

The Crucible

Tantalum Market Overview Launch

Metals Pro Climate



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MINOR METALS INSIDER

Real tests lie ahead for the new Chinese leadership

In early November of 2012, while the world was watching closely for the US election, a transfer of power was happening in a seemingly placid way in China following the emergence of Xi Jinping, after months of backstage positioning and political elbowing, who will become the leader of the party, the government and the military. Together with 6 other members of the Politburo Standing Committee, this new Communist Party leadership will start to take charge in March 2013.

As China's first phase of development and modernization, initiated by Deng Xiaoping in 1978, comes to a critical turning point, the new leadership is fac-

housing prices in the country from 2005 to 2011. Between 2000 to 2011, residential housing investment as a share of China's GDP has tripled from 2% to 6%, similar to the peak of the U.S. housing bubble. Although the bubble has been deflated to a certain extent since summer 2011 by a series of policies from the government, but it's also seen as one of the primary causes for China's declining economic growth in 2012; China's dependence on real estate for growth has now put the government into a dilemma.

On the other hand, risks to China's financial system are rising, stemming mainly from the property sector and local government debt. The risks are compounded by local governments' reliance on short-term funding for longer

“Export, which used to be the biggest engine for China's economic growth, has slowed down significantly since 2008's world financial crisis and now has given its place to real estate....which is feeding steel, concrete and dozens of other industries”

MMTA'S 2013 INTERNATIONAL MINOR METALS CONFERENCE



**Mandarin Oriental
Hotel, Washington DC
April 24th—26th 2013**

**Go to pages 8 & 9 for
more information and
delegate companies
already signed up.**



ing a far more complicated and delicate situation than its predecessor, both economically and politically. Since 1980's, China's economy has been growing with a striking speed, which today makes it the world's second biggest economy, however the cost is also huge -- environmental problems, housing bubble, corruption, widening gap between the rich and poor, moral decline... all these problems are becoming even more visible when the whole world is under the shadow of the worldwide economic setback, as the country's economy slows to its worst pace in years.

Export, which used to be the biggest engine for China's economic growth, has slowed down significantly since 2008's world financial crisis and now has given its place to real estate. Real estate investment constituted 13 per cent of the country's gross domestic product last year, which is feeding steel, concrete and dozens of other industries, and selling real estate is a major source of income for local governments. During the past 10 years, China's overheated property market is one of the few investments available to the rising middle classes, as they are not able to find many other effective alternatives to prevent their savings from shrinking due to the high inflation rate, and tripling of average

term projects, and the rapid expansion of loans in China's banking system in recent years has created new risks. If this shaky banking system is not sustainable and eventually collapses, the consequences for savers and investors could be extremely serious and will trigger more social instability.

Politically, the new leadership is also facing increasing pressure for political reform, with more and more appeals from the people whose resentment has been continuously inflamed by the rampant corruption and increasing social inequity.

How to create an innovative economic model for a less wasteful and more sustainable development, how to promote and maintain the rule of law, how to build a fairer society with less authoritarianism and the immense privileges of the elite... all these challenges are lying ahead for the new leadership at this inflection point in China's development, and they will be using the next 10 years to prove that they have enough wisdom and determination, and have eventually executed all these transitions smoothly and successfully.

Vicky Zeng, Vital Materials Co Ltd.

LETTER FROM NORTH AMERICA

Dear Members

New York doesn't seem to know what it is at the moment: fall or winter. One day it is beautifully mild, the next there's a chilly wind and ice on the ground in morning. Who knows what it is going to do next.

Whatever it may have been like outside, inside the Cornell Club it was warm and comfortable on the evening of Wednesday, December 5th when, after a fine long "Networking Drinks Reception" with delicious hors d'oeuvres, members, guests and others at the MMTA annual New York dinner, enjoyed both an excellent meal and absorbing after dinner speech. This last, entitled *Progress & Challenges Facing the US and Europe*, was provided by that old friend of the association, Mickey D Levy PhD, Chief Economist at Bank of America.

Perhaps sympathetic to a certain *ennui* felt by many of us under constant bombardment from the media about our forthcoming approach to the edge of the "fiscal cliff", Dr Levy eschewed precipitous finance to stand back and look more broadly at where the US and Europe currently stands. Perhaps surprisingly, he didn't consider the prospects for either *too* depressing. On the one hand he was persuaded that the European Union was not going to fall apart. On the other hand, he doesn't think the prospects for the US in the coming year look too bad. If, however, there was one issue about which he continued to be particularly concerned, it was the educational, and skill, levels of the country's workforce. The levels of both, especially when viewed alongside those of emerging countries' workforces, should really give domestic policy makers pause for immediate thought.

Dr Levy wrapped up by taking a number of questions from diners, including several on just how difficult it sometimes can be to engage suitable employees, even when higher educational levels are not required. A thoroughly enjoyable evening was, I believe, had by all.

Since I last wrote from here in New York, we have, of course, had Sandy. Following the storm, I having been thinking whether there is anything I could say about it that might be informative to members not actually affected by it. A particular experience of some seemed salutary to me. And may well be to other members.

Ownership of them aside, we probably don't usually worry *too* much about the warehouses or vaults in which we keep our metals. Following Sandy, and in view of a potentially rising sea level everywhere, it may be as well to take a second look at where your inventory is stored. Some companies in Manhattan's financial district with safekeeping vaults (whether for metals, or the likes of [stock certificates](#) etc) were very hard hit, with vaults flooded and considerable damage suffered from the storm. Damage to any metals, as opposed to paper certificates, stored therein was probably minimal, or non-existent. However, whilst *force majeure* is all very well, if you don't have access to what you own for an extended period, it can prove irksome.

With best wishes, from New York, for the New Year to MMTA members everywhere.

Tom Butcher, [Hard Assets Investor](#)

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The New York Dinner was kindly sponsored by [American Flux & Metal](#).

