



engineered efficiency

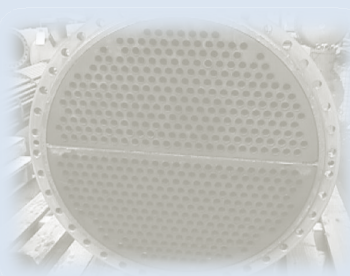
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“Efficiency Through Analysis”

Helping Australian companies streamline their processes and drive down costs.

Case Study – Real-time Decision Making



True performance of heat exchangers is best determined by calculating the *heat transfer co-efficient*, which provides a measure of how effectively heat is being

transferred across the heat exchanger, regardless of changes in operational and control conditions.

A refinery wanted to improve the operation and maintenance planning for a series of heat exchangers critical to the throughput of the refinery. The exchangers operated in series, with various heat recycle streams and control elements in the circuit, which makes optimisation difficult.

Utilising the engineering data for each exchanger, and taking their existing temperature and flow data already in the SCADA system, we built algorithms to allow the heat transfer co-efficient for each exchanger to be calculated in real-time. This showed the real performance of the exchanger at any time, regardless of control conditions.

This information was displayed on the SCADA control room screens, as well as being able to be exported to allow analysis by the plant engineers. The data allows the system to be optimised to maximise performance on each exchanger, match operating conditions to fouling events, and improve cleaning and outage planning.



About Us

Engineered Efficiency is a Western Australian business focussed on helping small to medium companies streamline their production and maintenance processes, and reduce input costs from utilities and reagents. We do this through working closely with our customers to understand their business needs and processes, and apply our experience and knowledge to build practical and achievable programs to improve efficiency and drive down costs.

Our Managing Director, Jon Langford, has over 20 years experience in design, construction and maintenance of process plants and commercial buildings. Jon started Altrum Pty Ltd in 2002, providing process engineering, chemical manufacturing and storage, and heat transfer solutions across Australia. Between 2010 and 2015, Jon worked outside of Altrum in process plant maintenance and utility asset management fields. He recommenced work with Altrum at the end of 2015, trading as *Engineered Efficiency*, integrating this recent experience with the innovative process solutions he provided previously through Altrum.

