

Why optimise the CDU?

Crude oil distillation unit (CDU) optimisation is challenging due to the complex interactions between crude distillation towers and their associated heat exchanger network (HEN). CDU optimisation is required to:

- Improve the profitability of the refinery
- Decrease energy demand and emissions
- Improve separation performance
- Increase yields of the more valuable products
- Increase throughput

How can PIL improve your CDU system?

PIL employs its own state-of-the-art software applications i-CDU™ and i-Heat™ to:

- Propose improved operational strategies and value-added retrofit solutions to overcome system limitations.
- Simultaneously optimise the CDU and HEN, capitalising on the interactions between the two systems.

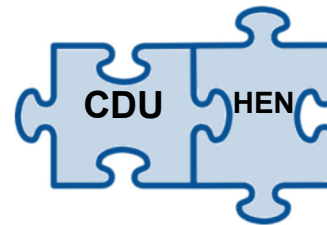
Application benefits

Benefits of PIL's approach

- Monitoring key performance indicators and identification of performance gaps.
- Improved separation and energy performance.

Additional degrees of freedom and multi-objective considerations facilitate the search for optimal practical solutions using *PIL's Artificial Neural Networks technology*.

Unlock additional benefits in your refinery using PIL's advanced CDU+HEN technologies



i-CDU™ + i-Heat™

INVESTMENT FREE OPTIMISATION

Furnace duty reduction

2-5%

From yield and energy optimisation without any capital investment needed

0.03-0.10
€/bbl

RETROFIT OPTIMISATION

5-15%

Additional benefits from yield and energy optimisation are achieved depending on capital investment

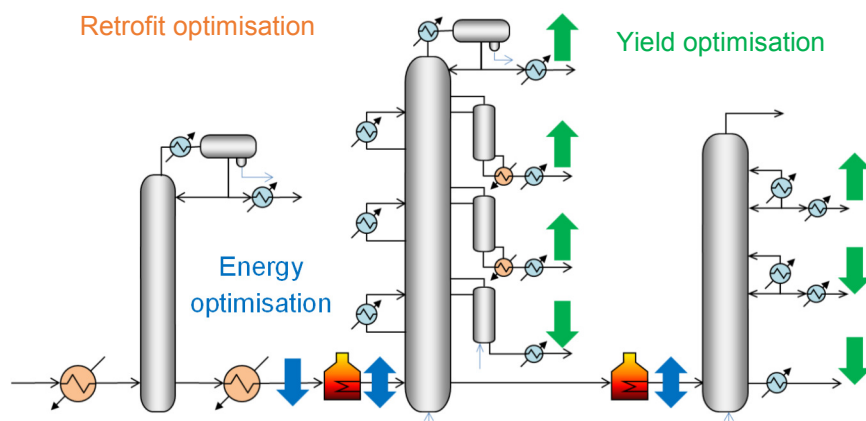
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Excluding throughput increase

What is the scope of PIL's solutions?

System limitations:

- Product quality
- Heat transfer area
- Capacity of pumps
- Plant layout
- Column hydraulics
- CAPEX targets



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