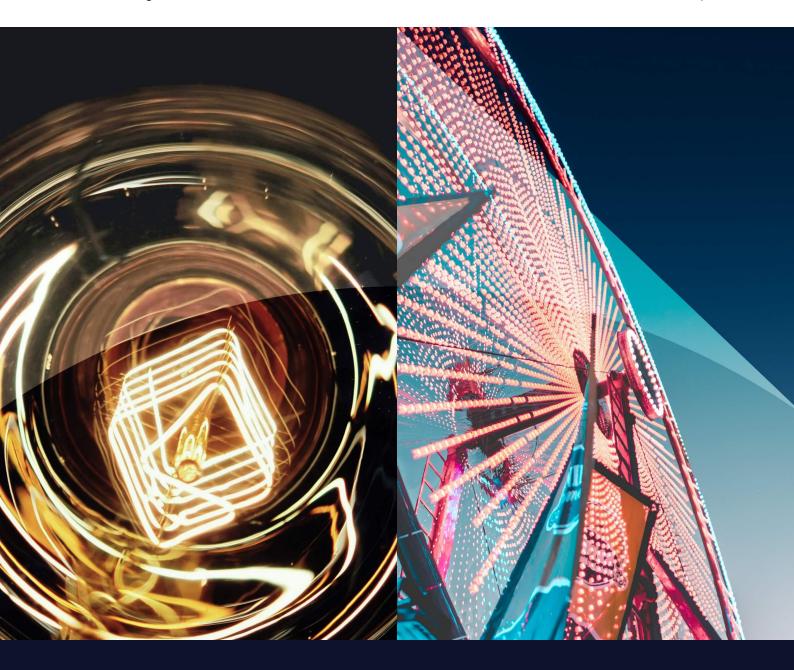verdantix

Environment Health & Safety

Market Insight: 10 Predictions For EHS Technology In 2023 and Beyond

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With Bill Pennington

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This report explores the key trends influencing the EHS technology market in 2023, leveraging the research Verdantix has conducted over the past year. We discuss the impact of a global economic recession, ESG-related disclosures, strategic partnerships and acquisitions, and the changing role of EHS functions, in addition to other factors affecting the market over the next 12 months. EHS executives should use this report to anticipate changes in the EHS market, and to plan strategies for 2023.

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Organizations mentioned

3E, Alcumus, Amazon, American Psychological Association, Apax Partners, Bregal Sagemount, Cority, DNV, EcoOnline, Enablon, Enhesa, Ginger, Google, Happify, IsoMetrix, Microsoft, Protex AI, Proxima Solutions, RegScan, SAI360, Task Force on Climate-related Financial Disclosures (TCFD), Toxnot, ToxPlanet, US Environmental Protection Agency (EPA), US Securities and Exchange Commission (SEC), VelocityEHS.

Ten Predictions For EHS Technology In 2023 And Beyond

In this report, we leverage our growing breadth of research and analysis to produce a consolidated list of predictions for the next 12 months. EHS executives and software vendors should consider, in particular, the expansion of ESG and product compliance frameworks, and the implications of a global recession on the EHS market. Verdantix assessed innovation trends, corporate strategies and the competitive landscape to understand the key 2023 trends that will impact global EHS functions.

Verdantix envisions that:

1. **EHS functions will have more influence on budgetary planning and C-Suite discussions.**
   Organizations see their EHS functions as crucial to managing their ESG strategies, and will allocate budgets proportional to these increased responsibilities. Our 2022 survey data of 302 firms reveal that 44% of organizations expect the EHS function to have full ownership of defining and delivering their global ESG strategies over the next two years. Meanwhile, 36% of organizations consider the EHS function to be a key decision-maker (see Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences). This expansion in responsibilities, and proximity to budget-setting executives, is resulting in an EHS function that can raise spending on digital solutions to assist with ESG-related reporting and data collection. Verdantix predicts that EHS budgets will expand to support the increased responsibility for ESG-related data collection among health, safety, quality and environment (HSQE) teams. Furthermore, the elevated position of EHS professionals will allow them to direct spending towards the adjacent areas listed in this report.

