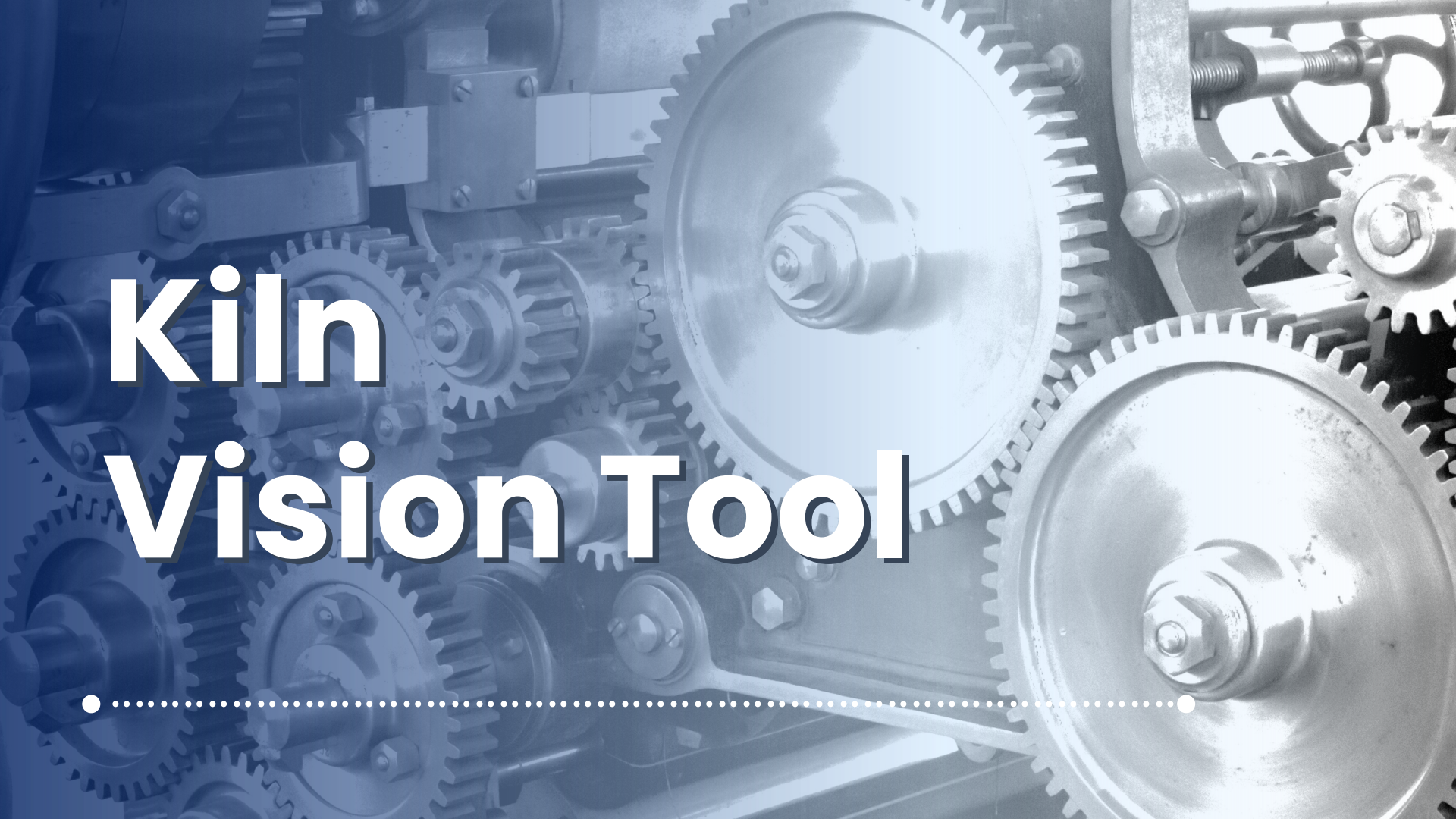
