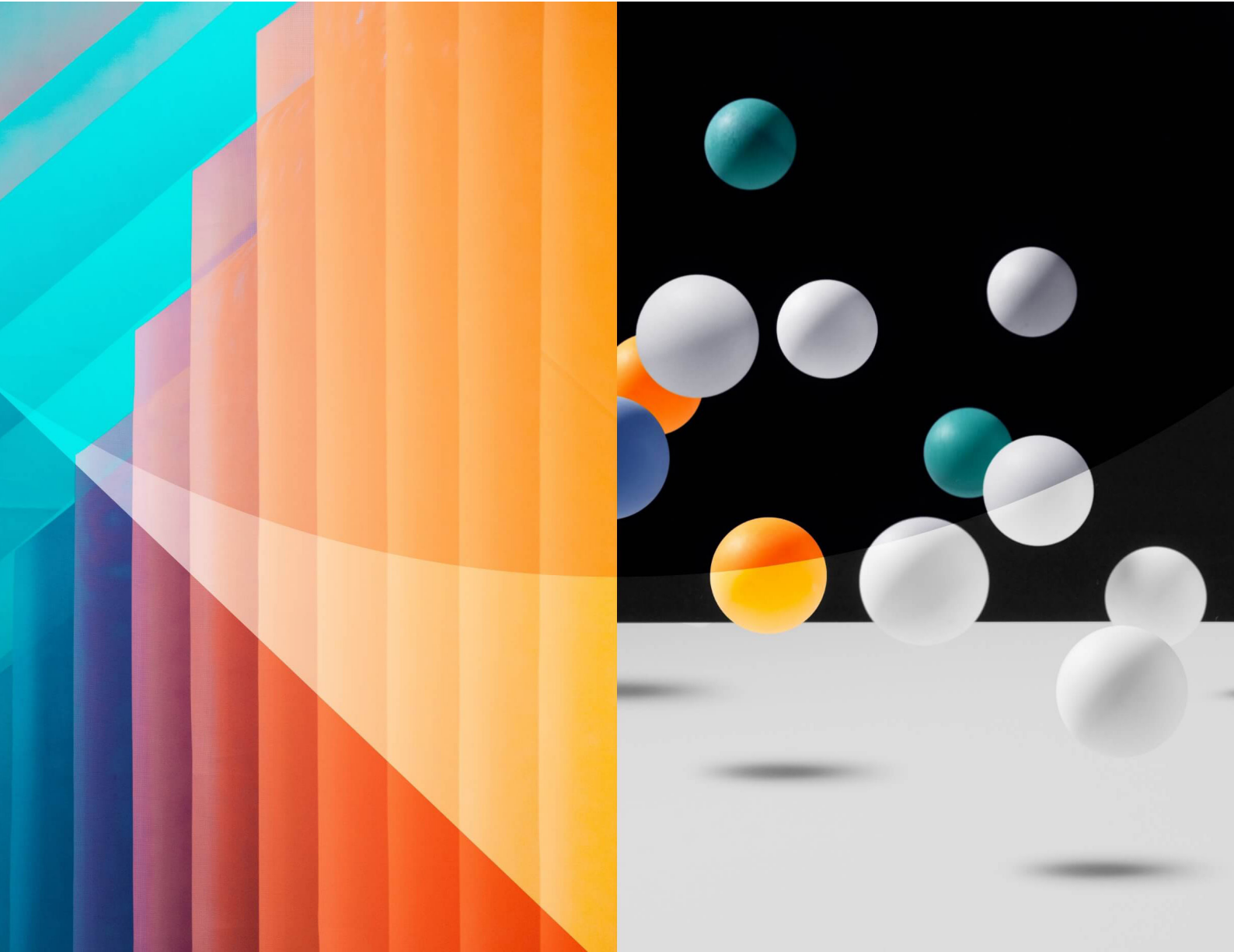


Environment, Health & Safety

# Green Quadrant: EHS Software 2023

By Chris Sayers  
With Bill Pennington

January 2023



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This report provides a detailed fact-based comparison of the 23 most prominent environment, health and safety (EHS) platform vendors. Based on the proprietary Verdantix Green Quadrant methodology, our analysis encompassed 2.5-hour live product demonstrations with pre-set scenarios and vendor responses to a 353-point questionnaire covering seven technical, 19 functional and 11 market momentum categories. Verdantix also conducted interviews with more than 15 software users and reviewed the data from our global survey of 302 EHS decision-makers. The EHS software market has, and is currently, undergoing a consolidation driven by rampant private equity interest, due to continued market growth and an expanding market opportunity within the adjacent ESG and sustainability management areas. Among the vendors featured in the Leaders' Quadrant, seven firms – Benchmark ESG, Cority, Enablon, Intellex, SAI360, Sphera and VelocityEHS – offered robust all-round EHS management capabilities.

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 IsoMetrix’s Integrated EHS, Sustainability And Risk Management System Services Customers With A Risk-Centric Approach To EHS Management  
 Origami Risk Integrates EHS And Risk Management Solutions Across A Unified Platform  
 ProcessMAP — an Ideagen Solution — Offers Robust Health Solutions Within Its Cloud-Hosted EHS Platform  
 Quentic Delivers Well-Rounded EHS And Sustainability Software For European Firms  
 SAI360’s Integrated Risk Approach Produces An End-To-End EHS Software Offering  
 SAP Delivers EHS Information Management That Leverages Its Enterprise IT Resources  
 Sphera Offers Environmental Excellence Through Its EHS And Sustainability Management Platform  
 StarTex’s EHS Insight Offers A Clean, Safety-Focused Solution That Fits The Bill For Mid-Market Firms  
 TenForce Blends Strong Control Of Work And Operational Risk Functionality To Create An EHS Solution Well-Tailored To Asset-Intensive Industries  
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## Organizations mentioned

3E (formerly Verisk 3E), AIHA, Airsweb, Alcumus, Allergen, ALMEGO, AMCS, American Conference of Governmental Industrial Hygienists (ACGIH), American National Standards Institute (ANSI), Anglo American, Apex Partners, Arcadia, Augmentir, Auvaro, Avetta, Axion Health, Bank of New Zealand (BNZ), Banyard Solutions, Barrick Gold, BDO, Benchmark ESG, Biome, BIF Group, Black & Veatch, Blackstone, BLR, BlueKanGo, Blue Ocean Brain, BOMcheck, Bosch, Briscoe Group, BROWZ, Bureau Veritas Laboratories, Carlyle Group, Cayuga Health System, CDP (Carbon Disclosure Project), CenterPoint Energy, CGE Risk, Chemical Watch, Chymeia, Cisco, Cognibox, Colgate-Palmolive, Colorado Bureau of Investigation, ComplianceQuest, CompliSpace, Continental, ContractorCheck, ConvergentIS, Core Analytics, Cority, Cornerstone Building Brands, CVC Growth Partners, Dakota Software, Damstra, Datamaran, DevonWay, DMK Group, DNV, Donesafe, Dubai Natural Gas, Duke Energy, Dussmann Group, eCompliance, EcoOnline, ecoPortal, EcoVadis, EDF Energy, ehsAI, ej4, Elisa, Elisa IndustrIQ, Elite Management SST, EMEX, EMSL Analytical, Enablon, Engage EHS, Engica, Enhesa, Enterprise Health, Enviance, Environment Essentials, Environmental Protection Agency (EPA), Envizi, ERM, ETQ, eVision, Evotix (formerly SHE Software), ExxonMobil, F19, Food and Drug Administration (FDA), Foodstuffs, Forestry Industry Safety Council (FISC), Fortive Corporation, Fortune, Frog Capital, Future Energy Ventures, Genstar Capital, GHG Protocol, Global Real Estate Sustainability Benchmark (GRESB), Global Reporting Initiative (GRI), GOARC, Goldman Sachs, Goodyear Rubber and Tire Company, Guardhat, HAECO Group, Hg Capital, HSI, Huddle, IBM, Ideagen, IEC, IFS Ultimo, Imatis, Industrial Scientific, INEOS, Inflexion, Insight Partners, InteleX, Intellect, Intenseye, Interaptix, International Automotive Task Force (IATF), International Organization for Standardization (ISO), Intertek Group, INX Software, IPC, iScout, IsoMetrix, j5 International, John Deere, Johnson & Johnson, Johnson Controls Inc., J.P. Morgan, Kinetica Labs, KMI, Kopin, KPA, Las Vegas Valley Water District, Libryo, Lisam Systems, Los Alamos National Laboratory, Lowe's, Mango, Martech Media, McDonald's, Meercat, Method Park, Metric, Mi-Co, Microsoft, Morgan Stanley, MSDSonline, Müller, Multimedia Training Systems (MTS), Multiplex, Munio, MyAbilities, National Institute for Occupational Safety and Health (NIOSH), National Response Center (NRC), Natural Power, Nebraska Public Power District, New Mountain Capital, NHS, Nobilia, NoggIn, Nordic Port, North Carolina State University, Notion Capital, Occupational Safety and Health Administration (OSHA), Office of the Chief Medical Examiner, OneLook Systems, One Peak Partners, OpsBase, Optima, Origami Risk, Ørsted, OSHENS, OSISOFT, Pacific Northwest National Laboratory, Partners Group, PEC Safety, Perillon, Petrotechnics, Pilotech, PleaseTech, Polypipe, Praedicat, Predictive Solutions, Privacy Shield, Process Data Control (PDC) Corp, ProcessMAP, Prometheus Group, Protex AI, Proxxi, Qlik, Qualcomm, Quality Carriers, Qualsys, Qualtrax, Quentic, RAP International, RealWear, Red-on-line, RegScan, Reporting 21, riskmethods, RJ Lee Group, Rombit, SafeTec Compliance Systems (SafeTec), SafetySkills, SafetyTek, SAI360, Sandvik, SAP, Saudi Aramco, Scannell Solutions, Schnellecke, Scholz, Securities and Exchange Commission (SEC), SGS, Shell, Simple But Needed (SBN) Software, Simple Compliance, SiteHawk, Sitepass, Skillsoft, Snowflake, Solv Solutions, SOS Intl, Specsavers, Spectrum Equity, Sphera, Spirit AeroSystems, StarTex, StaySafe, Stellantis (formerly Fiat Chrysler Automobiles), StoryShare, STP, Strattam Capital, StrongArm Technologies, Summa Equity, SustainAbility, Sustainability Accounting Standards Board (SASB), Tableau, Tanarra Credit Partners, Task Force on Climate-Related Financial Disclosures (TCFD), Telstra, TenForce, Teradyne, TerraPower, The Warehouse Group, thinkstep, Thoma Bravo, TIKS Solutions, TotalEnergies, ToxPlanet, UL, Unilever, Urjanet, US Bureau of Labor Statistics, US Department of Energy, Vado, Vector Solutions, VelocityEHS, Veriforce, VisiumKMS, Walmart, Waud Capital Partners, WeSustain, WhatsApp, Winvic, Wolters Kluwer, Workrite, World Economic Forum, Xybion, Yarra Valley Water, Yokogawa, Zebra Technologies, Zoom.



# The State Of The EHS Software Market

Over the past two years, the market landscape for EHS software has undergone a paradigm shift, as EHS providers have expanded their product offerings to meet the ravenous appetite for robust environmental management solutions brought on by the ESG megatrend. This has raised the profile of EHS functions within organizations, with many vendors serving the interlinking needs of EHS, quality, operations, product stewardship, and ESG and sustainability functions. In addition, product innovation centred on advancements in AI, machine learning (ML) and the Internet of Things (IoT) is redefining the functional possibilities of EHS software (see [Verdantix Strategic Focus: Improving Health And Safety With AI](#)). As the market reaches maturity, providers are turning to emerging technologies as a point of differentiation, resulting in a series of benefits for users, namely time savings, data quality improvements and increased EHS data streams (see [Verdantix Tech Roadmap EHS Technologies 2022](#)).

Verdantix tracks over 300 active EHS software providers available on the market. Vendors range from broad management systems with a global customer base, to specialist firms with deep expertise in a select group of functional categories, or which cater to specific industry verticals. Given the EHS software market landscape complexity, breadth and pace of change, this report provides individuals who are responsible for selecting, implementing and deriving value from EHS software applications with a detailed assessment of the 23 most prominent platform solution providers and their product offerings. The customer questions answered by this report include:

- What is the current state of the EHS software market?
- Which EHS software applications lead the market?
- Which EHS software applications will best match the requirements of my firm?
- How can I benchmark the capabilities of EHS software applications?
- What factors indicate that an EHS software vendor is a reliable partner for the future?