2. **ESG will be a prominent driver of EHS software adoption in 2023.**
   Verdantix predicts immense growth in ESG reporting software, from $0.9 billion in 2021 to more than $4.3 billion by 2027, at a CAGR of 30% (see Verdantix Market Size And Forecast: ESG Reporting Software Solutions 2021-2027 (Global)). This is primarily driven by tightening ESG reporting disclosures in 2023, such as those of the EU's Corporate Sustainability Reporting Directive (CSRD), the Task Force on Climate-related Financial Disclosures (TCFD) and the US Securities and Exchange Commission (SEC) climate disclosure rules. As a result, ESG-driven targets fall under the remit of EHS managers, who have experience of collecting and reporting environmental and social data for regulatory compliance. EHS software vendors have responded by developing ESG reporting functionality through product releases and technology roadmaps. For example, Cority, Enablon, IsoMetrix and SAI360 are among a long list of EHS vendors who have announced the release of integrated or standalone ESG management functionality in the last two years. Looking forward, investment in ESG specialist reporting software, and EHS software with ESG management functionality, will be the primary focus of EHS budgets.

3. **Spend on EHS software will be resilient through a global recession.**
   Continuous international supply chain disruptions, and rising energy prices resulting from the Russian invasion of Ukraine, are key contributors to a global deceleration of GDP growth. Broad layoffs in the technology industry, such as at Amazon, Google and Microsoft, have begun, partly as a result of the anticipated economic slowdown. By contrast, the EHS software market is poised to remain resilient. EHS is a compliance-driven industry, so firms will continue to prioritize mitigating costly fines during an economically vulnerable time. For example, the global EHS software market grew throughout the COVID-19 pandemic, at a 5.3% yearly average between 2020 and 2021. As a result, we see a low removal or replacement risk once firms deploy a commercial EHS solution, which will persist through an economic contraction. Recession-averse sectors, such as retail, consumer goods, construction and manufacturing, are unlikely to abandon existing EHS platforms, but will instead re-evaluate the suites of EHS modules they deploy. Verdantix therefore expects EHS software global market spend to continue to grow, at an 11.9% CAGR, to reach $2.7 billion in 2027 (see Verdantix Market Size And Forecast: EHS Software 2022 – 2027 (Global)).

4. **Mid-market will lead the increase in spend on EHS software.**

    Verdantix has identified small and medium-sized enterprises (SMEs) – firms with revenues of between $250 million and $1 billion – as the revenue segment leading the uptake of commercial EHS software. Our survey data found that 57.8% of SMEs planned to raise their EHS budgets in the coming year, highlighting a greenfield opportunity for mid-market vendors (see Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences). Most of the mid-market is determined to boost EHS software spend during an expected recession, as a result of segment-agnostic shocks and ESG reporting priorities filtering down. The COVID-19 pandemic helped to reframe the perception of EHS teams from a function confined to ensuring compliance to that of a team able to lead proactive strategies for worker safety. Alongside these factors, total worker health and ESG reporting have become priorities for mid-market firms (see Verdantix Market Insight: Winning Mid-Market Strategies For EHS Software Vendors). Notably, the mid-market is still early along the maturity curve of adoption, and will continue to prioritize basic safety modules, such as incident management and training. In addition, this segment of the market values a rapid time to implementation and products marketed directly to the end-user.

5. **ESG disclosures will speed very high-risk firms' adoption of environmental compliance functionality.**

    Very high-risk firms – namely those operating in chemicals, mining and metals, and oil and gas – lead usage for EHS software. These firms are likely to be heavily impacted by the increasing stringency of reporting frameworks and climate change disclosures; the rising demands on air emissions, GHG emissions and water and wastewater management reporting mainly affect high-emitting industries. Verdantix survey data find that 46% of very high-risk firms have widely deployed EHS software for environmental compliance functionality (see Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences). Firms from lower-risk industries with simpler reporting requirements may consider the use of specialist ESG software to meet their targets cost-effectively. EHS software vendors with leading functionality in environmental compliance can support reporting against various jurisdiction-specific frameworks through regulatory content partnerships. Since June 2022, Enhesa has acquired ToxPlanet for chemical safety expertise, purchased its competitor RegScan and gained strategic growth investment from private equity (PE) firm Bregal Sagemount.

6. **Regulations will pressure investments in chemicals and waste management.**

    Verdantix survey data find that 52% of firms plan to boost their spending on chemicals and hazardous waste compliance in 2023 – the highest-ranking among 17 EHS processes (see Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences). Multinational organizations will seek digital solutions to help them navigate intensifying regulations on chemicals management. For example, the list of substances of very high concern (SVHC) for European firms was expanded in January 2023; the Restriction of Hazardous Substances Directive (RoHS) is undergoing revisions that may formalize binding regulations in 2023; and perfluoroalkyl and polyfluoroalkyl substances (PFAS) are under Environmental Protection Agency (EPA) discussion in the US, with the aim of increasing reporting requirements to the Toxics Release Inventory (TRI). EHS software vendors with dedicated chemicals and waste management functionality can provide readily available information on chemicals classification, chemicals properties and regulatory language. We see various strategic acquisitions in the EHS software market to meet the growing demand for product compliance functionality. For example, in December 2022, 3E purchased Toxnot, a software provider offering visibility into supply chain chemical hazards, enhancing its assurance on Tier 2 and 3 suppliers and providing digital product passport (DPP) capability to aggregate safety data sheet (SDS) information.

