



Optimize Use of Raw Materials

Challenge

- Synthetic crude oil is a key part of product line
- Hard to find right balance of how much to “upgrade” oil:
 - Can drastically affect process and total cost
- Precision requirements increase costs:
 - Increased use of raw goods
 - More waste – costly disposal
 - Inefficient transformation process

Solution

- Modeled the entire lifecycle of the oil to:
 - Predict product quality based on configurations
 - Prescriptive recommendations to process control variables
- Process running continuously to refine optimization
 - Optimize different levels of oil “upgrades”
 - Real-time model response
- Easily explain model to domain experts

Impact

- Increased profits by optimizing raw materials
- Production costs: \$21.05 per barrel
- Nearly 400k barrels per day produced
 - 24/7 production, 365 days
- Projected at \$3.2M increase in profits per year
 - Based on first 6 months

Problem type: Prescriptive optimization

Universal relevance: How much do you leave on the cutting room floor? AI can help ensure you're not leaving too much or too little. Either can be costly.