maintain a focus on costs and dealing with underperforming assets. Demand constraints are being given an added twist by financing constraints as a result of the European debt crisis. Divestitures are proving a strong driver of deals. Around a quarter of metals M&A deals in 2011 were divestitures and it is likely that this deal flow will remain strong as more assets come to the table (see page 17 for a discussion of the issues companies need to consider when considering divestitures or spinoffs).

Asia Pacific 'go global' strategies widen out

We expect the trend of Chinese outbound purchases, which has been a key part of recent metals M&A by the top tier Chinese steel companies, to extend downwards to include more companies from the second layer of state owned enterprises at the provincial level. Vertical integration will be an important strategy for these companies and deals may also involve Chinese financial investors and private companies. Indian conglomerates are also likely to be active acquirers if the right opportunities arise. Both Chinese and Indian companies have the advantage of less constrained access to finance from their respective banking sectors, compared to European players in particular. But currency trends are having a mixed effect with the weakness in the Indian rupee contrasting with the Chinese renminbi strength. Chinese investments are also widening out to include more frontier territories in Mongolia and parts of Africa.

Deal structures likely to innovate and evolve

Newer structures will evolve for deals, particularly those involving international investment in raw materials resources. In Brazil, joint ventures are a preferred option for inbound investors seeking to gain the best value in the context of local regulatory and environmental frameworks. In Canada, inbound investors are working with entities – such as the First Nations Trusts – as a means of partnering with indigenous communities. In China and Korea, there is a trend to minority stakes with financing for capex and offtake. In Europe, the current environment means many companies need to look at alternatives to bank finance. Well financed companies can look to traditional markets, such as the investment grade bond market. But others need to look for alternatives.

Expect an extension of 'go global' moves by Chinese companies as more buyers come to the table from the second layer of state owned enterprises at the provincial level.

Modelling metals M&A flow against wider commodities and macroeconomic trends

PwC has conducted an analysis testing the historical relationship of metals sector M&A with a variety of macroeconomic variables and metal commodities indicators. The analysis encompasses factors including nominal GDP, direct investment levels, trade volumes and commodity prices. In particular, global GDP and aluminium prices were often good predictors of deal activity.

We found strong correlations between trends in metals deal activity and the set of wider metals and macroeconomic measures in the analysis, especially in terms of flows in metals deal announcements.

Our updated models produce coefficient of determination (R2) values of 0.928 and 0.952 for announced deals. We've taken the analysis back over two decades with the following results:

1990-2011

What the analysis predicted:

- 6.3% compound annual growth rate (CAGR) in announced deal numbers.
- 8.5% CAGR in announced deal value.

What the actual outturn was:

- 6.9% CAGR in announced deal numbers.
- 12.4% CAGR in announced deal value.

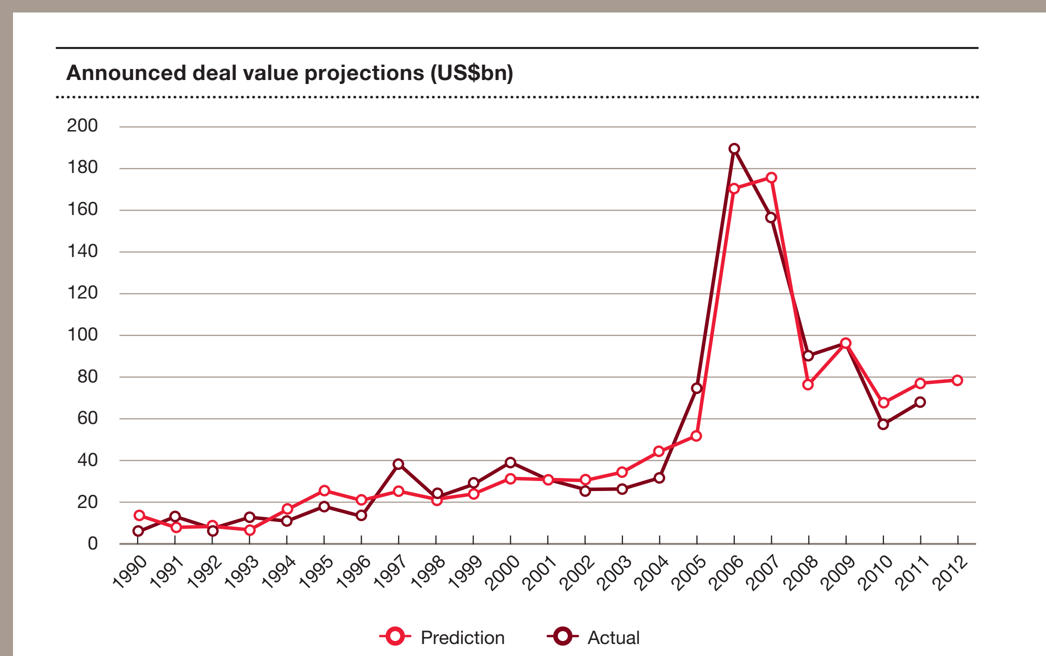
The fit between actual and predicted deal flow is strongest for deal volume. Deal value is more volatile – while it has statistically significant relationships with economic and metal commodity variables, it can be slightly less certain to predict because of this higher variability compared to the trend in deal volume.

Looking ahead

What the model predicts for the year ahead:

- 23.5% CAGR in announced deal numbers.
- 15.7% CAGR in announced deal value.