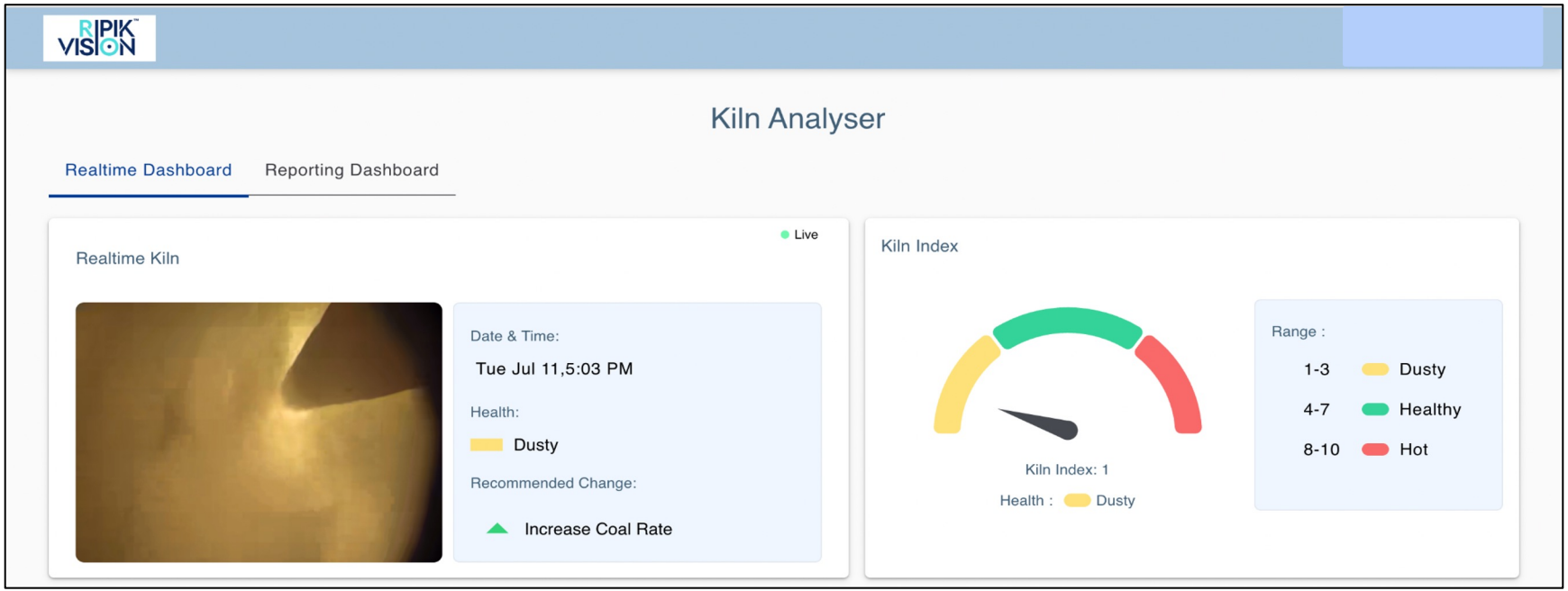

