

A welder wearing a dark leather protective suit, a large welding mask, and gloves is working on a large industrial heat exchanger. The heat exchanger consists of several large, circular metal shells with a grid of pipes inside. The welder is positioned on the right side of the frame, and a bright light is visible at the point of welding. The background shows a factory interior with blue walls and windows.

Heat Exchanger Management for the Energy Transition

Joel Croft – Technical Manager

The Importance of Heat Exchanger Management for the Energy Transition

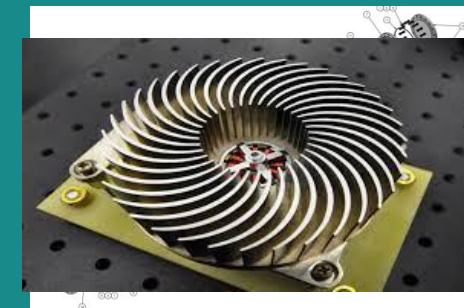
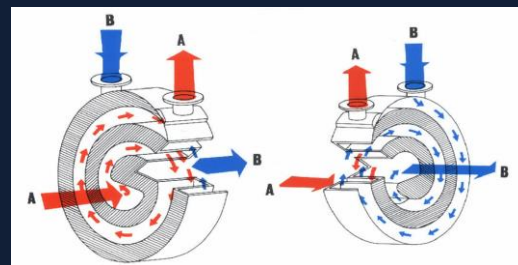
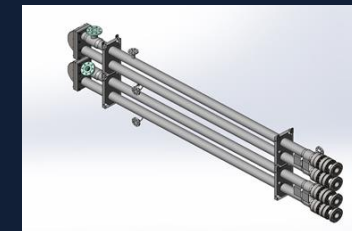
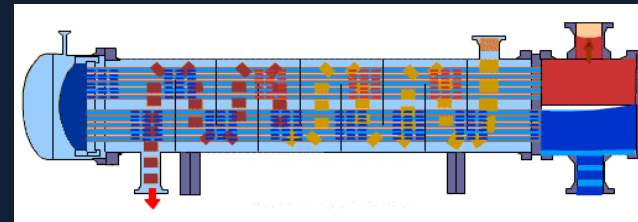
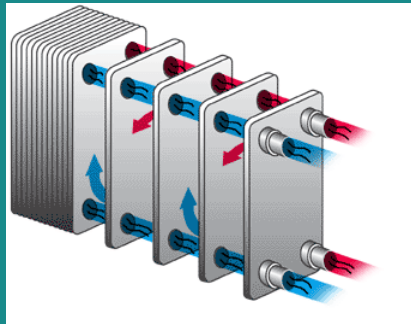
Heat Exchangers are an integral part of many process systems, but their benefits are often not fully realised

The Energy Transition looks to decarbonise the energy industry, creating a more **sustainable** future

With an Industry goal of **net zero** it has never been more important to fully understand and maintain our assets



Types of Heat Exchanger



Heat Exchanger Degradation



- Heat exchangers start to degrade during operation
- Fouling deposits affect the efficiency of the heat exchanger.
- When it gets too bad, the heat exchanger can fail and potentially bring down the entire asset.



Freezing



Scaling / Burn-On



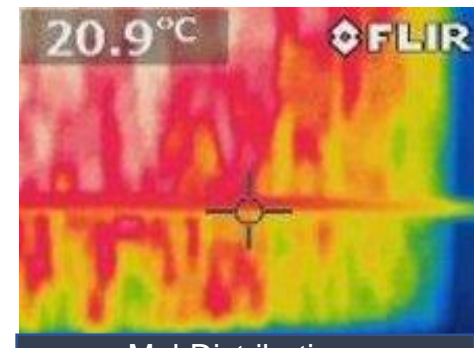
Particle Setting



Biofouling



Gas Release



Mal-Distribution of Flow

Heat Exchanger Monitoring

01



Monitoring operational data is becoming an essential part of asset maintenance strategy.

02



Better insights into the condition of equipment between maintenance windows.

03

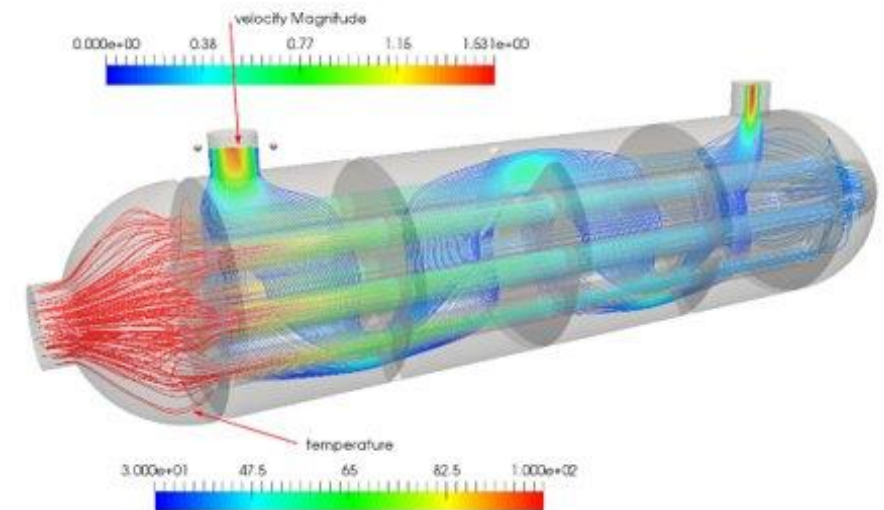


Changing efficiency of equipment can be trended.

04



There are many tools for asset-wide monitoring, however not specifically looking at heat exchangers.



Proactive Maintenance

Using data to actively monitoring the performance of the heat exchanger: a "**Proactive Maintenance**" approach.

- ① More efficient heat exchanger operation.
- ② Less unplanned downtime
- ③ Less costly maintenance – fewer unplanned trips offshore.
- ④ Fewer costly repairs – major failures can be spotted early



Heat Exchanger Monitoring HTX Digital



DATA
FROM HTX



HEAT EXCHANGER
EXPERTISE MIXED WITH
DATA SCIENCE



HTX KPI's



GLACIER SUBJECT MATTER
EXPERTS



MAINTENANCE
AND REPAIR



OPTIMISED
EFFICIENCY



IMPROVED
PRODUCTIVITY



REDUCED
UNPLANNED
DOWNTIME

Thank You

joel.croft@glacierenergy.com



Glacier Energy