



Uthmaniyah CO₂-EOR Demonstration Project

AMAR J. ALSHEHRI
SAUDI ARAMCO





Because we care

Saudi Aramco environmental stewardship

Energy efficiency



Reduce gas flaring



Zero discharge mandate



Renewables



Carbon management



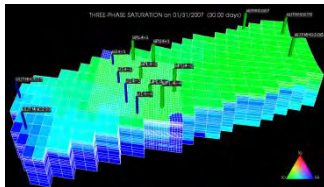
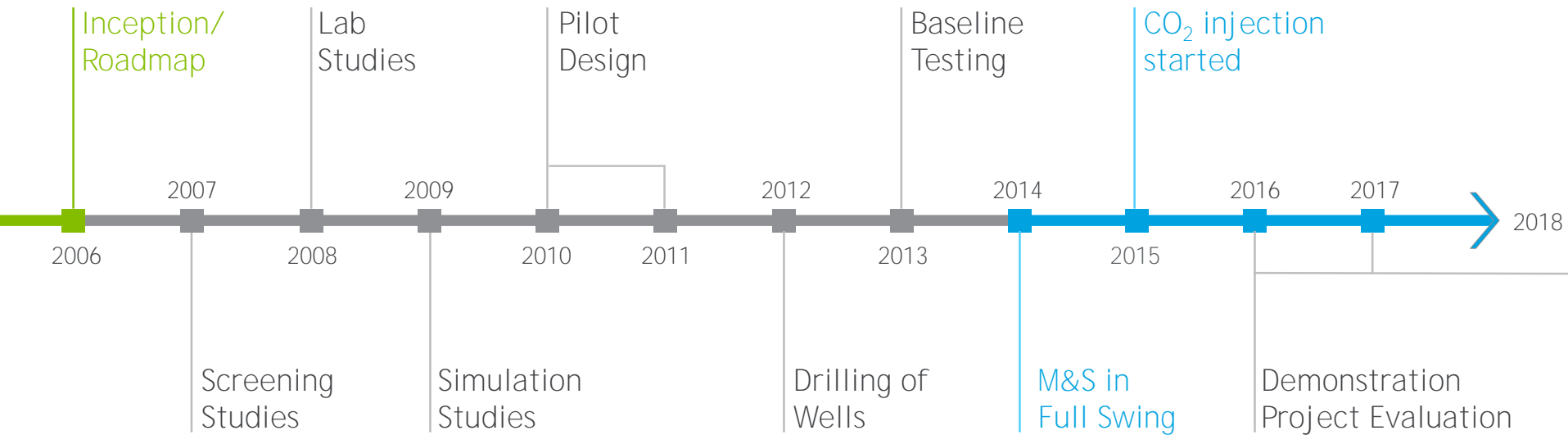
Carbon management

Uthmaniyah CO2-EOR demonstration project

- The 1st in the Kingdom
- One of the largest of its kind in the Middle East
- Capture ~800,000 tonnes of CO2 per year
- CSLF recognized project
- Awarded “EOR Project of the Year” by Oil & Gas Middle East



