What’s New in Titanium  
Fundamentals of Titanium Workshop  
Classified Ad’s / Industry Calendar of Events  
Current Membership

Inside this issue:

TITANIUM 2004  
Call For Papers

ITA invites authors to submit a 200 word or one-page abstract of a topic of interest to a broad audience in your area of expertise related to the titanium industry. ITA will focus specifically on the technical themes provided by our members. We encourage you to contribute as well as contact your colleagues who will have something special to offer to this event.

The ITA Speaker Committee will review all submitted abstracts carefully. Relevance, timeliness, and quality are the key factors in the reviewing process.

Speakers are required to register for the conference and pay the appropriate fee.

Continued on page 4

2004 Conference Proceedings

The Conference Proceedings of all papers presented at the Titanium Conference General Session held in New Orleans, Louisiana USA October 3-5, 2004 are now available.

Cost:  
Members: $50.00 U.S.  
Non Members: $75.00 U.S.

Purchase your CD ROM from the publication section of ITA website located at www.titanium.org or call ITA for your copy today.
strongly with even Europe showing some modest growth. In tandem the commercial airline industry, which had been thrown into deep recession by the threat of terrorism and SARS, recovered sooner than expected on the back of strong demand from the low cost carriers. On top of this, industrial demand also saw good growth over the year particularly from desalination projects and from the booming Chinese economy. The net effect of this turnaround was to see titanium demand for both industrial and commercial aerospace increase from 50,000 mt to 56,000 mt in 2004.

On the military side demand remained steady with Tim Rupert CEO of RTI International Metals, Inc. forecasting worldwide military demand for titanium at 9,500 mt this year and expected to rise to nearly 11,000 mt in 2005.

In his review of the ferrotitanium market Steve Giangiordano, Senior Vice President of RTI International Metals, Inc. told the meeting that the ferrotitanium market has also seen a remarkable turnaround over the year finding itself squeezed between a tightness in the supply of its main feed material, titanium scrap and strong demand from the booming steel industry.

The increase in titanium demand has come at a time when titanium sponge producers have limited room to increase production. Oversupply of titanium has resulted in a number of closures over the last 15 years, with overall production in 2004 at less than 100,000 mt down from the level of 157,700 mt seen in 1990. On top of this there is little availability of stockpile material from the CIS, which helped to balance supply and demand in the last cycle, nor from the US government stockpile, which is expected to be exhausted this fiscal year.

The squeeze in supply, as a result of the increased demand, has seen prices rise over the year, which you would assume would have had the producers popping the champagne corks, however they were not getting too carried away. Having lived through previous cycles they were all adopting a very cautious approach to increasing their production. There will be some increases in 2005 with an additional 2000 mt capacity increase expected in Russia, a 1300 mt increase by Toho Titanium in Japan and a 3,000 mt increase in production by Kazakhstan and the Ukraine. In addition Furkhat Faizulla of Advanced Material Japan Corporation highlighted the prospect of China, a small producer of titanium at the moment, increasing its production by 2010 to 10,000 mt of sponge and mill products.

Highlighting this caution Sylvain Gehler, Managing Director of Specialty Metals Company, said that despite the sharp pick up in demand this year, producers needed more assurances of sustained demand before they invest in increased investment capacity. A sentiment echoed by Toshihiko Saiki the director of Toho Titanium who said that it was difficult to invest in increased capacity, even with the current higher prices, because the long-term volatility of the titanium market and the high cost of production made it too risky to do so. There was some hope, however, that new technology like the Cambridge or Armstrong process could bring the cost of titanium production down to a level that made the investment decision much easier.

The commercialization of low cost titanium production may be getting closer, Stanley Borys CEO of International Titanium Powder, LLC told the meeting that they were scaling up their test work to a pilot plant stage. Production of low cost titanium will be a key factor in the future growth of the industry and could open the door to the use of titanium in a wide range of applications where price currently rules it out. The meeting heard from Stephen Luckowski of the U.S.Army and Larry Martin, Business Development Manager of ATI Wah Chang that the demands for increased mobility by the military has resulted in titanium being employed in more non-aerospace systems like armaments and military vehicles. Tim Rupert believes that low cost titanium could result in demand for titanium from the military increasing to 22,000 mt by 2010.

