

# OPTIMIZED THE ENERGY CONSUMPTION PROFILE BY FINDING THE OPTIMAL SETTINGS OF THE MILL/PLANT

For a multinational personal care corporation



## ABOUT THE CLIENT

Client is a multinational personal care corporation that produces mostly paper-based consumer products with over \$19BN in revenue

## CHALLENGE

Similar to raw materials and machines, energy has become a commodity and there has been a shifted focus across manufacturing companies to reduce energy consumption across their plants. Currently, in some markets, the client faces penalty charges for exceeding the energy limitations. The client has reports and dashboards to track the consumption of energy across a few important machine parts. Operators use these dashboards to identify sections of machines that are in green/red zones and change the levers based on his/her experience. The main objective is to identify the settings of optimal energy consumption profile for all the machine parts under production constraints.

## APPROACH

To address this, the team at Tredence developed an analytically robust approach with the following specifications:

- Identified primary drivers among the selected machine variables using ML variable reduction techniques

- Driver models to understand key influential variables and determine the energy consumption profile
- Identified the right combination of drivers under the given production constraints – time, quantity and quality
- Optimization engine to provide the machine settings for a given production plan

## KEY BENEFITS

- ✓ *The learnings will be used across similar machines to create operational guidelines for reducing energy consumption*

## RESULTS

- We were able to achieve a ~5% reduction in energy consumption across major machines