



NAVIGATING SUSTAINABILITY IN THE DIGITAL AGE

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YUZEDATA™

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INTRODUCTION

Sustainability is now a decisive parameter of every organization’s business strategy at the drawing board stage with the conscious intention to reduce operational and resource impacts on the planet. Governments, consumers, and investors are reshaping the industry by demanding mandatory disclosures and quantifiable metrics to ensure that companies record and are responsible for their operational impact across the product life-cycle. Reporting empowers a company to understand the comprehensive environmental and social impact throughout the value chain from design, compliance, and material sourcing to production, operation, and disposal. Actionable strategies result in mitigating risk, demonstrable evidence of reducing impact footprint, and cost savings, thus building transparency and traceability, and mitigating risk for the company’s shareholders and stakeholders. The process of data collection and management, coordination, regulatory compliance, calculations, and reporting is a daunting and time-consuming task for companies. Technology-driven platforms and

tools are the key to aiding and transitioning enterprise ecosystems to support their sustainability journey and low carbon transition.

As the world tackles issues such as climate change, social inequality, and corporate governance, organizations are in search of metrics to measure environmental and ethical operational impacts. Environmental, Social, and Governance (ESG), coined in 2005, has emerged as a comprehensive framework to disclose information about a company's performance to stakeholders on business objectives and operations, including environmental impact, social issues, and corporate governance. An ESG report summarizes the qualitative and quantitative benefits of the ESG activities with each of the three pillars collecting unique data, analysis, and reporting requirements.

Figure 1: ESG Report Overview with Examples of Data Points and Requirements

Source: ABI Research



Environment, Health, and Safety, and Quality (EHSQ) is a subset of ESG that primarily focuses on compliance with environmental regulations, occupational health and safety standards, and implementing practices that maintain high standards of quality while minimizing environmental impacts and prioritizing worker well-being.

ESG MARKET OVERVIEW

ESG Software-as-a-Service (SaaS) is a solution that collects data and streamlines an organization's ESG program. It uses various metrics to collate data, track and analyze data, calculate impacts, create reports, and provide actionable insights. Heightened awareness of global challenges has also resulted in a cascading effect from investors and customers, insisting on businesses' operations being held accountable for their impacts on society and the environment. Transparency of a company's environmental and social performance indicators contributes to improving brand perception and increased stakeholder engagement with consumers and employees. ESG disclosure and assurance is a tool to identify businesses that accurately report sustainability metrics and prevent greenwashing. Lastly, the surge in implementing digital infrastructure to streamline operations and optimize performance, ensure effective resource planning, and improve efficiency are key drivers to the increased adoption of ESG software. The major regulatory and organizational drivers include:

- Corporate Sustainability Reporting Directive (CSRD)
- Task Force on Climate-related Financial Disclosure (TCFD)
- International Sustainability Standards Board (ISSB)
- Carbon Disclosure Project (CDP)
- Global Reporting Initiative (GRI)
- Sustainability Accounting Standards Board (SASB)
- U.S. Securities & Exchange Commission (SEC) climate disclosure rule
- California Senate Bill (SB) 253 & SB 261