7. **Recently PE-backed EHS vendors will seek integrated risk management through partnerships.**

    The growing demand for operational ESG management functionality will be met by PE firms investing in integrated risk management for EHS software. Verdantix believes that this sector is poised for consolidation among prominent market share vendors. It is similarly ready for the entry of specialist solutions to provide customers with an integrated view of enterprise-wide risks, and to inform their management strategies. In 2022, seven out of 23 EHS market acquisitions were facilitated by PE firms, with more transactions combining

EHS providers (see [Verdantix Market Insight: Top Five EHS Software Market Mergers And Acquisitions In 2022](#)). This trend has continued into 2023, with EcoOnline, backed by Apax Partners, acquiring the EHS software division of Alcumus. This decision will provide EcoOnline customers with continuing robust chemicals and risk management functionality, while filling functional gaps in contractor and quality management, as a move towards an integrated risk offering. Additionally, PE-backed organizations aim to develop broader management functionality by consolidating specialist firms. Of the 23 deals that were made in 2022, 11 can be considered the acquisition of a specialist or niche vendor by a broader management system.

8. **IoT hardware uptake for connected worker safety will slow.**
Firms are focused on achieving connected worker safety, where Internet of Things (IoT) devices in the field provide safety alerts and communicate with a software system in real time. A recent Verdantix market size and forecast report expected the connected worker solutions market for software and hardware to grow from $1.35 billion in 2021 to $3 billion by 2026, at a CAGR of 17.2% (see [Verdantix Market Size And Forecast: Connected Worker Solutions 2021-2026 (Global)](#)). This prediction was made at a time of rampant investment in connected worker safety hardware. However, current market trends and economic uncertainty see these firms struggling to provide a compelling value proposition to customers. The adoption of IoT hardware for connected worker safety faces persistent barriers of customer perception of expense, poor implementation support – leading to the disruption of frontline operations – and a shortage of distribution channels through which to sell products (see [Verdantix Market Insight: The Future Of Connected Safety](#)). The lack of successful connected worker safety use cases will dissuade investment until these barriers are removed.

9. **EHS functions will accept growing responsibility for workplace mental health and wellbeing.**
The escalating incidence of work-related stressors and the formalization of international guidelines on mental health and wellbeing have prompted digital innovation in this space. The American Psychological Association's 2022 Work and Wellbeing Survey of 2,016 US adults found that 81% of participants consider employers' support for mental health as an important factor when looking for a new job. Verdantix survey data identify the EHS function as critical to developing worker mental health and wellbeing strategies to meet this demand, with 33% of EHS functions having full ownership of and a further 33% acting as key decision-makers in this area (see [Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences](#)). Occupational health (OH) software and mental health apps will be essential digital solutions to enable these EHS-led initiatives. During COVID-19, digital mental health and wellbeing providers used external investments to develop products to meet market demands. For example, Happify leveraged $73 million in funding to advance machine learning (ML) models to develop its software-based coach. Ginger, a San Francisco-based mental healthcare provider, used $100 million in Series E funding to expand partnerships with multinational employers, to provide on-demand behavioural health coaching (see [Verdantix Smart Innovators: Digital Mental Health And Wellbeing Solutions](#)).

10. **Appetite for AI-enabled worker safety capabilities will rise.**
ML algorithms, a subset of AI technology, can be leveraged on large data sets of safety information collected by EHS teams to deliver predictive and prescriptive analytics. The existing use cases for this nascent technology are still limited. However, EHS software vendors will aim to proactively establish AI competencies in anticipation of market innovation, to position their firms as future-looking. EHS vendors will require significant in-house investment or targeted partnership strategies to operationalize AI in their software offerings. Three recent examples highlight different strategies firms have deployed to gain AI competency while demonstrating their safety use cases. EcoOnline acquired a minority stake in Protex AI in June 2022, to develop a real-time audit of workplace safety procedures through computer vision technology. VelocityEHS established a team of ergonomists, as well as AI and ML scientists, to develop motion-capture software to assess musculoskeletal disorder (MSD) risks from physical movement. In January 2023, DNV acquired Proxima Solutions, an AI-based asset management software provider that enables predictive data analytics for real-time safety monitoring.

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