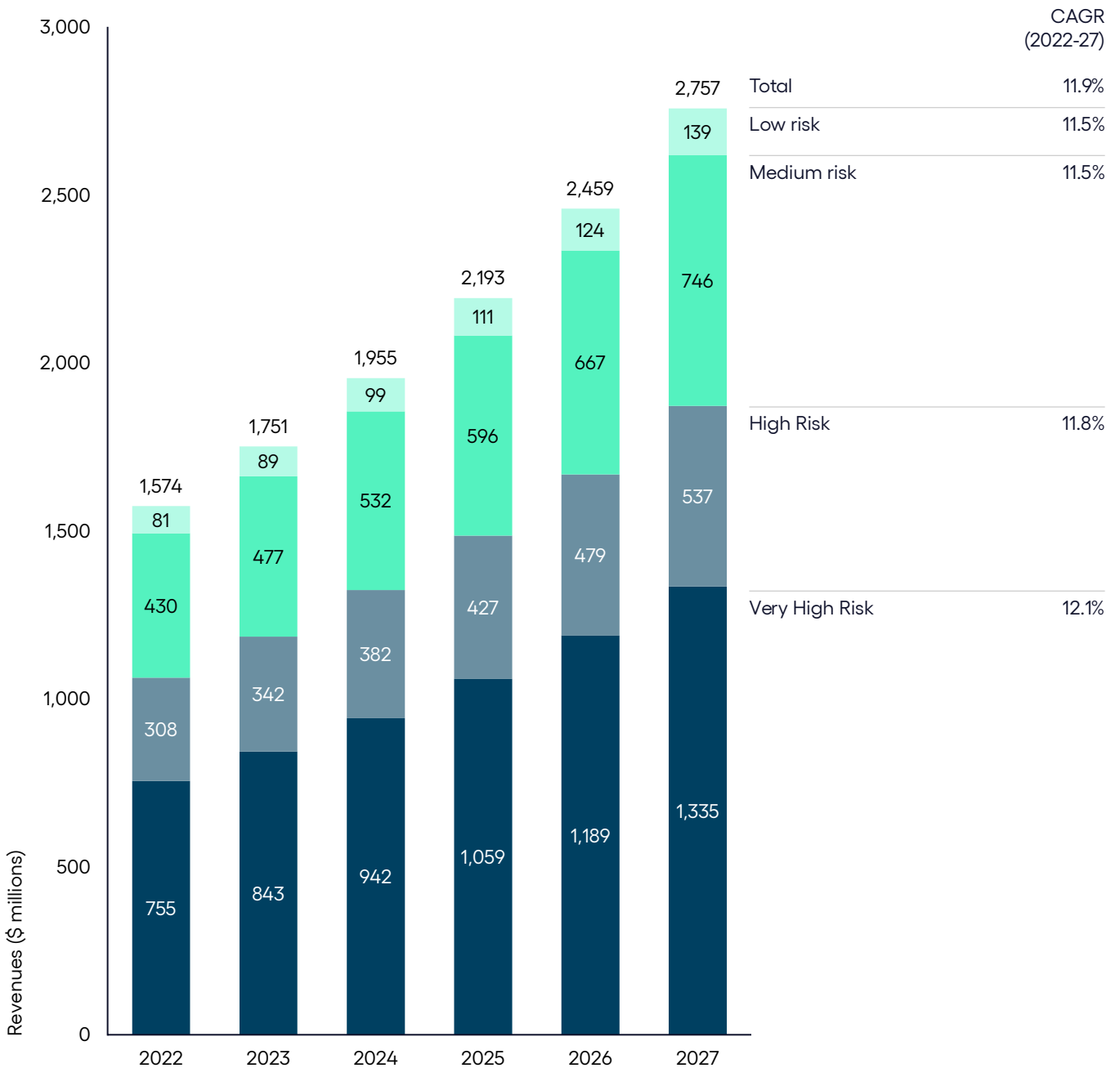
To answer these questions, Verdantix assessed 23 suppliers using a 353-point questionnaire, two-and-a-half-hour live demonstrations by suppliers, and interviews with existing EHS software customers. The resulting analysis is based on the proprietary Verdantix Green Quadrant methodology, which is designed to provide an evidence-based, objective assessment of vendors offering comparable products or services.



# The EHS Software Market Landscape Is Primed For Consolidation

Spend on the EHS software market will reach \$1.6 billion in 2022 and grow at a CAGR of 11.9% to \$2.7 billion in 2027 (see **Figure 1**) (see [Verdantix Market Size And Forecast: EHS Software 2022 - 2027 \(Global\)](#)). Reliable growth in the face of huge economic strain, COVID-19 disruption and increasing pressure to gain a foothold in the ESG and sustainability software battleground for high-risk industry segments has bolstered investor interest, altering the vendor landscape.

Figure 1  
EHS Software Market Forecast By Industry Risk Category 2022-2027



Source: Verdantix Market Size And Forecast: EHS Software 2022-2027 (Global)



# Interest From Investors Is Ramping Up As Demand For EHS Solutions Reaches New Heights

The primary accelerators for EHS software market growth over the next five years are a broader addressable market due to ESG functionality expansion, advancing customer maturity as organizations pursue proactive risk management strategies, and consolidation plans among large enterprises, leading to inflated software licences. Healthy growth has fuelled competition, resulting in more than 50 instances of EHS software-linked acquisitions, investments and asset sales during 2021 and 2022 – a notable increase from historical market activity. Following analysis of market dynamics, Verdantix finds that:

- **Smaller, specialist providers in EHS and adjacent markets are prime acquisition targets.**

Analysis of EHS software-linked transactions reveals a high number of strategic acquisitions of specialist firms aimed at broadening and deepening existing functionality. Although providers are acquiring software across several areas, trends do emerge. Firstly, specialist e-learning and training providers are hot prospects for acquisition (see **Figure 2** and **Figure 3**). Since the start of 2021 Cognibox, EcoOnline, Evotix and HSI have all acquired firms in this space. There have also been notable movements within mobility-focused acquisitions (KPA's acquisition of iScout and EcoOnline's acquisition of Engage EHS are both mobile-focused safety management offerings). Moreover, Ideagen acquired a low- and no-code mobile app development firm Mi-Co. Due to high demand and complex in-house development, Verdantix anticipates further acquisitions within areas such as contractor management, ESG (Scope 3), supply chain management and environmental management.

- **Adjacent EHS regulatory content market has been highly active.**

There has been heightened activity amongst EHS content providers – firms that consolidate regulatory content for EHS workflows, such as chemicals hazard and toxicology data, legal registers, audit programmes, audit checklists, audit protocols and environmental frameworks, and which often directly integrate with EHS software. Among content firms, Enhesa has acquired both ToxPlanet and RegScan; Libryo received investment in May 2021; and 3E was acquired for \$950 million. However, there have been further examples of EHS software firms acquiring their own regulatory content specialists. Consider Ideagen's acquisition of CompliSpace for £58 million (\$66 million) in November. As country-specific regulations expand, regulations generally become more stringent and the complexity of the ESG landscape grows, Verdantix expects further investment to increase EHS compliance transparency.

- **With PE backing, larger players consolidate, to broaden offerings and expand regionally.**

Alongside acquiring specialist firms, larger, private-equity-backed EHS software providers have their eyes set on acquiring broader platforms with complementary offerings. There have been several notable moves. Firstly, in a deal orchestrated by Hg Capital, Ideagen acquired ProcessMAP in October 2022. The acquisition will improve Ideagen's geographic reach, bolster its core EHS offering and prime the firm for an ESG software rollout. Whilst Verdantix does not view an EHS roll-up strategy as the path towards maximizing shareholder value creation, the given examples bolster existing offerings whilst adding deep functionality in new areas. Going forward, we anticipate more transactions that will start to consolidate some of the players featured in this benchmarking.

- **PE firms Apax Funds, Hg Capital and Partners Group are highly active in the market.**

Whilst there has been sustained private equity (PE) interest in EHS software for some time, the past two years have seen PE capital injection ramp up. Headline deals include Hg Capital acquiring Ideagen for £1.05 billion (\$1.30 billion) in June 2022; Partners Group acquiring a significant minority stake in VelocityEHS in August 2022; Apax Funds acquiring Alcumus in February 2022; and Blackstone acquiring Sphera for \$1.4 billion in July 2021. Reliable EHS software market growth and addressable market expansion via adjacent operational risk management (ORM) and ESG markets will likely lead to further investment, despite a technology bear market.



Figure 2

## EHS Software Market Transactions 2019-2020

2019	Transaction	Description
Jan	ACQUISITION	Ideagen acquires Scannell Solutions for £3.5 million (\$4.5 million)
Jan	ACQUISITION	ERM acquires SustainAbility (circa 80 employees)
Jan	ACQUISITION	Sphera acquires Petrotechnics
Jan	ACQUISITION	Hexagon acquires j5 International
Feb	ASSET SALE	Verisk 3E buys SAP's EHS regulatory content business
Feb	ACQUISITION	Avetta acquires BROWZ
April	BUY OUT	Tanarra Credit Partners buys out INX Software
May	ACQUISITION	Sphera acquires SiteHawk
May	INVESTMENT	One Peak Partners & Morgan Stanley Expansion Capital invest in Quentic
May	BUY OUT	Thoma Bravo buys out Cority
May	ACQUISITION	Veriforce acquires PEC Safety
May	ACQUISITION	Genstar Capital acquires Prometheus Group
June	ACQUISITION	Fortive acquires Intelix
June	ACQUISITION	Lisam Systems acquires Perillon
July	ACQUISITION	Sphera acquires thinkstep
July	ACQUISITION	Alcumus acquires eCompliance
July	INVESTMENT	Teradyne, J.P. Morgan, Qualcomm & Kopin invest in RealWear
Aug	ACQUISITION	EcoOnline acquires Nordic Port
Aug	BUY OUT	Carlyle Africa Fund buys out IsoMetrix
Sep	ACQUISITION	Yokogawa acquires RAP International
Oct	ACQUISITION	Ideagen acquires Optima
Oct	ACQUISITION	Cority acquires Axion Health
Oct	ACQUISITION	Prometheus Group acquires Engica
Dec	ACQUISITION	VelocityEHS acquires Meercat
Dec	ACQUISITION	Health & Safety Institute (HSI) acquires Martech Media

Figure 2 (continued) ↓



Figure 2 (continued)

2020	Transaction	Description
Jan	INVESTMENT	CVC Growth Partners invests \$200 million in EcoVadis
Jan	ACQUISITION	Wolters Kluwer acquires CGE Risk Management Solutions
Jan	ACQUISITION	Cority acquires Enviance
Feb	ACQUISITION	HSI acquires Donesafe
Feb	INVESTMENT	Frog Capital invests \$9 million in SHE Software
Feb	INVESTMENT	Summa Equity and Goldman Sachs Merchant Banking Division invest in EcoOnline
Mar	ACQUISITION	Ideagen acquires Workrite for £6.8 million (\$79 million)
Mar	INVESTMENT	The Carlyle Group invests over \$6 million in IsoMetrix
April	ACQUISITION	KPA acquires Multimedia Training Systems (MTS)
July	ACQUISITION	Alcumus acquires Banyard Solutions and ContractorCheck
Aug	ACQUISITION	Ideagen acquires Qualsys for £15.6 million (\$20.3 million)
Aug	ACQUISITION	EcoOnline acquires Airsweb, an EHS software provider
Oct	ACQUISITION	HSI acquires training provider SOS Intl
Nov	ACQUISITION	HSI acquires e-learning firm Vado
Nov	ACQUISITION	Intalex acquires ehsAI, a compliance automation technology provider
Dec	ACQUISITION	Enhesa acquires Chemical Watch, a chemicals compliance provider
Dec	INVESTMENT	Ideagen raises £49 million (\$64 million) from new and existing investors

Source: Verdantix analysis



Figure 3

## EHS Software Market Transactions 2021-2022

2021	Transaction	Description
Jan	ACQUISITION	KPA acquires iScout, an EHS software provider for SMEs
Jan	ACQUISITION	Health & Safety Institute (HSI) acquires e-learning provider ej4
Jan	ACQUISITION	EcoOnline acquires Engage EHS, a health and safety software provider
Feb	ACQUISITION	Ideagen acquires Huddle, a compliance software provider
Mar	ACQUISITION	Ideagen acquires Qualtrax, a compliance management software provider
Apr	ACQUISITION	Cority acquires WeSustain, an ESG software provider
May	INVESTMENT	Future Energy Ventures invests £1.35 million (\$1.9 million) in Libryo
May	ACQUISITION	VelocityEHS acquires OneLook Systems, a permit to work provider
May	ACQUISITION	Intertek acquires the SAI Global Assurance division
Jun	ACQUISITION	DNV acquires Imatis, a digital health firm
Jul	ACQUISITION	EcoOnline acquires Chymeia, a chemicals management provider
Jul	ACQUISITION	Blackstone acquires Sphera for \$1.4 billion
Jul	ACQUISITION	EcoOnline acquires Pilotech, a crisis management solutions provider
Jul	ACQUISITION	SHE Software acquires StoryShare, a micro-learning solutions provider
Jul	ACQUISITION	VelocityEHS acquires Kinetica Labs, a simulation technology provider
Jul	ACQUISITION	Ideagen acquires OpsBase, a health and safety compliance platform
Jul	ACQUISITION	Ideagen acquires Mi-Co, a low- and no-code mobile app developer
Jul	ACQUISITION	UL Solutions acquires Method Park, a software solutions and engineering firm
Jul	ACQUISITION	HSI acquires Solv Solutions, an injury management solutions provider
Aug	ACQUISITION	Alcumus acquires Mango, a quality management and compliance provider
Sep	INVESTMENT	Tenforce becomes part of the Elisa IndustrIQ solution, following a strategic investment
Sep	ACQUISITION	Ideagen acquires Simple Compliance
Sep	INVESTMENT	Intenseye raises \$25 million in Series A funding led by Insight Partners
Sep	ACQUISITION	Damstra acquires TIKS Solutions, a workplace safety firm
Sep	ACQUISITION	INX Software acquires Sitepass, a contractor management firm
Nov	ACQUISITION	Ideagen acquires CompliSpace
Nov	ACQUISITION	HSI acquires Blue Ocean Brain, a learning solutions provider
Nov	ACQUISITION	Tenforce acquires Process Data Control (PDC) Corp, a process improvement services firm
Dec	ACQUISITION	EcoOnline acquires Munio, an EHS e-learning solutions provider
Dec	ACQUISITION	Cognibox acquires Elite Management SST, a training firm
Dec	INVESTMENT	Ideagen raises £103.5 million (\$134.6 million) through placement of ordinary shares

Figure 3 (continued) ↓



Figure 3 (continued)