Milestones



Our unique approach

Monitoring & Surveillance



Seismic monitoring

Electromagnetic surveys

Borehole and surface gravity

Inter-well tracer tests

Monitoring & Surveillance

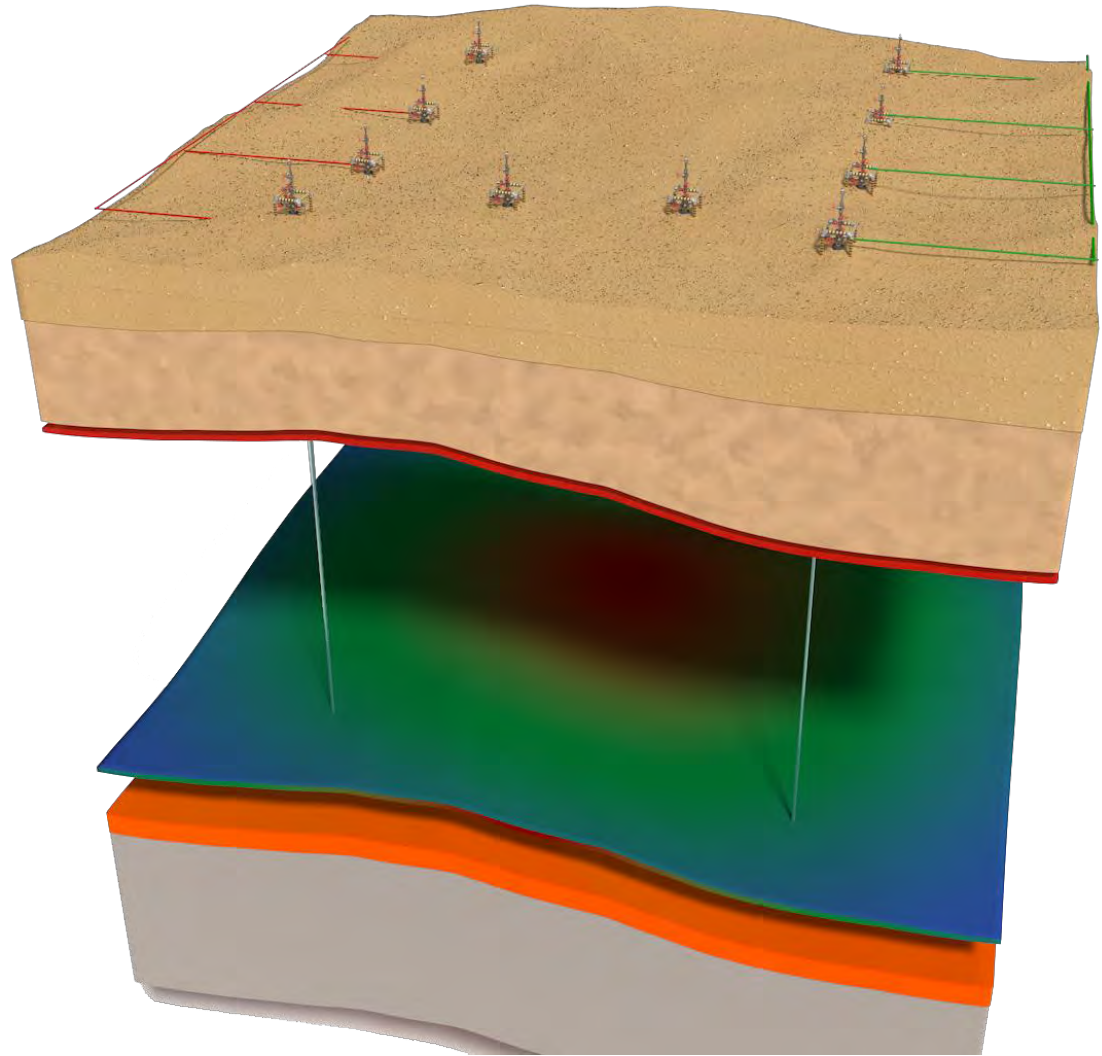
Monitoring Parameters:

Sequestered CO2

Plume evolution

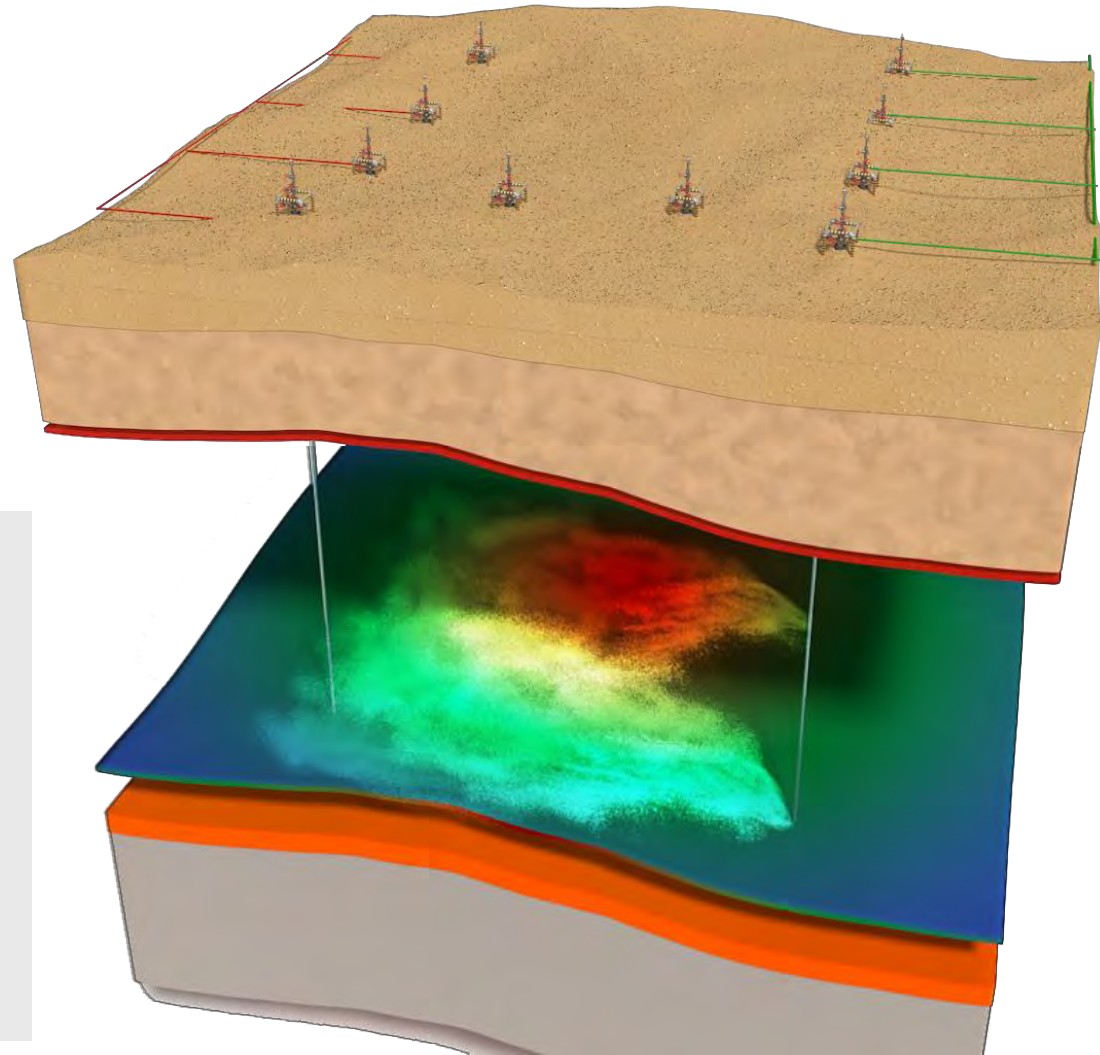
CO2 Migration

Oil saturation monitoring



Monitoring & Surveillance