These updated models support our overall view that the year ahead will be one of moderate deal growth in metals M&A. The growth assumption holds whether the analysis is conducted against deal volume or value, announced or completed. We publish the outcome only for announced deals here because the historical analysis indicates that this provides the most robust and strong correlation.



2011 deal review: a year of deal bounce-back

The strong bounce-back in metals M&A activity from its post credit crunch low continued in 2011 with a 56% year on year rise in total deal value. Total completed deal value was up from US$26.1bn in 2010 to US$40.7bn in 2011, 170% above its US$15.1bn 2009 trough. The sector continues to witness very busy deal activity with the number of deals continuing at very high levels. Indeed, deal numbers in the last three years are more than a third higher than the total reached in the three peak years of M&A total deal value before the credit crunch (figures 1 and 2).

The continuing upturn in deal value was in large part due to a number of big aluminium deals and the quest by steelmakers and others to secure raw materials resources. Steel M&A was up 15% from US$9.8bn to US$11.3bn year on year. The number of aluminium deals rose by a third and their total value of US$8.7bn was up more than tenfold from a very low base the previous year (figure 3). The value of deals in the 'other metals' category, many of which are purchases of iron ore resources, were up by a third, from US$15.5bn to US$20.7bn.

Figure 1: Total metals deals, 2003-2011

	Number	Cross border number as % of total number	Value (US$bn)	Cross border value as % of total value
2011	533	33%	40.7	60%
2010	547	34%	26.1	51%
2009	521	25%	15.1	29%
2008	397	38%	60.6	62%
2007	411	35%	144.7	68%
2006	385	29%	86.4	73%
2005	250	40%	34.8	49%
2004	166	40%	37.0	31%
2003	164	30%	16.1	60%

The steel totals would have looked very different if the US$16.8bn of steel deal value, represented by four of the largest five deals that remained pending at the end of 2011 (figure 5), had got over the line. Some of these deals, notably the US$9.4bn Sumitomo-Nippon merger, together with a number of the deals that were completed in 2011, are indicative of the consolidation that is getting underway among steel manufacturers.

Consolidation momentum is being seen upstream in iron ore as well as in manufacturing. Together with moves to secure raw material resources, this is translating into a continued increase in international deals. In the immediate aftermath of the credit crunch, companies had largely focused on deals close to home. But in 2011, international deal totals maintained the bounce-back that had started in 2010. Total crossborder deal value rose 82%, from US$13.4bn to US$24.4bn, continuing its steep climb from its US$4.4bn low in 2009. Nonetheless, this remains well below the total crossborder deal value recorded in the three M&A boom years of 2006-2008 when annual totals reached US$63bn, US$98bn and US$38bn respectively.

Figure 2: Crossborder and domestic metals deals, 2010-2011

	2010 Number	2010 Value	2011 Number	2011 Value	Change in 2011 % Number	Change in 2011 % Value
Metals	**547**	**US$26.1bn**	**533**	**US$40.7bn**	**-2.5%**	**+55.9%**
Cross border	187	US$13.4bn	177	US$24.4bn	-5.3%	+82.0%
Domestic	360	US$12.7bn	356	US$16.3bn	-1.1%	+28.3%

Figure 3: Deal making by industry sector (by target)

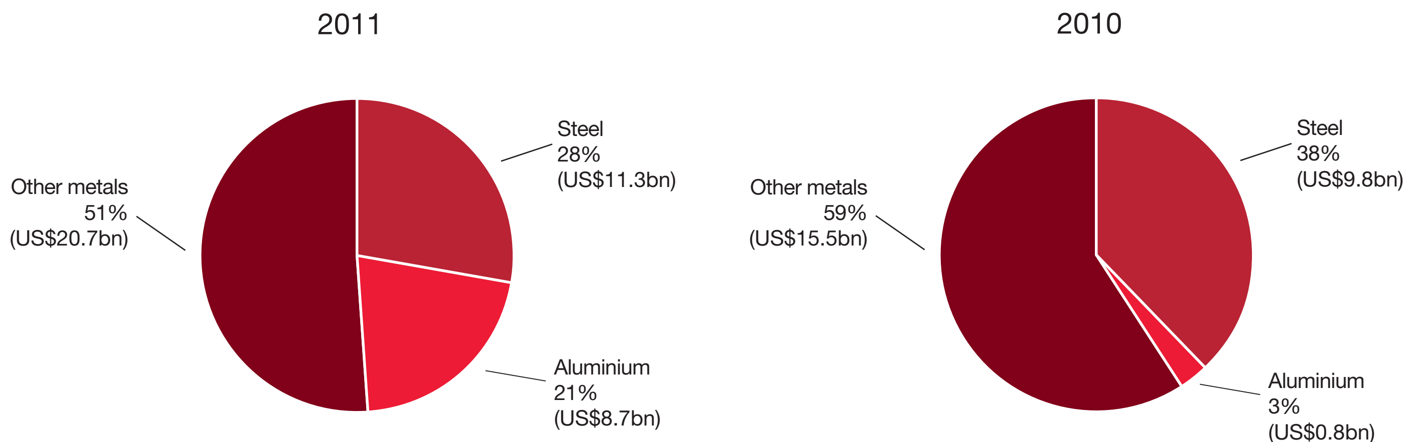
	2010 Number	2010 Value	2011 Number	2011 Value	Change in 2011 % Number	Change in 2011 % Value
Steel	**159**	**US$9.8bn**	**145**	**US$11.3bn**	**-8.8%**	**+15.3%**
Cross border	46	US$1.6bn	47	US$3.9bn	+2.1%	+143.7%
Domestic	113	US$8.2bn	98	US$7.4bn	-13.2%	-9.7%

