International Titanium Association, ITA Europe 2014 - World Industry Demand Trends
A Regional Perspective of the European Economy and Titanium Market
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- Market Definition & Economics
- Comparison to other Regional Markets
- Structural Changes - Titanium Mill Products
- Outlook
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Population in millions

EU28: 506
8 Candidates: 98

Currently, 47\(^1\),\(^2\) countries in European region:
- 28 EU Member States
- 5 EU Candidate Countries
- 3 EU Potential Candidates

18 of 28 Member States have introduced the Euro currency

1) Based on conventions considering Europe as a geographic continent (including Russia, Kasachstan, Belarus, Moldova)
2) Cyprus is an EU member state, but geographically located on Asian continent (thus total of 48 counting Cyprus)
3) EuroStat Newsrelease (Nov 20th, 2013); North America: 557 million


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Source: European Economic Forecast, Spring 2014, EU DGECFIN

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Graph I.13: Real GDP growth and its components, EU

Graph I.15: Equipment investment and capacity utilisation, EU

Source: European Economic Forecast, Spring 2014, EU DGECFIN
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General Economic Situation

➢ “Advanced European countries”
  - Expected to **resume growth** in 2014
  - Inflation expected to remain low
  - Domestic demand stabilized and turned towards **positive trend**
  - Net exports contributing to **end of recession**
  - **High unemployment** and debt, low investment, output gaps & tight credit
  - **Downside risks** from incomplete reforms, external factors & lower inflation

➢ “Emerging and Developing Europe”*
  - **Growth decelerated** in second half of 2013 with large capital outflows
  - Recovery expected to **weaken slightly in 2014**
  - **Downside risks** from financial market volatility, geographical risks and fragilities in the euro area

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1) World Economic Outlook, IMF, (April 2014)

* Turkey
  - Poland
  - Romania
  - Hungary
  - Bulgaria
  - Serbia
  - Croatia
  - Lithuania

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European Share of Aggregated Global GDP has been declining since early 1990s


Note:
Japan, South Korea within Asia
Eastern
Japan 2008: 2.904.141
South Korea 2008: 948.906

→ diverse GDP per capita
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Comparison to other Regional Markets

➢ What makes Europe different from other markets
  • European stability as advantage
  • Demography – effect on industrial consumption
  • Cultural habits (effects on labor supply stability)
  • Diversity & Bordering Countries (Turkey, Russia, Ukraine)

➢ Growth figures % compared to absolute/nominal values!
  • EU 2013: 17,371,618\(^1\) Millions of US$ ➔ 2.0\(^2\) Forecast 2015 = 347,432 Mill.US$
  • India 2013: 1,892,651\(^1\) Millions of US$ ➔ 6.2\(^2\) Forecast 2015 = 117,344 Mill US$

\(^1\) IFM Data (2013); \(^2\) European Economic Forecast – Spring 2013 (Statistical Annex); World Bank
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Comparison to other Regional Markets

- **Diverse Structure of Distribution Markets – Why?**
  - many small privately owned distribution companies for titanium products
  - many specialized in certain regional and/or application markets
  - more than 47 different languages, not including severe dialects
  - many regional industrial clusters (i.e. medical, equipment fabrication, aerospace, automotive, etc.)
  - Small to medium sizes companies appear to maintain the local selling advantage, which presents a challenge for larger sized companies
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Structural Challenges in the Titanium Market

– Dilemma regarding **high-volume/investment equipment** such as cold rolling strip mills, hot rolling bar mills, rotary forges, hot plate mills, etc. (ref.1957 Timet VAR being used/shared by other industry players) – dependence on partners in the stainless steel industry

– **Industrial concentration** both in supply and demand markets, leading to continued **vertical integration**

– Being a net importer of titanium, demand for **full service providers** will continue to increase to secure on-time delivery and supply stability
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- Titanium demand increase compared to other metals

Figure 3. Global aluminum, copper, lead, and zinc consumption

Figure 5. Global chromium and nickel consumption.

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Average IEA Industrial Electricity Prices in 2012

Source: gov.uk, Statistical Data Set, DECC-Dept of Energy&Climate Change QEP 5.3.1 (2012)
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Timeline Approximation: Volume Airbus/Boeing vs Titanium Mill Production USA/Europe

Boeing Total (pcs/a)
Airbus Total (pcs/a)
Approx. Titanium Mill Production Volume - USA (t/100/a)
Approx. Titanium Mill Production Volume (t/100/a) - Europe

Data Sources: Boeing/Airbus websites; Marsh, E. (1996); Elyon, D. (2001)

Assumption Note: Delivery Volume 2014 Boeing/Airbus same as 2013
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Structural Changes – Titanium Mill Products\(^1\)

- **Major mill players with melting capacity**

  - VDM Metals, Germany (formerly Krupp, Deutsche Titan/DTG & ThyssenKrupp Titanium)
  - Timet Savoie, France (Timet, USA) (Areva Cezus/Ugine)
  - Timet UK (Timet, USA) (formerly IMI)
  - TiFast, Italy

\(^1\) not included: casting operations such as Tital, Doncasters, Akrapovic, Castings Technology Intl, etc.

\(^1\) not included JV UKAD (UKTMP/Aubert&Duval), as no melting operations in Europe
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Titanium Demand Outlook Europe (1)

- The supply gap will continue to require import of titanium mill products.
- Production is shifting from raw materials to high-technology processing & equipment production and new technologies (e.g. Ti-Aluminides, Surface Technologies, PM, AM, etc.)
- Keeping raw materials in the regional supply cycle will gain importance as costs of logistics increase (ratio value of scrap/transport cost).
- Growth of regional technology clusters: exhaust systems, biomedical products, heat exchanging technologies, fabrication, etc.
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Titanium Demand Outlook Europe (2)

- Growing cost of maintenance will positively impact choice for titanium
- Europe offers many advantages for high technology processing, based on an excellent high-density logistical structure, demand and supply stability based on cultural habits, education base and emerging areas
- Consumers of titanium must prepare themselves for potential shortages of supply, based on demand peaks in other global regions or strategic political decisions (i.e. strategic stockpiles)
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Outlook – Titanium Volume, Applications & Trends

**Demand Europe** 20-25 kt/a

**Downstream Demand generated mainly outside of Europe**

- Heavy Equipment/Fabrication
- Heat Exchangers (T&S, PFHE)
- Anode/Electrolysis

**Downstream Demand generated inside & outside of Europe**

- Aerospace Structural & Engine
- Biomedical
- Oil & Gas

**Trend**

- Sheet/Strip
- Flat
- Plate
- CP

**Trend**

- Billet
- Bar
- Flat

+ Rerollers/
+ Conversion
THANK YOU FOR YOUR ATTENTION
& BUON APPETITO!
Literature Reference List (1)


Literature Reference List (2)


Databases:


The Boeing Company.  