- Seismic sensors



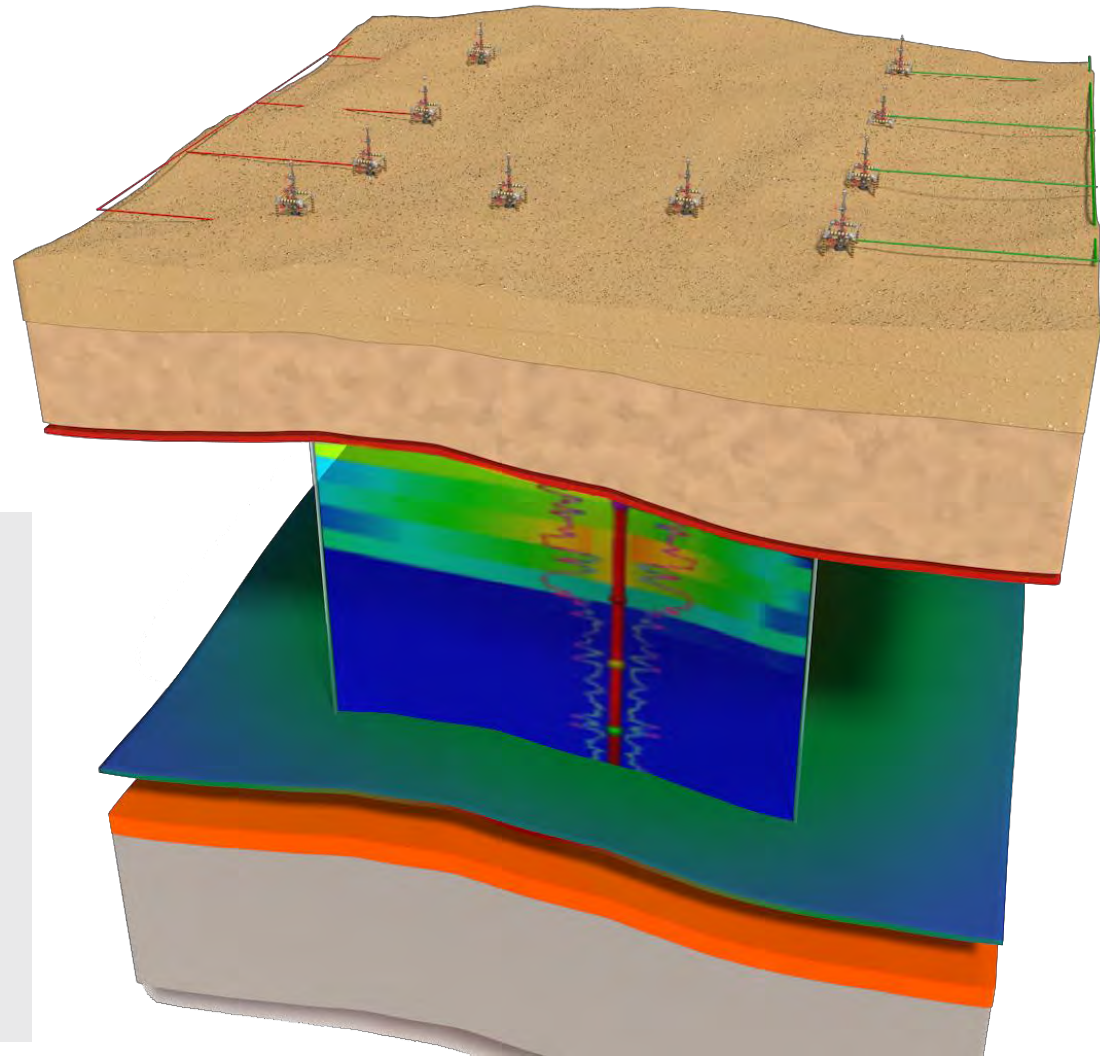
1st continuous seismic monitoring

1000 seismic sensors