2022	Transaction	Description
Jan	ACQUISITION	New Mountain Capital acquires Verisk 3E (now 3E) for \$950 million
Feb	ACQUISITION	Apax Partners acquires Alcumus following the stake sale of investor Inflexion
Feb	ACQUISITION	Hexagon acquires ETQ, an EHSQ software provider
Mar	ACQUISITION	EcoOnline acquires Biome, a SaaS environmental management software firm
Mar	INVESTMENT	Intellect receives a majority growth investment from Strattam Capital
Mar	ASSET SALE	VelocityEHS acquires two software solutions from MyAbilities
May	ACQUISITION	AMCS, a global integrated software provider, acquires Quentic
May	ACQUISITION	Arcadia, an information technology firm, acquires Urjanet, a utility data provider
May	INVESTMENT	Inflexion makes a minority investment in Alcumus
Jun	ACQUISITION	EcoOnline acquires StaySafe, a cloud-based lone worker safety solutions firm
Jun	ACQUISITION	Enhesa acquires ToxPlanet, a chemical safety solutions provider
Jun	ACQUISITION	Hg acquires Ideagen for £1.05 billion (\$1.28 billion)
Jul	ACQUISITION	Alcumus acquires Cognibox, a contractor management solutions provider
Jul	ACQUISITION	Enhesa acquires RegScan, a regulatory and sustainability intelligence content provider
Aug	INVESTMENT	Partners Group acquires a significant minority stake in VelocityEHS
Aug	INVESTMENT	Protex AI raises \$18 million in seed and Series A funding led by Notion Capital
Sep	ACQUISITION	Sphera acquires riskmethods, a supply chain risk management software provider
Sep	ACQUISITION	Cority acquires Reporting 21, a sustainability-focused SaaS platform and consultancy
Oct	ACQUISITION	Ideagen, an EHSQ and GRC platform, acquires ProcessMAP
Oct	ACQUISITION	HSI acquires SafetySkills, an e-learning provider
Oct	ACQUISITION	DNV acquires Auvaro, an information security assurance firm
Dec	ACQUISITION	ERM acquires Libryo, a global cloud-based EHS regulatory intelligence platform

Source: Verdantix analysis



# Expansion Into ESG And Sustainability Is The Defining Market Trend Over The Past Two Years

Verdantix analysis finds that there have been unprecedented levels of interest from PE investors in EHS software over the past two years. The widespread acquisition of best-of-breed providers to broaden and deepen functional offerings has instigated a market consolidation, with a number of 2023 Green Quadrant participating vendors merging into a single entity. Whilst acquisitions generally result in more complete products and larger geographic footprints, buyers and investors should be cognizant of the pitfalls of this buy-and-build approach (see [Verdantix Market Insight: 5 Key Considerations When Buying EHS Software](#)). Based on our analysis of market news and vendor strategies, we find that the:

- **Degree of product commoditization varies massively by module type.**

Having been established for 20-plus years, EHS software is a mature market segment. However, across the EHS landscape of modules, the level of commoditization varies significantly. Core areas of competency such as safety management, incident workflows, and audits and inspections, are highly standardized across vendors, with little meaningful variation (see **Figure 4**). Modules with high levels of differentiation are those with niche use cases that occupy a smaller segment of the total EHS software market size. Functional areas in this category include industrial hygiene (IH) and ergonomics. Other modules with high differentiation are topics that bleed outside of core EHS competencies, such as quality, control of work, ESG and sustainability, and GHG emissions, particularly Scope 3.

- **Expansion into ESG functionality has become a strategic priority.**

The growth of ESG and sustainability has defined many EHS software providers' functional development, brand positioning and strategic planning. The past 24 months have seen a tsunami of ESG-aligned product releases, acquisitions and partnerships, driven by huge revenue potentials. Significant plays in this space are Cority's sustainability cloud solution launch and acquisitions of WeSustain and Reporting 21; IsoMetrix's internally developed ESG application Lumina; Intellex's partnership with Datamaran to provide dynamic materiality assessments; and Sphera's acquisitions of thinkstep and riskmethods, expanding its ESG product portfolio into supply chain risk management. Firms are shifting their entire brand positioning, with some bucketing EHS within the scope of ESG.

- **Operational risk management (ORM) is a natural growth area for EHS vendors.**

Select EHS software firms have expanded their existing risk capabilities into operations and process safety elements through strategic acquisitions (see [Verdantix Green Quadrant: Process Safety Management 2021](#)). Prominent deals within the EHS space are Sphera's acquisition of Petrotechnics in 2019 and Enablon's acquisition of CGE Risk in 2020. More recently, VelocityEHS acquired OneLook Systems in May 2021, bolstering its control of work offering. The reverse is true for ORM vendors integrating aspects of EHS. For example, GOARC, primarily an Industry 4.0 platform vendor, has combined various EHS-focused features into its connected worker offering; and IFS Ultimo, an enterprise asset management (EAM) software firm, has an EHS solution spanning incident management, management of change, permits and other modules. The past few years have seen the homogenization of functionality across EHS and process safety, allowing customers to realize synergistic benefits and improve cross-functional communication.

- **Firms are closely reviewing partnership strategies to add maximum value.**

Throughout our analysis of vendors' business strategies, the better leveraging of partnerships consistently emerged as a strategic priority. There are roughly four partnership types: consulting and implementation; EHS content and software; hardware and Internet of Things (IoT); and software development. Firms intent on expanding their geographic reach and increasing new customer wins are pursuing a globally distributed set of implementation partners (see [Verdantix Green Quadrant 2022: Digital EHS Technology Implementation Services](#)). Our analysis found that some organizations have more than 30 established implementation partners. Aside from implementation, firms are leveraging software integrations to provide customers with



access to best-of-breed solutions. For instance, Intellex has an exclusive reseller agreement with Datamaran for materiality assessments; Cority and Benchmark ESG partner with Interaptix for industrial safety; Cority also partners with F19 to produce interactive web-based reporting for stakeholders; and Evotix partners with Metric for ESG workflows.

Figure 4  
EHS Functional Capabilities: Differentiation In The Market

EHS Module	Market Standard	Differentiators
Quality mgmt	Use of configurable workflows and contractor mgmt capabilities to fulfil basic quality mgmt needs Provision of an asset inventory	Dedicated quality mgmt functionality or modules Preventative maintenance and manufacturing mgmt solutions
Air and GHG emissions	Support for permit mgmt, but lacks a calculation engine to support large-scale emissions calculations Scope 1, 2 and 3 emissions supported through manual data entry and formula builders with either in-house or customer-supplied emissions factors	Smart features to track permit compliance, including hard and soft limits against applicable regulations Support for category 1-15 Scope 3 emissions and use of a supplier portal Emissions factors from multiple sources and an in-house library
Industrial hygiene	Use of configurations to enter and calculate sampling data Use of APIs to interface with laboratories Able to define similar exposure groups (SEGs)	Able to link sample data to SEGs Numerous out-of-the-box (OOTB) lab integrations and the use of a lab portal Advanced calculations and provision of AIHA statistical tool set
ESG & sustainability	Configurations to support ESG frameworks Can set targets and define KPIs using a formula builder Support stakeholder mgmt	OOTB TCFD framework and certified for CDP, GRI and SASB Scenario planning, carbon credits mgmt and plausibility checks
Ergonomics	Configure ergonomic assessments and dashboards Some OOTB ergonomic assessments	Broad range of OOTB ergonomics assessments Application of video analytics to quantify risk and suggest remediation actions
Hazardous waste, water and wastewater mgmt	Able to enter and calculate sampling data Able to track waste inventory Support permit limit tracking, deviations and/or exceedances	Submit manifests directly to the EPA Can select and rank approved transportation firms for disposal mgmt OOTB reporting templates covering many regions
Document mgmt	Support document version tracking, bulk import of documents and granular security permissions for editing, viewing, creating and deleting documents Reliant on third-party document alteration software such as SharePoint	In-built document editing tool with support for collaborative reporting and sequential or parallel approval workflows Highly granular security and audit trails; able to define permissions access at the field level and view which IP address has edited/viewed
Control of work	Can complete JHAs and store and associate LOTO data to assets Limited OOTB process safety capabilities	Visualization of permits to identify conflicts (SIMOPs) Multiple OOTB process hazard methodologies, including bow-tie Dedicated shift handover functionality

Figure 4 (continued) ↓



Figure 4 (continued)

Management of change	Full MOC workflow including submitting a change request, various stages of approval and audit trail of change	Multiple OOTB MOC workflows for various change types, including process safety, e.g. pre-startup safety review
Occupational health	Able to securely store health data and schedule visits with medical practitioners OOTB approval workflows for return to work and claims mgmt	Fit-for-duty workflows can tie in health practitioners and automate approvals Use of dedicated wellbeing partnerships
Training mgmt	Ability to upload SCORM-compliant training content as well as schedule and track training in a robust manner	Provide 1,000+ training courses OOTB Support individualized training enrolment based on a worker's unique risk profile
Chemicals mgmt	Software acts as database for SDSs, allowing SDS content to be viewed on the web or mobile app SDS content is supplied through partnerships Chemical incident mgmt workflows can be configured	In-house team of experts maintain an SDS library Granular chemical approvals (multiple processes) and inventory mgmt using a live, virtual site view Direct reporting capabilities to agencies
Contractor mgmt	Contractor pre-qualification supported through document requests Contractors can access a sub-set of the EHS mgmt system Contractor-specific dashboards to monitor key KPIs	Dedicated contractor portal to verify contractor compliance Employee-level, contractor-level and project-level contractor mgmt Contractor league table with normalized KPIs to compare and select best-fit contractors
Actions mgmt	Core competency of mgmt platforms Able to assign responsible parties, define and automate escalations	Automatically generate actions and due dates based on multiple criteria, such as action priority Group assignment of actions
EHS risk mgmt	Many ways to define controls and identify and prioritize risks Robust risk register and mass alert functionality for crisis scenarios	Use of AI to extract compliance obligations Barrier mgmt to view control effectiveness Cross-module linkages between risks and controls
Audits and inspections mgmt	Robust capabilities to create, schedule, complete and track progress of audits Edit audit checklists using in-built tools and pull in checklists from content providers	Ability to view auditors' availability when scheduling Automatically suggest actions based on historical audits Conferencing for remote audits
Safety and incident mgmt	Multiple workflows dependent on incident severity Many incident analysis and event capture tools, including voice-to-text, geolocation, actions mgmt in app, etc.	Use of AI to automatically suggest actions or report using WhatsApp Incidents tied to operational and business risk

- High differentiation within the market
- Moderate differentiation within the market
- Commoditized functionality; all GQ vendors display strengths

Source: Verdantix analysis



# The Application Of AI, Machine Learning And IoT Data Streams Is Diffusing Throughout EHS Workflows

Analysis of the 23 Green Quadrant providers highlights competency across the market within core EHS modules, meaning that buyers seeking vanilla EHS workflows are faced with an assortment of suitable products. High levels of divergence are apparent for niche workflows and closely linked operational and ESG functional areas. Based on our analysis of product demonstrations and Green Quadrant functional responses, we find that:

- **Improved data sources through IoT will facilitate proactive risk management strategies.**

EHS software firms are primed for IoT device integration through the vast use of REST (representational state transfer) application programming interface (API) strategies. Additionally, providers built on a microservices architecture – such as Cority, Intellex and VelocityEHS – are well-suited to large-scale IoT deployments. Meanwhile, Enablon’s third-party integration with OSIssoft can be used for inputting real-time operational data. Whilst EHS software firms are capable of IoT data streams, we have not yet seen widespread integration of connected devices for EHS use cases. At present, the high cost of hardware is limiting investment, although Verdantix has seen evidence of smaller-scale deployments for niche use cases, such as DNV’s integration of wearable sensors for radiation monitoring and Cority’s IH exposure monitoring. Ever-lowering hardware costs, and the presence of IoT firms such as Rombit, means that Verdantix anticipates expanding IoT ecosystems.

- **AI is slowly but surely augmenting software capabilities and bolstering automation.**

Through analysis of vendor offerings, it is apparent that AI is branching out to all areas of EHS software. There are three broad machine learning (ML) subfields being deployed: computer vision to monitor images and video footage for non-compliance and hazards; natural language processing (NLP) for streamlining EHS documentation and compliance; and recommendation and analytics engines to support decision-making and data cleansing (see [Verdantix Strategic Focus: Improving Health And Safety With AI](#)). Through product demonstrations, Verdantix witnessed Cority’s CorInsights tool, an AI-driven notification tool available on records providing insights on incident trends, common corrective actions or average days taken to complete an investigation. Benchmark ESG also has a series of AI Advisors, offering automated identification of potential serious injuries and fatalities (PSIFs). As AI remains a technology-industry buzzword, buyers will need to use discernment to select truly value-added AI features.