	2010 Number	2010 Value	2011 Number	2011 Value	Change in 2011 % Number	Change in 2011 % Value
Aluminium	**33**	**US$0.8bn**	**43**	**US$8.7bn**	**+30.3%**	**+987.5%**
Cross border	13	US$0.6bn	17	US$8.3bn	+30.7%	+1283.3%
Domestic	20	US$0.1bn	26	US$0.4bn	+30.0%	+300.0%

	2010 Number	2010 Value	2011 Number	2011 Value	Change in 2011 % Number	Change in 2011 % Value
Other Metals	**355**	**US$15.5bn**	**345**	**US$20.7bn**	**-2.8%**	**+33.5%**
Cross border	128	US$11.1bn	113	US$12.2bn	-11.7%	-9.9%
Domestic	227	US$4.4bn	232	US$8.5bn	+2.2%	+93.1%

**Sums may not total because of rounding*

Figure 3: Deal making by industry sector (by target)



Deal makers

Deal size is on the rise in the metals sector with five of the largest ten deals topping the US$2bn mark compared with only two the year before. Billion plus deals dominate the top ten table with the deals by the biggest deal makers reflecting a range of themes – diversification, resource acquisition, manufacturing repositioning, divestment of underperforming assets and consolidation in both raw materials and manufacturing (figure 4).

A landmark US$9.4bn Japanese merger between Nippon Steel and Sumitomo remained pending at the end of 2011 (figure 5). The Japanese authorities have given the deal the green light so it looks on course to achieve completion as expected in 2012. The combination will put the company at number two in world crude steel output with the declared ambition to expand in growth markets overseas. The logic of the deal becomes even more compelling in the face of a strong yen. This has put Japanese companies in a strong bid position for overseas M&A assets but added to the need to squeeze out costs to keep home-based manufacturing competitive.

The largest completed 2011 deal saw Norsk Hydro complete its US$4.9bn purchase of Brazilian aluminium assets from Vale. It included full control and ownership of Paragominas, one of the largest bauxite mines in the world, 91% of the world's largest alumina refinery Alunorte, 51% of the Albras aluminium plant and 81% of the CAP alumina refinery project. The transaction also included additional bauxite licenses and a volume off-take agreement for Vale's 40% stake in the MRN bauxite mine. Prior to the combination, Norsk Hydro already had a 34% stake in Alunorte and 20% in CAP. As well as giving Norsk Hydro security of supply over valuable alumina and bauxite supplies, the deal represented a diversification play for Vale, extending its footprint away from iron ore. The deal made Vale the second-largest shareholder in Hydro after the Norwegian government.

Figure 4: Top ten metals deals 2011

Rank	Completion month	Target	Sector	Bidder	Target nation	Bidder nation	Value ($m)
1	Feb 2011	Vale SA-Aluminum Operations	Aluminum	Norsk Hydro ASA	Brazil	Norway	4,948
2	May 2011	Consolidated Thompson Iron Mines Ltd	Other Metal	Cliffs Natural Resources Inc	Canada	United States	4,356
3	Jan 2011	Arcelor Mittal NV-Stainless Division	Steel	Shareholders	Luxembourg	Luxembourg	3,181
4	Jan 2011	CommScope Inc	Other Metal	The Carlyle Group LLC	United States	United States	3,020
5	April 2011	Elkem AS	Aluminum	China National Bluestar Co Ltd	Norway	China	2,179
6	Sep 2011	Cia Brasileira de Metalurgia e Mineraco (CBMM)	Other Metal	China Niobium Inv Holding Co	Brazil	China	1,950
7	Apr 2011	Cia Brasileira de Metalurgia e Mineraco (CBMM)	Other Metal	Investor Group	Brazil	Japan	1,950
8	Feb 2011	Draka Holding NV	Other Metal	Prysmian SpA	Netherlands	Italy	1,259
9	Mar 2011	Severstal North America Inc-Operations, Warren, Wheeling, Sparrows Pt.	Steel	The Renco Group Inc	United States	United States	1,192
10*	Sep 2011	Delachaux SA	Steel	Investor Group	France	United Kingdom	969

**The deal has been included as coded to the SIC code: steel works, blast furnaces and rolling mills*

Figure 5: Top five deals still pending at year-end 2011

Rank	Month announced	Target	Sector	Bidder	Target nation	Bidder nation	Value ($m)
1	Feb 2011	Sumitomo Metal Industries Ltd	Steel	Nippon Steel Corp	Japan	Japan	9,433
2	Nov 2011	Hebei Shouganag Qian'an Iron & Steel Co Ltd	Steel	Beijing Shougang Co Ltd	China	China	2,920
3	Nov 2011	Usinas Siderurgicas de Minas Gerais SA(Usiminas)	Steel	Investor Group	Brazil	Argentina	2,879
4 *	Nov 2011	Commerical Metals Co	Steel	Icahn Enterprises LP	United States	United States	1,560
5	Jul 2011	Sundance Resources Ltd	Other Metal	Hanlong Mining Investment Pty Ltd	Australia	Australia	1,274

