

# Modernize the oil and gas industry with Red Hat

## The pressures of a changing industry

**Oil and gas companies are facing increasing pressure on many fronts, causing them to explore ways to modernize business practices.**

Businesses in the energy sector have been rapidly undergoing a digital transformation as new technologies emerge that can help increase operational efficiency, productivity, and responsiveness to the market.

Global energy needs are continuing to grow, and concerns about climate change are spurring an energy transition towards renewable sources. As new regulations push operational costs higher, energy companies can turn to enterprise IT solutions that can help them position their operations for the future.

To meet their modernization goals, oil and gas companies must consider and address many relevant topics, including how to:

- ▶ Optimize business performance through alternative options, including adopting new IT infrastructure software to increase efficiency and advance digital transformation, diversified energy strategies, energy storage and trading, biofuel and bioplastics, and electric vehicle services.
- ▶ Separate strategic long-term technology investments from current-day impacts on business.
- ▶ Strengthen technological foundations to minimize operating costs while maintaining efficient business practices.

A technology foundation plays a major role in the way oil and gas companies answer these questions. An enterprise open source IT foundation can support a transformation strategy by maintaining efficiency, focusing on security, and attracting and retaining the right talent.

## Modernize your operations with Red Hat

**Red Hat can help oil and gas companies meet existing and future challenges.**

With more than 25 years of IT expertise, Red Hat provides services and solutions that can help establish the IT infrastructure software, which modernizes operating models for efficiency, establishes greater resilience, and prepares for the future in both talent and structure.

With Red Hat, organizations can build a solid foundation for IT platforms, and help:

- ▶ **Modernize for greater efficiency and security.** Integrate new technologies to modernize processes and operations.
- ▶ **Automate at scale.** Gain the infrastructure solutions, expertise, and support to help automate applications across your organization, improving business performance.
- ▶ **Integrate resilient technology.** Develop technology investments by integrating new technology such as automation and artificial intelligence (AI), and adopt cloud-native approaches that provide greater resilience.
- ▶ **Extract value from data.** Integrate systems and applications to better access data and get business insights, break down barriers to change, and improve customer experiences, efficiency, and security capabilities across the enterprise.

Many oil and gas companies have already partnered with Red Hat, including [BP](#), [ExxonMobil](#), [Cepsa](#), and [YPF](#). Recognizing the value of building a strong foundation for their enterprise IT, they have adopted Red Hat® Enterprise Linux® and the broad suite of Red Hat solutions, including Red Hat Ansible® Automation Platform, Red Hat OpenShift®, and Red Hat's robust training and certification programs.

IBM, along with Red Hat, is also collaborating with oil field services company Schlumberger to [accelerate digital transformation](#) across the oil and gas industry and to create a differentiated data management and operations solution for the [OSDU™ data platform](#). This joint solution will help oil and gas operators build, deploy, and transition digital solutions using hybrid cloud data infrastructures.

### **Red Hat Enterprise Linux: A consistent foundation for new technologies**

#### **Energy companies need a stable framework to build new technologies.**

As the world's leading enterprise Linux operating system<sup>1</sup>, Red Hat Enterprise Linux helps organizations integrate new technologies on a stable foundation. This foundation provides future flexibility to upgrade processes and operations by providing a common link with constant support. Red Hat Enterprise Linux also helps reduce IT costs while boosting security capabilities and maximizes the flexibility of hybrid cloud infrastructure.

#### **ExxonMobil**

ExxonMobil needed a better way to share algorithms with its customers—the engineers, geoscientists, and researchers who determine how and where to extract oil and gas. The international company used Red Hat Enterprise Linux in conjunction with other Red Hat products to implement container technology and automation, supported by modern, agile development practices.<sup>1</sup>

Results included:

- ▶ Improved research data scientist productivity.
- ▶ Increased responsiveness and agility to support iterative project validation and updates.
- ▶ Establishment of remote collaboration capabilities with greater security.

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<sup>1</sup> Red Hat Customer Success Story. "[ExxonMobil speeds information sharing, gains agility and productivity](#)," April 2020.

