Capability Statement
Using CFD in Oil & Gas

engineers • scientists • innovators

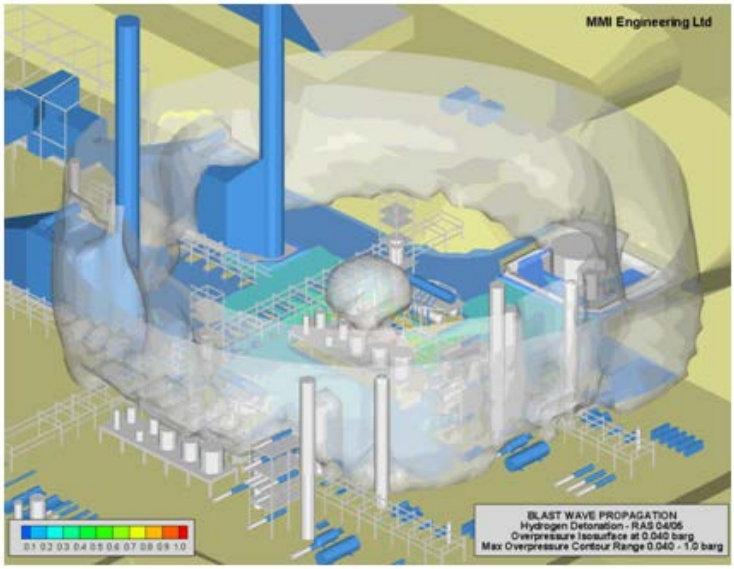
Advanced Modelling

Rapid advances in mathematics and computer systems now make it possible to build detailed, accurate models of production and process systems, even in cases of multi-phase, unsteady flow. Conventional flow assurance approaches can be enhanced with three-dimensional models and the design of process equipment can be improved. Furthermore, the speed of models has increased to the point where CFD can be used to rapidly resolve production problems.

Process

We solve performance problems and generate design concepts using CFD for many process components, including:

- Separators
- Slug Catchers
- Heat Exchangers
- Knock Out Drums
- Settling Tanks
- Fire Modelling – to determine heat fluxes and the impact on personnel and structure
- Explosion Modelling – to determine overpressures for the design of structures



Blast Analysis

Flow Assurance

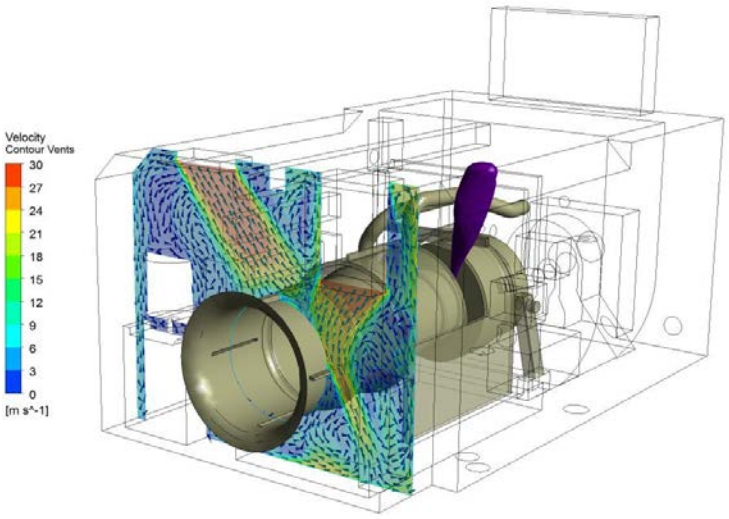
Three-dimensional CFD models provide considerably more accuracy than conventional flow assurance tools for many scenarios:

- Subsea Cool Down
- Joule-Thomson Expansion
- Wax & Hydrate Formation
- Erosion & Sand Transport
- Inhibitor Mixing
- Fluid Drop-Out
- Valve Performance

Hazard Management

The same mathematical techniques are used to support our team of safety engineers:

- Gas dispersion
- ATEX compliance
- Helideck safety (ATEX)



ATEX Compliance

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