- **Cloud-hosted deployment and mobile apps are a must-have.**

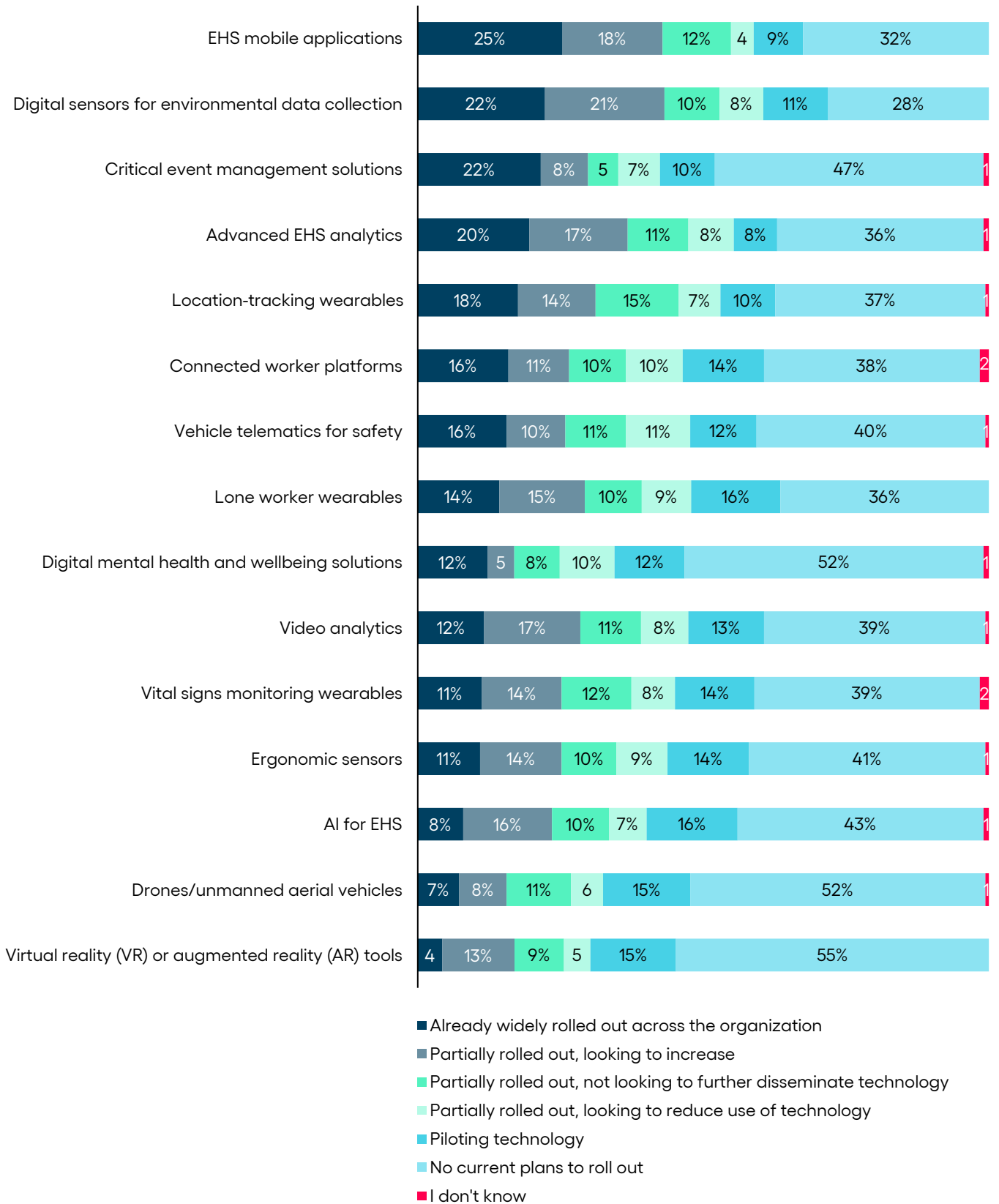
Verdantix global survey data found that only 32% of organizations have no plans to use a dedicated EHS mobile app in 2023 (see **Figure 5**). Moreover, all the participating Green Quadrant firms offer a mobile app that supports incident event capture and audits and inspection reporting at a minimum. It is apparent that EHS mobile apps are no longer a value-add, but rather a must-have in customers’ eyes. This is reiterated through vendor pricing strategies, with the majority of firms grouping mobile app deployment within their overall module price – essentially charging no additional fee for the use of mobile. Although mobile apps are the norm, buyers should be cognizant of divergent app strategies in terms of the use of progressive web apps (PWA) or native apps. Further evidence of technology enhancements can be seen in the percentage of customers on multi-tenant cloud deployments. Eight of our benchmarked providers have 99% or more of their customers on multi-tenant deployments.



Figure 5

Adoption Of Digital Technologies In 2023

To what extent will your firm roll out the following digital technologies in 2023?



Note. Data labels are rounded to zero decimal places; percentages less than 7% have been written as numbers  
 Source: Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences

N=302



# Future Product Development Will Continue To Prioritize ESG And A Back-To-Basics EHS Management Approach

Product development news has been dominated by the ESG and sustainability megatrend over the past two years. Whilst we have seen notable developments in this area, the materialization of the use of AI, IoT and computer vision marks a pivotal change in the direction of the market as their utility comes to fruition. To better understand the future direction of the market, Verdantix analysed EHS megatrends.

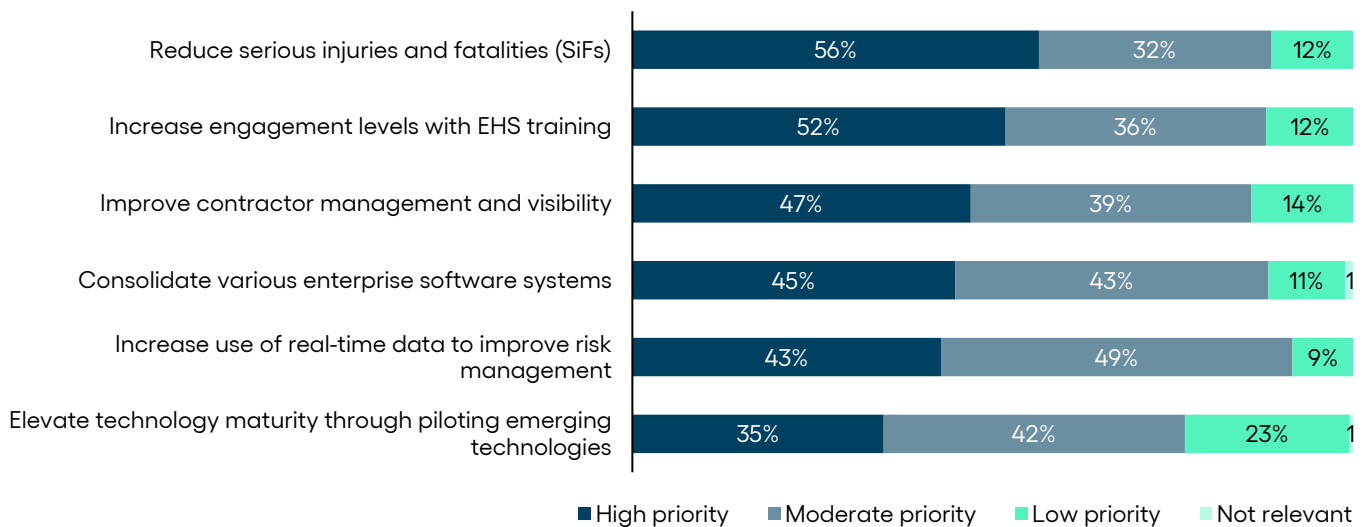
## EHS Software Will Be Tasked With Facilitating Zero-Incident Rates And Broadening Worker Health Management

Given that the EHS Software Green Quadrant is updated every two years, Verdantix takes a forward-looking approach to understand which areas of software functionality will continue to dominate customer priorities over the next two years (see **Figure 6**). Verdantix anticipates that EHS buyers, and hence software product development, will aim to:

- Reduce serious injuries and fatalities (SiFs) by interfacing with new technologies.**

Safety management has, and will continue to be, a top priority area for EHS decision-makers. Due to improvements in safety management, safety cultures and technology, data from the US Bureau of Labor Statistics show a steady decline in non-fatal workplace injuries over the past 20 years (see [Verdantix The Future Of The EHS Function](#)). However, the number of fatalities has largely flatlined (there were 5,575 workplace fatalities in 2003 and 5,250 in 2018). Tying together EHS and process safety, ensuring adequate risk barriers and monitoring risk in real time will all contribute to eliminating workplace fatalities. There is already evidence of technology enhancements in these areas, such as Enablon’s dynamic BowTie application, which shows the shift-to-shift status of barrier health and risk levels of an asset, and Protex AI’s use of computer vision to flag near-misses. Digital twins and connected assets will continue to present strong benefits to process safety through remote management and prediction of process failures or overloads (see [Verdantix Strategic Focus: How Digital Twins Enable New EHS Collaboration](#)).

**Figure 6**  
**EHS Function Priorities Over The Next Two Years**  
**What level of priority are the following goals for your EHS function over the next two years?**



Note. Data labels are rounded to zero decimal places; percentages less than 7% have been written as numbers  
 Source: Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences

N=302



- **Expand the use of AI to enhance decision-making and improve data quality.**

At present, EHS software use cases for AI encompass non-conformance detection through computer vision, virtual assistants, and streamlining compliance and decision-making. However, as volumes of EHS data increase due to IoT device integration, the ability to leverage AI expands, opening the potential for predictive and even prescriptive analytics. Additionally, as EHS provides critical data for ESG disclosures, environmental data will come under heightened scrutiny. To provide investor-grade EHS data, organizations can leverage AI to enhance data cleansing (see [Verdantix Strategic Focus: Transitioning To Investor-Grade ESG Data And Decision-Making](#)). For instance, AI can look for discrepancies and similarities in data entered from other operators; based on behavioural metrics, it can determine the ‘trustworthiness’ of the data entered. AI can also be used to make estimates, conduct data standardization and correct errant data using historical records, all of which are highly applicable for supplier-submitted data.

- **Improve total worker health.**

COVID-19 instigated broader discussion around worker mental health and wellness, leading to it becoming a prominent trend within EHS. Our 2021 global survey found that an overwhelming majority (94%) of EHS decision-makers expected to assume greater responsibility for worker wellbeing as a result of COVID-19 (see [Verdantix Global Corporate Survey 2021: EHS Budgets, Priorities And Tech Preferences](#)). Whilst worker wellbeing is the responsibility of numerous functional areas, such as human resources (HR), there is clearly an onus on EHS to encompass mental health aspects. Verdantix analysis finds that EHS software has expansive room to develop functionality for mental health management and overall understanding of human risk (see [Verdantix Growing Mental Health App Market Presents Opportunities For EHS Software Providers](#)). There is some evidence of progression in this area; consider Cority’s employee-based risk solution that lets workers assess and quantify the effect that personal factors, such as physical ability, fatigue or mental state, may have on their risk exposure.

## EHS Software’s Applicability To ESG Will Expand The Addressable Market And Increase Interest From Multinational Software Firms

Despite EHS software being a long-established market, the potential for further innovation remains high. Given modern-day technology capabilities, software vendors have dipped their toes into a new era of AI and big-data-enabled automation that holds the potential to drive down workplace fatalities. Verdantix also considered how market dynamics are likely to evolve in the future. We found that:

- **ESG functionality will play a bigger role in procurement for more buyers.**

Owing to the huge untapped revenue potential lying in wait, ESG-related functional developments have dominated market focus. While some organizations are seeking to go beyond compliance by setting aggressive zero carbon targets and implementing other initiatives, spend on ESG software is ultimately driven by regulation, and for the time being, is dominated by the ‘E’ pillar (see [Verdantix FTSE 100 Net Zero Emissions Targets Reveal Critical Success Factors](#)). Verdantix finds that the regulatory landscape is only becoming more stringent. In 2024, 49,000 EU firms will have to report environmental and social impacts under the Corporate Sustainability Reporting Directive (CSRD). Tightening of ESG regulations will also happen in the US for around 6,500 publicly listed firms, which will be required to report their Scope 1 and 2 emissions and their Scope 3 subject to materiality, according to the proposed Securities and Exchange Commission (SEC) climate risk disclosure rules (see [Verdantix Global Corporate Survey 2022: ESG & Sustainability Budgets, Priorities And Tech Preferences](#)). The broadening applicability of environmental reporting will result in customers increasingly combining ESG functionality alongside EHS, particularly in high-risk industries.



- **Firms will increasingly target the mid-market segment through pre-packaged offerings.**

Aided by COVID-driven digitization, fewer customers are coming from Excel or paper-based workflows; our survey data find that around two-thirds of organizations expect to eliminate paper-based EHS processes by 2023 (see [Verdantix Global Corporate Survey 2021: EHS Budgets, Priorities And Tech Preferences](#)). Rather, most organizations are progressing up the maturity curve in a bid to implement integrated EHS platforms with high-quality data that will aid proactive risk management. There are nuances to the maturity journey, however; Verdantix finds that mid-market firms with limited EHS resources are lagging on their EHS sophistication (see [Verdantix Market Insight: Winning Mid-Market Strategies For EHS Software Vendors](#)). As an easy point of entry for buyers, some providers are offering pre-packaged solutions aimed at less mature organizations or specific industry verticals. Example firms with this strategy include Ideagen, TenForce and UL. Going forward, Verdantix anticipates broader availability of fast-to-deploy and scalable pre-packaged offerings.

- **ERPs and large enterprise firms will view EHS as an attractive gateway to the ESG market.**

The barrier to entry for the EHS software market is high: competition, particularly in Europe and North America, is intense and cost competitive; EHS software development requires teams with many years of subject matter expertise; and the development of proprietary calculation engines is expensive. However, Verdantix sees potential for large organizations, such as enterprise resource planning (ERP) vendors with expansive financial resources, to enter the market. An interesting example is the acquisition of Quentic by AMCS, a global software provider, in May 2022. As ESG reporting requirements broaden, large enterprise firms may view EHS software as a gateway to tapping into the lucrative environmental management space. Consider IBM's acquisition of Envizi – a carbon, energy and ESG software provider – in January 2022. The deal reflects the growing investment in the carbon, climate and environmental management space.