DIARY DATES

- [Informal Drinks](#)
Barrowboy and Banker Pub,
London, UK from
6pm, 13th March
- [MMTA's](#)
[International](#)
[Minor Metals](#)
[Conference,](#)
Mandarin
Oriental Hotel,
Washington DC,
USA, 24—26 April
- [MMTA's 40th](#)
[Anniversary](#)
[Dinner,](#)
Intercontinental
Hotel, London,
UK, 8th October
- [Xmas Lunch,](#)
Pewterers' Hall,
London, UK, 18th
December 2013

SPONSORSHIP OPPORTUNITIES FOR 2013



Sponsoring an MMTA event is not just about one evening.

MMTA communications and marketing reach the inboxes of decision-makers and key influencers within the MMTA membership and outside it for the entire duration of the marketing of an event, as well as in post-event reviews.

Our new website offers great opportunities for sponsors.

Take advantage of the MMTA's contacts and distribution channels by using us to help target your marketing activity within the minor metals sector.

MMTA sponsorship also offers the opportunity to work with a trusted partner over an extended period of time, maximising return on your financial investment.

This year, our flagship **40th Anniversary Dinner**, will take place at the InterContinental Hotel, Park Lane on 8th October.

Details of specific sponsorship packages are available on request by contacting

maria@mmta.co.uk

METALS PRO CLIMATE—SUCCESSFUL INDUSTRIAL COMMUNICATION

The MMTA was interested to learn more about an exciting company initiative, created and promoted by the German non-ferrous metals sector. What started in Germany has become an international initiative in cooperation with Eurometaux. As part of a continuous dialogue, this non-ferrous metals industry initiative emphasises the message that ecology and economy do not have to be in conflict.

The “Metals Pro Climate” company initiative was created at a time when climate policy issues were becoming the focus of social attention. The challenges facing the non-ferrous metal indus-

tries/measures, society and industry on ‘Island Europe’. Yet the disharmonies between the systems in operation from nation to nation are now so striking that their usefulness, in relation to the effective global climate protection objectives, must be challenged.

While European and national policy emphasises regulation by constantly imposing new directives, the metals industry is already successfully implementing climate protection, energy and resource efficiency at its plants.

The Metals pro Climate initiative has positioned itself as a pace setter for in-

“Metal stays metal – metals are not consumed but used.”

try were clear from the start: it was a matter of breaking down old reflexes and apparent contradictions, in order to define the sector by the positive images and successes of which it is justly proud. From the very beginning, the initiative set itself the aim of communicating with all social actors, by focusing on continuity and dialogue. From the outset, gaining acceptance within the industry and raising awareness of environmental and economic issues were some of the key objectives of the member companies.

In 2008, ‘Metals pro Climate’ entered the stage, at a time when climate policy was linked to great hopes and ambitions. For example, the fact that the 1997 Kyoto Protocol was signed by 193 nations is the greatest success so far achieved by the international community of nations, in terms of global climate protection. However, progress more recently has not been smooth. It is symptomatic of developments at previous climate conferences and the collapse of a wide-ranging global climate alliance that national and international climate policy is faced with a paradox: there is no global strategy in place that will guarantee effective climate protection. Consequently, great demands are placed on European and national sys-

telligent climate protection. Chaired by Oliver Bell, Executive VP Rolled Products of Norsk Hydro ASA, with Peter Willbrandt, CEO of Aurubis AG as Vice Chairman, Metals pro Climate believes that education, new technologies and resource efficiency will be the foundations of a new European climate strategy to counter current disillusionment following the stalling of global climate talks post Kyoto. This new climate strategy will be based on growth and development. Metals pro Climate focuses on intelligence, innovation and efficiency in climate protection linked to modern production processes, innovative products and recycling superiority in technology, illustrating that knowledge- and technology-based climate protection is more sustainable than setting rigid reduction targets and curtailing opportunities for growth.

CORE EXPERTISE—ENERGY EFFICIENCY

Since 1990, the non-ferrous metals industry has reduced its specific energy consumption by 28%. Company employees see energy efficiency as part of the everyday operation at their plants.

Energy efficiency is a core area of expertise for the industry, and employees

METALS PRO CLIMATE—SUCCESSFUL INDUSTRIAL COMMUNICATION

are experts in this field. For a long time, and without political intervention, a wide range of systems and improvement processes have been helping to achieve energy efficiency.

The companies have a major potential to save energy by using waste heat. Heat recovered in an energy-efficient way is used to produce new process heat or added to the heat supply. But intelligent



construction technology, the use of efficient technologies in processes and the conversion of furnaces also make a major contribution to energy efficiency for the companies.

RESOURCE EFFICIENCY—METAL STAYS METAL

Resource efficiency is now a burning issue at European and national level. The European Commission's flagship initiative 'Resource-Efficient Europe', which forms part of the Europe 2020 Strategy, promises 'intelligent, sustainable and integrative growth'. The efficient use of resources is described as a decisive factor for growth and employment policy in Europe.

German industry is a pioneer in terms of recycling and resource efficiency. For their own business interests and due to increasing prices on the commodity markets, companies are taking advantage of all methods of achieving resource efficiency.

Metals stand for resource efficiency because metal stays metal. Metal is never consumed, but only used. By recycling and exploiting recycling potential, the non-ferrous metals industry makes a

significant contribution to resource efficiency and security.

This enables Metals Pro Climate member companies to return the recycled metal to the material cycle without any quality losses, using intelligent processes.

Our industry is not simply protecting the status quo – it is actively committed to planning for the future and sustainability of our society. When it comes to future technologies, metals provide materials that are vital for these innovations. 60kg more copper, 50kg more aluminium, 20kg more steel and 10kg more nickel are needed to make an electric car, compared to conventional vehicles. Less is therefore not always more.

THE SUCCESS CONCEPT OF METALS PRO CLIMATE

The future challenges facing a company can only be achieved in cooperation with politicians, society and industry. The importance of this dialogue, which involves all sections of society, has been shown by the positive reaction to the regional events organised as part of the 'Metals Pro Climate' Initiative. Both politicians and media representatives contributed to dialogue with the companies on climate protection, energy and resource efficiency in the non-ferrous metals industry.