Kiln
Vision Tool

Kiln Index Vision Application

The application UI was built to showcase the latest kiln image along with the health index of the kiln, and the historical trend analysis.



The Image shows the latest kiln image along with the health of the kiln and kiln index

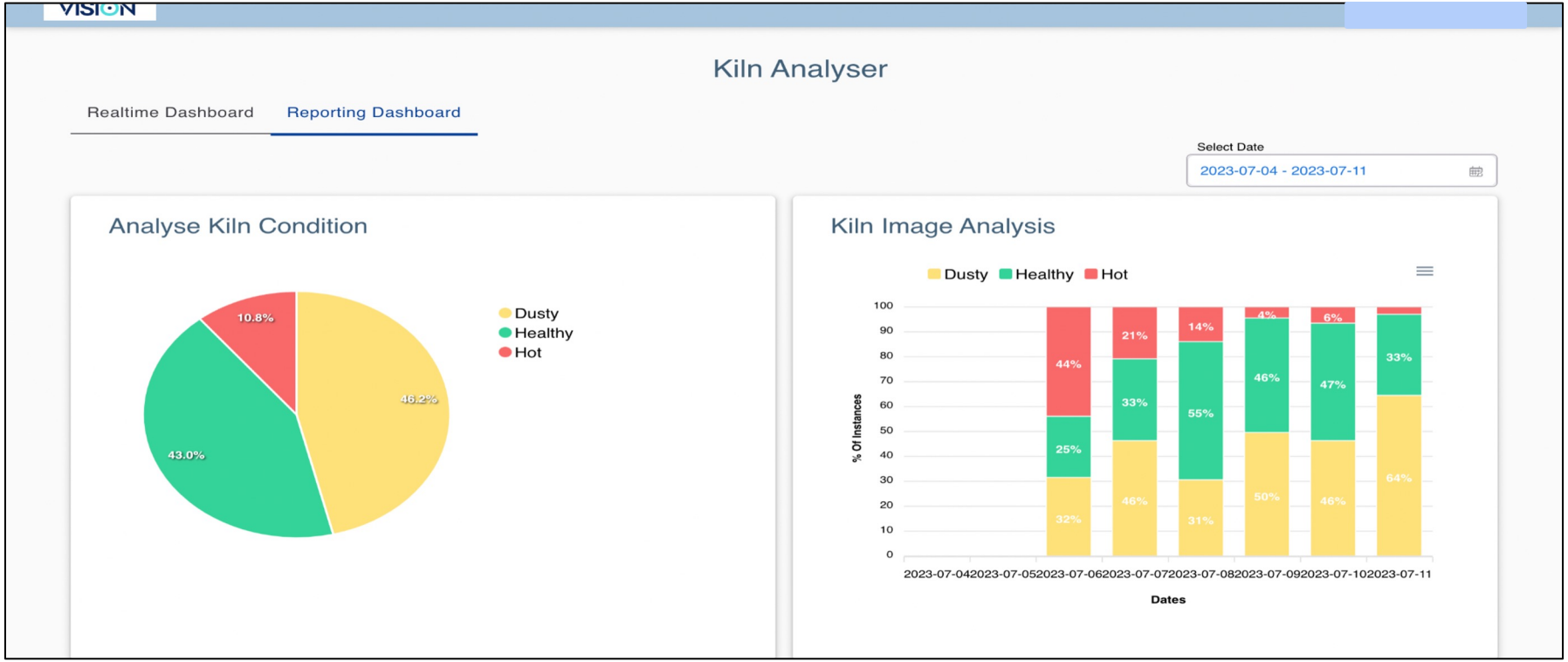
Kiln Index Vision Application

This graph shows the trend of kiln indexes with real time update

Kiln Index Vision Application

History table shows the past analysis of the kiln images
The View button allows the user to view historical kiln images
The export button will download the record of the kiln indexes for the present day
Action taken column allows the user to give feedback on the predictions made so that we improve the accuracy of our ML model

Kiln Index Vision Application



Reporting dashboard provides a summary Report for the week to show how much time the kiln was in hot/dusty/healthy state

The Kiln Vision Tool provides 3 major benefits

Helps reduce coal consumption in cases of hot kiln

Helps improve the klinker quality in cases of dusty kiln

Helps in Root causes analysis incases of any issues such as refractory failure

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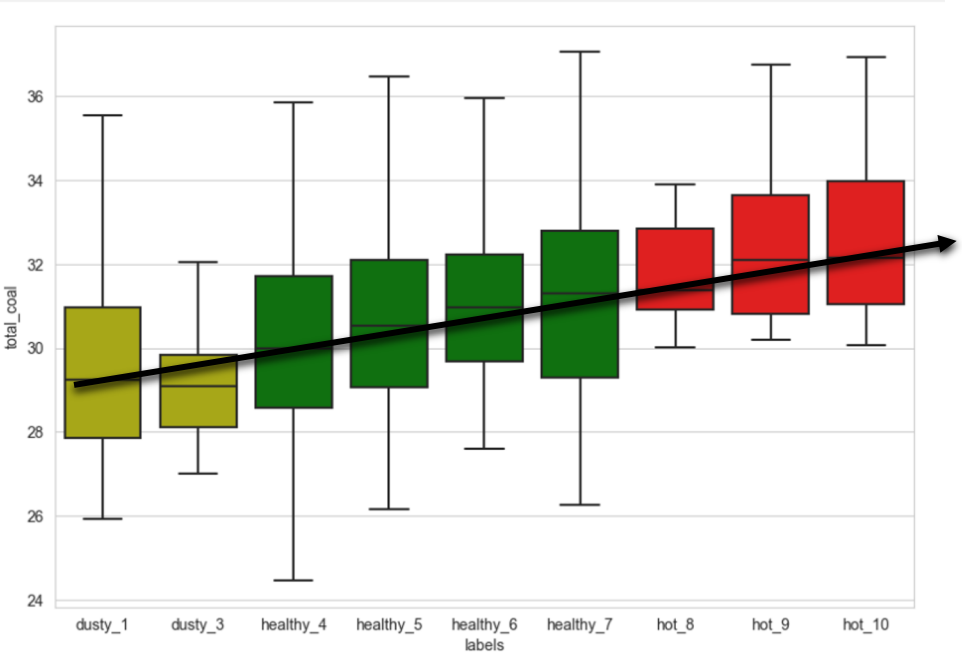
Helps in RCA incases of any issues such as refractory failure