# Green Quadrant For EHS Software 2023

Buyers of EHS software from various industries and geographies seek scalable, configurable and easy-to-use solutions that not only enable strong foundations for safety management, but also engage workers on integrated EHS risk management, safety culture improvements and environmental compliance. While adoption of EHS software for incident and safety management constitutes the most common use case, customers give preference to vendors who are able to offer a breadth of industry-specific EHS digital solutions. For the purposes of this report, Verdantix defines EHS software as:

*“Enterprise-scale software that enables firms to capture, analyse and report data, manage risks and improve business performance across the full range of environmental, health and safety business processes and impact areas.”*

This definition does not include software designed to be deployed on a site-by-site basis, applications used for regulatory content management, or software or applications with a focus on a single or select few impact areas, such as carbon management, injury reporting or water compliance management. It also excludes mobile-centric EHS software solutions that lack the breadth and depth of enterprise-scale applications. The assessment includes both applications deployed on-premise and those that are cloud-hosted.

## Green Quadrant Methodology

The Verdantix Green Quadrant methodology provides buyers of specific products or services with a structured assessment of comparable offerings at a certain point in time. The methodology supports purchase decisions by identifying potential vendors, structuring relevant purchase criteria through discussions with buyers and providing an evidence-based assessment of the products or services in the market. To ensure objectivity of the study results, the research process is guided by:

- **Transparent inclusion.**  
We aim to analyse all providers that qualify for inclusion in the research. For those providers that provide insufficient information or are unwilling to cooperate fully on the 353-point questionnaire and two-and-a-half-hour product demonstration, we include them in the report based on public information, where this would provide an accurate analysis of their market positioning.
- **Analysis from the buyer’s perspective.**  
We integrate findings from our global corporate EHS survey of 302 senior decision-makers, many of whom have bought or plan to buy software products such as those analysed in the Green Quadrant, and from our market size and forecast for EHS software. The data-driven survey findings and market sizing inform how we define the relevant software categories, sub-categories and weightings that propel the Green Quadrant graphic output.
- **Reliance on professional integrity.**  
As it is not feasible to check all data and claims made by vendors, we emphasize the need for professional integrity. Assertions made by software providers are put in the public domain via the Verdantix report and can be checked by competitors and existing customers. Verdantix also retains previous iterations of vendors’ Green Quadrant questionnaire responses and makes comparisons and scoring adjustments as needed, to ensure accuracy.
- **Scores based on evidence.**  
To assess software vendors’ expertise, resources, business results and strategies, we gather evidence from public sources and conduct interviews with multiple spokespeople and industry experts. When providers claim to be ‘best in class,’ we challenge them to present supporting evidence.



- **Comparison based on relative capabilities.**

We construct measurement scales ranging from ‘worst in class’ to ‘best in class’ performance at a certain point in time. A provider’s position in the market can change over time, depending on how its offering and success evolves relative to its competitors. As a result, a vendor’s Quadrant positioning may not necessarily improve — even if it adds new applications, makes a strategic acquisition or receives investment — as the assessment is relative to what other vendors are offering or have been doing since the previous Green Quadrant study. The Green Quadrant for EHS software is typically repeated every two years.

## Scope And Methodology Updates For The 2023 Green Quadrant EHS Software Study

Verdantix studies reflect the current state of customer requirements and product capabilities. As such, we have updated the assessment criteria to ensure alignment with the current state of the market. Updates to the 2023 Green Quadrant EHS Software study feature:

- **Restructuring of the contractor management and occupational health (OH) categories.**

The 2021 EHS Software Green Quadrant featured pandemic management as a distinct functional category. Reflecting quelling demand for pandemic management functionality, Verdantix consolidated this category and incorporated it in the OH assessment. Contractor management also received a notable facelift. Its sub-category groupings now reflect the Verdantix functional segmentation across pre-qualification and onboarding, contractor control of work, contractor training, contractor safety management and site access control (see [Verdantix Buyer’s Guide 2021: Contractor Safety Management Software](#)).

- **Adjustment of functional category weightings to reflect current and future priorities.**

The Verdantix Green Quadrant evaluates the latest customer technology preferences to ensure that the weightings of all high-level criteria reflect global buyers’ current priorities across all EHS software components. Given the wealth of product development and spend dedicated to environmental management, the categories relating to GHG emissions, air emissions and ESG and sustainability management received increased weightings. To compensate for these increases, categories that constitute a lower percentage of total EHS software spend, namely IH and OH, received slightly reduced weightings.

- **Creation of a control of work functional category.**

Owing to the growing interlinkage between EHS and ORM functionality, Verdantix created a distinct category for control of work. This assesses vendors’ ability to support permit to work management, job hazard analyses (JHAs), process safety management and shift management.

- **Expansion of ESG and sustainability to reflect broader capabilities available in the market.**

The previous iteration of the Green Quadrant assessed vendors’ ESG reporting and stakeholder management capabilities. Due to the rapid product development in this area, Verdantix has expanded the scope of the ESG and sustainability management category. Vendors are now also assessed on Task Force on Climate-Related Financial Disclosures (TCFD) reporting and their ability to support other frameworks, target management and performance forecasting.



## Evaluated Firms: Selection Criteria

Verdantix tracks over 300 EHS software vendors globally. To ensure that the Green Quadrant analysis only compares firms providing similar products at a comparable level, we define the criteria for including vendors in the assessment. The 23 EHS software vendors included in this study have:

- **Software supporting broad EHS management functions.**  
Reflecting the market trend of corporate customers buying comprehensive EHS software platform solutions, we screen to include only vendors that have diversified EHS applications to manage the broad spectrum of EHS processes being assessed. To ensure comparability, this criterion eliminates numerous software products focused on only one, or a few, areas, such as environmental management or health and safety management.
- **Annual revenues of at least \$8 million and 40 or more named EHS software customers.**  
The Verdantix Green Quadrant EHS Software study is intended to assess the most prominent vendors offering EHS software platform solutions across environmental compliance, OH, incident and safety, quality, and sustainability management. The vendors included in this Green Quadrant study have annual EHS software revenues ranging from \$8 million to over \$100 million. All vendors disclosed at least 40 named customers who adopted and deployed their EHS software in 2021.
- **Resources to deliver a broad EHS suite.**  
We focused the study on vendors with the human, financial and technological resources to meet the needs of diverse customers for the foreseeable future. This criterion reflects the desire of most customers to ultimately use a single EHS software platform to manage all their EHS processes globally.

Based on the inclusion criteria above, this report looks in depth at the EHS software platforms available from 23 vendors: Alcumus, Benchmark ESG, Cority, DevonWay, DNV, EcoOnline, ecoPortal, Enablon, Evotix, HSI, Ideagen, Intelx, IsoMetrix, Origami Risk, ProcessMAP, Quentic, SAI360, SAP, Sphera, StarTex, TenForce, UL and VelocityEHS. Twenty-two of the 23 vendors featured in the study actively participated in the research through responses to a 353-point questionnaire and by providing a two-and-a-half-hour product demonstration. SAP is the only featured provider that declined to participate. Verdantix scored the provider using SAP-supplied data from the 2021 EHS Software Green Quadrant benchmarking report.

Other example and emerging vendors active in the EHS software market who can be considered, but who did not meet our specific inclusion criteria, include BlueKanGo, ComplianceQuest, Dakota Software, Damstra, EMEX, GOARC, INX Software, KPA, Noggin, Red-on-line, SafetySkills, SafetyTek, Simple But Needed (SBN) Software, Vector Solutions, VisiumKMS and Xybion.

## Evaluation Criteria For EHS Software

Verdantix defined the evaluation criteria for the Green Quadrant EHS Software study using a combination of interviews with corporate practice managers and software executives, desk research, discussions with multiple customers and staff expertise. Analysis was also informed by previous Green Quadrant assessments and responses to the Verdantix global corporate EHS survey. In full, this year's Green Quadrant analysis compares offerings from 23 software vendors using a 353-point questionnaire covering seven categories of technical capabilities, 19 categories of functional capabilities and 11 categories of market momentum. To maximize the value of this report, readers should understand that:

- **Capabilities measures breadth and depth of functionality.**  
The Capabilities dimension, plotted on the vertical axis of the Green Quadrant graphic, is a measure of the breadth and depth of each software provider's functionality. To assess this, we evaluated data for seven technical capabilities and 19 functional capabilities: database design and data integrations; master data



management; mobile solutions; business intelligence (BI); configurability; user interface (UI); application and data centre security; air emissions; audit and inspections management; chemicals management; contractor safety management; control of work; document management; training; ergonomics; GHG emissions; hazardous waste; IH; incident management; management of change; OH; quality management; EHS compliance and risk management; safety management; ESG and sustainability management; and water and wastewater management.

- **Momentum measures strategic success factors.**

The Momentum dimension, plotted on the horizontal axis of the Green Quadrant graphic, measures each software vendor on a range of strategic success factors. The criteria that make up the Momentum score are grouped into 11 high-level categories: brand preference; vision and strategy; market focus; partnerships; new customers; installed customer base; deal volume and size; deployment; organizational resources; customer success and adoption; and financial resources and growth.

We scored all sub-categories at zero, one, two or three, with zero reflecting ‘no capability’ and three being ‘best in class’. Each sub-category has a percentage weighting that dictates how much of a contribution it makes to the high-level Capabilities or Momentum scores. The combination of high-level category scores in the Capabilities and Momentum sections generates the Green Quadrant graphic and rankings. (See **Figure 7**, **Figure 8** and **Figure 9** for details of the study criteria, and **Figure 10** and **Figure 11** for the scoring for all participants against the criteria. For the Green Quadrant graphic summarizing the positioning of all EHS software vendors in this benchmark study, see **Figure 12**.)

Figure 7  
 Technical Capabilities Criteria For EHS Software Applications

Capabilities	Questions
Database Design & Data Integrations (4%)	Which database(s) does the application run on? What scalability/clustering can you demonstrate with customer deployments? What functionality is available to capture data from sensors, meters or edge devices such as wearables?
Master Data Management (2%)	What functionality is available to define, manipulate and change organizational, asset-level and site-level data? What functionality exists for managing regulatory data retention?
Mobile Solutions (5%)	What usage scenarios does your mobile apps portfolio address? What offline functionality does your mobile app offer? How many downloads and active users do the applications have? What parts of the mobile solution can be configured?
Business Intelligence (3%)	What is the quality of the business intelligence application? Is it embedded or provided via a third party? What is the quality of the dashboard? What data discovery, benchmarking, reporting, analysis, charting and forecasting tools are available?
Configurability (4%)	How can forms, measurement metrics, business rules and role-based user rights be (re)configured? How can terminology be redefined? How can the user interface and workflow be (re)configured? How can the dashboard be configured to meet individual needs? What other elements can be configured?
User Interface (5%)	What is the usability/user-friendliness of the enterprise app interface and mobile app interface? How many languages are provided out of the box? How does the software support enhanced user adoption and engage customers?
Application & Data Centre Security (2%)	What is the frequency of vulnerability testing on the software, and how are the tests performed? Are you SOC2 or ISO 27001/27002 certified? What data recovery agreements have been put in place?

Source: Verdantix survey



Figure 8

Functional Capabilities Criteria For EHS Software Applications

Capabilities	Questions
Air Emissions (4%)	Which air emissions regulations is the application designed to support? What pre-configured workflow is available out of the box? What pre-defined forms are included in the app? What are the properties of the calculation engine, including speed, configurability and included formulas?
Audit & Inspections Management (5%)	What functionality is provided to support the scheduling of EHS audits? What functionality is provided to import, create and change checklists for EHS audits? How are customers able to schedule and close out follow-up actions? Which customers are using the software for audit management?
Chemicals Management (4%)	Which specific regulated chemicals inventories is the application designed to support? How does the software support hazardous materials data management, hazard communications, SDSs, and HAZMAT labelling? What functionality is provided to support chemicals inventory management and general compliance? What functionality is provided to support toxicology analyses and the identification of alternative chemicals?
Contractor Safety Management (2%)	What functionality is provided to facilitate contractor pre-qualification, final qualification and pre-work activities, work-in-progress engagement, and other EHS performance-related requirements for contractors? How can firms manage contractor control of work? How can hiring clients manage initial and ongoing training of contractors and training credentials? How can firms manage contractor safety and site access?
Control of Work (4%)	How does the software support process hazard/safety analysis? What functionality is provided for fall protection, confined space, fire safety, machine safety, permit to work, and safety objective management? What functionality is provided to support the distribution of critical information during shift handover?
Document Management (2%)	What functionality does the software have regarding document alteration? How does it manage document version control? What methods of document import and export are available? Can documents be audited to track changes over time? Are e-signatures enabled?
EHS Compliance & Risk Management (6%)	What functionality is provided for risk identification and risk assessments? How does the software maintain an operational risk register? What functionality is provided for emergency response management?
Ergonomics (2%)	What functionality is provided to support ergonomics audits and inspections? How does the software identify and report on ergonomics hazards? Which customers are using the software for ergonomics management?
ESG & Sustainability Management (8%)	What functionality is offered to support TCFD, TCFD-aligned carbon and climate risk/opportunity, and reporting to other sustainability frameworks? How does the software enable users to set interim and final targets for net zero and what performance metrics are available? What functionality is in place to manage sustainability programmes and manage reporting? How does the application forecast future sustainability performance? What functionality is there for stakeholder engagement and CSR initiatives? What functionality is there for conducting and managing materiality analysis?
GHG Emissions (5%)	Which GHG regulations does the application support out of the box? What is the SLA for country and/or state-level grid factors? What is the proven capability of the calculation engine? Which customers are using the software for GHG management?
Hazardous Waste (3%)	Which hazardous waste regulations is the application designed to support? What is the quality and range of pre-built regulatory reports for hazardous waste management? What functionality is provided to support hazardous waste inventory and waste disposal management?