The member companies identify with these positive effects and share these successes with their employees. This increases awareness of the benefits of efficiency measures for their own plants, as exploiting energy – and material-saving potential also means reducing costs and increasing the value of the company. At the same time, success concepts are made clear and accessible to the general public.

This company initiative clearly demonstrates that climate protection technology, efficient energy use, innovative products or the economical use of resources would not be possible without the non-ferrous metals industry.

Metals Pro Climate
www.MetalsproClimate.com

NEW MMTA MEMBERS

The MMTA would like to welcome its two newest members:

Metal Partner GmbH



www.metalpartner.de

Metal Partner is based in Cologne and trades in manganese metal, silicon metal, ferro bar, ferro molybdenum, ferro vanadium, titanium sponge and ferro titanium.

Select Alloys & Materials Ltd



www.selectalloys.net

Select Alloys is based in Rotherham and is a trader / processor of nickel and cobalt based alloys and associated raw materials

ADVERTISE YOUR
GOOD NEWS
STORIES ON THE
MMTA WEBSITE

Does your company
have a good news story
you would like to share
with visitors to the
MMTA website and
readers of the Crucible?

We would like to share
your good news.

Please forward any
contributions or
suggestions to
maria@mmta.co.uk

MMTA JOINS THE
AMRC FORUM.

The AMRC Forum is an amalgamation of Sheffield University's Advanced Manufacturing Research Centre, Boeing's Advanced Manufacturing Forum and the National Metals Technology Centre (NAMTEC) Manufacturing Forum. As members, MMTA will have access to information relating to high-value manufacturing sectors, focusing on aerospace and defence; power generation, including nuclear and renewables; and oil and gas.

EULER HERMES—CREDIT INSURANCE FOR THE MINOR METALS SECTOR

Following the meeting between the MMTA and Euler Hermes in October, we are delighted that Shannon Murphy, Risk Manager, and Paul Oxley, Head of Risk Underwriting, accepted our invitation to write a short piece for MMTA members.

Global Network

A number of MMTA members will have no doubt have had some dialogue with us in the past. Our underwriting philosophy is very much based on proximity to risk, and we draw upon the local expertise of the underwriter in the country of the buyer for their local knowledge and expertise. Euler Hermes employs 6,000 staff members worldwide and our mission is to help our clients grow by insuring them against the risk of buyer default - whatever their size, sector or country of origin. Our market presence in over 50 countries means we have local contacts to speak with who understand the market dynamics. This is supplemented with the experience of our clients, including payment performance.

Understanding the local market conditions is critical and the aim of our advice is not just to avoid an insolvent event, but also counterparty default. It pays to re-

"[It is] extremely important to understand a company's financial flexibility and scope for growth or to deal with external shocks."

visit supply contracts to ensure they provide as much protection as possible, so that a change in economic circumstances does not give an excuse not to perform.

Information Requirements

What is key for us is to really understand your business, so proprietary information flow is vital for our underwriting.

Typical information requested will be the background to the business, the up-to-date financial performance, and key suppliers and customers. This is to enable us to gain a better understanding of where the company sits in the supply chain, and to assess strengths and weaknesses, opportunities and trends.

The financial statements provided should include the full profit and loss, balance sheet, and cash flow, year end budgets/forecasts, and sometimes an aged creditor/debtor list. The minimum requirement will be the latest statutory accounts, but sometimes if the credit limit request is high or we already have a sizable exposure running, we will require more detailed information.

With the volatility often seen in commodity prices and changes in end user demand, it helps to have an understanding of contracts in place, with order book details and any committed forward orders and price.

Full funding details are also extremely important to understand a company's financial flexibility and scope for growth or to deal with external shocks. Over the last few years we have seen much stricter lending requirements and tighter credit lines from the banks. It is therefore important for us to understand the cash flow cycle and to identify any potential pinch points. In terms of understanding a company's working capital, we need to know the size of the facility, current, average and peak usage, maximum drawdown (if an ID facility), and renewal date of the facility along with any covenant details.

The level of information will vary with the size of the business, however the more information available, the better informed. We have a national coverage of Risk Analysts around the country and a buyer line (08444 122041) so when the buyer calls, they are automatically routed to the local Risk Office. Our local Risk Office Analysts conduct regular buyer meetings (around 3,500 a year) and our underwriters meet clients on a regular basis, and when all this information is

EULER HERMES—CREDIT INSURANCE FOR THE MINOR METALS SECTOR (CONT'D)

pooled together, it gives us an in-depth view of the market place. We make decisions on cover based on the buyer's own merits, and never a broad sector-based response.

Political Risk

At our meeting, members of the MMTA's Insurance Task Force expressed an interest in understanding the political risk side of the credit insurance policy. This is an area that has understandably attracted increasing interest. Traditionally, political risk cover has been associated with the desire to protect payment for exports to difficult emerging markets. The Iraqi invasion of Kuwait in 1990 shows how stable markets can suddenly expose exporters to unforeseen political risk. We have seen in more recent years how foreign exchange issues produced political risk claims in Argentina, Russia and Venezuela. However, we have seen a new trend and increasing interest from British companies over the last 12 months for political risk cover for exports to the Eurozone. This is unsurprising in light of all the speculation and media hype about whether Greece might leave the Eurozone and revert to the Drachma or Spain revert to the Peseta.

Our Commercial and Political Risks policy offers comprehensive political risk cover for your export sales should payment not be made due to one of the following events occurring:

- Inconvertibility – Your customer is unable to transfer money out of their country due to foreign exchange controls
- Contract Frustration – Payment is prevented due to the occurrence in your customer's country of a natural disaster or war / civil war / revolution or other similar events
- Contract Cancellation – The government of your customer's country cancels the contract between you and your customer
- Import or Export Restriction – A trade embargo is imposed by the government of your customer's country or by the government of the country from where the goods are being shipped

"We have seen a new trend and increasing interest from British companies over the last 12 months for political risk cover for exports to the Eurozone."