** Withdrawn 11 January 2012.*

Iron ore sector consolidation as well as access to valuable Chinese end markets underpinned the second largest deal, US company Cliffs Natural Resources' US$4.4bn takeover of Canada's Consolidated Thompson Iron Mines. It represents a significant consolidation in the North American iron ore sector. Cliffs expects the deal to enable it to become a producer of up to 30 million metric tons of iron ore pellets, up to 16 million metric tons of iron ore concentrate and up to 11 million metric tons of lump and fines iron ore. Crucially, it will enable the company to build scale by owning expandable and exportable steelmaking raw material assets serving international markets. Importantly, it is also providing Cliffs an expanded relationship with Wuhan Iron and Steel (Group) Corporation, China's third largest steel producer.

Some of the most significant repositioning and consolidation moves came in Europe. These included ArcelorMittal's decision to spinoff of its stainless steel business to a separately-focused company known as Aperam. This US$3.2bn deal was concluded at the beginning of 2011 and was followed a year later by the January 2012 announcement that Germany's ThyssenKrupp and Finland's Outokumpu are to combine their stainless steel operations. The goal of such consolidation is to create a company with the scale to compete on the world stage with the likes of Posco and Tisco.

Chinese buyers featured in two of the top ten deals – the US$2.2bn purchase of Norwegian maker of solar-grade silicon Elkem by chemicals company China National Bluestar's and a US$1.9bn China-Brazil niobium resource tie-up. The latter saw a consortium of Chinese companies form a special purpose vehicle called China Niobium Investment Holding Company to take a 15% stake in the privately held niobium miner, Companhia Brasileira de Metalurgia e Mineraco (CBMM). The consortium included steelmakers Anshan, Shougang, Baosteel, and Taiyuan Iron Steel. CBMM is the world's largest producer of niobium, which is an element used for strengthening steel for uses such as gas pipelines. The deal followed a similar deal between CBMM and a Japanese-South Korean consortium earlier in 2011, which included Japanese steelmakers JFE Holdings and Nippon Steel and South Korea's Posco.

The profile of private equity (PE) investors in 2011 metals deals is fairly low with most such deals being relatively low value purchase by US PE firms. The major exception to this was the completion of Carlyle Group's US$3bn acquisition of telecommunication steel wire and cable maker CommScope. Elsewhere, the growth in the energy cable market was a factor in the interest shown by Chinese investment fund Xinmao in Dutch cable maker Draka Holdings. But their interest could not compete with the agreed US$1.3bn merger of the company with Italian cable maker Prysmian. The companies say the combined group creates the world's largest global energy and telecom cable company with 98 plants in more than 50 countries. Elsewhere, an investor group comprised of CVC Capital Partners Ltd of the UK and Ande Investissements SA of Luxembourg acquired a 63.67% interest in Delachaux SA, a Gennevilliers-based manufacturer and wholesaler of steel and metal products. We discuss the other leading deals in the regional sections that follow.

Deal places

The number of deals for targets in North America and western Europe rose year on year to the end of 2011. Deal numbers were either down or level in other regions but total deal value rose significantly in all parts of the world except the Asia Pacific region (figure 6). The largest increases came in western Europe where metals deal value rose more than sixfold (up 518% year on year) and in North America with a nearly fourfold increase (up 294%).

These same two regions accounted for the greatest share of worldwide deal value – North American targets comprised 30% of total value and western European targets 26%. Central and South American targets, buoyed by some big deals for Brazilian assets, took a 24% share with the remainder coming mainly from targets in the Asia Pacific region (18% share), led by deals for Australian iron ore resources.

Figure 6: M&A activity by target continent

North America	2010	2011	% change
Number of deals	90	**118**	**+31.1%**
% of all world deals	17%	**22%**	
Value of deals			
Total value (US$bn)	3.1	12.2	+293.5%
% of total value	14%	30%	

Asia Pacific	2010	2011	% change
Number of deals	239	**206**	**-13.8%**
% of all world deals	45%	**39%**	
Value of deals			
Total value (US$bn)	11.5	7.3	-36.5%
% of total value	51%	18%	

The strong upturn in North American and European deal value shifted the worldwide geographical centre of gravity for metals deals away from the Asia Pacific region. The Asia Pacific share of worldwide metals deal value by target had multiplied some ten-fold between 2007 and 2009. It fell back somewhat in 2010 yet still accounted for easily the largest share – 51% of total metals deals value worldwide. But in 2011 its share fell to 18%, leaving it in fourth place, behind North America, western Europe and central and South America. Nonetheless deal activity in the region was intense and it still had the largest share of deal numbers.

The majority of deals are between buyers and sellers in the same region (figure 7). Regional deals, as opposed to cross-continental deals, accounted for 79% of all metals deals by number and 59% of total deal value. This is little changed from the previous year and contrasts with the earlier years of 2007 and 2008 when pre-credit crunch cross-continental dealmaking pushed regional deal value share down to 39% and 45%. A notable year on year change is a fall in the number and value of cross-continental 'other metals' deals. The total value of such deals, mainly for iron ore targets, fell from US$10.3bn in 2010 to US$6.2bn in 2011. In contrast, regional 'other metals' deal value nearly tripled, from 2010's US$5.1bn to US$14.6bn in 2011.