Figure 2: Sustainability Software Market Drivers

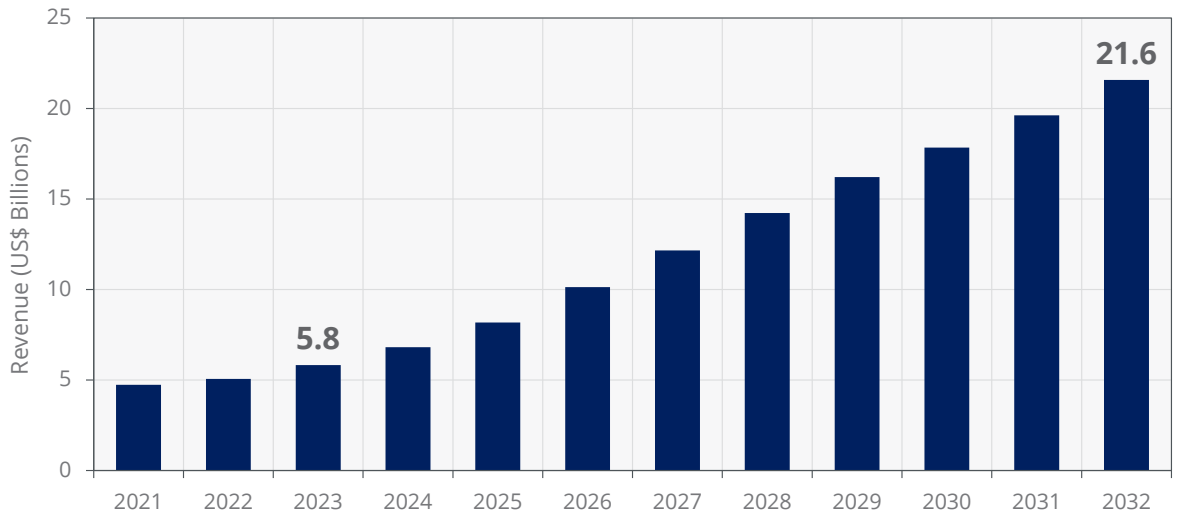
Source: ABI Research



The global ESG and EHS software market revenue is valued at US\$5.8 billion in 2023 and expected to reach US\$21.6 billion by 2032 with a Compound Annual Growth Rate (CAGR) of 15.7% for the forecast period of 2023 to 2032.

Table 1: ESG & EHS Software Market Supplier Revenue, World Markets: 2021 to 2032

Source : ABI Research

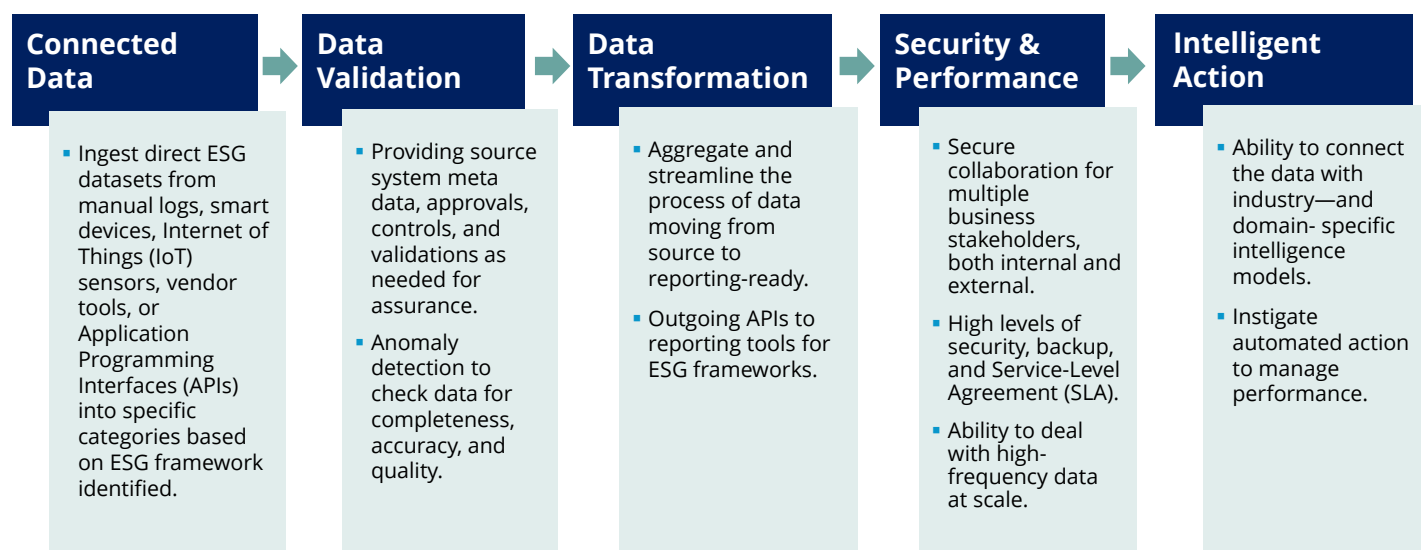


The ESG software market is experiencing strong momentum from external factors and internal aspirations. Focus during 2023 is on compliance, as international and European regulators are transitioning from a voluntary market to mandatory disclosure for companies of a certain size and industry is increasing the adoption of ESG software. The current emphasis is to accurately measure and report ESG performance across industries in a consistent and reliable manner. As mandatory regulations kick off in 2024, ESG solution providers should focus on driving greater transparency with a focus on automation and connecting to verified source data more frequently. By 2026, ESG software and data management tools will direct their efforts toward performance management and operational efficiency, leveraging ESG data for impactful performance optimization.