Figure 8 (continued) ↓



Figure 8 (continued)

Incident Management (7%)	What functionality is provided to track, manage and analyse incidents? How does the software support corrective and preventative actions? What functionality is provided to auto-populate regulatory reports for incidents? How does the software facilitate workers' compensation management?
Industrial Hygiene (3%)	What functionality is provided to inventory and track equipment calibration/ inspection activity? How does the software store, manage and report air, bulk and wipe sampling data? How does the software manage similar exposure groups (SEGs) and associated statistical analysis?
Management Of Change (2%)	What functionality is available to handle MOC workflow and approvals? How do MOC processes integrate with other software elements? Which customers are using the software for MOC?
Occupational Health (3%)	What functionality is provided for fit-for-duty work assessments and tracking of restrictions? How does the software maintain and manage employee medical data and records? Can the software maintain wellness programmes? What functionality is provided for occupational illness/injury reporting? What functionality is provided to manage travel risk and COVID-19 risk, including immunization?
Quality Management (3%)	What functionality is offered for corrective and preventive actions (CAPA)? Can the software assist with quality management in terms of suppliers, product design, equipment maintenance, and customer feedback? Do customers frequently leverage EHS and quality elements of the software together?
Safety Management (5%)	What functionality and content is provided to support compliance with safety regulations? What functionality is provided to support behaviour-based safety and job hazard/safety analysis? What functionality is provided for safety meetings and objectives management? What functionality is provided to support lone worker safety?
Training (4%)	Does the software include training modules on various EHS topics? Does it use a third party to provide this content? What functionality is available to schedule training and track individual and team progress?
Water & Wastewater Management (3%)	Which water and wastewater regulations is the application designed to support? Which water emissions does the application cover out of the box? What functionality is provided for discharge rate reporting and wastewater compliance?

Source: Verdantix survey



Figure 9

## Momentum Criteria For EHS Software Applications

Momentum	Questions
Brand Preference (10%)	What are the awareness and perception levels of 302 EHS leaders from the Verdantix EHS Leaders Global Survey for the supplier?
Vision & Strategy (5%)	What market vision does the supplier have? Is the supplier's business and product strategy aligned to the evolving requirements of customers?
Market Focus (5%)	Does the supplier have other revenue streams outside of EHS software? How involved is the supplier with industry events and standards bodies?
Partnerships (5%)	How many consulting partners does the supplier work with? Does the firm have hardware and software partners such as regulatory content partners?
New EHS Customers (15%)	How many new EHS software customers did the supplier win? What were the revenues of new customers?
Installed EHS Customer Base (10%)	In the most recent reporting year, how many customer contracts did the supplier have? What were the revenues of the firms with these contracts?
Deal Volume & Size (5%)	How many deals did the supplier close across different revenue size firms? What were the total values of these deals?
Deployment (5%)	What types of deployment options does the vendor offer? How many scheduled releases are there in a year? What is the average time needed to go live?
Organizational Resources (10%)	In how many countries does the vendor have offices, provide technical support and host the software? How many employees does the supplier have? Has the supplier grown through acquisition?
Customer Success & Adoption (10%)	How many FTE employees are dedicated to customer success and support? What is the average response time? How is customer satisfaction measured?
Financial Resources & Growth (20%)	What are the supplier's annual EHS software revenues in the most recent reporting year? How much did the revenue size change compared with prior years? What percentage of the EHS software revenues is subscriptions?

Source: Verdantix survey



Figure 10  
Vendor Category Scores (Capabilities)

	Alcumus	Benchmark ESG	Cority	DevonWay	DNV	EcoOnline	ecoPortal	Enbion	Evotix	HSI	Ideagen	Intelix
Database Design & Data Integrations	1.4	1.9	2.5	1.5	2.0	1.6	1.5	2.0	1.0	1.6	0.6	2.3
Master Data Management	1.7	2.2	2.8	1.3	1.5	2.0	1.2	2.8	1.7	1.2	1.0	2.7
Mobile Solutions	1.6	2.5	2.5	1.2	1.4	2.3	1.6	2.6	2.5	1.6	0.8	2.4
Business Intelligence	1.0	2.4	2.8	1.2	1.4	1.6	1.2	2.6	1.8	0.8	1.0	2.4
Configurability	1.1	1.8	2.4	1.9	1.4	2.1	1.6	2.6	1.8	2.0	1.3	2.5
User Interface	1.6	2.0	2.4	1.8	1.4	2.4	1.8	2.6	2.2	1.8	1.2	2.6
Applications & Data Centre Security	2.2	1.9	2.5	2.0	1.8	2.5	1.3	2.0	2.3	1.6	2.0	2.5
Air Emissions	1.6	2.0	2.6	0.8	1.3	1.6	0.2	2.5	0.6	0.7	0.0	2.3
Audit & Inspections Management	1.5	2.1	2.6	1.5	1.7	1.7	1.1	2.4	1.8	1.5	1.2	2.5
Chemicals Management	1.9	2.0	2.3	1.1	0.9	2.1	0.9	2.1	0.9	1.8	0.5	1.6
Contractor Safety Management	2.5	1.8	2.2	1.3	1.5	1.7	1.8	2.3	2.2	1.8	0.8	2.2
Control of Work	1.3	2.0	2.0	1.5	1.5	1.0	1.0	2.8	1.0	1.0	0.0	2.3
Document Management	1.1	1.9	2.2	1.6	1.0	1.4	0.9	2.1	1.4	1.6	2.5	1.9
EHS Compliance & Risk Management	1.3	2.1	2.4	1.3	1.7	1.9	1.3	2.7	1.6	1.1	1.6	2.3
Ergonomics	1.5	2.0	2.3	1.3	1.0	1.3	1.0	2.3	1.5	1.3	0.3	2.3
ESG & Sustainability Management	0.6	1.8	2.5	0.9	1.4	1.2	0.4	2.5	1.0	0.6	0.0	2.0
GHG Emissions	1.5	2.1	2.7	0.7	1.5	0.8	0.8	2.4	0.6	1.0	0.1	2.1
Hazardous Waste	1.0	2.0	2.6	1.7	1.1	0.9	0.0	2.3	0.9	0.9	0.0	2.4
Incident Management	1.6	2.1	2.3	1.3	1.4	1.7	1.4	2.7	1.6	1.4	1.1	2.4
Industrial Hygiene	1.0	2.0	2.7	1.6	1.1	0.1	0.6	2.1	1.0	0.4	0.0	2.6
Management Of Change	1.0	2.0	2.3	1.3	1.3	0.3	0.8	2.3	1.0	0.8	0.3	2.3
Occupational Health	1.5	2.0	2.8	1.4	1.4	0.2	1.0	2.7	1.1	1.7	0.2	2.3
Quality Management	1.6	1.6	2.1	1.9	1.1	0.9	0.9	2.0	0.8	1.1	2.7	2.6
Safety Management	1.7	2.4	2.7	1.5	1.8	1.8	1.6	2.7	1.9	1.7	1.4	2.7
Training	1.8	2.0	2.4	0.6	0.4	1.8	1.0	1.8	2.2	2.6	1.8	2.0
Water & Wastewater Management	1.3	2.3	2.8	1.3	1.8	2.0	0.0	2.3	1.0	1.0	0.0	2.5

Figure 10 (continued) ↓



Figure 10 (continued)

	IsoMetrix	Origami Risk	ProcessMAP	Quentic	SAI360	SAP	Sphera	StarTex	TenForce	UL	VelocityEHS
Database Design & Data Integrations	1.8	1.8	1.3	1.4	2.0	1.9	2.3	1.0	2.0	1.5	1.8
Master Data Management	2.2	1.3	1.7	2.2	2.3	1.7	2.2	1.0	1.7	2.2	2.3
Mobile Solutions	1.5	1.9	2.3	2.2	2.3	1.9	2.2	1.3	1.6	1.3	2.1
Business Intelligence	2.4	1.0	2.2	1.4	2.0	1.2	2.8	1.0	1.4	1.8	2.0
Configurability	1.9	1.3	1.3	2.0	2.6	1.1	2.6	1.3	1.4	1.8	2.0
User Interface	1.8	1.6	2.0	2.2	2.0	1.4	2.4	1.4	1.6	1.6	2.2
Applications & Data Centre Security	2.2	1.7	2.4	1.8	2.5	1.8	2.3	1.8	2.2	2.2	2.7
Air Emissions	1.8	1.2	1.5	1.3	1.6	1.3	2.7	0.3	1.0	1.3	2.4
Audit & Inspections Management	1.9	1.6	1.8	2.1	2.0	1.0	1.9	1.7	1.4	1.7	2.4
Chemicals Management	0.9	1.5	1.5	1.9	1.5	1.0	2.5	0.8	1.1	1.9	2.9
Contractor Safety Management	2.4	1.3	1.2	1.7	2.5	1.0	2.3	1.0	1.8	0.9	2.3
Control of Work	1.5	1.8	2.0	1.5	1.8	1.3	2.5	1.3	2.5	0.8	2.0
Document Management	0.9	1.4	1.7	1.5	1.7	1.4	1.7	0.9	1.1	1.3	2.1
EHS Compliance & Risk Management	2.4	2.4	1.3	1.7	2.6	1.4	2.4	1.3	1.4	1.4	2.1
Ergonomics	1.5	2.3	2.0	1.3	1.8	0.8	1.5	1.0	1.0	1.0	3.0
ESG & Sustainability Management	1.9	1.1	1.6	1.4	1.5	0.6	2.6	0.6	0.5	1.9	2.0
GHG Emissions	1.9	1.0	1.5	1.4	1.7	0.7	3.0	0.0	1.0	2.6	2.4
Hazardous Waste	1.9	1.4	1.6	1.3	1.7	1.0	2.6	1.3	0.6	1.3	2.7
Incident Management	2.1	2.0	1.9	1.9	1.9	1.1	2.1	1.6	1.6	1.4	1.9
Industrial Hygiene	2.0	1.7	2.6	1.4	2.1	1.0	2.0	1.0	0.9	1.4	2.7
Management Of Change	1.3	1.3	1.5	1.3	1.5	1.3	1.5	1.0	1.3	0.8	1.5
Occupational Health	1.7	1.6	1.9	1.6	2.2	1.3	1.9	1.1	0.6	2.0	2.0
Quality Management	1.2	1.2	0.8	1.4	1.0	1.3	1.1	1.1	1.3	1.1	1.4
Safety Management	1.9	1.8	1.9	1.9	2.3	1.4	2.3	1.6	1.7	1.3	2.6
Training	1.0	1.0	1.6	1.8	2.0	1.0	1.2	1.6	1.0	2.2	2.0
Water & Wastewater Management	1.8	1.5	1.5	1.8	1.8	1.0	2.5	1.3	1.0	2.3	2.5

Source: Verdantix analysis



Figure 11

Vendor Category Scores (Momentum)

	Alcumus	Benchmark ESG	Cority	DevonWay	DNV	EcoOnline	ecoPortal	Enbion	Evotix	HSI	Ideagen	Intelex
Brand Preference	2.0	2.3	2.3	1.3	3.0	2.0	1.3	2.3	2.0	2.0	2.0	2.3
Vision & Strategy	2.0	2.0	2.5	2.3	1.5	2.3	2.5	2.5	2.3	1.8	2.0	2.5
Market Focus	2.4	2.5	2.6	1.1	1.9	2.0	1.6	2.8	2.0	1.7	1.8	2.9
Partnerships	1.5	2.5	2.9	1.4	1.9	1.5	0.7	2.4	1.3	1.1	0.5	2.7
New EHS Customers	1.5	2.0	2.9	0.6	1.0	1.3	1.0	2.6	1.3	1.7	1.3	2.3
Installed EHS Customer Base	2.0	1.8	2.4	1.0	1.0	1.6	1.0	2.4	1.6	2.8	1.4	2.2
Deal & Volume Size	2.2	1.8	2.8	1.0	1.5	1.8	1.3	2.7	1.5	2.5	0.8	2.5
Deployment	2.5	2.0	2.7	2.8	2.0	2.6	2.7	2.0	2.5	2.5	1.2	2.8
Organizational Resources	2.0	1.7	2.0	1.7	2.0	2.0	1.0	2.7	1.3	2.3	1.7	2.0
Customer Success & Adoption	1.9	2.3	2.5	1.6	1.1	1.4	1.5	1.7	1.9	1.2	1.6	2.6
Financial Resources & Growth	2.2	1.4	2.4	0.9	1.6	2.5	1.6	2.6	2.3	2.4	2.2	1.9

	IsoMetrix	Origami Risk	ProcessMAP	Quentic	SAT360	SAP	Sphera	StarTex	TenForce	UL	VelocityEHS
Brand Preference	1.7	1.0	2.0	2.0	2.3	3.0	3.0	1.0	1.0	3.0	3.0
Vision & Strategy	2.3	1.8	2.3	2.3	2.0	1.3	2.8	1.8	2.3	2.0	2.5
Market Focus	1.9	1.0	2.2	1.9	0.7	0.5	2.2	1.7	2.1	2.0	2.5
Partnerships	1.7	1.7	1.8	1.0	2.0	2.1	2.1	0.7	1.7	0.9	1.6
New EHS Customers	1.0	0.9	1.0	2.0	1.4	1.0	2.4	1.2	1.6	1.9	2.3
Installed EHS Customer Base	1.2	1.2	1.0	2.0	1.0	1.4	3.0	1.2	2.0	2.2	2.6
Deal & Volume Size	1.3	1.7	1.7	2.8	1.3	1.0	2.2	1.3	1.5	2.2	2.3
Deployment	1.4	2.7	2.7	3.0	1.5	1.2	2.3	2.5	2.2	2.3	2.5
Organizational Resources	1.7	1.3	2.0	1.7	2.0	1.7	2.0	0.7	1.7	2.7	2.7
Customer Success & Adoption	1.7	1.5	1.5	1.8	2.3	1.2	2.2	1.3	1.5	1.9	2.0
Financial Resources & Growth	1.8	1.5	1.9	2.3	1.5	1.5	2.5	1.5	1.7	1.5	2.0

Source: Verdantix analysis



Figure 12  
Green Quadrant For EHS Software 2023



## Capabilities

This dimension measures each software supplier on the breadth and depth of its software functionality across 26 capability areas, as outlined in Figure 7 & Figure 8.