Central & South America	2010	2011	% change
Number of deals	33	**33**	-
% of all world deals	6%	**6%**	
Value of deals			
Total value (US$bn)	5.8	9.8	+68.9%
% of total value	26%	24%	

Western Europe	2010	2011	% change
Number of deals	87	**104**	**+19.5%**
% of all world deals	16%	**20%**	
Value of deals			
Total value (US$bn)	1.7	10.5	+517.6%
% of total value	8%	26%	

Central and Eastern Europe	2010	2011	% change
Number of deals	85	**72**	**-15.2%**
% of all world deals	16%	**14%**	
Value of deals			
Total value (US$bn)	0.4	0.9	+125%
% of total value	2%	2%	

Figure 7: Regional vs cross-continental metals deals, 2010 & 2011

2011	Steel	% share of total steel	Aluminium	% share of total aluminium	Other metals	% share of total other metals	All Sectors	% share of all deals
Regional								
Number	122	84.1%	28	65.1%	271	78.5%	421	78.9%
Value (US$bn)	9.1	80.5%	0.4	4.5%	14.6	70.1%	24.1	59.0%
Cross-Continental								
Number	23	15.9%	15	34.9%	74	21.5%	112	21.1%
Value (US$bn)	2.2	19.5%	8.3	95.5%	6.2	29.9%	16.7	41.0%

2010	Steel	% share of total steel	Aluminium	% share of total aluminium	Other metals	% share of total other metals	All Sectors	% share of all deals
Regional								
Number	137	86.1%	25	75.7%	264	74.3%	426	77.8%
Value (US$bn)	9.4	95.9%	0.6	85.7%	5.1	33.1%	15.1	58.3%
Cross-Continental								
Number	22	13.9%	8	24.3%	91	25.7%	121	22.2%
Value (US$bn)	0.4	4.1%	0.1	14.3%	10.3	66.8%	10.8	41.7%

Deal places:

North America

Deal numbers rose by nearly a third and deal value almost quadrupled to give North America the largest regional share of worldwide metal deals value. The region's US$12.2bn total was up by US$9.1bn year on year. The lion's share of this came from a big increase in 'other metals' M&A, including iron ore, from US$1.0bn in 2010 to US$8.6bn in 2011, most of which came from iron ore deals.

The US$4.4bn merger of Cliffs Natural Resource and Consolidated Thompson Iron Mines (see the earlier dealmakers section) provided the main boost to iron ore deal value. This combination of two important iron ore producers gives them scale in an industry where leverage and access to buyers in growth markets is important. In this case, Cliffs gained from Consolidated's existing relationship with Chinese company Wuhan Iron and Steel.

Vertical relationships between iron ore producers and steelmakers are a strong M&A as well as contractual theme. There has been a continuation of backward integration by steelmakers through direct iron ore acquisitions. The start of 2011 saw an intense bidding contest for junior mining company Baffinland. The company's substantial iron ore deposit in Canada was acquired when ArcelorMittal and Iron Ore Holdings agreed a joint bid giving them 70% and 30% ownership respectively. The US$514m purchase was completed in March 2011. Baffinland's Mary River Project is one of the largest mining developments currently planned in Canada and by far the most significant development ever planned above the Arctic Circle with its attendant environmental challenges.

Figure 8: M&A activity in North America (by target)

North America	Steel		Aluminium		Other metals	
2011	Number	Value	Number	Value	Number	Value
Domestic	14	US$1.9bn	5	US$0.1bn	71	US$3.6bn
Cross border	5	US$0.9bn	7	US$0.7bn	16	US$5.0bn
All deals	**19**	**US$2.8bn**	**12**	**US$0.8bn**	**87**	**US$8.6bn**
2010						
Domestic	19	US$2.0bn	6	US$0.1bn	45	US$0.5bn
Cross border	1	US$0.0bn*	2	US$0.0bn*	17	US$0.5bn
All deals	**20**	**US$2.0bn**	**8**	**US$0.1bn**	**62**	**US$1.0bn**

**Deal values not disclosed*

The third largest US deal, and the largest steel deal outside Europe in 2011, saw Severstal spinoff its Warren, Wheeling and Sparrows Point facilities in a US$1.2bn sale to private holding company The Renco Group. The plants had been bought by the Russian company in the early part of 2008 just ahead of the credit crunch. At a time of a rebound in steel demand in the US, Severstal has decided to focus on its Dearborn and Columbus facilities. These are among the most modern and efficient in North America as a result of the company's considerable capex investment in various expansions and improvements, including the launch of new hot dip galvanising and push pull pickle lines.

The year finished with a battle around steel and other metal producer Commercial Metals with an attempt by activist investor Carl Icahn to win control of the company in a deal that could have been worth up to US$1.6bn (figure 5). But his attempts to increase his 10% holding to a controlling level did not gain sufficient support from his fellow shareholders and the bid was withdrawn in January 2012.

PwC deal dialogue:

Using divestitures and spin-offs to position an organisation for growth

Divestitures and spin-offs accounted for 38.5% of metals deal activity during 2011. Many companies see such moves as effective strategies for shedding noncore businesses, rightsizing their organisations, and providing a platform for growth.