As organizations mature in their ESG approach, the following stages of data aggregation become vital: initial compliance (often manual), automation (connecting to incoming and outgoing data sources), and then performance improvement (final and most critical stage). Effective data management is the key to maintaining a high level of ESG recording and performance with indicators that include resource generation, consumption & management (energy, water, waste), GHG emissions, health & safety compliance, etc. Due to this intense new demand for data, the emphasis on ESG software is rapidly moving to the data capabilities that the platform can bring.

Figure 3: Key Components of a Robust ESG Data Platform

Source: YuzeData



ESG data management software requires minimal Information Technology (IT) infrastructure and support, once implemented, to assist business with digitizing workflows, identifying and managing risk, improving operations, and making better decisions. The data collected establish baseline performance, identify opportunities for efficiency, and streamline workflow across the entire value chain and supply chain without burdening employees. Solution providers with authenticated data, automated data triggers, and third-party assurances increase trust and loyalty for a company, which is invaluable information to investors wanting to make more informed investments and attract new market opportunities in a rapidly evolving marketplace.

CHALLENGE STATEMENT

There are more than 500 ESG reporting standards and frameworks with substantial improvements being made to improve and standardize ESG disclosure. Reporting frameworks still suffer from trying to assure accurate comparability of core metrics across industries for ESG disclosure. The trend toward a globally recognized universal set of principles and guidelines for ESG reporting and disclosure is inevitable. An insightful standardized industry-specific framework will facilitate further accuracy, consistency, and transparency in the ESG reporting process.

One of the biggest challenges that companies are facing when preparing ESG reports is comprehensive data availability, accuracy, and management. Annual data gathering is manual and time consuming, often failing to meet the standard required. While annual and manual data surveys support compliance, they are major obstacles to transparency and performance. Effective ESG reporting can coordinate regular and collaborative data sharing across multiple stakeholders from traditionally siloed data repositories. Regulators are persistent about audited, traceable, and assured data being reported regularly that are verifiable and mapped directly to the data source. Robust data management of structured and unstructured data is fundamental to sustainability reporting, and is now held as accountable as financial reports. To drive transparency and performance, operational data needs to be frequently collected in real time and combined with other operating data to drive automated action. This access to frequent data at scale prepares the groundwork to deploy intelligence models to manage enterprise ESG performance.

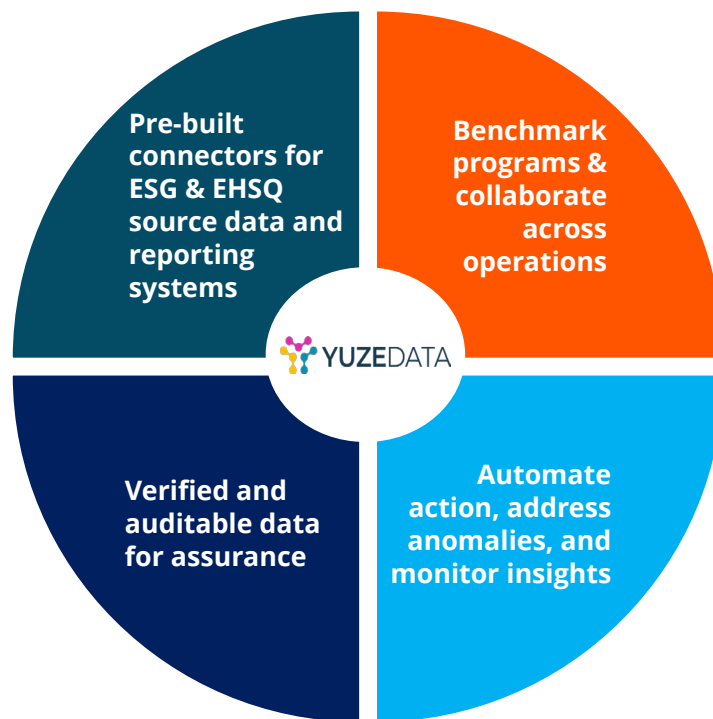
YUZEDATA

YuzeData is a connected data platform with the mission to put human insight into machine intelligence. With industry and domain expertise in ESG & EHSQ, YuzeData's approach to the ESG software landscape is from a data-driven lens, focusing on connecting and accessing data silos for ESG reporting and management pipelines. The platform is a complementary tool to assist existing ESG/EHSQ enterprise and collaboration software to deliver sustainability reports with assured data sources and improved operational performance. Additional capabilities of the platform include identifying data anomalies, automating actions, a library of pre-built connectors, domain-specific integration use cases, and pushing transformed data to allied business reporting tools or ESG disclosure tools.