## Momentum

This dimension measures each software supplier on 11 strategic success factors, as outlined in Figure 9.

Note: a white plot indicates a non-participating vendor  
Source: Verdantix analysis



# Alcumus Offers Comprehensive Contractor Management Capabilities In A Growing Product Portfolio

Founded in 1979, Alcumus originally provided technology-led compliance and risk management solutions. Today, the vendor has expanded its offerings to include supply chain compliance, contractor management and Control of Substances Hazardous to Health (COSHH) management through its Sypol solution. The provider serves over 50,000 customers worldwide, including firms such as Müller, Polypipe, Specsavers and Winvic, and employs over 1,000 employees in offices across the UK, North America and Asia-Pacific (APAC). As evidence of its robust business performance and software offering, in March 2022 Alcumus was acquired by London-headquartered private equity firm Apax Partners for over \$800 million. Since its acquisition, Alcumus has launched a new Supply Chain Compliance module for its SafeContractor solution in April, and acquired Cognibox, a contractor management solutions provider, in June.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Alcumus has strengths in:

- **Contractor safety management.**

Alcumus scored 2.5/3.0 for contractor safety management, the joint-highest score in this category. This is representative of the vast investment Alcumus has made to broaden its contractor management offering, principally through the acquisition of contractor management and supply chain risk management software vendor Cognibox. Through Alcumus's offering, users can manage end-to-end contractor processes, from pre-qualification and onboarding, to on-site contractor management and site access. The provider supports a worldwide membership network of over 50,000 contractors and can use its Supply Chain Compliance solution to verify the compliance of contractors and suppliers via an online portal.

- **Chemicals management.**

Alcumus scored 1.9/3.0 for chemicals management, a score which is well above the category average of 1.5/3.0. Alcumus fulfils chemicals management, COSHH compliance and global legislation compliance through its Sypol solution. This broad solution spans safety data sheet (SDS) management, chemicals database management, chemicals approvals and inventory management, spills management, chemicals compliance reporting, hazard communication (HazCom) programmes and labelling, and data-related services. Verdantix found particular strengths in chemical risk assessments, with the solution storing more than 750,000 risk assessments covering over 200,000 chemicals, written and validated by the firm's in-house team of scientists. The tool can also recommend safer chemical substitutes or allow organizations to configure recommended lists.

- **Quality management.**

Alcumus scored above average for quality management, with 1.6/3.0. Verdantix analysis finds quality management to be a differentiator within the EHS software market, with few firms offering dedicated solutions. Alcumus customers can leverage the firm's contractor management strengths and supplier portal to facilitate quality-related workflows, such as supplier data collection, onboarding of new suppliers, and enriching supplier profiles by integrating data from enterprise resource planning (ERP) software using application programming interfaces (APIs). Administrative users can self-configure business rules to only use approved suppliers or establish preferential conditions. Alcumus further supports quality management processes through the auto-generation of non-conformance reports based on the outcome of audits and inspections.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Alcumus could improve on:

- **Industrial hygiene.**

With a score of 1.0/3.0, Alcumus currently provides limited out-of-the-box capabilities for industrial hygiene (IH) management. The provider leans on its chemicals management solution to manage sampling plans and data for key areas of IH, such as air, noise, whole body vibration (WBV) monitoring, and face-fit tests. Customers can use the Alcumus portal to upload IH reports for noise, air, and for bulk and wipe samples into the system. They can then link uploaded data to employee records to track exposure and maintain a log of exposure history. The provider could streamline this process through direct data input via interfaces with laboratories and by providing more sophisticated sampling plan management tools and statistical analysis on sampling data.

- **ESG and sustainability.**

Alcumus scored 0.6/3.0 for ESG and sustainability management, reflecting its foundational functionality for target management, sustainability metrics and stakeholder management. Alcumus does not support dedicated reporting capabilities for the Task Force on Climate-Related Financial Disclosures (TCFD), or for other sustainability frameworks and standards, such as those of the Global Reporting Initiative (GRI) or the Sustainability Accounting Standards Board (SASB). For prospective customers wishing to utilize Alcumus for ESG and sustainability management, the solution does enable annual target-setting and carbon offsets tracking. The firm could provide broader sustainability programme management by allowing organizations to record and track the progress of sustainability initiatives and share summary progress reports to stakeholders both inside and outside their organizations.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that Alcumus should be shortlisted by:

- **Organizations with complex contractor and supplier management needs.**

Alcumus's depth of contractor management functionality and ability to provide deep insights and visibility into its supply chain through its contractor/supplier portal makes it well-placed to serve the EHS needs of firms operating in medium- and high-risk EHS sectors with complex contractor needs. In particular, the firm has accrued more than 250 customers within the construction sector, including Balfour Beatty Group, Multiplex and Winvic. Aside from construction, Alcumus has a strong customer base across the consumer goods, facilities management, pharmaceuticals and life sciences, and retail industries.

- **Small to medium-sized organizations operating in the UK or North America.**

The vast majority of Alcumus's customer base is headquartered in the UK. The firm continues to focus on meeting the needs of its core market, but the acquisition of Quebec-headquartered Cognibox has expanded its presence in the North American market. While the firm has proven deployments across a range of organization sizes, its primary customer base is in the sub-\$250-million revenue segment. For small and medium-sized firms seeking a competent contractor management offering wrapped up with an EHS management system, Alcumus, and its range of services, provides a compelling option.



# Benchmark ESG Bets On Emerging Technologies Packaged Within A Well-Rounded EHS And ESG Offering

Benchmark ESG, founded in 1997 as Gensuite, originally offered business compliance processes and management solutions. The provider subsequently rebranded to reflect its combined EHS and ESG management offering. The firm is headquartered in Ohio and has 500+ employees across 14 global offices, enabling it to serve clients distributed across 120 countries. Alongside a comprehensive overall platform, with few holes to poke at, the provider has differentiated itself through its commitment to emerging technologies. Benchmark ESG widely utilizes AI and Internet of Things (IoT) partnerships in its system, demonstrating its dedication to automation. For example, it features its virtual assistant, Genny; a series of AI Advisors offering automated identification of potential serious injuries and fatalities (PSIFs), analysis of engagement levels, and automated identification of chemical and material risks; image recognition; and IoT partnerships with providers such as Interaptix, Proxxi and StrongArm Technologies.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Benchmark ESG has strengths in:

- **Safety management, EHS compliance and risk management.**

Overall, Benchmark ESG presents customers with a comprehensive EHS management system, with particular strengths in safety management. The provider scored 2.4/3.0 and 2.1/3.0 for safety management and EHS compliance and risk management, respectively. Compliance is supported by its Reg Tracker application, which enables users to report and track regulation changes as they occur. Users can also subscribe to regulation groups or jurisdictions to receive monthly email reminders of changes in these groups. Additionally, Benchmark offers robust functionality to identify, assess and track EHS and operational risk. The platform supports a broad suite of quantitative prioritization techniques and assessments, including bow-tie analysis, hazard and operability studies (HAZOPs), layers of protection analysis (LOPA), fishbone analysis, and incident cause analysis methods (ICAM), to name a few.

- **Water and wastewater and hazardous waste management.**

Benchmark ESG performed well above average for hazardous waste (2.0/3.0) and water and wastewater management (2.3/3.0). As a growing area of interest, owing to ESG disclosures such as those of the Carbon Disclosure Project (CDP), and increased scrutiny of the use of natural resources, Benchmark's ability to support global organizations in managing water and wastewater compliance activities complements its ESG software positioning. Through Benchmark's Water Watch application, users receive automatic feeds of water compliance-related data and can generate a huge swathe of regulatory reports, including auto-populating US Discharge Monitoring Reports (DMRs). For hazardous waste inventory management and disposal, the solution supports granular tracking of shipment volumes and disposal costs.

- **ESG and sustainability and GHG emissions.**

Benchmark ESG has continued to build out functionality for ESG and sustainability, placing it 0.5 points above the category average, with a score of 1.8/3.0. Organizations are supported on their ESG compliance journeys through the provision of more than 600 out-of-the-box KPIs mapped to various frameworks, including those of the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-Related Financial Disclosures (TCFD). Beyond reporting, users can perform stakeholder engagement and materiality assessments using the firm's Materiality Advisor, as well as set targets and manage sustainability programmes. The platform also offers a Credit Manager solution, to help document and allocate renewable energy credits, and integrations with its supply chain sustainability and product stewardship modules to measure sustainability data throughout the value chain.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Benchmark ESG could improve on:

- **Quality management.**

Benchmark ESG scored 1.6/3.0 for quality management, slightly above the category average. The provider offers built-in audit protocols, including for ISO 9001, and can facilitate quality-specific actions management and investigation techniques such as eight disciplines of problem solving (8D). Crucially, the system features a supplier manager portal, allowing users to schedule supplier audits and view the status of a given supplier in relation to sourcing and other metrics. Despite above-average capabilities, Verdantix finds that the Benchmark ESG platform has the potential to add more dedicated functionality for equipment maintenance, quality control, and product design, manufacturing and parts management. For instance, users currently cannot access out-of-the-box solutions for failure mode and effects analyses (FMEA), production part approval processes (PPAPs) or advanced product quality planning (APQP).

- **Contractor management.**

Benchmark achieved a score of 1.8/3.0 for contractor management, approximately in line with the average across the 23 suppliers assessed. Verdantix analysis finds that Benchmark offers a solution capable of managing contractors from pre-qualification through to project closure. Pre-qualification is performed via a questionnaire and contractors can be granted limited access to the Benchmark ESG system to input information directly. Additionally, the creation of site-specific projects allows hiring firms to track key contractor safety metrics. However, for customers with complex contractor management needs, the lack of a dedicated supplier portal alongside other advanced features may inhibit the platform's suitability.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that Benchmark ESG should be shortlisted by:

- **Firms with ambitious EHS technology strategies in medium- to high-EHS risk industries.**

Benchmark ESG's sector focus areas are manufacturing, industrial equipment, chemicals, energy and utilities, pharmaceuticals and healthcare, and food and beverage. As the general EHS maturity of customers progresses, Benchmark ESG is looking to capture the next wave of buyers intent on advancing their EHS technology roadmaps. Alongside overall platform capabilities, prospective buyers should consider the value of Benchmark ESG's commitment to investing in advanced technologies – namely, AI and machine learning, Internet of Things (IoT) device integrations, computer vision and blockchain.

- **Large enterprise customers seeking to consolidate EHS and ESG management systems.**

Although Benchmark ESG's customer base stretches from firms with sub-\$250 million in revenue to those with more than \$10 billion, its core market sits in the large enterprise segment. The firm's positioning as an ESG software provider demonstrates its intentions to combine its four solution segments – ESG reporting; sustainability; risk and compliance; and product stewardship – to deliver operational ESG success to customers in North America, Europe and Asia-Pacific (APAC). This could particularly benefit large enterprises, with Verdantix finding that only 5% of such firms have consolidated all their EHS processes in a single platform (see [Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences](#)).



# Cority's Laser-Focus On Building An End-To-End EHSQ And Sustainability Solution Has Resulted In A Comprehensive Offering

Headquartered in Toronto, Cority was founded in 1985 as Medgate, an occupational health (OH) and industrial hygiene (IH) specialist (see [Verdantix Cority Drives Employee Engagement Through Its Digital EHS Platform](#)). The firm rebranded to Cority in 2017 to illustrate its expanded coverage as an integrated EHS and quality (EHSQ) platform. In mid-2019 Cority received a majority investment from Thoma Bravo – a US private equity and growth capital firm, which provides sustained investment in Cority. As of 2022, Cority had over 550 employees and served approximately 1,400 clients in more than 100 countries. Since the last iteration of the Verdantix EHS Software Green Quadrant, Cority has continued to deepen its expertise in IH and OH, and has expanded into new territory through the acquisition of ESG software specialist WeSustain in May 2021. Arguably the most impactful development over the past two years has been the release of CorityOne, the firm's integrated software as a service (SaaS) platform, which has seen further enhancements since its release in 2021.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Cority has strengths in:

- **Occupational health and industrial hygiene.**

Cority scored 2.8/3.0 and 2.7/3.0 for OH and IH, respectively – the highest amongst the vendors assessed. The firm's functional strength and historical reputation in these areas have led to more than 600 customers selecting CorityOne to manage OH. Over the past two years Cority has strengthened its health solutions; for instance, it has invested in enhancing fit-for-duty assessment workflows that allow candidates to be auto-cleared for work based on assessment questionnaires. Additionally, recruiters can start a job application on behalf of a candidate and clinicians can submit fitness-for-duty status to recruiters directly. CorityOne also caters to the emerging total worker health agenda via the inclusion of the NIOSH (US National Institute for Occupational Safety and Health) WellBQ questionnaire, as well as through telehealth capabilities, and an employee-based risk solution that lets workers assess and quantify the effect that personal factors, such as physical ability, fatigue or mental state, may have on their risk exposure.

