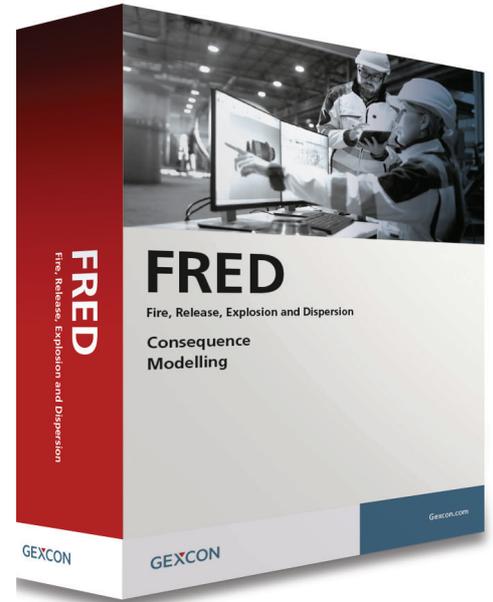


Consequence Modelling

FRED

Fire, Release, Explosion and Dispersion



Developed for engineers by engineers, FRED is Shell's consequence modelling tool.

Its vast range of fire explosion scenario models predict the consequences of accidental and design releases from process, storage, transport and distribution operations.

Based on empirical data, its intuitive, high quality interface enables the user to rapidly understand consequence prediction, providing an at-a-glance overview of the extent of blast waves, gas contours and heat radiation.

Developed and validated through Shell's extensive programme of large-scale experiments and published

scientific literature, FRED has evolved over 40 years to become known and trusted throughout the world.

More than \$2m has been invested to create extended multi-component species for the most accurate fuel representation.

Previously only available for use on Shell projects, it can now be universally applied to any facility, streamlining resources and maximising value.

Key Benefits

- Draws on 40 years of R&D knowledge and Shell's operating experience
- Vast range of fire and explosion scenario models, including for escalation and smoke
- Intuitive, high quality interface with fast and reliable consequence predictions
- Transparency of the integrated models gives confidence on the reliability and consistency of the results

Uses and applications

- Preparation and update of safety cases
- Justification for new design and operation
- Facility layout and equipment optimisation
- Pre-incident and emergency response planning studies
- Domino effects / escalation management studies
- Accident investigation
- Quantitative Risk Assessment (QRA) - with results directly integrated into Shell's QRA tool, Shepherd

For more information and product enquiries:

Email: sales@gexcon.com

Norway: +47 55 57 43 30

Australia: +61 8 92 27 80 01

China: +86 139 1663 9854

India: +91 20 65 200 818

Indonesia: +62 21 2278 1711

UK: +44 (0) 1695 726565

USA: +1 301-915-9922

Middle East: +971 50 6400227

Gexcon

A world-leading company in the field of safety and risk management and advanced dispersion, explosion and fire modelling.

Shell

Shell is an international energy company that aims to meet the world's growing need for more and cleaner energy solutions in ways that are economically, environmentally and socially responsible.