Lower cost titanium could also be the catalyst for titanium to break into the automotive industry, which currently employs titanium only at the high end of the market - the meeting heard that the Ferrari Challenge Stradale would become the world’s first production car to use titanium springs. In addition the Japanese motorcycle industry uses titanium in mufflers and both Nippon Steel and Kobe Steel reported on new alloys that can be used for this application.

The quest for greater efficiencies and lower costs in the production of titanium mill products was also addressed by the meeting. Tony Esposito of Plymouth Extruded Shapes reported on developments in the near net extrusion process for the production of aerospace parts and assemblies, Mitchell Dziekonski of Titanium

(Continued on page 4)
2004 Titanium Achievement Award Recipient

The International Titanium Association (ITA) selected Mr. Milton R. Scaturro to receive the 2004 Titanium Achievement Award. The Award was presented on October 4, 2004 at the TITANIUM 2004 – 20th Annual Conference and Exhibition.

Mr. Scaturro received the award for the promotion of incorporating titanium in all areas within the Navy and Marine sectors.

Mr. Scaturro is a registered professional engineer, certified manufacturing engineer and an industrial and marine coating inspector. He has over 50 years of extensive experience in land, marine, undersea, aircraft, aerospace and defense industries in design, materials, manufacturing, coating systems, and corrosion prevention/control and industrial and coating marine inspections.

During his career working for the navy, he promoted the use of titanium and specialized in the use of titanium applications for naval surface ships among other collateral duties. After retiring from the Navy as a civilian employee of 30 years, he became a consultant to the navy and industry in performing various tasks among them pursuing the use of titanium applications.

Mr. Scaturro has co-authored many papers. He is currently an active member, holding various offices in the National Society of Professional Engineers, National Society on Corrosion Engineers, American Society of Materials International, American Society of Welding, Society of Manufacturing Engineers, Steel Structures Painting Council, Society of Naval Architects and Marine Engineers.

The ITA has established the Titanium Achievement Award to recognize exceptional contributions to the advancement of titanium applications and technology. Award recipients must demonstrate outstanding achievement and leadership in the titanium industry.

For more information contact: Stacey Blicker, (303) 404-2221 or e-mail sblicker@titanium.org.

2005 Titanium Achievement Award Nominations

The International Titanium Association (ITA) is currently receiving nominations for the 2005 Titanium Achievement Award. All ITA Members are invited to submit a nomination on an outstanding individually who has provided contributions to the titanium industry.

This nomination is to honor and recognize exceptional contributions to the advancement of titanium applications and technology. Each nominee must have demonstrated outstanding achievement in his or her field and this achievement must be recognizable as benefiting the titanium industry at large.

The Titanium Achievement Awards are intended to be presented each year at the ITA Conference and Annual Meeting. More than one award may be granted in each year, at the discretion of the Board of Directors.

The awards will be governed by the following criteria:

1. Nominations may only be proposed by members in good standing of the ITA. Nominees do not have to be members of the Association.
2. A member may make multiple nominations.
3. No sitting member of the Board or of the Awards Committee is eligible for consideration.
4. All nominations received will be considered “active” for three years.
5. Posthumous nominations will be accepted.
6. All nominations must be handled with strict confidentiality.
7. The winners (except posthumous) must be present at the ITA Annual Meeting to receive the award.
8. Nominations may be submitted in writing or electronically, but will only be accepted by use of the proper form.

To be considered, download the nomination form from the ITA website at www.titanium.org or contact Stacey Blicker at (303)404-2221. Nominations must be received, in writing, no later than July 1, 2005.
Golf Classic Winners

The winners of the 10th Annual Golf Classic were:

- **Closest to the Pin**
  - Jay Rowan, Millennium Chemicals

- **Longest Drive**
  - Ed Sobota, Jr., TechSpec Inc.