- Public Buyer Default – Your customer does not pay and is a government body

Our economic research department monitors country risks for countries all over the world, enabling our underwriters to make an informed decision on whether to grant cover in a particular country and on what terms of payment. The team fine-tune on a daily basis their assessment of potential risks according to the economic conditions and outlook.

Further information can be found at: www.eulerhermes.com, where you can sign up to our free Weekly Export Risk Outlook, as well as find an array of relevant information.

Conclusion

At Euler Hermes UK we have been proud of our long term commitment to the metals industry and this includes the Minor Metals Trade Association members and their customers. Our ability to get close to our clients customers, and really understand their businesses remains vitally important. Our aim is to continue to support the members of the MMTA as well as the industry as a whole.



Umicore is pleased to inform you that we are

ranked as the most sustainable company in the "Global 100 Most Sustainable Corporations in the World" index. The announcement was made by Corporate Knights, an independent media and investment research company based in Toronto, Canada.

Corporate Knights mentioned that Umicore achieved the top overall ranking in the 2013 Global 100 due to its strong, across-the-board sustainability performance.

We have made significant investments in clean technologies and are able to make a real difference with our unique closed-loop business approach. This enables us to help address global issues such as resource scarcity, clean mobility and the sustainable generation and storage of energy. We complement this by ambitious objectives to further improve our environmental and social performance.

Our CEO Marc Grynberg expressed his delight and reinforced Umicore's commitment to continue its sustainable development efforts as part of the company's Vision 2015 strategy and beyond. He stated: "Being recognized as the most sustainable company is foremost an encouragement to continue to grow our business in a sustainable way. While we still have much work to do, this recognition shows that we are on the right track".

For more information: <http://www.UMICORE.COM/en/media/news/>

We are looking forward to continuing our sustainable journey with you as our valuable stakeholder.

Yours faithfully,

Umicore

Brussels, 25th
January 2013



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INTERNATIONAL
MINOR METALS
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MMTA'S INTERNATIONAL MINOR METALS CONFERENCE 24–26 APRIL 2013 ATTENDEES

5N Plus
 Advanced Alloy Services Ltd
 Advanced Metals Technology Inc
 AIM Specialty Materials
 Alcoa
 Alcoa Howmet
 Alex Stewart (Assayers) Inc
 Alfred H Knight International Ltd
 Amalgamated Metal Corporation
 Amalgamet Canada LP
 American Flux & Metal
 Areva
 Atlantic Metals & Alloys LLC
 Aurubis AG
 Beijing JiYa Semiconductor Material Co Ltd
 Brown Brothers Harriman
 Buss & Buss Spezialmetalle GmbH
 C. Steinweg (Baltimore) Inc.
 C. Steinweg Handelsveem BV
 C. Steinweg N.V.
 Changsha of Kailida
 Changsha Zhong Gui Nonferrous Co Ltd
 Climax Molybdenum
 CMK Ltd
 Darton Commodities Ltd
 Deer Horn Metals Inc
 DLA Strategic Materials
 EAC Corporation
 EAG Labs
 Earth Metals LLC
 Exotech Inc
 F.W. Hempel Metallurgical GmbH
 GE Aviation
 GE Global Research
 Global Advanced Metals
 Greenbriar Partners
 Hard Assets Investor
 H.C. Starck GmbH
 Hudson Metals Corp
 ICD Metals LLC
 ik Intertrade & Capital Management GmbH
 Indium Corporation of America
 International Cadmium Association
 Jiujiang Jinxin Nonferrous Metals Co Ltd
 Jorametal SA
 Kennecott Molybdenum Company
 KLS Recycling OU
 Kohsei Co Ltd
 Lambert Metals International Ltd
 Lipmann, Walton & Co Ltd
 Maritime House Ltd
 Materion Corporation
 Martin Alloys Corp
 Metal Bulletin
 Metalink International Co Ltd
 Metal-Lynx Ltd
 Metal-Pages Ltd
 MetalPrices.com
 Minelco Asia Pacific Ltd
 Molybmet
 Pacorini Metals Rotterdam BV
 Phoenixx International L.P.
 Plansee SE
 Powmet Inc
 Quest Rare Minerals Ltd
 Retorte GmbH
 Rhenium Alloys
 Rittenhouse International Resources LLC
 ROC International Co Ltd
 Rolls-Royce Group PLC
 Roskill Information Services Ltd
 Sargon Holdings
 Scandinavian Steel AB
 SFP Metals Ltd
 Shaanxi Huadian Fine Chemicals Co Ltd
 Shengyuan Metal Company Ltd
 Sovereign Int'l Metals & Alloys Inc
 Ssp B.V.
 Stapleford Trading Limited
 Stifel, Nicolaus & Company Inc
 The Chem-Met Company
 Toma Group
 Thompson Creek Metal Company
 Tradium GmbH
 Tranzact Inc
 Traxys Europe SA
 Traxys North America
 Tremond Metals Corp
 Umicore Marketing Services USA
 Umicore Precious Metals Refining
 US Department of Energy
 US Geological Survey
 VDM Alloys B.V.
 Vital Chemicals
 Wogen Resources Ltd
 Womet GmbH
 Yale University

CONFIRMED CONFERENCE SPEAKERS

“Critical metals and issues of future sustainability – how can the industry be encouraged to recycle and reuse?” by **Thomas Graedel, Professor of Industrial Ecology, Yale University, USA**

“The strategies being pursued for the use of critical metals in clean energy technologies” by **Diana Bauer, Office of Policy & International Affairs, US Department of Energy, USA**

“The global economy and outlook for the metals industry” by **Scott Clemons, Chief Investment Strategist, Brown Brothers Harriman, USA**

“Outlook for tantalum in capacitors and how supply-side issues are affecting manufacturers” by **Andrew O'Donovan, President, Global Advanced Metals, USA**

“Tungsten: How China pulls the strings in unlocking potential ROW supply” by **Robert Baylis, Managing Director, Roskill Information Services Ltd., UK**

“Everything you always wanted to know about rhenium.....” by **Anthony Lipmann, Managing Director, Lipmann Walton & Co Ltd., UK**

A presentation on selenium by **Bernd Treiber, Managing Director, Retorte GmbH, Germany**

“Applications for indium”, by **Brian O'Neill, Indium Materials Manager, AIM Specialty Materials, USA**

“Cadmium usage in batteries and electric vehicles,” by **Hugh Morrow, Senior Consultant, International Cadmium Association, Canada**



CONFERENCE TIMINGS

As usual, the programme will be the focus of this event, with an excellent line-up of speakers. We expect a good number of attendees again in 2013, following on from the 2012 conference in Cologne, which attracted around 250 participants.

