

Oil and Gas Industry Midstream and Downstream Sector Experience



RTI International is your premier source for turning knowledge into practice.

Our scientists and engineers help clients achieve their goals by identifying, developing, applying, and transferring cutting-edge technologies.

RTI's experts can be immediately leveraged to create new technologies and solve pressing problems for the oil and gas industry:

- Upstream activities such as exploration and production
- Downstream activities such as refining and processing
- Extensions into the petrochemical sector.

Process Development, Scale-up & Demonstration



RTI offers the development and engineering expertise and comprehensive lab-, bench-, and pilot-scale resources to quickly move novel process technologies from concept to commercially relevant demonstration.

Catalyst, Sorbents and Membrane Development



Catalyst, sorbent, and membrane development is an integral part of RTI's process development activities for the chemical and petroleum refining industries. We offer synthesis, characterization, testing, and production scale-up support.

Gas Processing



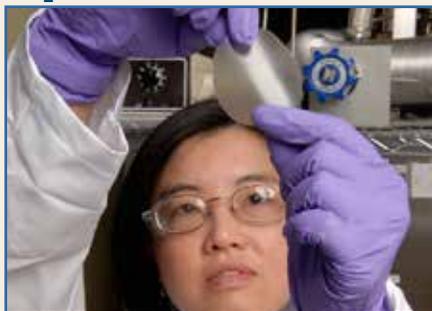
RTI has an established track record in syngas desulfurization and contaminant removal research. RTI is also developing advanced process technologies for the conversion of coal, petcoke, biomass, and natural gas to fuels and chemicals.

Renewable Fuels



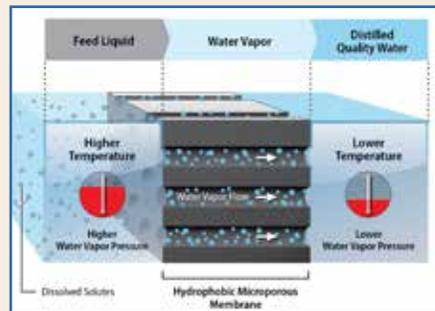
RTI is conducting applied R&D to make biomass processes for fuels and chemicals production economically and technically viable. Our core expertise is in the thermochemical conversion of biomass (e.g. through catalytic pyrolysis and gasification).

CO₂ Capture and Utilization



RTI is developing innovative solutions for capturing CO₂ from petrochemical, power, cement, and other industrial plants. We are also developing technologies to utilize CO₂ as a source for fuels and chemicals production.

Water Treatment



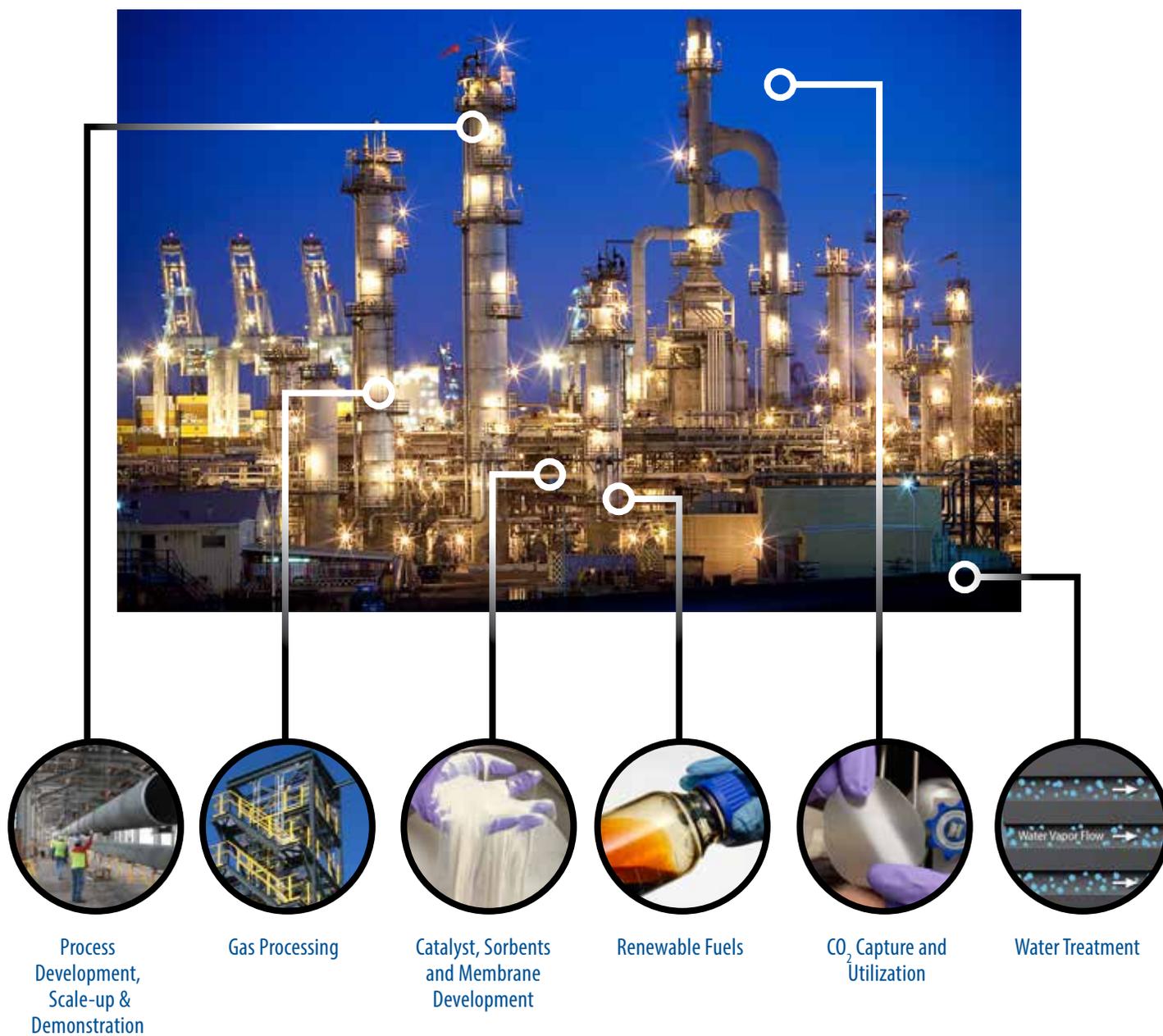
RTI is building on emerging technologies to develop process solutions for water treatment that can utilize waste heat from industrial processes. We are also targeting the treatment of high salinity water streams (e.g. in shale gas production).