There are a number of factors behind spin-offs and divestitures in the metals sector. Portfolio rationalisation is occurring alongside reviews of geographic footprints. There is interest from strategic buyers with more integrated operations or from financial buyers seeking to make their businesses more attractive to future strategic buyers. Shifts in the value chain are taking place, with upward pricing pressure in raw materials and commodities creating challenges for converters compared with the companies that are vertically integrated. A key question of the industry is what will future profit margins look like if the industry shifts toward commodity producers?

But, for most companies, divestitures are far less common than acquisitions. Consequently, there are great challenges when it comes to effectively managing the process and drawing on their team's experiences. A seller looking for success in any given divestiture or spin-off will prepare on a number of fronts, such as:

- ***Repositioning to seize opportunities*** – by employing a well-defined and regular portfolio process, a company can achieve better opportunities from its business and product portfolio. Forward-thinking companies identify appropriate divestiture candidates based on a wide range of financial, operating, and commercial parameters.
- ***Evaluating operations for possible correction*** – in today's environment, concerns that buyers might have overlooked in previous years may damage or even derail a deal. To prepare for a divestiture, sellers should conduct an assessment of operations and, where possible, identify and correct significant issues. Even if sellers cannot correct issues prior to closing, buyers are keen to gain an understanding of the target's costs and benefits.
- ***Walking in the buyer's shoes*** – adopt a buyer's perspective by performing due diligence of the business before involving potential buyers. A thorough review of the unit slated for sale may be essential when the seller's and buyer's pricing expectations vary significantly. Advance diligence may also help the seller identify and promote the unit's strengths and evaluate alternative transactions and structures from an informed perspective.
- ***Determining separation issues early during the process*** – In the case of a plant-level carve-out, which is common in the metals industry, every divestiture may result in the division of a plant. The seller typically will keep part of the plant viewed as core to its mission, with the other part of the plant transferred to the unit being divested. As a result, a series of complex ownership issues arise for resolution which are best resolved as early as possible during the process.
- ***Presenting the business in a more favourable light*** – historical financial results may need to be revised to accurately reflect the unit as a stand-alone operation and exclusive of nonrecurring items. For the most challenging divestitures to be successful, the vendor may develop a detailed business plan to present to prospective purchasers. The plan could include a detailed analysis of the recurring historical figures and describe the forecasts and actions to consider for implementation. A vendor may make a divestiture more attractive to potential purchasers by using strategies such as providing them with contracts for a predetermined time. Sellers also could consider the various tax and accounting structures available to them and choose the one that works from a deal perspective.

Deal places:

Asia Pacific

Asian steel production rose by 7.9% in 2011 with its share of world steel production edging up from 64% in 2010 to 64.7% in 2011. The Japanese earthquake and tsunami hit output with the country's crude steel production down by 1.8%. In contrast, South Korean production rose 16.2% and Chinese production was up by 8.9%, giving China a 45.5% share of world steel production[8]. Deals value for targets within the region was down 37% year on year, from US$11.5bn in 2010 to US$7.3bn in 2011.

Metals M&A for targets in the Asia Pacific region was dominated by buyers from within the region. 82% of total 2011 regional metals deal value came from in-region buyers. Buyers from China and Hong Kong accounted for US$1.5bn or 21% of the US$7.3bn total, down from their 35% share in the previous year. It was Australian buyers who were behind the largest share of 2011 deals, with their 40% share representing a weighty US$2.9bn worth of buyer activity for Asia Pacific targets. This was nearly two and half times their US$1.2bn total in the previous year.

The other significant share came from Indian buyers with US$734m worth of purchases accounting for a 10% share of metals M&A in the region – a big leap from the US$93m of Indian buyer activity a year earlier. India is projected to become the world's third biggest consumer of steel, after China and the US, US$474m of the US$734m came from the completion of a major consolidation move in the Indian steel industry with the integration of Ispat Industries into JSW Steel. Elswhere, Japanese and South Korean buyers took a 4% and 3% share of regional metals deal value respectively.

Figure 9: M&A activity in Asia Pacific (by target)[1]

Asia-Pacific	Steel		Aluminium		Other metals	
2011	Number	Value	Number	Value	Number	Value
Domestic	44	US$1.3bn	12	US$0.3bn	90	US$3.9bn
Cross border	17	US$0.3bn	3	US$0.1bn	40	US$1.3bn
All deals	**61**	**US$1.6bn**	**15**	**US$0.4bn**	**130**	**US$5.2bn**
2010						
Domestic	47	US$5.8bn	3	US$0.0bn[2]	113	US$2.9bn
Cross border	19	US$1.5bn	10	US$0.6bn	47	US$0.7bn
All deals	**66**	**US$7.3bn**	**13**	**US$0.6bn**	**160**	**US$3.6bn**

*[*1] Sums may not total because of rounding*
*[*2] Deal values not disclosed*

8 World Steel Association, World Crude Steel Production, 23 January 2012.

But it was on the worldwide front that Asia Pacific buyers really got involved. They accounted for US$14.5bn worth of global metals M&A in 2011, a 36% share. Over a third of this came from buyers in China and Hong Kong, who were responsible for US$5.7bn of worldwide metals M&A value, led by a number of US$1bn plus deals in Europe and South America (see dealmakers). Australian buyers were the other main players worldwide with US$4bn worth of deals, boosted by OneSteel's US$932m purchase of Anglo American's AltaSteel in Canada. Japanese buyers accounted for US$2.9bn (7%) of worldwide metals deal value.