The integration of the tool across teams facilitates real-time monitoring by ESG teams and operational teams to support seamless reporting or performance improvements. YuzeData's secure and assured platform supports IT teams with a comprehensive overview of all data connectors, maintenance, and performance management, as well as finance and assurance teams to trace data sources, and to verify and link disparate source systems for reporting and disclosures. Automation and proactive maintenance alerts triggered by the YuzeData platform further leverage ESG & EHSQ data. The resulting auditable and verifiable operational data improves accuracy and comparability among peers, improves operational efficiency, increases cost savings, and ensures safer work environments.

Figure 4: YuzeData Platform Capabilities

Source: YuzeData



DATA AGGREGATION, AUTOMATION, AND PREDICTIVE ANALYTICS: ECOSYSTEM ENABLER

The complexity of ESG reporting lies in information interdependency from different departments of an organization to collect, share, and report metrics in line with the chosen ESG reporting standards. Future-proof ESG data management requires sustainability, risk, IT, governance, and finance teams, among others, to collaborate in new ways not necessary before. Manual ESG data collection is tedious and time consuming, whereas automated data collection consolidates multiple accurate data points with traceable sources across the organization. Organizations can easily scale such tasks and collect timely data regularly without human error, releasing employees to focus on higher-level work.

Figure 5: ESG Software Ecosystem

Source: YuzeData



Leading ESG software providers are automating data aggregation and monitoring real-time data to support ESG decision-making and reporting. YuzeData further enhances ESG management with industry-specific built-in connectors, real-time monitoring, and predictive capabilities by creating actionable tasks to support organizations' operational performance. Implementing automation can be challenging and demands strategic planning as it integrates into existing legacy systems, data silos, and other complexities.

Predictive analysis drives sustainable data toward actionable goals and gaining company insights to improve decision-making. The advanced capabilities of predictive modeling to make inferences and collect valuable data mapped to the respective goal or assets add to business value. Deficiencies in data, lack of updated datasets, and preconceived modeling guidelines lead to limitations in analytical algorithms, which skew insights.

As the domain of industry-specific reporting develops with scaled adoption, automation and predictive analysis will become more necessary for an organization's operational edge.

PLATFORM USE CASES

YuzeData has more than 150 expert pre-built use cases designed to extract suitable indicator data mapped to data sources and connected with the required automated action. Three uses cases related to the ESG and EHSQ solutions are listed below.

YUZEDATA'S ESG DATA AUTOMATION AND PERFORMANCE MANAGEMENT

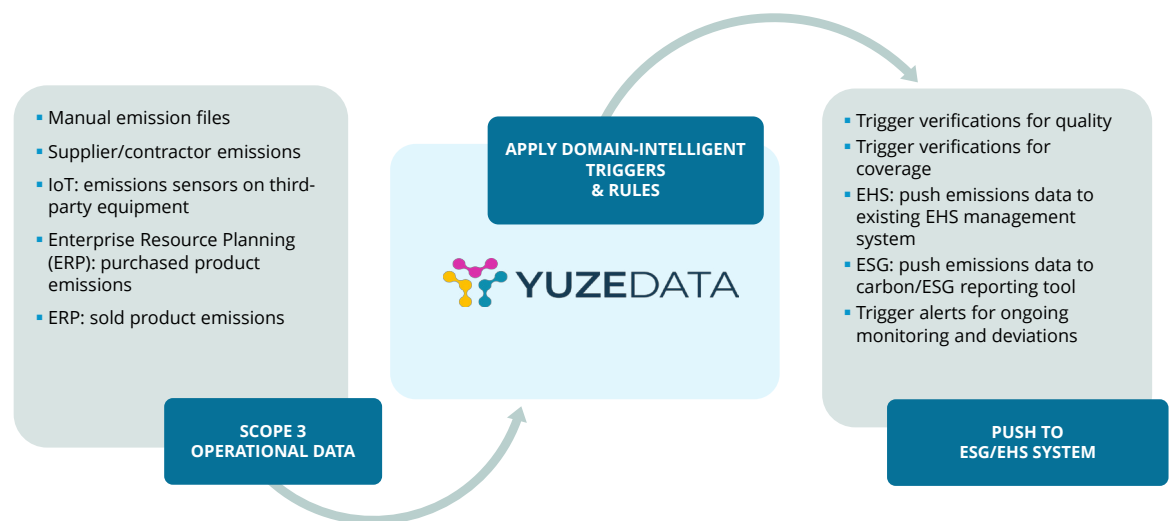
The solution is designed to simplify connecting to data silos needed for ESG reporting, utilizing the data to improve ESG performance with automated action and collaboration. The collected data is validated, checked further for accuracy and assurance with automated action, AI driven insights and peer group visibility on top. Thus, assisting operational teams to regularly monitor, measure, and improve performance to align with company's ESG targets.