- **Best Foursome**
  - Bob Funnell, Howmet Corporation
  - Stan Gillish, Keywell Vac Air div
  - Cliff Sickles, Howmet Corporation
  - Ed Sobota Sr., TechSpec Inc.

- **“Most Honest” Players**
  - Serge Astaud, ACNIS International
  - Jeff Bentley, SOS Metals, Inc.
  - Jean-Paul Carrillon, ACNIS International
  - Alain Greff, AK Steel France

Contest Winners

Throughout the TITANIUM 2004 Conference and Exhibition several contests were held.

- **Gala Reception “Gambling” Winner**
  - Andre Hempel, F. W. Hempel & Co.

- **Complimentary Night Stay at the 2005 Conference**
  - Mike Lewis, Universal Technical Resource Services, Inc.

- **Networking Luncheon Scratch Off Winners**
  - **$1,000 Cash Prize Winner**
    - Susan Abkowitz, Dynamet Incorporated
  - **$500 Cash Prize Winner**
    - Todd Clements, Valbruna Corporation

- **Exhibitor Prize Winners**

  It pays to play….the ITA Exhibitors contributed to the networking luncheon game by submitting extraordinary gifts such as dvd players, gift certificates, golf clubs, clothing apparel, titanium thermometers, and much more.
What’s New In Titanium?

ITA Welcomes New Members...

Roskill Information Services

Roskill has been a leader in international metals and minerals research since starting life as one of the UK’s first management consultancies in 1930. Since the first Roskill Reports were published in 1970, our list of publications has grown to over 75 market reports, databooks and newsletters. Our clients use our published research and consultancy services for a wide variety of purposes – formulating company strategy, following industry trends, planning exploration and marketing activities, competitor analysis, training new staff and gaining a complete overview of a single industry. Visit their website at www.roskill.com.

Westmoreland Mechanical Testing & Research Inc.


Online Buyer’s Guide Information

The ITA Online Buyer’s Guide is the ultimate titanium directory of key titanium resources available to ITA members as well as the public at large. The Buyer’s Guide is accessed by hundreds of people looking for titanium products, literature, and contacts. ITA members are encouraged to update their Buyer’s Guide information at any time.

To update your information e-mail the ITA at ita@titanium.org.

Future ITA Conference Locations:

Mark your calendars for the International Titanium Association’s upcoming Annual Conferences. Based on Member survey results, the conference locations for the 2005—2008 conferences were selected as follows:

TITANIUM 2005

Camelback Inn
September 25-27, 2005
Visit the ITA website at www.titanium.org to register for conference information & booth reservations!

TITANIUM 2006

October 1-3, 2006
Sheraton San Diego Hotel & Marina

TITANIUM 2007

October 7-9, 2007
Rosen Creek Shingle Resort
Orlando, Florida USA

TITANIUM 2008

September 21-23, 2008
Caesar’s Palace
Las Vegas, Nevada USA
Fundamentals of Titanium Workshop

Course Content
Historical Overview of Titanium
Cleaning & Finishing
Metallurgy & Metallography of Titanium
Casting
Mechanical Properties and Testing
Powder Metallurgy
Titanium Alloy Processing
Joining
Corrosion Resistance
Heat Treating
Machining & Chemical Shaping
Applications Overview

This course is appropriate for:
Professionals that use, process or fabricate components with titanium. Individuals who need an understanding of titanium and its alloys to facilitate their job functions including:
- Administrators
- Marketing / Sales
- Operations
- Purchasing
- Potential Users of Titanium
- Quality Control

Cost:
The cost for the workshop is:
- $195 for ITA Members
- $245 for Non-Members

As part of the course, ITA will provide attendees with comprehensive handouts to serve as reference tools to utilize the information as needed in the workplace. Attendees will also receive a 20% discounted voucher for the publication, Titanium, when ordered through the International Titanium Association.

Schedule Of Events
The Fundamentals of Titanium will prepare you to present and work effectively with job-related functions that involve titanium. You will receive a complete overview of titanium and a thorough grounding in its metallurgy, characteristics, properties and uses. Detailed information on the types, uses, and properties of common titanium alloys are discussed. Attendees will leave with an understanding of applied titanium metallurgy.

