Titanium Sector
India Growth Plans

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Travancore Titanium Products Ltd
INDIA
Overview of India’s Economy, 2018

- $2 trillion size in 2016
- Set to reach $5 trillion by 2025
- Sector wise contribution
  - Agriculture 17%
  - Industry 28%
  - Services 55%
- World Economic Outlook projects,
  - India to grow at 7.4% in 2018
  - Global growth forecast - 3.9%
Indian Demography-Rising demand

• 1340 million population growing @1.76 % pa
  0-14 age group 30.1%
  15-64 age group 64.6%
  +65 5.3%

• Increasing share of young working population in the total population.

• India can achieve its full manufacturing potential as it looks to benefit from its demographic dividend and a large workforce over the next 2-3 decades.
India Industry Growth-2017

• Indian manufacturing sector’s gross value added was US $ 311.6 billion in 2016-17 as per the advance estimates of Central Statistics Office, GoI.

• Manufacturing sector grew at a CAGR of 7.32 per cent between FY12 and FY17.

• Growth is 7.7 per cent in FY17

CAGR - Compound Annual Growth Rate

FY - Indian Financial Year (April to March)
Source: MOSPI, GoI
Advantage India 1/2

• Huge domestic market with a rapidly increasing middle class and overall population.

• By 2030, Indian middle class is expected to have the second largest share in global consumption at 17%.

• Investments in the Indian manufacturing sector have been on the rise, both domestic and foreign.

• FDI in the sector increased 99 per cent to US $ 2.3 billion between April – June 2017 from US $ 1.16 billion during the corresponding period in FY17.

• Most sectors are open to 100 per cent FDI under automatic route.
Advantage India 2/2

• National Investment and Manufacturing Zones developed to create an ecosystem for industries in India.

• Initiatives like ‘Make in India’ and sector specific incentives to various manufacturing companies, aiming to make India a global manufacturing hub.

• Skill India, A multi skill development programme has been started to equip the workforce with the necessary skills required by the sector.
Ti Activities Under Govt of Kerala, India

• 2 producers- KMML & TTPL

• KMML – Kerala Minerals and Metals Ltd.
  • Titanium Sponge Plant (TSP) - 2011 [From Titanium Tetra Chloride]
  • Mineral Separation (MS) Unit - 1932 [Separates Ilmenite, Zircon, Rutile and Sillimanite from beach sand]
  • Titanium Pigment (TP) Unit - 1984

• TTPL – Travancore Titanium Products Ltd.
  • Titanium Pigment Anatase- 1951
Raw Material- Beach Sand

The coastal stretch of Kerala, southern state of India between Neendakara and Kayamkulam extending over 23 Km is gifted with rich mineral sand deposits containing Ilmenite, Rutile, Zircon, Sillimanite etc.
Travancore Titanium Products Ltd.

- Established in 1951 with technology from British Titan Products, now Huntsman Tioxide.
- Employs Sulphate Route Technology for the production of titanium dioxide.
- In house R&D efforts lead into the development of Rutile grade and other value added specialty products like Potassium Titanate and Hydrated Titania.
- Produce 15000 TPA of Anatase Grade TiO2
Established in 1932
Public Limited Company under GoK in 1972
Located on the Southern tip of India in Kerala
KMML integrate Mining of the Beach Sand to production of Titanium Tetra Chloride, Titanium Dioxide and Titanium Sponge.
• Titanium Sponge Plant
  • Capacity : 500 TPA
  • Commissioned in 2012

• Mineral Separation Plant
  • Capacity: 63000 TPA

• TiO2 Pigment Plant
  • Capacity: 40000 TPA
  • Commissioned in 1984
Ti Sponge from KMML
KMML Ti Sponge Plant

- Aerospace Certification (AS 9100 D) is in progress
- Currently 3 Sponge batches each have been certified for use in aerospace applications and naval applications
- Titanium sponge is produced in batch size of 3.1 to 3.3 MT
- Crossed production of 200 batches of Titanium Sponge
- Major customers are Vikram Sarabhai Space Centre and Aakanksha
- Technology is provided by DMRL/DRDO
- Project is funded by Vikram Sarabhai Space Centre
Future Plans for KMML

• Proposes a Titanium Industrial Complex for producing value added downstream products from Titanium Sponge by melting, forging etc., with the induction of Vacuum Arc Re-melting furnaces (Looking for Technical support / Collaboration for value addition)

• Capacity expansion of the Ti Sponge production facility.

• Exploring the market for Titanium sponge grades (other than Aero space grade) having minimum purity of 99.0 %

• Magnesium recycling from the by-product of Magnesium Chloride
Thank You!

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