Knovel for Oil and Gas

For the Oil & Gas Industry, staying competitive in a challenging economic environment means meeting global demand for natural resources while remaining vigilant of price volatility, and decreasing or uncertain margins.

Knovel delivers trusted, accessible and relevant engineering answers and insights to address challenges, bottlenecks and inefficiencies in the Oil & Gas Industry, ensuring business continuity through operational excellence.
“Past knowledge gained from [Knovel] helped spot potential for increasing production through choke optimization. Execution of the approved plan yielded 100% oil production from the well.”

—Production Manager at Integrated Oil Company

Minimize risk while maximizing output and efficiency

Fluctuations in oil prices, harsh environments, HSE concerns, infrastructure demands, unplanned outages, production downtime. These business challenges in a volatile industry constantly put pressures on engineering teams in oil and gas companies.

All the while, oil and gas company leaders must:

- Reduce risks along the value chain
- Adhere to environmental, health and safety regulations
- Maximize efficiency and quality of production
A solution that supports decisions

Knovel is an engineering-decision support solution that helps oil and gas companies minimize drilling time, maintain safe business practices and be more efficient in downstream operations.

Simply put, Knovel helps oil and gas companies make better decisions in upstream and downstream applications.

Knovel is a critical solution to help with:

**Reducing Engineering Risks**

$250\text{K}

Knovel helped an unconventional oil and gas company reduce corrosion risk in its shale gas well equipment by replacing certain fluids going through its systems, saving $250k per year in process chemical and nitrogen costs.

**Managing HSE Risks**

$400\text{K}

Knovel helped a large oil and gas company meet new environmental regulations by helping them find the right adsorption agent that would limit benzene emissions, saving $400k in plant modification costs.

**Production Excellence**

2X

Knovel helped an oil and gas company find a suitable replacement for a pump used in oil extracting, doubling the throughput of crude oil at the facility.

Engineers use Knovel to:

- Research substance and material properties and suitability for applications and process improvements
- Perform calculations to solve process and application challenges
- Troubleshoot issues and failures
- Develop design guidelines and criteria for equipment, maintenance and processes
- Assess safety and risks with potential and existing processes and systems
- Get up to speed on unfamiliar topics
Knovel supports Upstream Oil and Gas with essential, data-rich answers

Knovel helps upstream oil and gas companies reign in costs and use operational resources efficiently, ensure HSE requirements are met, and mitigate preventable downtime risks. With Knovel, engineers make better decisions, resulting in gains such as:

- **Reduced consultant fees**
- **Informed well construction and maintenance**
- **Streamlined process control & automation**

...Of upstream oil and gas users say Knovel helps them reduce engineering risk.

Source: 2017 Knovel User Survey
Knovel empowers Downstream Oil and Gas with operational insights

Knovel helps downstream oil and gas companies improve and upgrade operational equipment, develop HSE-compliant methods, and identify the best technologies to optimize processes. With Knovel, engineers make better decisions, resulting in gains such as:

- Problem-solving based on industry data & insights
- Assessment & management of HSE issues
- Continuous process improvement

68% Of downstream oil and gas users say Knovel helps them increase plant efficiency.

Source: 2017 Knovel User Survey
How Knovel delivers

Essential answers: relevant, tailored content throughout the search journey

- Technical reference resources from 150+ publishers including the Crude Oil Assay database, NACE and more
- Interactive content including equations, graphs and tables
- 65M+ data points including material and chemical property data

Accelerated discoveries: powerful search and processing capabilities

- Text-based search eliminates the need to know complex taxonomies to find relevant results
- Property data search easily narrows down properties for specific conditions
- “Refine by” tool extracts engineering concepts to declutter results and discover connected content

Figure 1: User-defined searches or viewed content, as well as tools like interactive graphs and a unit converter, are just a click away.

Figure 2: The powerful but intuitive query builder of Knovel's Property Search.

Figure 3: The unique “Refine by” tool highlights engineering concepts to quickly get relevant answers.
How Knovel delivers
Continuous access: using Knovel content when and where answers are needed

Knovel is designed for using information. Thus, plug-ins enable content interoperability with essential engineering tools and software like Autodesk Inventor and Excel. Furthermore, Knovel ToGo grants mobile access to results, extending the reach of insights beyond the office and eliminating project delays.

- Access to answers & insights on the go with the Knovel ToGo app
- Integrations with third party software like Autodesk Inventor and Microsoft Excel

Users agree: Knovel advances their engineering work, providing answers and insights with high business impact

Knovel

<table>
<thead>
<tr>
<th>Feature</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Is a trusted resource for oil &amp; gas companies</td>
<td>87%</td>
</tr>
<tr>
<td>Eases adherence to HSE regulations while saving money</td>
<td>73%</td>
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<tr>
<td>Helps boost plant efficiency</td>
<td>68%</td>
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<tr>
<td>Facilitates better project and time management</td>
<td>75%</td>
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<tr>
<td>Supports optimized product quality and yield</td>
<td>68%</td>
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</tbody>
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Source: 2017 Knovel User Survey

Figure 4: The Knovel ToGo app for Tablets & Smartphones is available on iOS (App Store) and Android (Play Store)
Knovel
Knovel is an engineering decision-support solution enabling engineers to solve problems faster. With powerful search and interactive analytical tools, engineers can confidently find answers to technical questions through best practice insights, validated equations and materials and substances data from more than 150+ providers. For more than 15 years, Knovel has helped thousands of engineers and researchers from leading companies and institutions around the world enhance research and productivity, achieve operational excellence, reduce costs and time to market, and build expertise.

For more information about Knovel, visit www.elsevier.com/knovel

Elsevier offices
ASIA AND AUSTRALIA
Tel: +65 6349 0222

JAPAN
Tel: +81 3 5561 5034

KOREA AND TAIWAN
Tel: +82 2 6714 3000

EUROPE, MIDDLE EAST AND AFRICA
Tel: +31 20 485 3767

NORTH AMERICA, CENTRAL AMERICA AND CANADA
Tel: +1 888 615 4500

SOUTH AMERICA
Tel: +55 21 3970 9300