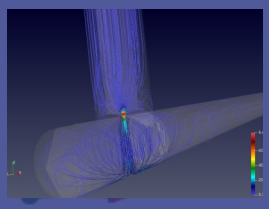
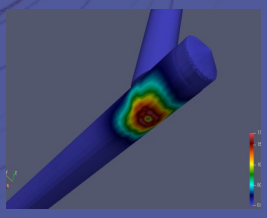
CFD Modelling

(Computational Fluid Dynamics)

Scaled Solutions offer CFD modelling services of laboratory and field equipment



How our services can help you



Computation Fluid Dynamics Modelling

CFD analysis ensures field representative test conditions are induced.

Our industry experts provide simulation analysis that is relevant to the challenge at hand. CFD simulations include:

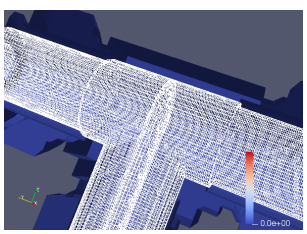
Particle Tracking

This allows particles of a defined mass to be introduced in a system in order to track their interaction with the walls and fluid i.e. sand particles in an autoclave test.

Turbulence Modelling

The distribution of wall shear stress and turbulent kinetic energy can be visualised and correlated to laboratory observations.

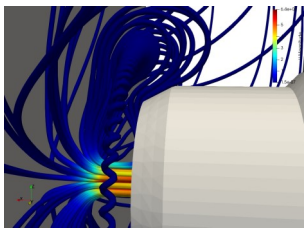
Heat Distribution and Fluid Mixing

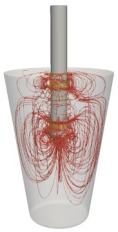


Mesh resolution is optimised to provide precise results that capture minute flow physics with minimal computation time.

Jet Impingement

Flow paths/vortices visualised from simulations can highlight points of turbulence and recirculation that can contribute to increased scale deposition and corrosion.





Rotating Cylinder Electrode

CFD calculations account for small eddies and fluctuations in the fluid, and thus are more accurate than simplistic calculators that can not account for dynamic flow.

Wall shear stress, for a given test piece, can be visualised and correlated with locations of turbulence and increased scale deposition and corrosion.

Scaled Solutions

Key Papers

- Adam Leaver, Amarpreet Kaur, Dario Frigo, Gordon Graham (Scaled Solutions Ltd.); 'The use of CFD to Analyse the Applicability of Laboratory Tests to Replicate High-Shear Flow Regimes Under Field-Realistic Conditions'; 30th Tekna Oilfield Chemistry Symposium
- Rodney Madjitey, Hunter Thomson, Caroline Simpson, Dario Frigo, Gordon Graham (Scaled Solutions Ltd.); 'Corrosion Testing in Moderate and Ultra High Shear Production Environments'; SPE– 190196

Truly Independent Laboratory

At Scaled Solutions, our mission is to be recognised worldwide through our independent specialised laboratories as the leading supplier of bespoke equipment, training, consultancy and provider of solutions to challenges in Production Chemistry, Corrosion and Formation Damage.

We aim to exceed our customers' expectations and improve our service to our customers on a continual basis through our key values: team work & communication, openness & transparency, continual improvement and trust.

Quality, Integrity, Safety and Excellence

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