




AVEVA™

ROMeo Isomerization Reactor Model

ROMeo Isomerization Reactor model is one of the reactor models for Refinery Modeling in AVEVA's industry-leading ROMeo Process Optimisation Line Performance. Isomerization is a process used in petroleum refineries to convert the low-octane normal paraffins in light straight-run naphtha into isoparaffins to increase the octane values of gasoline pool. Accurate modeling of isomerization unit can help refiners to maximize profit from upgrading gasoline quality while minimizing the unit operation costs. The Isomerization Reactor model can be used to model industrial isomerization units of different designs.





Summary

ROMeo's Isomerization Reactor Model provides you with a key component of the refinery, Isomerization units, within the ROMeo Process Optimisation Refinery Modeling software. This allows the refinery to be simulated, monitored, and optimized. Tested and proven on industrial units, the model allows the flexibility of tuning parameters online, providing an accurate representation of your Isomerization unit.

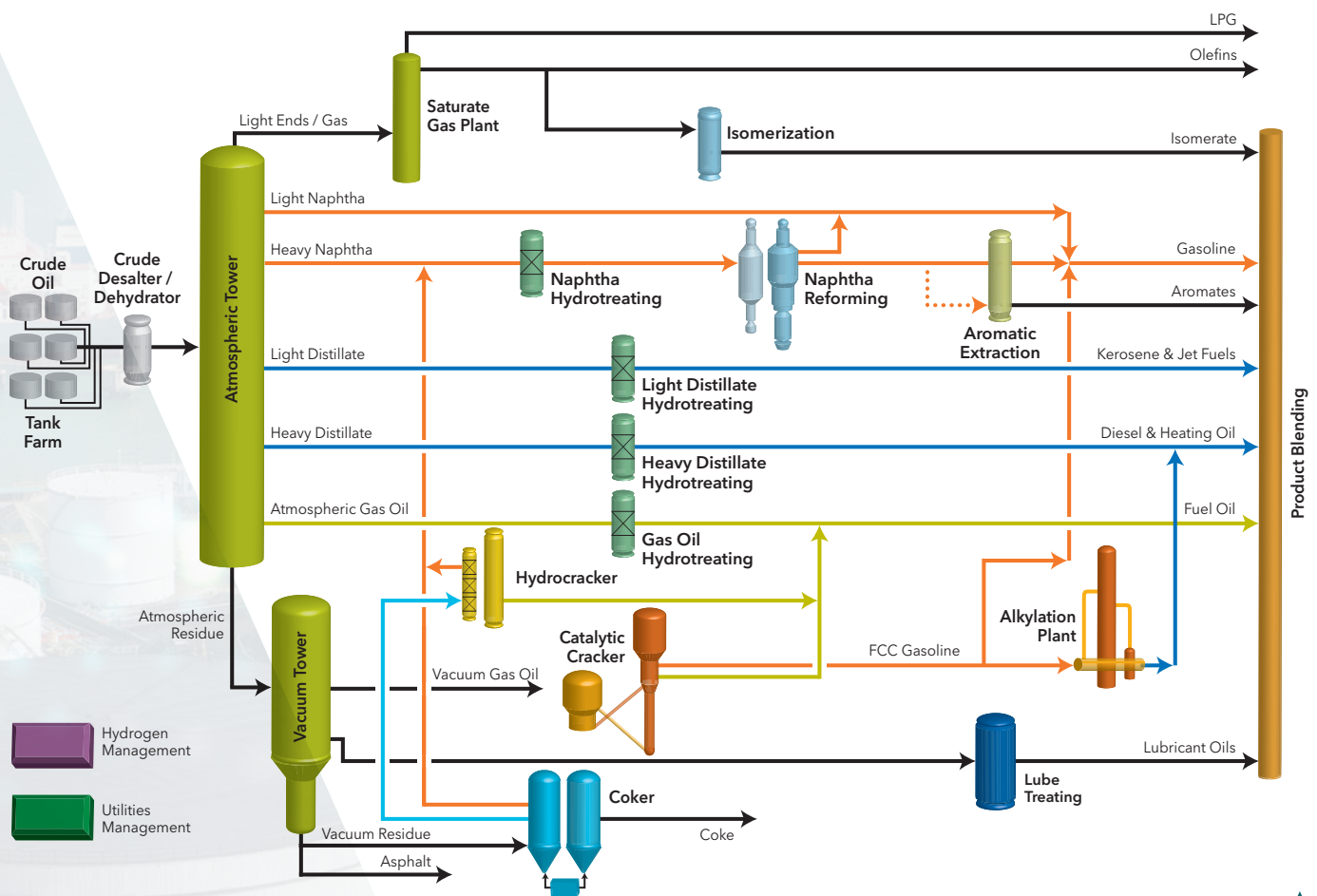
Benefits

- Maximize profit by optimizing the reactor and separation operating condition
- Help with understanding the process and the interaction between reactor and downstream separation due to recycle
- Debottlenecking and process improvement study

