

## Site Report from Ternate

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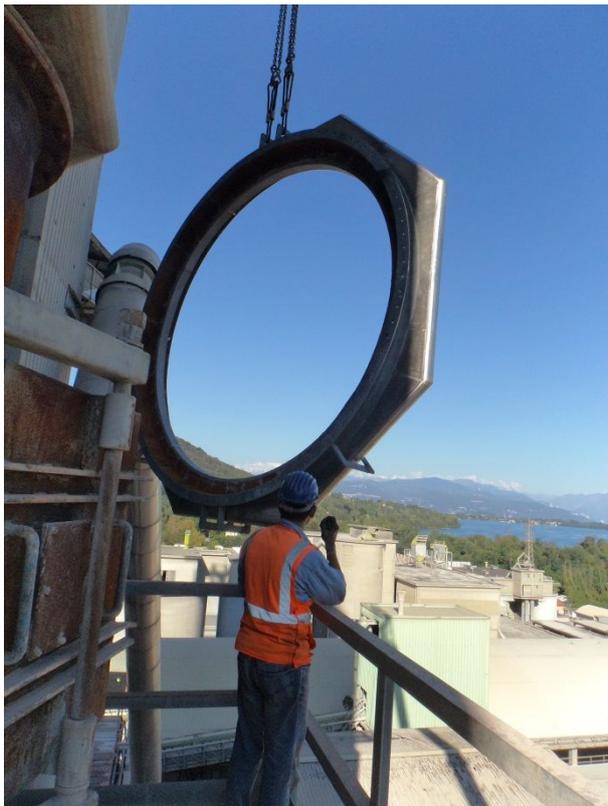
### Smart investments from year to year

The cement plant in Ternate (IT) - on the border between Switzerland and the city of Milan - is an example of various smart investments to optimize the cement production continuously. During annual planned maintenance stops the A TEC Group modified the calciner tower system at Lafarge-Holcim's plant with a precise and systematic plan from year to year.

The plant in Italy was built in 1980 and has a production capacity of 2800 t/d of clinker and a pre calcinatory tower in 5 stages cyclones with Tertiary air system and one line Calciner. Lafarge-Holcim had to force the challenge to find the right balance of appropriate use of alternative fuels to fulfil environmental laws and reduce costs.



### Project details



The first project carried out in Ternate goes back to the year 2004. A TEC installed a bypass system to reduce the chlorine (Cl) content in the system and emissions significantly.

Since this time a constant and successful cooperation was established based on one central idea: all people involved – from A TEC as well as from Lafarge-Holcim – wanted to find the best solutions for an ultimate plant performance.

Another important modification was the reconstruction and optimization of the tertiary air system to continue the calciner modification and make a switch from a square cross-section to a circular one (in only 30 work days). Additionally two complete stages of the preheater tower (cyclones and riser duct with meal pipes and A TEC pendulum valves) and the hot gas duct of the last stage of the tower were replaced. An optimized "Orifice", which had a significant effect on the efficiency of the whole plant, was installed.



The latest modification applies the replacement of four cyclones and all appropriate input and output ducts to the raw mill and was realised in 2015. The result was a reduction of dust by 66%, a reduced power consumption and a low pressure drop of the cyclones (6,1 mbar) as well as an excellent separation efficiency of 95%.

Successful cooperation

Over the last ten years A TEC was able to achieve significant efficiency improvements, sustainable cuts in energy consumption and the compliance with environmental limits in Ternate. Due to a detailed investment plan Lafarge-Holcim was able to schedule the costs.

