Elevate your reservoir monitoring

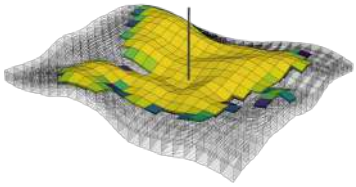
with intelligent monitoring design for CCS

Monitoring geological CO_2 storage is complex, costly, and often based on expert judgment rather than measurable value.

Storra offers the first quantitative platform that designs optimal and defensible monitoring strategies. We help operators choose effective technologies, sensor placements, and campaign schedules that minimise risk and reduce cost.

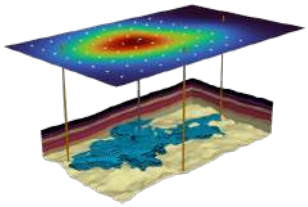
Contact us today to get the most out of your monitoring plan

Ensemble Reservoir Modelling



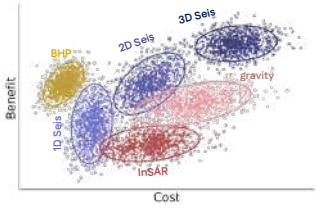
We generate 1000's of reservoir scenarios and simulate the evolution of the CO_2 & pressure plume to quantify risk

Monitoring Detectability Forecasting



We forecast the detectability of the reservoir response with geophysical and geomechanical simulations

Value-of-Information Analysis



We evaluate millions of monitoring actions to optimise your MMV plan and quantify the added value of monitoring

Benefits

Improve Return on Investment: Expose storage capacity and reduce OPEX & CAPEX by revealing reservoir behaviour and eliminating redundant measurements

Reduce Risk: Quantify conformance & containment risk and guide monitoring to maximise risk reduction

Build Trust: Assure stakeholders and accelerate regulatory approval through transparent, quantified insights on monitoring effectiveness.

Features

Static modelling
- Automated ensemble generation
- Sampling of uncertainty in
  - Structural features
  - Petrophysical properties
  - Initial & boundary conditions

Dynamic modelling
- Coupled 3D reservoir & geomechanics simulations
- Fast surrogates for reservoir & geomechanical simulation

Monitoring forecasting
- Time-lapse seismic
  - 1D/2D/3D acoustic-elastic simulator
  - 1D semi-analytical surrogate
- Deformation (GPS, DSS, InSAR, tilt)
  - 1D/2D/3D elastic simulator
  - 3D semi-analytical surrogate
- Time-lapse gravity
  - 3D semi-analytical surrogate

Quantitative Monitoring Design
- Monitoring technology screening & appraisal
- Monitoring value-of-information analysis
- Quantitative MMV evaluation & optimisation
- Ensemble risk quantification & analysis

Visit our Website

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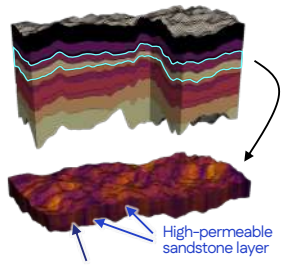
Contact us
Edoardo Pezzulli, CEO and Cofounder
edoardo.pezzulli@storra.ch
+41 78 728 1302
www.storra.ch

storra

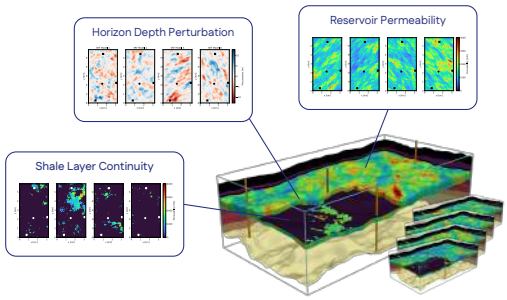
Case Study

Application of the Storra Monitoring Designer to the Sleipner storage site using 1400+ realisations

5-Layer Sleipner model

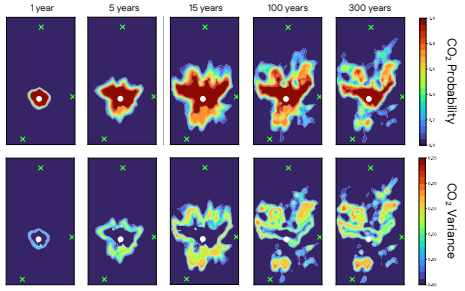


Ensemble automatically generated in 10 minutes



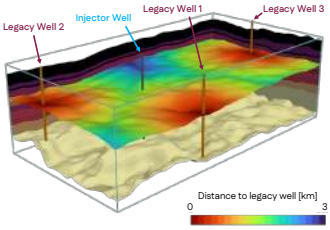
Ensemble simulation and analysis

Performed on a 16-core desktop computer in 2.5 weeks

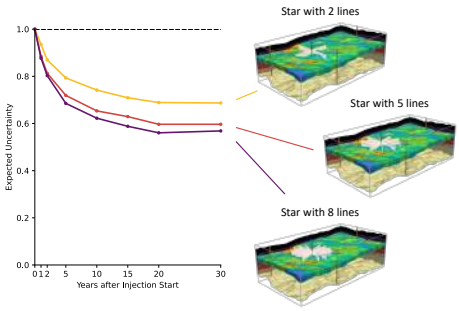


Custom risk definition

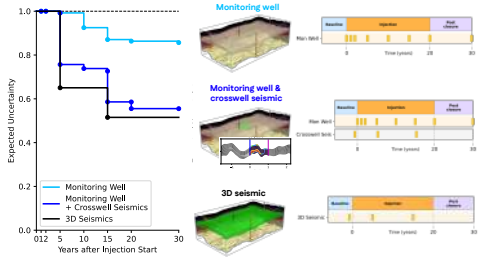
In this study
- Consider leakage risk for three hypothetical legacy wells
- Define risk as distance of CO_2 plume to legacy well



Find the optimal number of 2D seismic lines and where to place them



Compare different MMV schedules and evaluate which reduces risk the most



Project

Storra's technology is being applied in active CO_2 storage pilots and research initiatives to optimise monitoring design, evaluate storage integrity, and accelerate regulatory approval.

CITru Injection Pilot, Zürich Switzerland

The pilot and demonstration project CITru (CO_2 pilot injection in Trüllikon), led by ETH Zurich, is investigating the feasibility of a CO_2 injection test through a disused borehole.

Storra's performs the risk assessment and monitoring design & optimisation for CITru.

About us

Dr. Edoardo Pezzulli

edoardo.pezzulli@storra.ch

Edoardo leads the business development at Storra and designs geomechanical workflows for assessing storage integrity and deformation monitoring.

He holds a PhD in computational geomechanics from ETH Zurich.

Dr. Michael Liem

michael.liem@storra.ch

Michael leads the development of computational workflows for reservoir simulation, uncertainty quantification and monitoring optimisation at Storra.

He holds a PhD in reservoir modelling and data assimilation from ETH Zurich.