Features

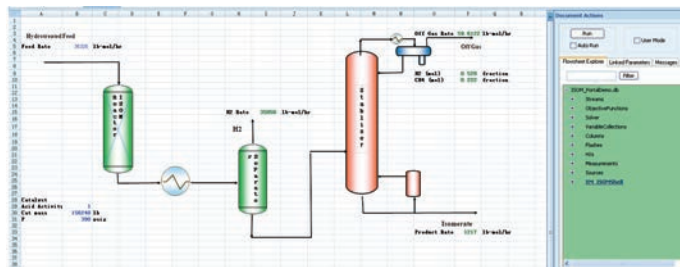
The Isomerization model offers the following key features:

- Rigorous kinetic and heat balance modeling of the isomerization process
- Inputs include feed composition, reactor operation mode (adiabatic or isothermal) and pressure
- Product provide detailed compositional information including H₂, C₁-C₉ paraffins, naphthenes, and aromatics
- Accurately model UOP I-8 catalyzed C₄ C₆ isomerization processes and others
- Predicts product composition, octane number and temperature
- Catalyst activity is tunable during operation to maintain model accuracy and match current operating conditions



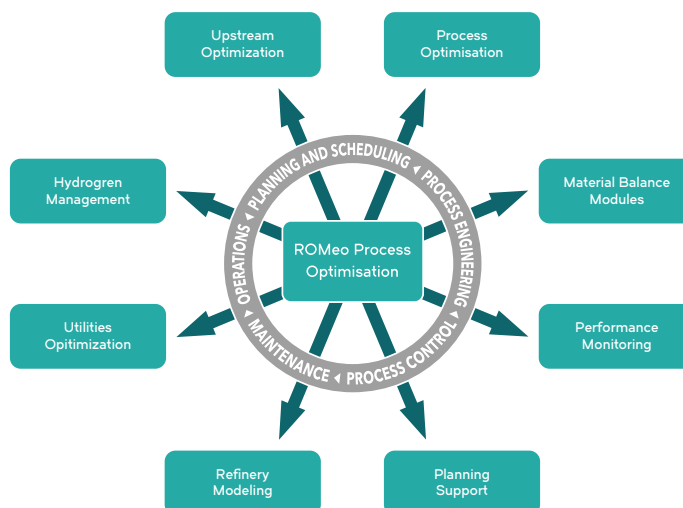
Applications

- Refinery-wide modeling and optimization for understanding the interaction between the isomerization unit and upstream units
- Better understanding of the interaction between reactor and separation section due to recycle
- Online or Offline isomerization unit performance monitoring and optimization
- Offline engineering & process improvement studies with offline SIM4ME® Portal Microsoft interface



ROMeo Process Optimisation

ROMeo Process Optimisation is a unique solution that enables scalable refinery-wide modeling & optimization. While traditional modeling solutions can only simulate individual process units or provide point solutions to solve a specific problem, the ROMeo Process Optimisation Line Performance provides a scalable platform that enables companies to optimize refinerywide performance as well optimize other aspects of refinery profitability such as Utilities and instrument/ equipment health monitoring. Additional benefits are derived from leveraging the data-generated rigorous models to enhanced planning and scheduling decisions, leading to increased refinery margins.



AVEVA Worldwide Offices | www.aveva.com/offices

AVEVA believes the information in this publication is correct as of its publication date. As part of continued product development, such information is subject to change without prior notice and is related to the current software release. AVEVA is not responsible for any inadvertent errors. All product names mentioned are the trademarks of their respective holders.

Copyright © 2019 AVEVA Group plc and its subsidiaries. All rights reserved.



@avevagroup



[linkedin.com/company/aveva](https://www.linkedin.com/company/aveva)

aveva.com