



PIL delivers practical solutions to reduce your energy usage and environmental impact, improve your hydrogen management and debottleneck your process



At Process Integration Limited, we work with our clients in the process industries to increase their profits. Our primary focus is on practical solutions, particularly low or no cost operating changes.

We look at individual units and whole sites, identifying cost improvements in throughput, energy and hydrogen management. We often find significant opportunities to maximise the manufacturing asset's profitability.

At PIL, we put our clients at the heart of everything we do. We have innovative technology and software products supported by our committed and experienced team. We deliver high-value-added solutions to benefit your business.

#### **PIL Portfolio**

- Consultancy - PIL provides consultancy projects and services to reduce costs and improve profit
- Software - PIL offers its software packages for process optimisation and improvement. These include the latest developments in process integration technologies
- Training - PIL provides training across a wide range of process integration technologies.

THE RELIABLE PARTNER TO BOOST YOUR BUSINESS PERFORMANCE





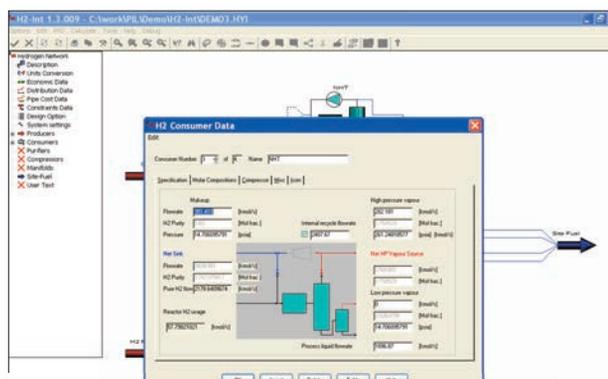
## ENGINEERING FOCUS - HERE ARE SOME OF THE AREAS WE SPECIALISE IN:

### Refinery Hydrogen Systems

PIL is a leader in refinery hydrogen network technology. We have identified many improvements in our clients' hydrogen networks and these have been implemented to significantly boost profits, often at minimal cost.

Typical improvements recommended by PIL include repiping hydrogen streams, changing internal recycle parameters, reusing membrane or PSA units and making the best use of any new hydro-processing units.

We typically identify many millions of dollars in savings.

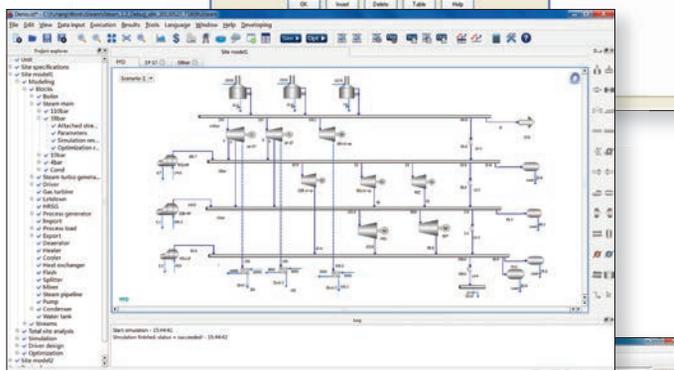


### Energy System Optimisation

PIL's energy studies have realised significant savings for our clients. We focus on energy improvements both within and between process units.

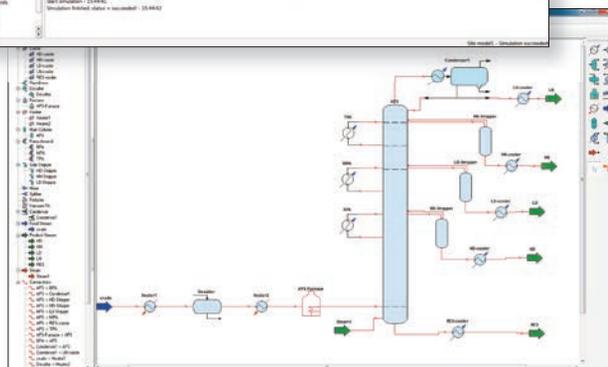
We use our own energy optimisation software HEAT-int to identify how to cost-effectively remove inefficiencies in heat exchange systems.

PIL also has its SITE-int software for sophisticated modelling and optimisation of whole steam and power systems.



### Refinery Unit Optimisation

Crude units are at the heart of every refinery. Their efficiency, both in terms of energy and yield, is critical to profitability. PIL's crude unit optimisation techniques have identified real improvements for our clients. Our award-winning approach\* has been recognised as ground-breaking. Our key advantage is that we optimise both distillation columns and heat exchanger networks together using our software tool CDU-int. This has enabled us to significantly reduce fired heater duties in crude preheat trains, saving many millions of dollars in operating costs, often at minimal capital investment.



\* Manchester University Low Carbon & Environment Competition

If you contact us, we'll provide a free assessment of the improvement opportunities in your operations



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