

CORTEX™

NOx EMISSIONS

Optimization | Root Cause

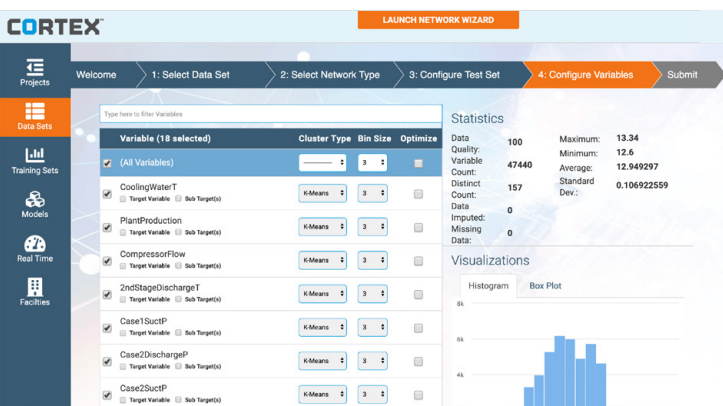


INITIAL USE CASE

CORTEX was implemented at a Flint Hills Resources (FHR) facility that converts propane into propylene, which has a wide variety of manufacturing applications including the making of plastics. The scope of the project utilized advanced analytics to model the predictability of permitted emissions from the facility's waste heat boiler. EFT's software, combined with the knowledge of the company's subject matter experts, used more than two years of data and 60 variables to identify opportunities to reduce emissions. Models were constructed to help the team evaluate the influence of each variable during a multitude of operating scenarios including various ambient temperatures and humidity levels.

SOLUTION

FHR senior engineers used CORTEX to monitor the process dynamics using the model outcomes to avoid upset conditions. They then acted proactively to alleviate the transient conditions. The result allowed the plant to adjust various operational settings. This resulted in increased production (within permitted limits) and decreased emissions. Combining these tools with the knowledge of the facilities subject matter experts provided valuable insights – additional information they likely didn't have access to before.



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