The biggest 2011 deal within the region was BHP Billiton's US$732m acquisition of HWE Mining Subsidiaries from Leighton Holdings. The deal covers contract mining services that collectively account for almost 70% of total material movement of iron ore in Western Australia. The deal is part of BHP Billiton's plan to directly operate rather than contract out its Western Australia iron ore business.

The biggest Asia Pacific purchase outside the region, not already covered in the earlier sections of this report, was the US$680m purchase of US aluminium sheet maker Arco Aluminium by a Japanese consortium, comprised of Sumitomo Light Metal Industries Furukawa Sky Aluminum, Sumitomo Corporation, Itochu Corporation and Itochu Metals Corporation. The purchase gives the consortium added capacity for serving US and Latin American markets.

PwC deal dialogue:

Gaining an M&A talent advantage

Financial and business logic may be the starting point for M&A but it is people issues that often determine whether deals lead to success or not. A staggering 70% of deals fail to deliver their intended benefits, often because cultural and people issues were underestimated or mismanaged[9].

Companies are becoming increasingly aware that M&A value creation, strategic growth, and sustainable business success hinge on effective management of the human capital side of the equation. But how is this best approached during a merger?

Major changes in the workplace, such as a merger, can cause fear and uncertainty among employees. Identifying, retaining and motivating "pivotal talent' – people in the bidder and target companies whose performance can make or break the new entity's success – is an important part of making sure there is no unwanted talent drain during an M&A process.

The acquiring company must define each employee's importance to the business relative to the transition and beyond. The company must make an assessment regarding which employees it needs for short-term transition and long-term value creation. Some employees may be essential to the process of transitioning the target's customer base to the acquirer, while others may be integral to managing or otherwise maintaining the target's ongoing operations. Another group may be critical because they are responsible for day-to-day operations.

When defining these needs, it is useful to examine three levels of criticality:

- ***Strategically critical*** – employees most essential to the ongoing operations of the newly combined organisation. Typically, these are top executives, key business unit leaders, and key individual contributors.
- ***Integration critical*** – employees essential to the integration effort.
- ***Knowledge-transfer critical*** – employees with specialised knowledge essential to the transfer of ongoing information and know-how.

Categorising key employees in this way helps an organisation assess employees individually and determine whether managers at different levels or locations will require different retention packages. The process also allows for more efficient deployment of strong performers to other positions within the new company, particularly in situations where two talented employees perform duplicate roles.

Skills shortages and retaining talent, associated with M&A activity, have a direct effect on the bottom line. More than a third of metals CEOs say talent constraints have already affected their company's performance in overseas markets and impaired its ability to innovate. The situation could be even worse in the future as only a quarter of metals CEOs are confident of their companies' talent pipelines, according to the 40 metals CEOs in countries who responded to the PwC's 15th Annual Global CEO Survey. Finding, keeping and motivating employees who have the right skillsets has become a top priority. Recruitment and retention are particularly challenging in China, where turnover can be double, triple, or even quadruple the rate in the United States or Europe. To address those concerns metals CEOs reported plans to use non-financial incentives, including training and mentoring programmes as well as improved living and working conditions.

9 "When two become one," Hourglass, PwC, December 2010

Deal places:

Europe (including the Russian Federation)

While dealmaking for targets in central and eastern Europe and Russia was quiet, western Europe proved a busy deal arena in 2011. The number of deals was up by a fifth (20%) and total completed deal value shot up from a very low base to top the US$10bn mark by the year end. US$7.6bn of the US$10.5bn total western European deal value came from the four largest deals, headed by ArecelorMittal's US$3.2bn Aperam spinoff (see dealmakers).

The majority of western European targets were purchased by buyers within the region. Western European buyers accounted for 80 of the 104 deals and US$6.6bn, or 62%, of total western Europe target value. The ArcelorMittal Aperam spinoff was one of two US$1bn plus deals involving buyers and sellers within the region. The other was the US$1.3bn friendly takeover of Dutch cable maker Draka Holdings by Italy's Prysmian. The target had attracted interest from China's Xinmao but it did not pursue its bid in the light of the agreement between Draka and Prysmian (see dealmakers for more).

More than half of the remaining deal value that was not accounted for by western European buyers came from China Bluestar's US$2.2bn purchase of Norway's Elkem (see dealmakers). The next largest deal involving a buyer from outside the western European region was Russian steelmaker NLMK's US$600m purchase of the remaining 50% interest in Steel Invest and Finance (SIF) that it did not already own from joint venture partner Duferco Group. NLMK receives rolling assets from the deal with some non-core long product and Belgian steelmaking operations transferring to Duferco.

European metals companies continue to face higher raw materials and energy costs which they have struggled to pass on in the absence of a clear recovery in all their end markets. EU steel production as a whole increased 2.8% year on year in 2011 compared with a 6.8% increase in world steel production. Among the larger producing countries, production in Russia rose by 2.7%, German output rose by 1% but there were declines of 4.6% and 2.4% in Spain and the UK respectively. Polish production rose 10% and, among the smaller producing nations, there were big rises in the Czech Republic (up 7.8%) and Kazakhstan (up 11.4%)[10].