Wednesday 24 April

16:00 – Conference registration

18:00 – 20:00 Welcome reception

Thursday 25 April

08:30 – 15:30 Conference Sessions

15:30 – 16:00 MMTA's AGM

18:00 – 22:00 MMTA's Conference Dinner at Hill Country Barbeque
(only for delegates with prepaid tickets)

Friday 26 April

09:00 – 14:30 Conference sessions & luncheon

MMTA ANNUAL REVIEW 2013



Following the success of last year's MMTA Annual Review, we are again offering advertising space in the 2013 edition. Copies of the Annual Review will be distributed to all delegates at the MMTA's International Minor Metals Conference in Washington DC, as well as being sent to all MMTA member companies. During the course of the year, the Annual Review is one of our key marketing tools.

Don't delay—contact **Maria Cox** for prices of remaining advertising space.

maria@mmta.co.uk

MMTA INFORMAL DRINKS

THE BARROWBOY AND BANKER PUB, LONDON

March 13th from 6pm



Whether you are based in London or are travelling to the city for an event or meetings, why not finish the day by joining MMTA members and guests for an informal drink at the Barrowboy and Banker.

Bar snacks will be available until they run out!



*Cash bar event

KEY CONSIDERATIONS WHEN TRAVELLING ABROAD FOR BUSINESS—PART TWO



Having followed the advice in the last Crucible on pre-travel research, the savvy traveller should be aware of basic precautions to take when passing through transport hubs and when staying “in country”. A few “do and don’ts” are outlined below.

At the Airport

Even after a long flight, remain alert and be aware of what is happening around you.

Where possible complete all the immigration and customs forms prior to exiting the aircraft - borrowing a pen and asking fellow travellers for flight numbers will slow down your progress through immigration. Similarly, having the correct visa in your passport will remove the need to queue for and pay visa charges upon arrival.

When interacting with the authorities remain polite and answer any questions they may ask. Laptops and computer equipment may be taken from you by customs/ security officials to be checked. If so, make sure all your equipment has been returned to you in the presence of that official. It has been known for laptops to be swapped with obsolete equipment by unscrupulous officials – this is also a good reason not to have sensitive documents or business material on the laptop.

“You may wish to consider carrying a dummy wallet containing low value currency which may satisfy a mugger and allow you to make an escape...”

Keep your luggage with you at all times once you have collected it, and watch when your bags are loaded onto a vehicle, so that nothing is left kerbside. In higher risk countries, consideration should be made to have driver details, including their photograph, sent through prior to departure; the traveller can then easily identify and confirm who they will be meeting. Name boards at arrivals should only display your company name or local host name.

Ensure you have a small amount of local currency to pay for incidental items such as taxi fares, drinks, food and gratuities. This avoids having to change money at the airport.

At the Hotel

Having safely negotiated the airport and arrived safely at the hotel, a few points need to be remembered when checking in. Using your company address to register means that your home address remains secure; your passport may be retained - make sure you have a copy for identification purposes during your stay.

Don’t be satisfied with any room allocation - it is preferable to have a room on the 2 – 4 floors, to the rear of the building and away from the main reception and public areas. Upper floors generally experience more crime, or may not be reached by the emergency services, while rooms looking onto the main entrance may be vulnerable in the event of an explosion. Rooms that can be accessed via balconies or fire escapes or which are near emergency exits are to be avoided (these are used as escape routes by criminals) as well as ground floor rooms, which are more vulnerable to criminal activity.

When checking in ensure you accompany the bags to your room; do not discuss your room numbers within earshot of others, such as in lifts or in the bar.

When you get to your room, check where the emergency exits are and the routes to reach them, and make sure the windows and any connecting doors are locked. Keep your door locked at all times while you are in your room - use the chain or other locking device, or use portable travel locks to secure doors and windows.

KEY CONSIDERATIONS WHEN TRAVELLING ABROAD FOR BUSINESS—PART TWO (CONT'D)

Check with reception prior to allowing hotel employees into your room and conduct meetings in public areas.

Do not hang the “Please Service Room” tag on the door; this indicates the room is empty. Put the “Do Not Disturb” sign on your door; leave the television and a light on while you are out. Lock away valuables in the room safe or at reception.

Travelling in country

The key to safe travel is maintaining a low profile, varying routines, being aware of your surroundings and remaining mindful of local laws and behaviour. Speak with your country host and get them to give you local insight into potential problems and adapt your behaviour to fit the nature of any identified risks.

At all times remain vigilant, make sure your mobile phone is charged and plan your movements carefully, whether by car, taxi, public transport or on foot. The last thing you want is to be stranded, having missed the last train or run out of petrol!

Only use bona fide taxi or car services, preferably booked by your host or the hotel. In countries where there is a higher risk from terrorism, it is advisable not to wait in the hotel lobby. Wait in an area away from the front entrance and have reception or your driver call you when the vehicle is outside.

Agree taxi fares in advance if there is no meter (try and get an idea of the price from the hotel). Sit behind the driver, make sure your doors are locked and have your destination address written down to prevent confusion. When using public transport, avoid unoccupied carriages on trains and opt for aisle seats (you can be more easily blocked in when sitting by the window). On buses, sitting near the driver is preferable to the rear of the vehicle or on upper decks - if you feel uncomfortable, get up and move to a different seat. Keep your valuables out of sight, look out for potential threats and be aware of pickpockets. Carry cash in small denominations and do not keep it all in one pocket, wallet or purse.

