



## At a glance...

### What they do...

- The company is involved in manufacturing of Steel and Cement and has captive power generation plants with a capacity of 235 MW, first in India to have it.
- The company employs advance technologies to improve efficiency and to optimise operations.

### What bothered them...

- As for most power plants, operating expenses were high even with implementation of advance systems like Variable Frequency Drive (VFD), SCADA, etc. in the power generation process.
- Any efficiency improvement considered earlier were at significant additional capital expense, or with change in the process and/or system.

### What we did...

- Altiux offered analytics consulting service to employ machine analytic techniques rather than any system change to improve efficiency in their existing power generation process.
- An analytics model was built to analyse existing data and suggest optimal configurations of VFDs for Air Cooled Condensers (ACC) process in power plant to reduce its power consumption.

### Value we offered...

- ~18%\* reduction in power consumption was observed by the company by configuring the VFDs as recommended by analytic model within just two weeks of engaging with customer.  
(\*2000-3000 units down from typical consumption of 16000 units per day)
- Most importantly, efficiency improvement was without any system or manufacturing process changes, instead just by efficient use of existing data using analytic model.



## About the Client

A Karnataka based Rs.2000 crores company involved in manufacturing of Steel and Cement. It the first mining company to establish a power generation plant for captive use, and creating a steel plant from the captive ore mine. It focus on optimal usage of technology to achieve process efficiency and value addition.

## Challenges

1. Even though company has implemented advance technologies like SCADA, EMS, VFD to improve efficiency of their manufacturing processes, high operating expense remains the most important concern.

The challenge was to understand the area of inefficiency and devise mechanism to reduce the operating expense.

2. As huge investments are already made in the advanced technology systems, any new investment to improve efficiency was avoided by management.

Garnering efficiency of existing systems without any capital investment was another challenge.



## Solution

Altiux offered analytic consultancy and proposed to employ the analytics techniques on existing system data to improve efficiency and thereby reduce operating expense.

### Analytic Consultancy

- Analytic consultants analysed the large volumes to data from existing systems like SCADA, EMS, DC, etc. systems to identify the areas of inefficiency and propose improvements



*Altiux's analytics consultant analysed the large volumes of data & devise a rich analytic model*

- Air Cooled Condensation process used in cooling of power plant was taken as pilot to use analytic techniques to improve efficiency. Specifically, Altiux looked at operations of the VFD controlled fans.
- Analytic model was devised to recommend VFD configuration for optimal ACC operation.



*View of only actionable data instead of hundreds of parameters*

## Benefits

Altiux's advance analytics expertise helped client garner following benefits:

- Operation Cost Saving: ~18 % savings in power consumption in ACC process in 2 weeks by configuring VFD as per analytic model recommendation.  
(2000- 3000 units of power consumption reduction per day; typically 16000 units of power is consumed per day in ACC process.)
- Improved Efficiency: Reduction in operating expense and efficiency improvement without any capital investment but through efficient use of existing system data.



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