SCOPE 3 EMISSIONS DATA COLLECTION

Scope 3 emissions are indirect carbon emissions upstream and downstream from the company's operations that are driven by the creation and use of a company's products across the value chain. The emissions are complex to measure accurately from various external sources. YuzeData integrates with external sources, provides missing data for accurate calculations, and uses structured data request forms to gather emissions data from supply chain operations, employees, and suppliers in the right format to support the rest of the ESG data pipeline. Consequently, this streamlines and automates Scope 3 emission data with accurate and precise data sourcing, improving coverage by on average 20%.

Figure 6: YuzeData ESG Use Case: Scope 3 Emissions Data Collection

Source: YuzeData

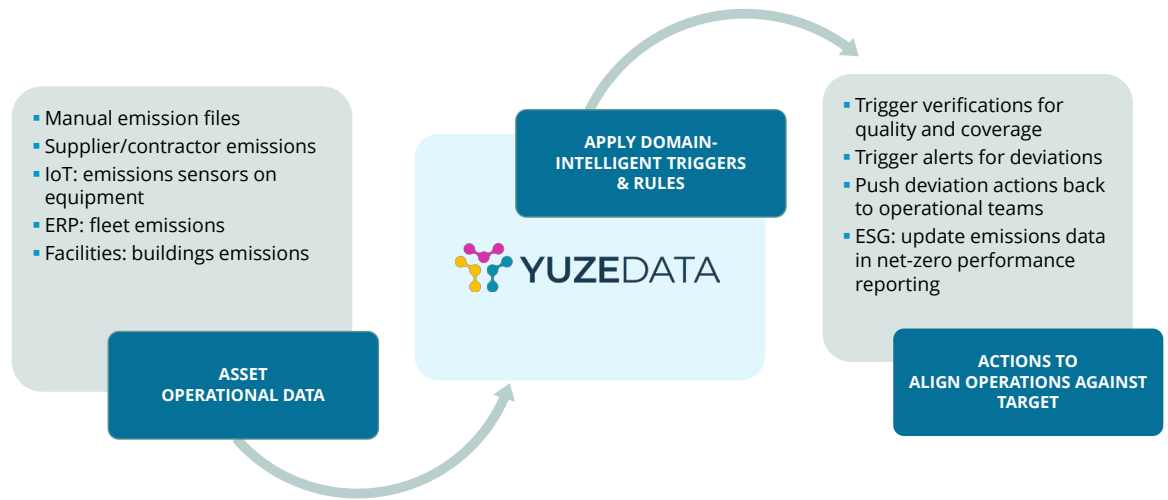


ESG OPERATIONAL PERFORMANCE MONITORING

To meet ESG goals and measure performance, more regular monitoring of real-time asset operational data across the organization is necessary. YuzeData connects supplier emission, third-party equipment sources, and transactional systems to automate, transform, and feed performance reporting on a regular basis. The data from each operating unit can record, monitor, and automate interim performance against multiple ESG preset targets in real time. Triggering alerts and viewing these data in operation speeds up real-time intervention by on average 20%.