Tracks plume propagation

Monitoring & Surveillance

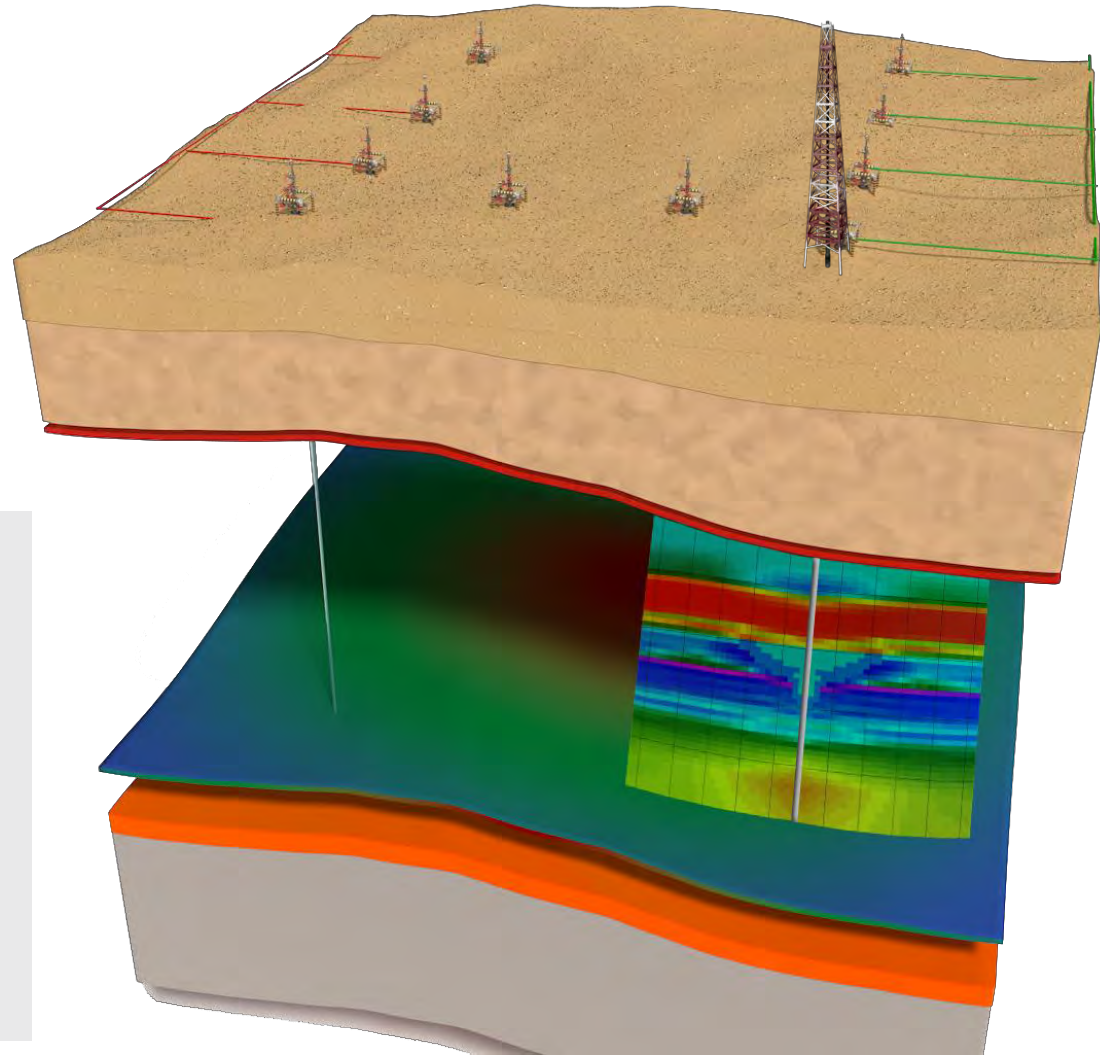
- Seismic sensors
- Cross-well
Electromagnetic