In some countries it is inadvisable to walk on the streets, particularly after dark, and travel advisories and country profiles will highlight this. If you are leaving the hotel on foot, take advice from the hotel as to safe locations/routes and notify colleagues

of where you are going and when you will be back.



If you are involved in an incident, such as a robbery, stay calm and do what you are told. You may wish to consider carrying a dummy wallet containing low value currency which may satisfy a mugger and allow you to make an escape. Immediately report the incidents to the local police and your embassy. Makes sure you get a copy of the police report for insurance purposes.

While the vast majority of trips will proceed without problem, when travelling you need to stay alert to the different risks of an unfamiliar location. If you are unsure, or feel uneasy, trust your instincts and put your own safety first.

Angus Darroch-Warren, CSyP, [Linx International Ltd](#)

Linx International Ltd is an MMTA member company providing security advice and risk management support to a number of corporate clients.

REVIEW—

MMTA'S CHRISTMAS LUNCH 2012



This year's lunch in London took place at Pewterers' Hall, just off the historic London Wall. Over 70 guests were welcomed with a glass of fizz in the grand Oak Room, whilst enjoying a chat with industry colleagues.

The great Christmas tree and carol singers added to the festive atmosphere, before guests headed downstairs to enjoy a delicious three-course meal, and of course, plenty of wine!



The lunch was kindly sponsored by [Crowe Clark Whitehill.](#)

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TANTALUM MARKET OVERVIEW

This overview of the tantalum market is made up of extracts from a more comprehensive piece on the subject, jointly authored by Patrick Stratton of Roskill Information Services and David Henderson of Rittenhouse International Resources and available on the MMTA website. [Read the full article.](#)

Properties

Tantalum was identified in Sweden in 1802 and has several defining characteristics. One is that it has a very high melting point, 3,017°C, which is exceeded only by that of tungsten, rhenium, osmium and carbon. It is also highly corrosion-resistant to most acids below 150°C, hard (Mohs hardness of 6.5) and in most cases chemically inert.

This combination of attributes means that it has a wide range of applications. The main use for tantalum derives from its high volumetric efficiency, which makes it a key material used in electronic capacitors.

Occurrence and Resources

Tantalum occurs almost always with niobium, an element with some end-uses in common, in a wide range of minerals that have greatly varying proportions of both metals. Some of these minerals are mined exclusively for the niobium values and the tantalum is probably rarely recovered during processing. The Araxá pyrochlore deposit in Brazil is a good example of this; it is by far the world's largest source of niobium but produces no marketable tantalum. Some others, such as the Wodgina mine in Australia, are exploited for the tantalum and the niobium is disregarded. Yet others contain commercially viable proportions of both elements and the two can be considered as co-products, even if the tantalum commands a much higher price, perhaps in a ratio of 10:1. Such deposits are widely distributed around the world and form the basis of much of the artisanal columbite-tantalite mining that takes place, particularly in Central Africa. [Read More....](#)

Supply

The supply of tantalum to the market derives from several sources: hard rock or artisanal mining; tin slags and synthetic concentrates; scrap; and stockpiles. Tantalum production from conventional/hard rock and artisanal mining represents by far the largest part of tantalum supply. In 2011, these sources accounted for 74% of the 3.75Mlb Ta₂O₅ (1,393t contained Ta) supplied to the market. This has been the case since the start of the 2000s, with mining making up 55-75% of overall supply, and typically 60-70%.

The contribution of artisanal mining to primary supply can be split into mainstream artisanal mining, which has been undertaken for many years in Brazil, Nigeria and other areas of Africa, including Central Africa. This made up 16% of primary supply in 2011, while the other part is often described as conflict tantalum. This is artisanal mining in areas of the DRC that are largely under the control of warring militias, and the proceeds from mining are used to fund the ongoing conflict.

Tin slags were once the largest contributor to tantalum supply, making up about two thirds of total supply. In recent years they have become far less important, contributing probably less than 10% of total primary supply, in line with a large reduction in tin mining in countries that host tin ores with higher tantalum contents. There are three types of tantalum-bearing

slag to consider: slags from current tin smelting; low-grade slag dumps; and large slag dumps. The last category is possibly of most interest at present. There are several slag dumps in Brazil that are large enough to be considered almost as tantalum resources. They are being actively examined and could become major sources of tantalum supply for some years.

Sales of tantalum from the US strategic stockpile, built up during the Cold War years were a large contributor to supply during the first half of the 2000s, but the inventory was largely exhausted by the middle of the decade. Inventories throughout the supply chain are a significant factor in determining tantalum pricing and the demand for primary tantalum.

Tantalum wastes and scrap form an important part of over tantalum supply, accounting for 15-30% of total supply between 2000 and 2011. Secondary materials

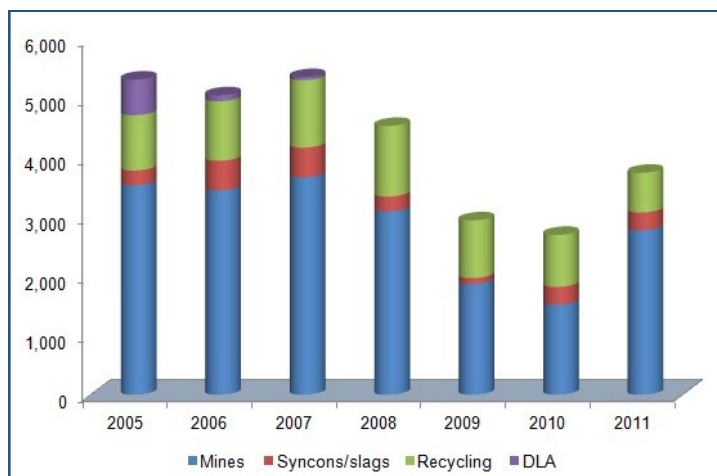


Figure 1: World Tantalum Supply, 2005 - 2011, (000lb Ta₂O₅) Source: Roskill

include processors' own internal scrap, consumer scrap returned for recycling and tantalum-bearing residues. More secondary tantalum is traded than is reported. Super-alloy scrap, for example, would typically be described as nickel scrap in customs documentation. It does, however, contain significant quantities of tantalum, rhenium and other metals and those metals are recovered during processing. [Read More....](#)