Business case



- It has been observed in historical data the the coal consumption is higher for higher kiln indexes.
- Based on historical data; **kiln runs under hot conditions around 30% of the times. We are reducing % of hot time by at least 10% (from 30% to 20%)**
- When kiln runs in hot condition, there is an excess of at least **10% (3 ton/hr)** in coal consumption.
- Total coal spend is approximately 500 cr INR annually. Hence an improvement of 10% x 10% (3 ton/hr) would lead to savings of at least approx. **INR 5 Cr annually** and can lead to a saving of upto INR 15 Cr in ideal state when all hot regimes is eliminated

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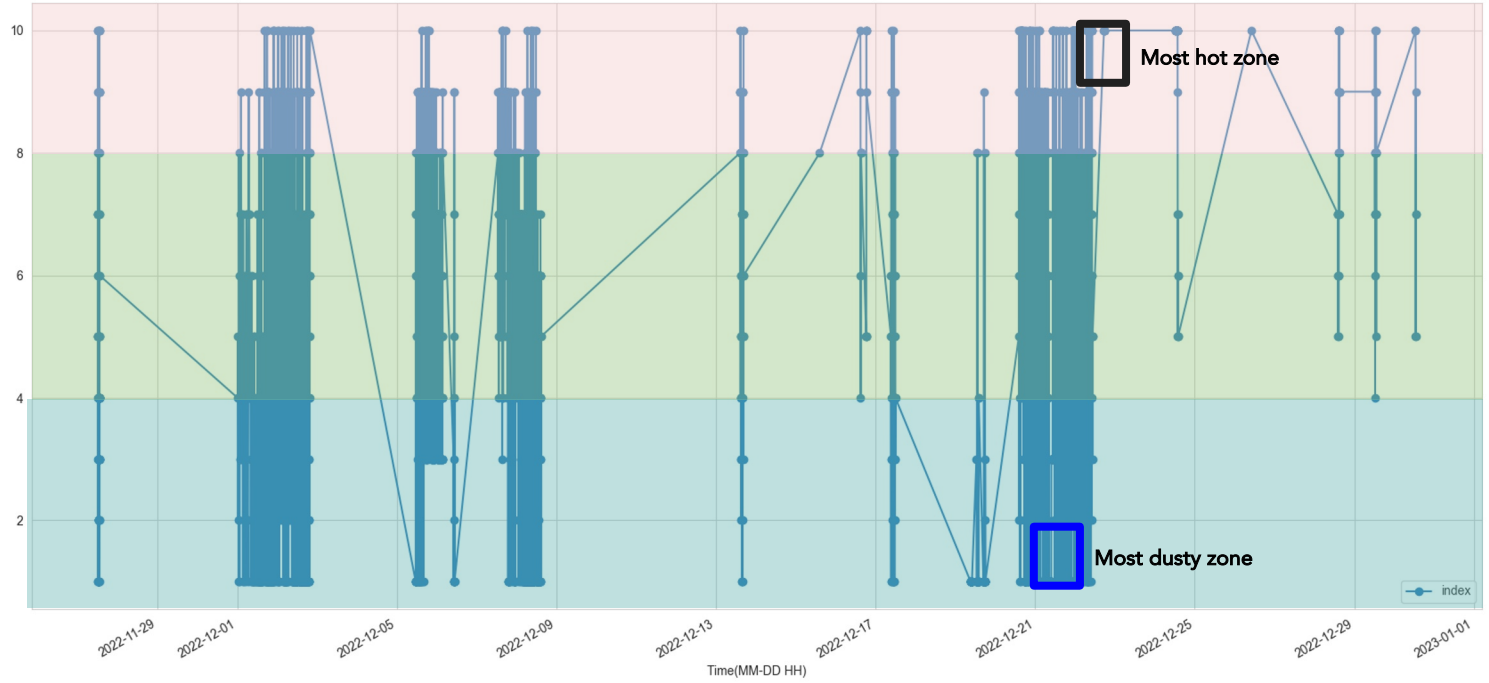
Tool can also aid in root cause analysis (1/2)

Case example of refractory failure (1/2)