I am interested in the following locations:
- Pittsburgh, Pennsylvania
  January 13, 2005
- Seattle, Washington
  May 19, 2005
- Orlando, Florida
  June 9, 2005
- Scottsdale, Arizona
  September 28, 2005
- Chicago, Illinois
  October 27, 2005

Contact information:

Name

Telephone

Facsimile

Email

Mail Post

Presented by the:
International Titanium Association
Please fax to: 303-404-9111
ITA Classified Ads/Calendar

ITA On-line Classified Ads

ITA members rely on the ITA website for the latest news & upcoming events. The website reaches more qualified personnel for titanium related operations.

Advertise:
Equipment, Materials,
Products,
or Business Opportunities.

The Classified’s section of the ITA Web Site is located at www.titanium.org. Simply click on ITA E-News & Classified’s icon from the Home Page. When you submit a classified ad, ITA will proof your advertisement, process your payment, and post it to the website within 2-3 business days. ITA is not liable for confidentiality in classified advertising at any time and reserves the right to reject any advertising not in compliance with ITA standards.

Equipment For Sale:

Titanium Casting Furnaces For Sale
Contact: Dave via e-mail: dowar35@aol.com
Two (2) induction skull melting (cold wall crucible) and precision casting systems available on an as-is, where-is basis. The systems were originally designed to melt and centrifugally cast 25 lbs of titanium and titanium alloys. The furnace systems can be adapted to Zirconium & other reactive alloys. The equipment is in very good condition and was originally manufactured by ALD Vacuum Technologies in 1996/97. For further information, please contact via e-mail: dowar35@aol.com

Looking To Buy
North American Alloys is looking to buy excess usable inventory, remnants, scrap or recycle in all titanium alloys. Call today for a prompt and competitive bid.

Contact Michael Shulimson, Tel: 818-890-2250, Email: m.shulimson@att.net or Steven Meredith Tel: 509-586-8848, Email: steve@northamericanalloys.com or visit their website at www.northamericanalloys.com

Services:
Ulbrich works closely with precision stampers, eyelet manufacturers and deep drawers to process titanium precision strip and foil that can be more easily formed into complex components. From prototype through production, Ulbrich’s flexible manufacturing capabilities can support small quantities through large quantity production runs, with custom finishes, and tailored mechanical properties. Visit their website at www.ulbrich.com

Business Card Holders
Vulcanium Metals Incorporated will customize titanium business card holders, money clips, golf tools, bottle openers for your needs. These are available for individual or quantity purchase with your company’s logo laser engraved on the face. For service on all your titanium needs, contact Jerry St. Clair, David Yoho or Jim Spehrley at 888-326-7556 or at titanium@Vulcanium.com.

Upcoming Conferences & Exhibitions:

January 2005
10-12    MD&M West Anaheim, California
13       Fundamentals of Titanium Workshop
           Hyatt Regency Airport, Pittsburgh, Pennsylvania
17-19    2005 The Super Show, Orlando, Florida
30—2/2    American wire Producers Association Annual Meeting, Scottsdale, AZ

February 2005
13-17    TMS Annual Meeting & Exhibition, San Francisco, California
23-27    American Academy of Orthopaedic Surgeons
           Washington, DC

March 2005
1-3      Society of Manufacturing Engineers Houston
           Advanced Productivity Exposition, Houston, TX
## Current Membership Includes the Following Companies

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<td>Shanghai Huaxia Industry Co., Ltd.</td>
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<td>S. Letvin &amp; Son</td>
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<td>CONSARC Corporation</td>
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<td>Enviro Tech International Inc.</td>
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<td>Tibrasil Titanio Ltda.</td>
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**Founded in 1984 the International Titanium Association is a nonprofit networking trade association for the titanium industry. The primary focus of the Association is to promote the continued growth of the industry as well as educate the public on benefits and implementation of using titanium. Current membership includes 106 organizations.**