ORACLE

Oracle Solutions Enabling Sustainability

Helping Oracle customers reduce their environmental footprint

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Public

ORACLE SOLUTIONS: COST-EFFECTIVE AND ENVIRONMENTALLY BENEFICIAL

Leading businesses recognize that environmental sustainability is good business. Whether these projects are driven by an organization's desire to protect the environment, reduce costs, produce eco-friendly goods to meet growing consumer demand, or comply with increasing levels of regulation, the results can be both good for the environment and good for the bottom line.

In order to be successful, organizations need to integrate sustainability initiatives into their core business activities across the entire value chain, not isolated in one department or a few processes. This approach yields more impactful, wide reaching and cost effective results.

At Oracle, we have a dual focus: internally on initiatives that support our own sustainability goals, and externally on delivering solutions that empower our customers to do the same. Every year we are proud to recognize customers that are using Oracle solutions to deliver environmental value while also improving financial performance with the Oracle Sustainability Innovation Awards and we share their success stories.

Oracle's solutions cover an unmatched breadth and depth of capabilities for all industries to design more environmentally friendly products, source materials responsibly, transport goods in more sustainable ways, manage risks, and analyze and report on environmental impacts. Emerging technologies like the Internet of Things (IoT), Big Data, and Blockchain are providing unprecedented opportunities to fundamentally shift how organizations are impacting the environment as they conduct their business.

With its Cloud solutions, Oracle offers an even more sustainable alternative for companies looking to minimize their environmental impact. Oracle manages and maintains a very dense computing environment, attaining much higher utilization rates than an organization can achieve with an on-premises system. Oracle Cloud further reduces its environmental footprint by leveraging state-of-the-art energy efficiency technologies at our data centers and maximizing the reuse and recycling of hardware equipment.

CLOUD OPERATIONS

Oracle Cloud provides both environmental and business benefits by leveraging Oracle's experience in data center management, maximizing energy efficiency, using renewable energy, promoting a sustainable supply chain, and optimizing the reuse and recycling of aging equipment. Oracle Cloud Applications and Oracle Cloud Infrastructure provide a unique opportunity for organizations to not only drive business value but also to align their IT infrastructure with the circular economy and its environmental benefits. A key tenet of the circular economy is that physical assets should be decoupled from the service they provide. Individuals or organizations do not necessarily need to physically own computing hardware, they just need access to the ability to compute. This is exactly what the Cloud delivers.

With Oracle Cloud's sharing of computing resources among a large number of customers, organizations gain enormous economies of scale, especially when it comes to carbon and energy consumption. Oracle Cloud enables customers to take advantage of Oracle's highly efficient cloud infrastructure with its centralized server processing and optimized energy usage. Oracle's data centers leverage state-of-the-art intelligent energy management and cooling technologies that are based on Oracle's industry-leading expertise and best practices.

Oracle also manages an elastic computing platform that can grow dynamically with an organization as needed, eliminating excess capacity builds for future demand. Furthermore, Oracle reduces environmental waste by maximizing the reuse and recycling of its hardware, further aligning with the circular economy.

100% renewable energy is used at 94 of Oracle's leased data centers across ten countries. Oracle works closely with its colocation partners to improve data transparency and drive renewable energy adoption. These considerations are part of our selection process for new vendors, and they also factor into our engagements with existing vendors. Oracle believes it is important for our sector to collaborate and advocate for the availability of cost-competitive renewable energy. To support these goals, Oracle participates in related initiatives and events.

Oracle's Cloud Operations support solutions for:

- Oracle Cloud Applications
- Oracle Cloud Infrastructure

"With Oracle Cloud Infrastructure and Oracle Cloud Platform, we significantly reduced IT operational costs, cut energy consumption by 20 percent, simplified administration and compliance, and delivered the scalability we need to meet our sustainable growth plans in the oil and gas industry for years to come."
-Vlad Moca

Deputy Group IT Director,
KMG Rompetrol SRL

The Oracle Cloud: A More Sustainable Alternative

This video explains how companies can reduce energy costs and improve their environmental footprint using Oracle Cloud.

EMERGING TECHNOLOGIES

The use of emerging technologies holds the promise of putting the world on a much more sustainable path. Emerging technologies such as the Internet of Things (IoT), artificial intelligence (AI), big data, and blockchain are driving unprecedented environmental and business innovation by supporting real-time data collection and holistic decision-making that include environmental impact. From thriving startup communities to large companies, Oracle customers are leveraging these technologies to deliver new solutions—and, in many cases, to build entirely new business models, such as the sharing economy.

The Internet of Things (IoT) enables physical assets, and value chains as a whole, to be operated significantly more efficiently by reducing waste and minimizing energy use. An example is the use of IoT, robotics, and big data to enable efficient food production and delivery for the world's rapidly growing population within growing resource constraints. Roughly one third of the world's food is wasted each year and smart sensors can reduce that waste by 25 to 40 percent across the value chain. Modelling and predicting environmental patterns help build resilience to climate-related impacts. Blockchain enables transparency and traceability in complex supply chains to expose risks of human rights abuses or unsustainable natural capital management. These new

Volvo Cars, China in First Blockchain Project for Recycled Cobalt

Volvo Cars has produced the first cars containing recycled cobalt mapped using a platform built by Circulor on Oracle Blockchain. Now Volvo Cars and their customers can be assured of the integrity of their car parts, responsible cobalt sourcing, and regulations compliance.

technologies are also supporting new business models like the sharing economy which can dramatically reduce the resources needed to deliver goods and services.