TANTALUM MARKET OVERVIEW.. CONTD

International trade

Tantalum enters international trade in a number of forms: ores and concentrates; slags; K-salt and other chemical intermediates; worked and unworked metal; and scrap/residues. Official trade statistics for tantalum are generally poor, owing to data being withheld for reasons of confidentiality, aggregated tariff codes and, as outlined above, the opaque nature of much of the trade in artisanal production. [Read More....](#)

Demand

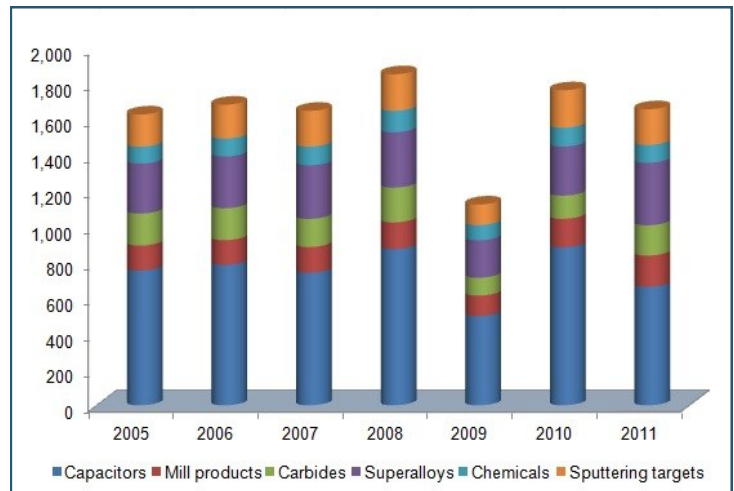
Tantalum is a high value market, with 99.9% min. metal trading at more than US\$500/kg during the second half of 2012. It is, however, not large in tonnage terms. Demand peaked during the internet bubble of 2000 and reached an estimated 2,300t, but has been rather lower in later years. The most recent peak in demand was in 2008 (est. 1,855t); however the global economic downturn had a major impact on demand for tantalum, which fell overall by 40% in 2009. No segment of the tantalum market was left untouched, although the individual decreases varied considerably. There was strong recovery in 2010, when an estimated 1,765t were consumed, before the market eased in 2011. When available, data for 2012 will probably show stagnant demand, at best. A return to slow but steady growth in demand is probable from 2013 onward. [Read More...](#)

Applications

The use of tantalum can be broadly broken down into four product types. Tantalum powder is used mostly in electronics. Tantalum metal has many applications in chemical processing, medical devices and alloys. High-grade tantalum oxide is used in camera lenses and X-ray equipment. Tantalum carbide is used in cutting tools.

Tantalum has a wide range of markets, the largest of which is the electronics industry. The principal use (40% in 2011) is in capacitors, which are found in all electronic devices.

Other significant electronic uses for tantalum are sputtering targets (12% of 2011 consumption) and surface acoustic wave filters. The principal non-electronic application for



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“There are several slag dumps in Brazil that are large enough to be considered almost as tantalum resources. ”

tantalum (21% in 2011) is in super-alloys, which are used in aerospace and land-based gas turbines. Super-alloys, along with sputtering targets and tantalum chemicals, have probably the highest demand growth potential in the coming years. Combined, carbides and mill products made up the remaining 21% of tantalum consumption in 2011 and are expected to show growth of 5%pa through 2016. [Read More....](#)

Prices

Tantalum prices are most commonly described in terms of the Ta₂O₅ content of ores and concentrates, on a 30% contained basis. These prices are the reference point for the industry, although information is available on prices for other tantalum products. The two principal mechanisms for Ta₂O₅ prices are long-term contract prices and spot prices. Most production is usually from hard rock mines, such as those in Australia and Brazil, and is sold to processors on long-term contracts, the details of which are seldom made public. The balance, much of it artisanal production, is typically traded on the spot market. Contract prices are usually higher than market prices, although the gap narrowed in 2009 and there was convergence in 2010 and 2011. [Read More....](#)

[Patrick Stratton, Roskill Information Services](#) and [David Henderson, Rittenhouse International Resources](#)

MEMBER LETTERS

Firth Rixson Site Visit.

For me it was one of the best events I have attended so far. The speakers were great and the information provided was very useful.

Best Regards
Dennis Borchers
[Innova Recycling GmbH](#)

The visit to Firth Rixson was a thoroughly enjoyable experience where we were privileged to be guided and briefed by a highly professional group of people who were justifiably proud to be part of a world leading company. The processes that we witnessed were fascinating and the works was immaculate.

Kind regards
David McDowell
Technical Manager Inspection
[ALS Minerals Division](#)

It was good to meet a valued and important customer in a more informal setting. It gave a supplier the opportunity to ask questions which they normally wouldn't be able to.

Mike Chandar
[Westbrook Resources Ltd](#)



One of the MMTA groups just about to embark on the Firth Rixson site tour.

MMTA FIRTH RIXSON SITE VISIT



As our minibus snaked its way towards Firth Rixson's factory, the picture-perfect Peak District National Park seemed an unlikely setting for one of the world's leading producers of super-alloys. The mines nestling in those craggy hills, which once yielded lead, copper, zinc, iron, manganese and silver, had long since fallen silent.

A warm Yorkshire welcome and a hard hat was bestowed upon each of us as we arrived, and we soon set off for a guided tour of Firth Rixson's plant, observing at first hand the process of producing super-alloys. Our guide explained Firth Rixson's automated stock management system, and we watched as the high purity ingredients were carefully weighed out by hand and loaded into the VIM furnace, which purifies the molten mix, removing heavy metals, tin, calcium, sulphur and so on.