## **Accelerate IT automation with Red Hat Ansible Automation Platform**

### **Automating for greater efficiency and agility is critical.**

Ansible Automation Platform helps build and operate IT automation at scale across organizations. A unified automation platform helps centralize control, automate processes, and improves connectivity to reduce total costs. Additionally, by automating business processes, organizations can streamline updates, reduce downtime, enhance security capabilities, and increase agility.

#### **Cepsa**

Global energy and chemical company Cepsa needed to scale its existing automation platform for use across the company, also using it to help in their SAP migration to a cloud environment.<sup>2</sup> Cepsa successfully scaled its hybrid cloud strategy using Red Hat OpenShift, and turned to Red Hat Consulting for guidance on how to maximize value from its automation platform.

The results:

- ▶ Saved more than 6,000 work hours with a central automation approach.
- ▶ Enhanced service levels with 10–15% faster IT response times.
- ▶ Improved IT security with enhanced access controls.
- ▶ Transformed business culture with expert automation guidance.
- ▶ Completed SAP migration in a reduced time frame.
- ▶ Automated more than 400—and counting—IT operations processes.

## **Evolve and integrate technology with Red Hat OpenShift**

### **Oil and gas companies need a flexible platform for building and running applications wherever they are needed.**

Red Hat OpenShift can help energy companies modernize applications, improving software delivery performance by updating conventional software systems. It can make applications portable across multiple platforms, replatform existing workloads onto a modern cloud platform, and break monolithic applications into smaller pieces like microservices. With the integration of technologies such as automation and artificial intelligence and machine learning (AI/ML), Red Hat OpenShift can help build new intelligent application services.

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<sup>2</sup> Red Hat Customer Success Story. "[Cepsa automates IT to achieve operational efficiency with Red Hat](#)," June 2022.

## Train the energy experts of tomorrow

### A shifting technology landscape makes training a competitive differentiator.

Red Hat Training and Certification can provide your organization's resources with training, support, and expertise needed to prepare for the future. From Linux training to DevOps certification, Red Hat can provide a hands-on approach and a practical certification path tailored to business goals, allowing streamlined recruitment and reduced time to hire, and mitigate labor and skill shortages with proper training. The flexible training offerings from Red Hat can be customized to meet your organization's specific needs.

#### YPF

Argentine energy company YPF<sup>3</sup> needed to accelerate its cloud adoption to deploy container technology, improve their orchestration platform, and take better advantage of continuous integration and continuous delivery (CI/CD) technologies. YPF's cloud domain and microservices team underwent Red Hat Training—both on site and online—engaging in courses on containers, automation, microservices, and security.

The results:

- ▶ Accelerated the adoption of Red Hat OpenShift, Red Hat Fuse, and Red Hat Ansible Automation Platform.
- ▶ Created general usage definitions that allowed YPF to standardize product applications.
- ▶ Allowed a strategy toward evolution by providing knowledge of Red Hat OpenShift and its convergence with Red Hat solutions.

### Get started

The energy sector's digital transformation is well underway and oil and gas companies that seek to modernize their business to gain competitive advantages are increasingly looking to open source technologies.

Red Hat can help energy companies meet both existing and emerging challenges and help transform their approaches and processes using technology foundations that improve efficiency, increase security capabilities, and capitalize on new opportunities.

[Contact a Red Hatter](#) to learn more about how Red Hat can help your organization modernize for the future.

Explore [Red Hat products](#) to learn how we can help your organization modernize for the future.

<sup>3</sup> Red Hat Customer Success Story. "[YPF accelerates container adoption with Red Hat Training.](#)" September 2020.



#### About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers develop cloud-native applications, integrate existing and new IT applications, and automate and manage complex environments. [A trusted adviser to the Fortune 500](#), Red Hat provides [award-winning](#) support, training, and consulting services that bring the benefits of open innovation to any industry. Red Hat is a connective hub in a global network of enterprises, partners, and communities, helping organizations grow, transform, and prepare for the digital future.

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