Experience in Upstream Technologies



Our scientists and engineers enable clients in the exploration and production sector to achieve their goals by identifying, developing, applying, and translating cutting-edge technology solutions. RTI's well integrity technologies include novel cementing and other barrier formulations, advanced structural materials, microfabricated sensors, and communication platforms. Our expertise in encapsulation and nanotechnology for challenging environments is utilized for delivery of chemical EOR, sensors, and scaling agents deep within the reservoir.

Example Application Areas



RTI provides technology development services for the midstream and downstream sectors, specifically:

- New process development, scale-up, and demonstration
- Catalyst, sorbents, and membrane development
- Gas processing (separations, contaminant removal, and conversion)

- Renewable fuels
- CO₂ capture and utilization
- Water treatment

RTI's development and testing capabilities range from lab-scale process units up to the pre-commercial demonstration scale.



Corporate Headquarters

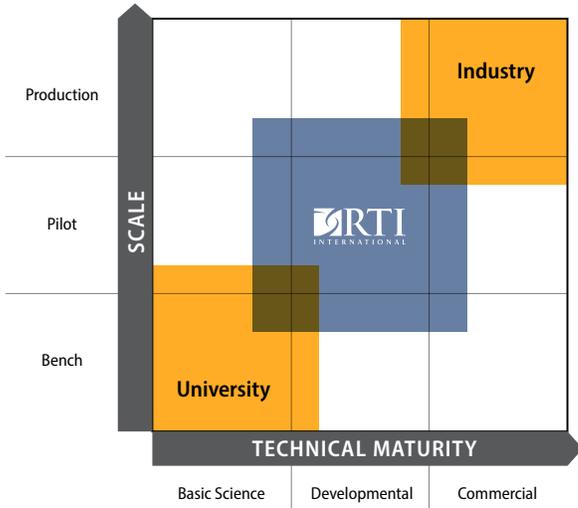
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Sheffield, United Kingdom



Our expertise is in moving high-impact technologies from concept to commercial practice.

RTI fills an important gap—bridging university-type basic science and industry-driven commercial activities.

Example Clients and Partners

Private Sector

3M
Archer Daniels Midland
Arkema
BASF
CEMEX
Chevron Corporation
Cisco Systems
Clariant (previously Süd-Chemie)
The Dow Chemical Company
DuPont
Eastman Chemical Company
Foster Wheeler
Haldor Topsøe
Heidelberg Cement Company
Johnson Matthey
KBR
Lockheed Martin
Masdar – A Mubadala Company
Northrup Grumman
Owens Corning
Phillips 66 (previously ConocoPhillips)
PPG Industries
Shaw Group, Inc.
Shell
Tampa Electric Company
United Technologies
Veolia

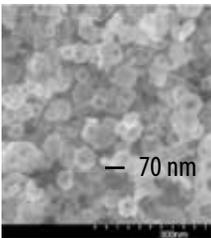
U.S. Government Clients

US Department of Energy
US Department of Defense
US Department of Commerce
US Department of Homeland Security
National Aeronautics and Space Administration
National Institute of Standards and Technology
National Science Foundation

Other Clients

Abu Dhabi Executive Affairs Authority
ASHRAE
Bill & Melinda Gates Foundation
Ford Foundation
The World Bank

Scope of RTI's Technical Reach



Nano Scale



Lab Scale



Pilot Scale



Commercial Deployment

RTI's experience base and current projects span the entire scope of technology development activities: from nanoscale modification of advanced materials to full-scale commercial deployment of innovative technologies.