Figure 7: YuzeData ESG Use Case: Operational Performance Monitoring

Source: YuzeData



YUZEDATA'S EHSQ SOLUTIONS

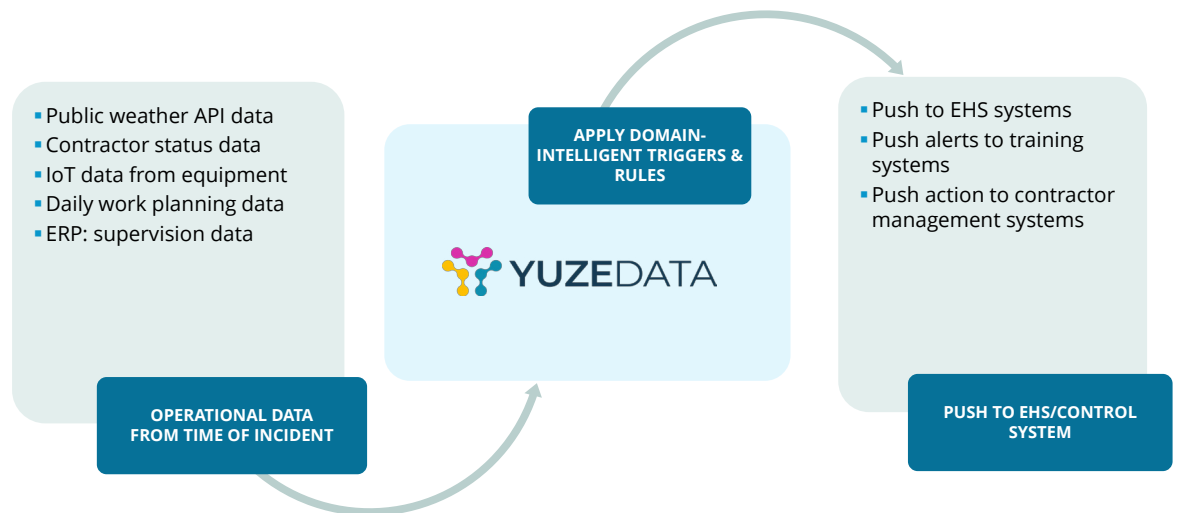
The solution functions in collaboration with existing EHSQ software and broad data operating systems to enhance prediction to prevent safety incidents and health hazards. The EHSQ programs include risk management, Lockout/Tagout (LOTO) program performance, automated safety observations, and automated claims data filing.

EHSQ | AUTOMATED LEARNINGS TO CONTROLS

Reducing safety and quality incidents, in addition to preventing environmental non-compliance is the main priority for EHSQ leaders. Data are often hidden in multiple siloed tools and systems, which makes it difficult to monitor leading operational indicators. YuzeData connects multiple EHSQ tools and indicator data to automate learning from previous incidents and provide non-conformances as well as insights to improve controls to prevent repeat incidents and fatalities.

Figure 8: YuzeData EHSQ Use Case: Automated Learnings to Controls

Source: YuzeData



INDUSTRY STORIES

EHS RISK MANAGEMENT FOR CRANE RENTAL COMPANY

20%
TIME SAVED
(MAN HOURS OF
DATA ENTRY)



Problem Statement:

The crane rental company has multiple assets to maintain, and the service schedule management requires manual entry, tracking, and log creation. Data tracking & management of overdue crane servicing and malfunction are a significant EHS risk with the potential for risk to assets and staff.

Solution:

The YuzeData platform automates data integration, which monitors crane engine operation via the IoT across all the leased assets, calculating service schedules based on manufacturer guidance and hours of engine operation. Service managers are alerted via a service docket created by the platform; once the safety threshold is reached, crane and engine alerts are aggregated across assets to notify the respective teams for further action.

Thus, crane managers and engineers are equipped with early regular insights on asset health from engine alerts ahead of maintenance schedules to avoid downtime and safety risks, effectively managing asset risk.

CALCULATING SCOPE 3 EMISSIONS FOR OIL & GAS OPERATOR

50%

**TIME SAVED WITH
ADDITIONAL
ESG REPORTING
METRICS**



Problem Statement:

Oil & gas industries operating globally are subject to various ESG reporting standards, e.g., GRI and CDP. The sustainability team currently spends 9 weeks to prepare the report, which involves multiple stakeholder coordination, data collection, and analysis. While calculating Scope 3 emissions, sourcing inputs can be a challenge due to data silos and lack of collaborative data tools across departments. Additionally, data requirements, collection, and checks in line with sustainability indicators increase complexities with more data points to be collected and stored.

Solution:

YuzeData Platform's automated data integration capabilities connect to the source database; moving supplier lists and data requests away from manual data collection. Built-in anomaly detection pre-mapped to reporting needs results in regular data scrutiny and assurance, leading up to annual reporting and business performance. Access to new Scope 3 data provides insights on potential cost savings, performance improvements, and asset utilization such as identifying regular shipment usage to streamline and optimize operations. Automating the data results in a 50% time saving, with the team now spending 4 weeks on auditing and scripting of the final report, instead of checking the underlying data.

CONCLUSION

As organizations adopt sustainability and ESG/EHSQ reporting as common business practice, effective data management with connected verified sources is crucial for accurate and assured reporting. The strategic shift from siloed data collection and compliance to collaborative platforms is pivotal to ensure high standards of auditable reporting comparable to the assurance of financial reporting. Industry- and domain-specific platform solutions with automated data collection, actionable insights, and predictive capabilities are invaluable to an organization, resulting in quantifiable metrics on operational efficiency, cost savings, and safer work environments.



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