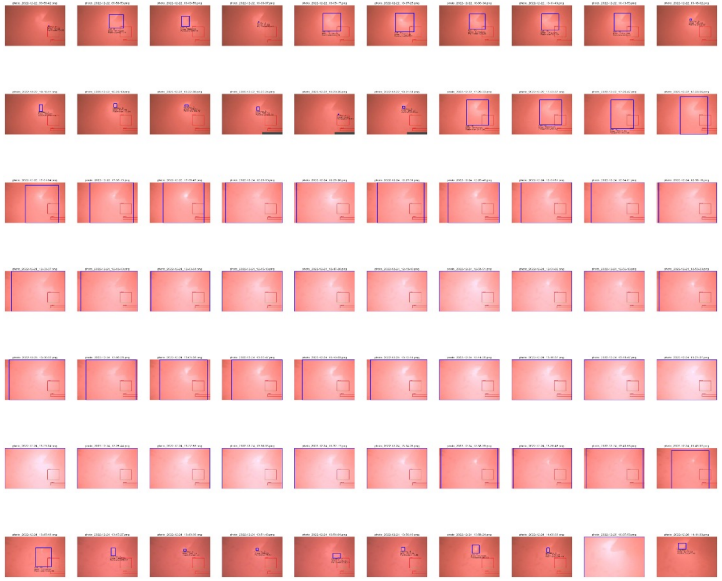
As the tool captures historical images and data, it can be a very valuable tool for retrospective root cause analytics of refractory performance and can be replicated to identify other issues in a more pro-active manner

Tool can also aid in root cause analysis (2/2)

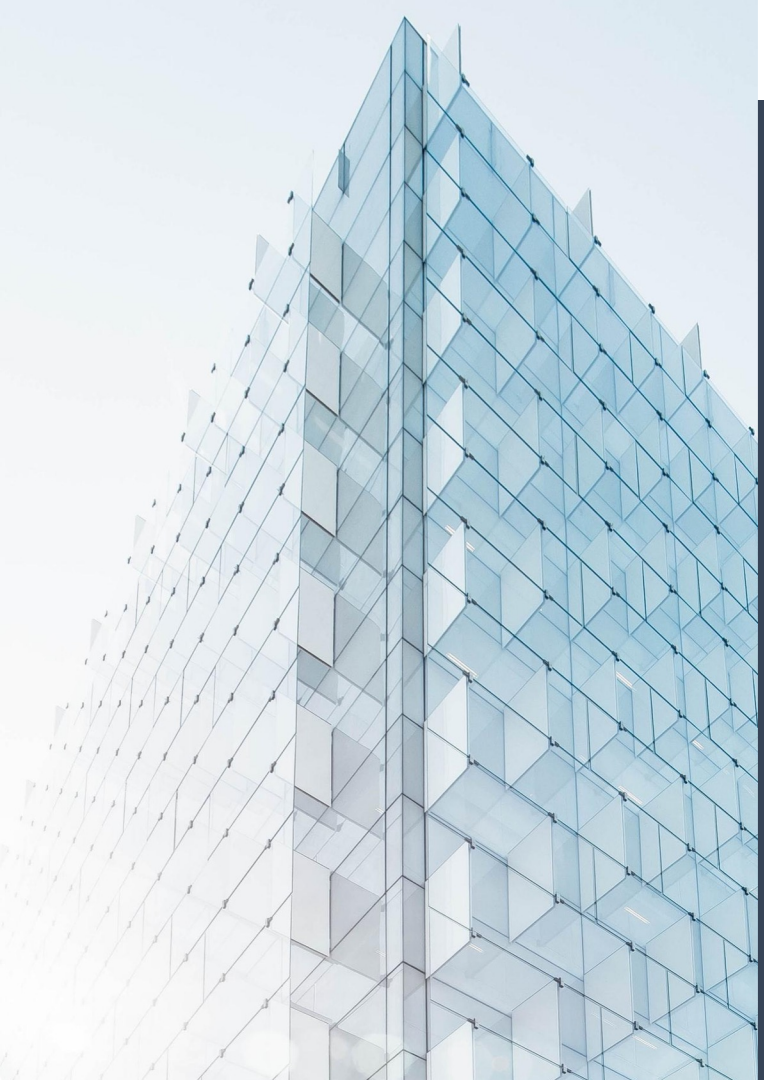
Case example of refractory failure (2/2)

21st Dec

24th Dec



- There was an incident of refractory failure around 24th Dec.
- Significant variability was observed in kiln conditions; The kiln went from dusty to hot on 21st and then dusty again on 22nd and then hot to 24th Dec. This prolonged period of dusty and hot variability could have been an leading cause of the refractory failure.



Thank You !

Please let us know for further questions. It is our privilege to partner with you. We look forward to the journey.

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