Oracle's emerging technology solutions include:

- Artificial Intelligence (AI) to bolster human reasoning, recognize patterns in your data, and automate complex or mundane tasks using Oracle AI and Oracle Adaptive Intelligent Applications.
- Blockchain to record results in a secure and unalterable manner, bringing new levels of trust and auditability to business transactions using Oracle Blockchain and Oracle Intelligent Track and Trace.
- Cloud computing to take advantage of Oracle's highly efficient cloud infrastructure with its centralized server processing and optimized energy usage using Oracle Cloud.
- Internet of Things (IoT) to extend your supply chain and automate business processes by transforming a world of things into a world of data using Oracle IoT and Oracle IoT Applications.

Studying Bee Behavior with Oracle Cloud

The World Bee Project uses Oracle Cloud to study bee behavior through sound acoustics to help uncover health threats and help save them. They are learning how habitat loss, single crop farming, and pesticides affect the bee population. The World Bee Project generates masses of important data using AI, data visualizations, and analytics to identify patterns, trends, and correlations.

BUSINESS OPERATIONS

Successful organizations today are embedding environmental and sustainability practices in all aspects of their operations. This includes sourcing sustainable materials, producing and shipping products in a sustainable way, reducing the product's energy consumption, managing waste and recycling at all stages of the product development life cycle, and reporting on sustainability initiatives. Organizations that run lean and green can be more productive, more profitable, and less polluting. By taking an environmental stance, your organization can cut costs, reduce risks, drive revenues, and improve your brand.

Oracle's solutions to support sustainable business operations enable companies to:

- Design for the environment by taking environmental impacts into consideration during the design of products and comply with regulatory directives using Oracle Product Lifecycle Management Cloud and Oracle Product Data Management Cloud.
- Sustainable sourcing to build a sustainable supply chain and select suppliers based on your sustainability-related selection criteria using Oracle Procurement Cloud.
- Sustainable manufacturing to streamline your manufacturing production cycle to eliminate waste and reduce resource consumption using Oracle Manufacturing Cloud.
- Supply chain planning to design your supply network with sustainability in mind by optimizing the use of constrained environmental resources using Oracle Supply Chain Planning Cloud.
- Sustainable logistics to optimize your transportation load, dock, and routing activities for reduced energy consumption and emissions using Oracle Logistics Cloud.
- Facilities and asset management to maximize the use of your assets while ensuring best sustainability practices and quality compliance using Oracle Primavera Unifier Facilities and Asset Management.
- Smart Utilities Grid to optimize your distribution of energy for a smarter grid and help consumers reduce energy consumption using

Unilever Reduces CO2 Emissions

Unilever drives sustainability and cuts transport costs with help from Oracle Transportation Management.

Drive Business Value with a More Sustainable Supply Chain

Read the Sustainable Supply Chain Digibook to explore seven key supply chain functions that you can leverage to make your organization more sustainable, including logistics, sourcing, and manufacturing.

Oracle Utilities Opower.

- Sustainable Cities to empower citizens to influence their behavior and provide a city infrastructure to optimize data center efficiency using Oracle Smart City Projects Solution.

RISK AND PERFORMANCE MANAGEMENT

A critical characteristic of a sustainable enterprise is the ability to measure and report the environmental performance of the organization. In order to prove they are environmentally compliant, organizations must provide stakeholders with accurate and verifiable measures of their sustainability-related efforts. Well-designed and implemented risk and enterprise performance management solutions help organizations set environmental goals, build them into their operating plans, track and report progress on a regular basis, and optimally leverage their resources to maximize profits and stakeholder value.

Oracle's solutions to support sustainability risk and performance management include:

- Sustainability analytics to improve environmental data collection and comply with global regulations using Oracle AI-Driven Analytics and Oracle Big Data.
- Sustainability reporting to integrate financial and sustainability reporting using Narrative Reporting in Oracle Enterprise Performance Cloud.
- Environmental planning to gain an in-depth look at sustainability-related business operations and their impact on financials using Profitability and Cost Management in Oracle Enterprise Performance Management Cloud.
- Predictive modelling and forecasting to model, forecast, simulate, and optimize your sustainability initiatives using Planning in Oracle Enterprise Performance Management Cloud.
- Risk and compliance management to establish targets and measure progress for improving environmental performance using Oracle Risk Management Cloud.

"National Grid deployed our first Opower Energy Efficiency program back in 2009 to help customers better understand and manage their energy use. Since then, we have seen significant energy savings and a positive impact on our customer sentiment as they look for greater control over their energy spend. This program is essential to our future success in navigating the rapidly changing energy landscape, especially as customer expectations continue to shift."

- John Isberg

Vice President, Customer Solutions
National Grid

Exelon Helps Customers Reduce Energy Consumption with Oracle

Exelon is helping its customers reduce their energy consumption using insights through its energy services powered by Oracle Utilities, Big Data, and Analytics solutions.

CONCLUSION

Oracle's solutions cover an unmatched breadth and depth of capabilities for all industries to help design more environmentally friendly products, source materials responsibly, transport goods in more sustainable ways, manage risks, and analyze and report on environmental impacts. Emerging technologies like the Internet of Things, Big Data, and Blockchain are providing unprecedented opportunities to fundamentally shift how organizations are impacting the environment as they conduct their business. Oracle encourages its customers to move to the Oracle Cloud, a more sustainable alternative for delivering information technology.

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