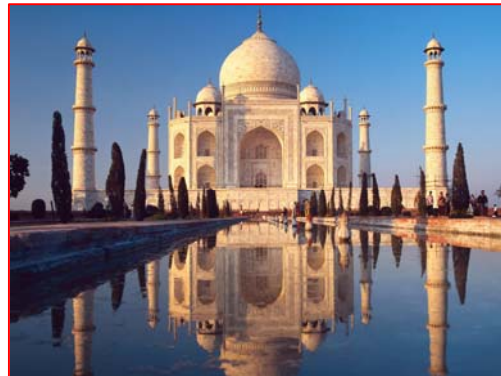


Spaleck Oberflächentechnik - A New Partner for the Indian Government



Picture 1: The Taj Mahal, India's most recognized landmark and tourist attraction.

From a historical point of view, the original Indian coin was the silver tanka. The rupee was introduced in the 16th century, and the word "rupee" is derived from the old Sanskrit term "rupya", which means "finished silver". In 1839, the silver content of the rupee was again reduced for economic reasons. In 1947 the first nickel coinage came into circulation.

According to information of the world bank, the value of the 2004 national economic production had risen to U.S. \$691 billion, making India one of the top 10 national economies world wide. Accordingly, the money volume in circulation had risen tenfold from 1990 to 2006 to more than 5 trillion rupees.

India has experienced an unprecedented economic growth of 6-8% annually in the last 10 years.



Picture 2: Indian special coin made of silver

The need for circulation coins has risen proportionately. This development has put the Indian Mint under considerable pressure to increase coin production, while maintaining the required high quality standards.

In order to handle the ever growing production volumes, the Indian government announced a new project in 2008 to modernize the whole surface finishing process of the coin blanks. Until then the blanks had been treated in large rotary drums. This process was extremely time consuming and consumed enormous resources, especially water.

Tenders were invited from suppliers around the world. Different engineering technologies were needed. In this context, Spaleck shared a cooperation with the press manufacturer Schuler from Göppingen.

The long existing contact between Spaleck Oberflächentechnik and the Indian Government Mint was of excellent help in this situation. Continuous technical exchange led to highly sophisticated specifications, which reflected the technology from Bocholt.

The aim of the new coin blank finishing investment was a better polish of the coin blanks. These blanks are coins which have not been minted yet. The polishing of the blanks takes place after the annealing of the metal and before striking. With this process, the surface is easier to handle for the

minting step and the wear and tear of the expensive minting dies is drastically reduced.

To fulfill these tasks different methods are available. One of them is the special centrifugal finishing technology of Spaleck Oberflächentechnik.



Picture 4: Fully automatic Spaleck Finish Coin blank installation Z33 for circulation money

A special feature of the Spaleck technology is the ability of “total water recycling”. No water is consumed and disposed of as waste water. Every single liter of process water is recycled and 100% is reused. This technology is absolutely new and very complex, because the process water which is used to treat the coin blanks is mixed with many different chemicals, which have to be extracted from the water. This new technology was first developed in 2006 and has been further developed by Spaleck Oberflächentechnik since then.



Picture 5: Fully automated Spaleck Finish gold and silver coin blank installation Z33-SFT

This special competitive advantage was at least one of the deciding factors for the project, when the Indian Government Mint in Bombay made its decision.

All in all Spaleck Oberflächentechnik could place seven installations in India at four



Picture 3: Production sites of the India Government Mint, which will be modernized with Spaleck Finish equipment during the year 2009

different production sites. 3 lines will be for circulation coinage and 4 lines are planned for gold and silver coin treatment.

Besides the production facility in the largest town of India, Bombay, the facilities in Calcutta, Hyderabad and New Delhi will be equipped with the latest surface finishing technology. Everywhere obsolete drums will be replaced by modern environmentally-friendly centrifugal finishing technology. The project value totals 5 million euro, which is the largest project installation in the history of Spaleck Oberflächentechnik.

During many commercial visits across India, the responsible sales director Thomas Hogenkamp has learned much about the Indian Government Mint and the Indian culture. Klemens Nienhaus, project manager, has also returned to Bocholt from India with

numerous impressions and valuable knowledge regarding the installation requirements.

Now the whole Spaleck Oberflächentechnik team is looking forward to the installations and start up support during 2009.

General manager Alwin Keiten-Schmitz sees this business opportunity as a welcome balance to the current worldwide downturn in Spaleck's traditional market of the automotive industry.

Spaleck's long term commitment to technical and market development and in cooperation with their strategic partners, will ensure a bright future for the Indian rupee.



Picture 6: Alwin Keiten-Schmitz, Dilip Thaker, representative of the IG Mint, and Thomas Hogenkamp with the undersigned contract on the Hannover fair