CO2 plume between
two wells

Monitoring & Surveillance

- Seismic sensors
- Cross-well
Electromagnetic
- Borehole and surface
gravity

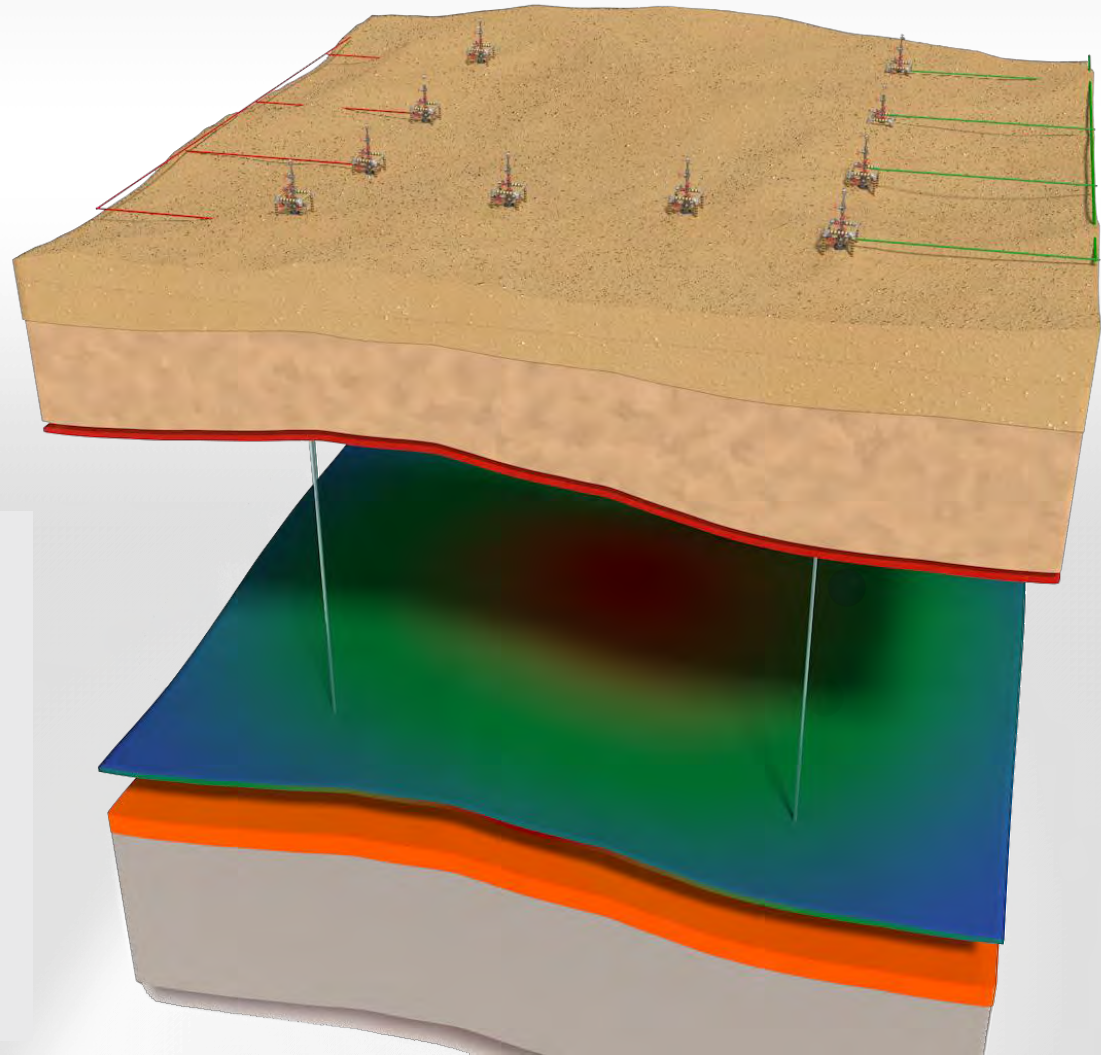


track CO₂ plume in the
reservoir

detect inadvertent CO₂
leakage into shallow
aquifers

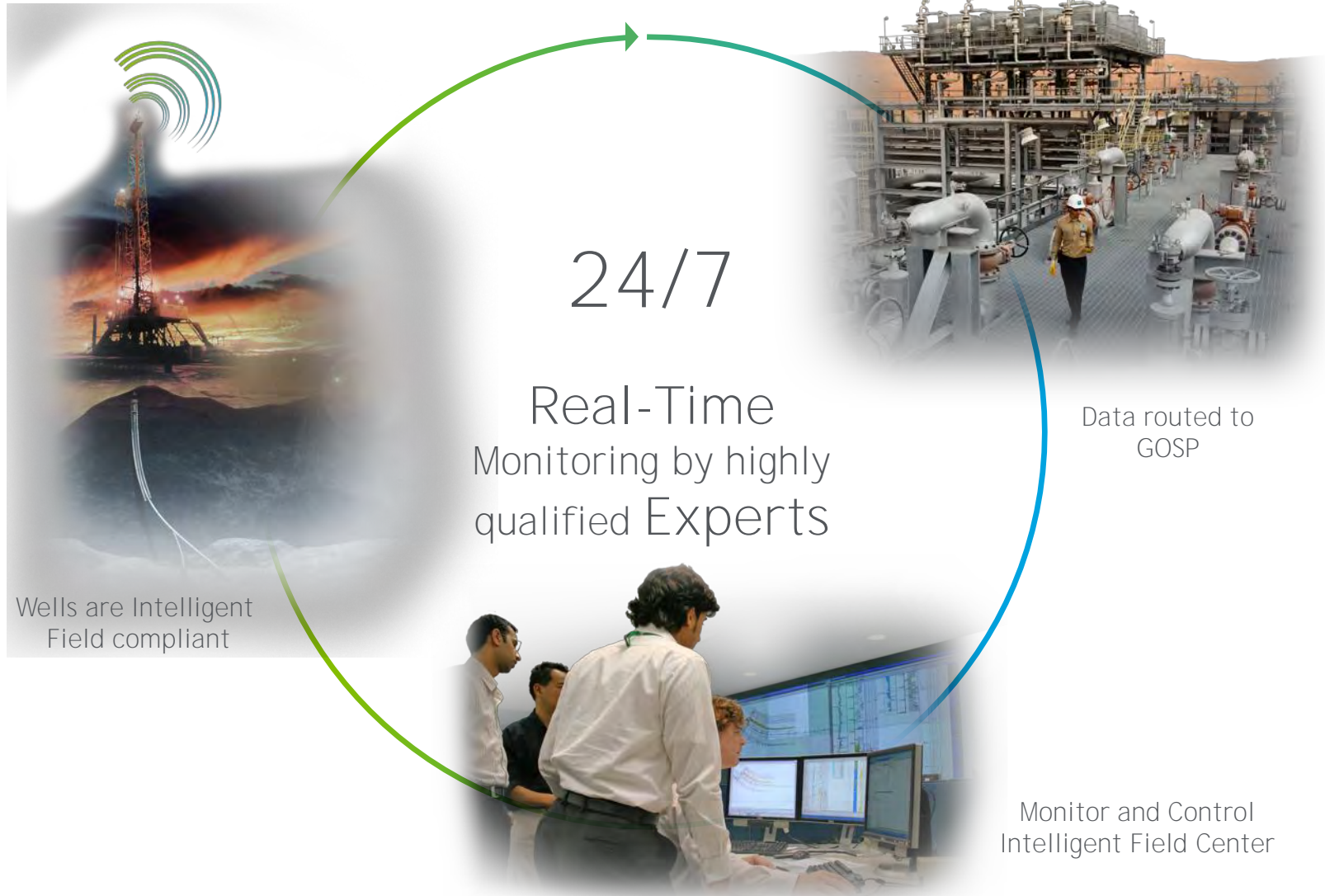
Monitoring & Surveillance

- Seismic sensors
- Cross-well
Electromagnetic
- Borehole and surface
gravity
- Tracers



CO₂ flow path and
breakthrough speed

Intelligent Project



Carbon management
Uthmaniyah CO₂-EOR demonstration project

Out of the box
innovation
Disruptive Technology





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