

Oil and Gas industry

Innovation trends and the challenges ahead

Changing market conditions and regulatory requirements are the norm for the oil and gas industry. Now, there's also growing focus globally on reaching environmental and sustainability goals outlined in various agreements. Innovation across all areas of your business is key to meeting the challenges ahead. With the right technology provider, you can turn challenge into opportunity.

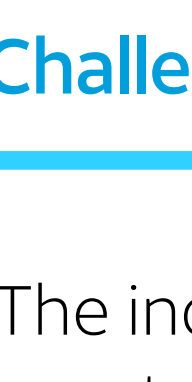
Trend: Digital transformation



20% estimated reduction of greenhouse gas by 2050¹ by adopting digital technologies like:



Artificial intelligence to deploy and manage renewable energy enabled by the cloud and 5G networks



Big data analytics to predict energy use, optimize production, and reduce greenhouse gas emissions



Internet of Things (IoT) to monitor and adjust energy use and enable smart grids

Challenge

The industry has been slow to transform, but businesses are starting to see the **potential benefits** to areas such as:



Improved data analysis



Predictive maintenance



Safety monitoring

Trend: Transition to low-carbon and renewable energies



200% increase over 10 years.

That's the projected growth of renewable energy's share of the energy mix from 2015 to 2025.² Growing demand means opportunities if you can adapt. How? Integrate renewables and low-carbon sources into existing operations while also exploring their potential for new business.

Challenge

Invest in new technologies and business models to reduce emissions and increase use of renewable energy sources.

Trend: Environmental and social sustainability



79% of oil and gas execs view social responsibility as important for long-term success.³

Companies are putting sustainability strategies in place to reduce their environmental footprint, enhance social responsibility, and engage more with stakeholders.

Challenge

Increase energy efficiency. The oil and gas industry isn't just an energy producer. It's also a big consumer. Your business will need to 'walk the walk' to reduce costs and operate more sustainably.



Minimize emissions



Limit environmental impact



Reduce waste

Trend: Energy security independence

Global energy markets are volatile, and supplies can fluctuate unpredictably. To ensure a reliable supply of energy, the industry needs to invest in infrastructure that supports alternative energies such as:



Pipelines



Storage facilities



Transport

Challenge

Developing alternative energy sources. The move toward a low-carbon economy is driving interest in developing alternative energy sources. It requires significant investment and innovation in:



Hydrogen



Geothermal energy



Biofuels

Trend: Innovation

The oil and gas industry is embracing innovation to improve efficiency, reduce costs, and drive growth. That means developing new technologies and business models and collaborating with startups and other innovators.

Challenge

Developing new technologies. The industry relies on highly specialized equipment and processes. Progress takes time and can be costly, but it's critical to success. There are opportunities in:



Exploration



Drilling/production



Transportation

Trend: Expanding threat landscape



\$6.39M cost of the average energy sector data breach.⁴

Like other sectors, energy companies face increasing cyber threats but at a higher cost than the global average.

Challenge

Investing in cyber resilience. Innovation driving shifts in digital solutions expose critical infrastructure and entire supply chains to cyber risks, making cybersecurity a core requirement in the business model.⁴ Key principles include:



Secure both operational technology (OT) and information technology (IT) environments



Cyber-resilience governance



Ecosystem-wide cyber risk assessment, reporting, and planning

Why AT&T Business?

See how ultra-fast, reliable fiber and 5G connectivity protected by built-in security give you a new level of confidence in the possibilities of your network. Let our experts work with you to modernize your infrastructure and defend against cyberattacks. Welcome to a new standard for networking.

Learn more about [solutions for the oil and gas industry from AT&T Business.](#)

¹ Digital technologies can cut global emissions by 20%. Here's how | World Economic Forum (weforum.org)

² Net Zero by 2050 | International Energy Agency (iea.org)

³ Top 4 ways oil and gas companies can report ESG goals to investors (worldoil.com)

⁴ Cyber Resilience in the Oil and Gas Industry: Playbook for Boards and Corporate Officers | World Economic Forum (weforum.org)