Then we saw how the material is further purified through a series of ceramic filters, before being cast, remelted (by either VAR or ESR remelting) and recast at the appropriate rate to achieve the required physical properties, purity and homogeneity in the billet.

The final process we observed was grinding to remove surface oxidation before shipment to consumers, where the alloys are destined for service in some of the most extreme and demanding environments such as aerospace engines, industrial gas turbines, orthopaedics, and auto turbine wheels.

After the tour, delegates enjoyed a buffet lunch, followed by an interesting presentation about the super-

alloys industry and Firth Rixson's role in it. The presentation explained how different alloy bases (Al, Ni, Ti, Fe) each have specific strengths within different temperature ranges, and what role the various elements play in providing strength, corrosion resistance and long term stability.

It was explained how different elements can result in beneficial lattice deformation by means of substitutional, or interstitial, atoms. Precipitate strengthening, grain boundary strengthening, corrosion resistance and creep resistance were also on the syllabus for this class of budding materials scientists. We learned, for instance, that the disc in a jet engine turbine uses few elements in order to have exceptional fatigue strength whereas the blades must contain a large number of elements in order to have high creep resistance. The various processing routes and advances in processing and composition employed by Firth Rixson to achieve optimal properties in their products were outlined.

The five generations of super-alloys, from the wrought alloys of the 1940's, through to today's single crystal and thermal coated alloys each have their own temperature capabilities and microstructures. We learned which impurities are becoming more and more critical and which elements are coming in, and going out of fashion in this fascinating, kaleidoscopic industry. The need to develop alloys that operate at higher temperatures, as well as the need to improve safety are the driving forces of development, and it was an inspiration to learn about the measures this dynamic company is taking to meet these challenges.

The day at Firth Rixson was very useful and informative for anyone interested in the super-alloys industry.

Peter Nicholson
[London Chemicals & Resources Ltd.](#)

FOCUS ON WASHINGTON DC

Pulsing with life, America's capital city is an eclectic entity. The District, centers on the Capitol and then spreads out into a variety of distinctive neighborhoods. They include funky Adams-Morgan, Downtown with its art galleries and nightlife, Dupont Circle with its hip clubs and Connecticut Avenue shopping, and upscale Georgetown. Capitol Hill and the National Mall feature many of the city's most prominent buildings and museums, including stately presidential monuments and most branches of the world-famous Smithsonian Institution.

For history-lovers and culture fans, DC is replete with world-class museums and arts venues. The Smithsonian alone includes 19 distinct museums with vast collections of art and artifacts, including the Air and Space Museum and the Museum of American History. At the Kennedy Center for the Performing Arts, visitors can catch live theater and music performances, and the Folger and Shakespeare Theatres stage classics that resonate with modern audiences. The most popular new additions to the museum scene include the International Spy Museum and Newseum (my personal favorite). Each better than the next, plan to spend countless hours wondering the exhibits... and wear comfortable shoes!!!

Well-planned from its inception, the city



was provided early on with beautiful parks, gardens and public spaces. The National Mall, in particular, grants lovely views of the Capitol on one end and the Lincoln Memorial on the other. Walking the length of the Mall, visitors can take in these green spaces and even relax on a park bench as the hustle and bustle of the big city continues beyond.

Since DC's population includes residents and visitors from around the globe, the

city enjoys thriving and diverse dining, nightlife and retail scenes. The bulk of this activity can be found in four neighborhoods — Downtown, Adams-Morgan, Dupont Circle and Georgetown. Great restaurants that highlight the town's multiculturalism and culinary quality include Old Ebbitt Grill (American), Oyamel (Mexican), Rasika (Indian), Clyde's (American), Jaleo (Spanish), Filomena (Italian), Proof (Wine Bar/American), The Source (Pan-Asian), Oceanaire (Seafood), Zaytinya (Greek/Lebanese), Fiola (Italian), and upscale Citronelle (French). After-hours, nightlife awakens in the policy-making town, and folks flock to hot spots like POV at the top of the W Hotel overlooking the White House and Washington Monument, and Poste the bar at Hotel Monaco. Although most neighborhoods boast great restaurants and clubs, Georgetown leads the pack in shopping. Not only does it feature stately antique stores, but it also throws in independent boutiques, upscale chains and the much-frequented Shops at Georgetown Park.

If you relish physical activity, DC delivers that as well. For pro sports enthusiasts, the Washington Redskins get fans riled up when autumn approaches, playing to packed houses at FedEx Field; the Verizon Center downtown hosts the NBA Washington Wizards and NHL Washington Capitals; and 2005 saw Major League Baseball return to the Capital thanks to the Washington Nationals.

It comes as no surprise, then, that DC has an allure all its own. The city unites politics, cosmopolitan energy and culture with first-class dining, shopping and nightlife, crafting a melting pot of international influence and homegrown practicality that's not only a perfect destination spot but a chunk of the American experience itself.

Edited by David Gussack, of Exotech and Brook B. Singer, Esq

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Zhenzhen Liu, Senior Consultant, CRU Strategies: An overview of Chinese mineral demand and supply. This presentation includes a macro economic outlook on China's resource production and their demand for steel, zinc, lead, aluminium and copper, and reviews the potential for China to become self-sufficient in the future.

Vivien Yang and David Bridge, Simmons & Simmons: Doing business with Chinese counterparties: enforcement issues. Information on resolving disputes with Chinese counterparties, choice of law, disputes resolution (arbitration or court) and other information about enforcement issues when doing business with Chinese companies.

Allan Zhang, Director, PwC: Investing overseas – What's new under China's new leadership? A presentation including information on global investment in Chinese companies, and where China is investing and the impact this has on global markets.

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Significant member discount on all MMTA event bookings, including the prestigious Anniversary dinner

Access to free meeting/training room space in central London

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If any member wishes to become involved in one of the MMTA's sub-committees, or has any suggestions, please contact the Executive at executive@mmta.co.uk

The MMTA promotes essential elements that add quality, safety and enjoyment to our lives.



The MMTA is the world's leading minor metals industry organisation.

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