Consolidation in the European steel industry seems inevitable and the recessionary and difficult financial environment caused by the European sovereign debt crisis could spur a flow of deals. 2012 kicked off with the announcement that Germany's ThyssenKrupp and Finland's Outokumpu are to combine their stainless steel operations. The newly combined stainless steel businesses will operate under the name of Outokumpu and the two companies envisage that the opportunities for synergies and scale will give them more effective growth opportunities by joining forces, especially in the Americas and Asia. ThyssenKrupp has also sold its non-core shipbuilding operations to UK private equity fund Star Capital as part of its divestment strategy.

10 World Steel Association, World Crude Steel Production, 23 January 2012.

Figure 10: M&A activity in western Europe (by target)[1]

Western Europe	Steel		Aluminium		Other metals	
2011	Number	Value	Number	Value	Number	Value
Domestic	19	US$4.1bn	7	US$0.0bn[2]	33	US$0.2bn
Cross border	13	US$2.0bn	4	US$2.5bn	28	US$1.7bn
All deals	**32**	**US$6.1bn**	**11**	**US$2.5bn**	**61**	**US$1.9bn**
2010						
Domestic	18	US$0.2bn	8	US$0.1bn[2]	27	US$0.6bn
Cross border	13	US$0.0bn[2]	1	US$0.0bn[2]	20	US$0.8bn
All deals	**31**	**US$0.2bn**	**9**	**US$0.1bn**	**47**	**US$1.4bn**

[1] Sums may not total because of rounding
[2] Deal values not disclosed

Figure 11: M&A activity in central and eastern Europe (by target)[1]

Central & Eastern Europe	Steel		Aluminium		Other metals	
2011	Number	Value	Number	Value	Number	Value
Domestic	18	US$0.1bn	2	US$0.0bn[2]	27	US$0.2bn
Cross border	9	US$0.6bn	2	US$0.0bn[2]	14	US$0.0bn[2]
All deals	**27**	**US$0.7bn**	**4**	**US$0.0bn[2]**	**41**	**US$0.2bn**
2010						
Domestic	24	US$0.1bn	3	US$0.0bn[2]	35	US$0.3bn
Cross border	10	US$0.0bn[2]	0	US$0.0bn[2]	13	US$0.0bn[2]
All deals	**34**	**US$0.1bn**	**3**	**US$0.0bn[2]**	**48**	**US$0.3bn**

[1] Sums may not total because of rounding
[2] Deal values not disclosed

Deal places:

Central and South America

Deals for targets in Central and South America accounted for almost a quarter (24%) of total metals deal value in 2011. This was broadly in line with the region's 2010 share. Three large inbound purchases – Norsk Hydro's US$4.9bn purchase of Vale's aluminium operations and the two US$1.95bn moves by separate consortia of Chinese state owned companies and a Japanese/South Korean grouping to take 15% shares in CBMM (see dealmakers) – accounted for US$8.8bn, 90%, of the region's US$9.8bn total metals deal value.

Brazil delivered the vast majority of 2011 target metals deal value in the region, accounting for a total of US$9.3bn of the region's US$9.8bn worth of deals. The largest deal outside Brazil was a US$199m move by powder metallurgical products company Plansee for a 7% share in Chilean company Molibdenos y Metales (Molymet). Molymet had been a supplier to Plansee for many years and the company described the deal as a first step to secure molybdenum powder supply.

Deal activity was dominated by raw materials investments, by a variety of buyers largely from outside the region. The exceptions to this included some manufacturing assets that formed part of the Norsk Hydro/Vale aluminium deal and a significant deal with an undisclosed value that saw South Korea's Posco acquire a 20% stake in Cia Siderurgica Pecem (CSP), a manufacturer of steel slab, from Dongkuk Steel Mill Company. CSP is a joint venture between Brazil's Vale, which holds a 50% stake, Dongkuk Steel Mill Company with 30% and Posco with 20%. 2011 ended with the announcement that the engineering and construction side of Posco had secured a US$4.3bn order to build a new integrated steel mill in Brazil for CSP.

Figure 12: M&A activity in Central and South America (by target)[1]

Central & South America	Steel		Aluminium		Other metals	
2011	Number	Value	Number	Value	Number	Value
Domestic	3	US$0.0bn[2]	0	US$0.0bn[2]	11	US$0.6bn
Cross border	3	US$0.0bn[2]	1	US$4.9bn	15	US$4.2bn
All deals	**6**	**US$0.0bn[2]**	**1**	**US$4.9bn**	**26**	**US$4.8bn**
2010						
Domestic	5	US$0.1bn	0	US$0.0bn[2]	6	US$0.1bn
Cross border	3	US$0.1bn	0	US$0.0bn[2]	19	US$5.6bn
All deals	**8**	**US$0.2bn**	**0**	**US$0.0bn[2]**	**25**	**US$5.7bn**

*[*1] Sums may not total because of rounding*
*[*2] Deal values not disclosed*

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Acknowledgments

Data analysis for this industry summary was provided by Michael Portnoy from the PwC Research and Analytics team, and Jon Candeloro from the PwC Global Metals team; the report was written by Dominic Byrne (The Bigger Picture Consultancy). Special thanks are due to Usha Bahl-Schneider for the project management of this report. Thanks also go to John Campbell, Robert McCutcheon, Tapan Ray, Ken Su, Martin Theben and Ronaldo Valino for sharing their knowledge and expertise and for their valuable feedback.

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