

## Prices rise as supply issues continue

### Titanium feedstocks

Titanium feedstocks have enjoyed continued robust demand in the past few months as global pigment producers enjoyed strong seasonal conditions.

Most feedstock producers reported strong market conditions in Q2 2017 with increases in sales and volumes as well as an uplift in prices. Many also reported record production levels in half year and/or full year reports.

TZMI continues to forecast demand growth to outperform supply growth during the next few years unless new supply becomes available from new projects. New projects will need to be brought onstream from 2019 to avoid supply deficits.

Supply disruptions continue in China with the ongoing environmental inspections causing shutdowns. A total of 76 ilmenite reprocessors in the Yanbian district will be shut permanently by the end of 2017, with another 13 to be shut down progressively during 2018, according to official announcements. In other districts, such as Jinjiang and Liushapo, many ilmenite reprocessing plants remain idled and it is understood that some facilities have been dismantled.

TZMI's current projection is for higher feedstock supply in 2017, on the back of higher ilmenite output in China, from both domestic mines as well as production from imported concentrates. In addition, furnace restarts in South Africa, Norway and Canada will see output of chloride slag and sulfate slag increasing in 2017.

Ilmenite sales outside China continue to be strong and there is an expectation that prices have moved higher in 2H 2017, to levels in line with the current market prices in the Chinese market.

TZMI expects titanium feedstock prices to continue to increase in line with increased demand, however, it is anticipated that this trend could start to decline in 2018. Some industry participants expect the situation for sulfate ilmenite in China to improve in late Q3 or early Q4 as a new round of re-stocking starts. With global rutile output set to decline considerably from 2018, better pricing outcomes are anticipated to be achieved for the remainder of 2017.

### Zircon

The zircon market has been tighter than expected in 2017. Many zircon customers are unable to source all the zircon that they would like to buy and it appears that many producers have less zircon for sale than last year.

TZMI has increased its forecast zircon demand for 2017, with China and India looking strong with stability in other markets including the important European ceramics market.

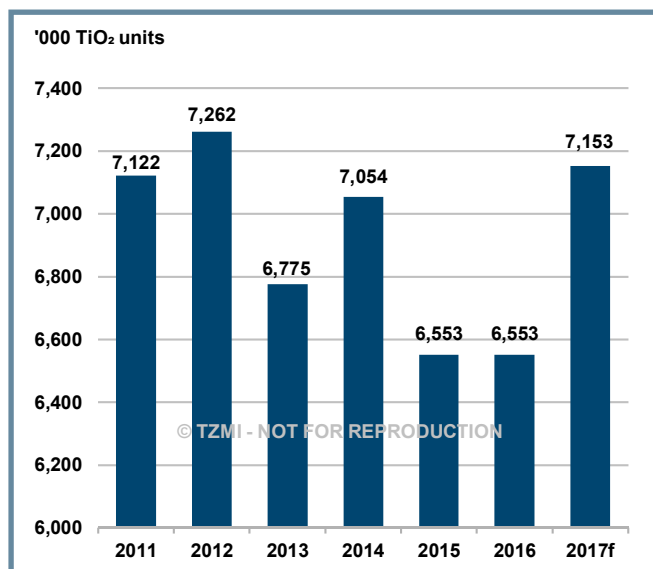
Overall TZMI sees the market for zircon moving into deficit in 2018 with new projects needing to be developed by 2019 to meet the expected demand.

Zircon demand growth is forecast to progressively improve, with 3.3% annual growth forecast after 2017. This will be driven by continued mature growth rates in the US and Europe, improved offtake in China after some capacity rationalisation, and continued strong market growth in India.

In volume terms, ceramics markets will still dominate growth, accounting for 53% of the total, with China, Europe and India seen as the main drivers in this sector.

Zircon producers have announced significant price rises for Q4 2017. Iluka Resources increased its benchmark zircon reference price US\$130 per tonne to US\$1,230 per tonne effective 1 October 2017. TZMI understands that other major zircon suppliers are implementing similar price increases.

GLOBAL TITANIUM FEEDSTOCK PRODUCTION: 2011-2017



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## TiO<sub>2</sub> pigment

Supply concerns have persisted in the TiO<sub>2</sub> pigment industry with a number of supply disruptions continuing to affect the industry.

Inventories remain low at most global producers and they are operating at full capacity to meet demand. Many downstream users, particularly coatings and inks manufacturers, have announced price increases due to higher TiO<sub>2</sub> pigment prices or have announced a titanium dioxide surcharge. Inks producers in Europe continue to be impacted by the supply outage at Huntsman's Pori plant in Finland which suffered a fire at the end of January 2017.

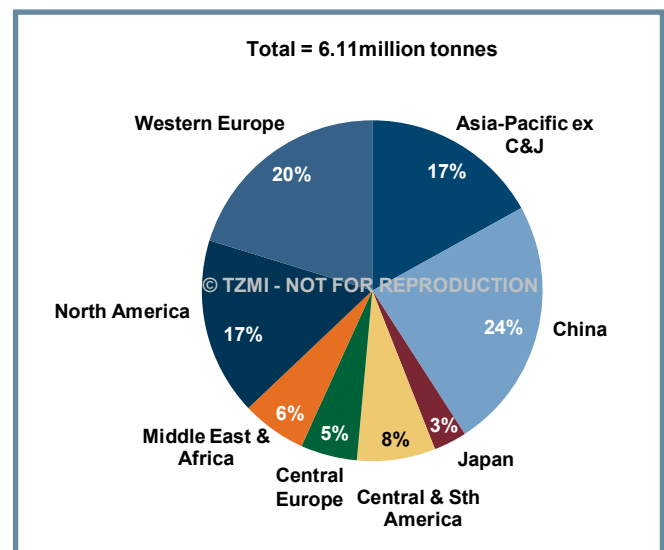
The ongoing environmental inspections in China are having a material impact on TiO<sub>2</sub> pigment production and supply in that region. TZMI has been closely monitoring the actions and has adjusted its supply forecast for China in light of the extended shutdowns and suspensions. The environmental inspections are expected to continue and this will continue to impact the TiO<sub>2</sub> sector as well as the titanium feedstock and zircon sectors.

Chinese TiO<sub>2</sub> pigment producers have recently announced numerous price increases for domestic and export products. TZMI understands price increases for Q4 2017 have been communicated to customers by global TiO<sub>2</sub> producers and it is expected they will be largely adopted.

In its most recent supply/demand update (August 2017), TZMI has extended its view of the cycle peak to mid to late 2018 given the situation in China and the ongoing tight supply conditions. Demand growth in the 12 months to Q2 2017 is now at approximately 6.1 million tonnes.

No further pigment capacity is expected to come onstream from the continued ramp up at Chemours' Altamira operations in Mexico and some additional capacity expansions in China.

TiO<sub>2</sub> PIGMENT DEMAND FOR 12 MONTHS TO Q2 2017



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