- **Water, wastewater and hazardous waste management.**

Cority's broad environment package and permit management strengths led to a score of 2.8/3.0 for water and wastewater and 2.6/3.0 for hazardous waste. The provider's application programming interface (API) allows permits to be automatically uploaded into the system and quickly deconstructed. Users can then set up tasks to track permit limits at the asset level and monitor aggregated limits at the facility level. Moreover, an in-built calculation engine and user-friendly formula builder support the configuration of new calculations, making it possible to manage a large range of water metrics, from usage and flow, to the published conventional pollutants and priority pollutants list in the US Clean Water Act (CWA). Support for water regulations is particularly relevant in the current industrial and regulatory climate, owing to their applicability to ecology, public health and pollution.

- **Audits and inspections.**

The ability to conduct audits and inspections and manage follow-up is a core competency of EHS management platforms. Cority has distinguished its offering through a variety of value-added features such as auto-creating corrective actions based on pre-defined audit-checklist responses and facilitating inspections through a 'Near Me' mobile-based location services feature, whereby users can detect assets in their proximity and discern their inspection status using coloured icons. Hovering over an icon presents a user with key asset data and alerts them to outstanding inspections. As remote inspections become the norm post-COVID, a partnership with Zoom enables site representatives to provide virtual tours within the Cority app.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Cority could improve on:

- **Shift handover management and process safety, to round out its control of work offering.**  
Cority scored 2.0/3.0 for control of work – a solid score, but one which allows for improvement opportunities. Within control of work, the firm has strengths in permit management and mobile-enabled permit management, allowing users to configure business rules to prevent permit approval without submission of an associated risk assessment, training record, or lock-out-tag-out (LOTO) verification. However, Verdantix analysis points to shift management improvement opportunities. At present, users rely on platform configurations through questionnaire development to capture shift information, and the configuration of the management of change (MOC) solution to manage shift handover. There are also expansion opportunities within process safety; for instance, Cority's breadth of out-of-the-box risk models could expand to include dynamic bow-tie diagrams linked to asset data.
- **Aspects of quality management.**  
Cority features a dedicated Quality Cloud solution that supports ISO 9001, as well as compliance with a host of quality-focused industry standards, such as AS9100 for the aerospace industry, IATF 16949 for the automotive industry, and ISO 13485 for medical devices. Importantly, the provider offers a quality-focused supplier management solution, allowing data submission and real-time non-conformance tracking. Although its strong overall suite of functionality allowed the firm to score 2.1/3.0 in this area, it has room to expand its functionality for asset maintenance and calibration. Cority offers an equipment and asset management module that enables users to track maintenance and calibration history and set up a calibration and maintenance frequency for equipment. Verdantix finds that some organizations are blurring the boundaries between enterprise asset management (EAM) and EHS software through the provision of more advanced preventative maintenance planning and scheduling solutions.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that Cority should be shortlisted by:

- **Buyers seeking a comprehensive EHSQ and sustainability platform.**  
Through the continued development of CorityOne, and investment in ESG and sustainability solutions, Cority has produced a comprehensive management system with core competencies across safety, environmental compliance, IH and OH, and ESG and sustainability. Aside from its functional strengths, prospective customers should consider the value of Cority's unified user experience through the CorityOne platform and the advanced built-in business intelligence (BI) tool provided through a joint innovation relationship with CorAnalytics and Qlik.
- **Both mid-market and enterprise customers wishing to future-proof their EHS ecosystems.**  
Cority's customer base stretches right across the mid-market, up to global deployments for large enterprise customers. Although the firm has an industry-agnostic approach, its customer base is skewed towards the chemicals, consumer goods, industrial equipment, oil and gas, pharmaceuticals and life sciences, hospitals and municipality verticals. Corporate decision-makers have also begun to leverage the firm's open architecture to link Internet of Things (IoT) sensors to protect and monitor their workforce. Cority estimates that more than 15,000 users on the Cority Health Cloud alone are using directly connected inputs.



# DevonWay Offers An Integrated EHSQ And Asset Management Platform Suited To Managing Risk Within Highly Regulated Verticals

Founded in 2005, DevonWay is a US-headquartered quality, EHS and asset management software provider that employs over 80 staff across five offices in the US and Germany (see [Verdantix DevonWay Offers A Broad Suite Of Solutions For EHSQ And Asset Management](#)). The firm has over 500,000 registered users across a targeted set of industries, including construction, energy, government, life sciences and manufacturing. DevonWay has deep sector knowledge of energy firm needs in particular, serving the US Department of Energy and over 50% of the US nuclear fleet. Alongside its sector expertise, the provider brings a unique blend of functionality to the market through its combined enterprise asset management (EAM) and EHS and quality (EHSQ) offering, having positioned itself as an innovator in the 2022 Verdantix EAM Green Quadrant (see [Verdantix Green Quadrant: Enterprise Asset Management Software 2022](#)).

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that DevonWay has strengths in:

- **Quality management.**

DevonWay scored 1.9/3.0 for quality management, a significant 0.5 points above the category average. The DevonWay quality management solution, which is used by 90% of the firm's client base, supports supplier onboarding through documentation and certification management, including automated alerts when supplier certificates are due to expire. Once onboarded, DevonWay closes the loop on supplier management through supplier scorecards that feature configurable calculations and weightings and dedicated customer complaints and product recall modules. It provides a customer portal that tracks shipment and product details and connects with enterprise resource planning (ERP) systems, allowing organizations to search for purchase order line items that are associated with a complaint.

- **Document management.**

DevonWay scored marginally above average for document management – one of the most widely deployed EHS modules. The provider has in-built document alteration tools, including electronic signatures for robust audit trails and the ability to insert comments and other annotations directly within the DevonWay web or mobile app. The solution comes with a vigorous document control solution that allows authorized users to set up their own review and approval schedule for individual documents. Example approval controls include assigning a task type, whether a quality or legal review or other; assigning teams or individuals to review; providing review instructions and due dates; and determining series or parallel review workflows. For version control and robust document alteration, customers rely on an interface to Microsoft Office 365 or another similar tool.

- **Hazardous waste management.**

With a score of 1.7/3.0, DevonWay demonstrates competent hazardous waste management capabilities. Through partnerships with both RegScan and STP, DevonWay customers can access regulatory content for a broad range of hazardous waste regulations and can deconstruct permits into individual rules and requirements. The provider also enables the management of waste inventory, profiling and disposal. The DevonWay inventory management solution extends natively to waste, chemicals and other materials inventory, supporting the tracking of waste transfer, disposal, containers and manifest details. A waste profile module tracks material characteristics such as US Resource Conservation and Recovery Act (RCRA) characteristics, chemical composition and analysis, physical state, and layering information.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that DevonWay could improve on:

- **GHG emissions.**

DevonWay scored 0.7/3.0 for GHG emissions, which is demonstrative of the provider's limited out-of-the-box content for Scope 1, 2 and 3 calculations. Although users can leverage regulatory data from the provider's partnership with RegScan, customers seeking to calculate emissions are required to source their own emissions factor libraries. Once sourced, they can make use of an in-built metric and KPI framework to build complex formulae for the calculation of GHG metrics.

- **Training management.**

DevonWay has the potential to expand its training offering. At the time of writing, the provider does not offer out-of-the-box training content. However, users can integrate the solution with third-party training platforms to track course completion and pass and fail details. If required, they can also upload training materials and set up multiple-choice tests for a training course. Beyond content, users can manage training scheduling and can even batch-assign individual courses to groups of users by facility, project, qualification or other criteria. In addition, there are options to skip users that have already completed training in the past. To enhance its training solutions, DevonWay could add capabilities to create and host SCORM-compliant material and improve the granularity of the training progress data collected.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that DevonWay should be shortlisted by:

- **North American buyers in highly regulated industries seeking a configurable platform.**

Ninety per cent of DevonWay's customer base is located in North America, where the firm can service customers' needs through locations in Charlotte, Portland, Salt Lake City and San Francisco (its HQ). Firms operating within specific verticals – namely, energy, government, life sciences and manufacturing – should strongly consider the value of DevonWay's specialist offering, which allows it to name Biogen, Duke Energy, EDF Energy and Los Alamos National Laboratory as clients. Prospective buyers should also review their configurability needs; the DevonWay system has robust configuration options, supporting the use of a web-based module-builder tool with business rules written using the firm's own proprietary domain-specific language (DSL) for use by trained non-programmers.

- **Firms desiring a combined asset management, quality and EHS offering.**

DevonWay's ability to combine strong solutions for asset management, EHS, operational risk management (ORM) and quality management is distinctive in the market. For users of industrial and health and safety software, consolidating solutions for multiple applications can deliver significant operational efficiencies, help reduce data silos and lower the total cost of ownership. Moreover, the firm is expanding its Internet of Things (IoT) strategy via a partnership with Rombit to automatically initiate incidents, near-misses and geofencing alerts.



# DNV's Synergi Life Solution Is Tailored To The EHS And Operational Risk Challenges Of Asset- And Infrastructure-Heavy Industries

Founded in 1864, DNV provides certification, technical assurance, advisory services and software to deliver safety and risk management, performance optimization and sustainability solutions. The firm has a long history of working in asset- and infrastructure-heavy industries, such as power and renewables, oil and gas, maritime, electrical goods and healthcare. DNV employs over 11,800 staff globally, of which about 700 are dedicated to its digital solutions department, which includes its EHS and quality (EHSQ) software platform Synergi Life. Aided by its global presence, DNV has established itself as a recognized EHS software brand, resulting in excellent brand perception and awareness amongst EHS professionals (see [Verdantix Global Corporate Survey 2022: EHS Software Brands Recognition](#)). To date, the firm has accrued approximately 350 EHSQ customers worldwide.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that DNV has strengths in:

- **EHS compliance and risk management, and safety management.**  
DNV scored 1.7/3.0 and 1.8/3.0 for EHS compliance and risk management, and safety management, respectively – strong scores within categories that are core competencies amongst EHS providers. DNV customers can expect vigorous risk identification and risk control functionality. Users can suggest a control through a preventative action for an identified risk. Once implemented, they can record the action as a new control or barrier to prevent the escalation of similar risks or threats. Such controls are then allocated to responsible individuals, to monitor control efficiency over time. The system also provides a fully integrated Barrier Management module that creates a framework to monitor the integrity of barriers and supports the visualization of the relationship between risks and potential effects.
- **Audits and inspections management, particularly for asset-centric inspections.**  
DNV demonstrated robust functionality for audits and inspections, scoring 1.7/3.0. Synergi Life audit workflows cover planning, scheduling, audit execution and audit follow-up and analysis, and are compliant with ISO 9001, ISO 14001 and ISO 27000 requirements. For organizations in asset-intensive industries, DNV provides a suite of asset-centric models for risk, safety, operability, maintainability and integrity management. Depending on asset type, the firm offers a set of tools to plan inspections using time-, quantum- or risk-based methods. The provider also emphasizes its expansion into digital twin technologies, through which it can incorporate a visual image of an asset, models for risk-based operations, predictions and real-time monitoring solutions.
- **ESG and sustainability and GHG emissions.**  
ESG, sustainability and the energy transition has been a focus area for DNV, resulting in scores of 1.5/3.0 for GHG emissions and 1.4/3.0 for ESG and sustainability. Through Synergi Life, users can manage GHG emissions following the principles in the GHG Protocol, ISO 14064/67 and the Global Reporting Initiative (GRI) guidelines. Furthermore, customers can calculate not only carbon dioxide and carbon dioxide equivalent emissions, but also methane, nitrous oxide and other emission types. Beyond GHG emissions, the platform supports wider ESG metrics and functions for goal setting, performance monitoring, baseline and sampling management, energy use and raw materials consumption. The platform also supports Task Force on Climate-Related Financial Disclosures (TCFD) reporting through its governance, risk, target-setting and action management modules.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that DNV could improve on:

- **Occupational health and ergonomics.**

DNV scored 1.4/3.0 and 1.0/3.0 for occupational health (OH) and ergonomics, respectively. The Synergi Life incident management module tracks restricted work cases and records medical evaluation notes. Through incident management, users can classify work-related illnesses as an OH issue, instead of an accident. Verdantix analysis finds that DNV relies on integrations with software partners to bolster its offering in this area. For example, the software application PRIDE Journal integrates with its OH solution, for medical follow-up and health tests.

- **Chemicals management.**

DNV scored 0.9/3.0 for chemicals management, reflecting the provider's limited offering for hazard communications and hazardous material (hazmat) labelling, and for safety data sheet (SDS) management, both of which functions are reliant on the provision of hazard and SDS data from third-party suppliers. Customers can, however, store SDSs as a PDF in Synergi Life and link documents to individual locations where substances exist. DNV's Synergi Life did score strongly for chemical spill and incident management; the platform allows spills to be defined in terms of exposure, duration and recovery rates and rated for both real and potential further impact and loss.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that DNV should be shortlisted by:

- **Buyers operating complex industrial assets and heavy infrastructure.**

DNV Synergi Life's strengths in risk management, audits and inspections, as well as its asset-focused audits, are tailored to meet the needs of its core market base – maritime, power and renewables, and oil and gas. Customers in these verticals include Ørsted, Saudi Aramco, Shell and TotalEnergies. Complementing its EHS offering, DNV provides expertise-driven advisory services for strategic planning associated with energy transition, energy management and sustainable operations.

- **EHS and operations professionals seeking an integrated EHS, asset and ORM platform.**

Synergi Life spans ESG, EHSQ and enterprise risk functionality. However, the firm also offers a much broader portfolio of software solutions, such as Synergi Plant, for asset integrity and loss prevention; Synergi Pipeline, to optimize the performance and integrity of pipelines; Synergi Electric for power distribution planning and analysis of electric grids; and Synergi Liquid for water pipeline optimization. DNV's combination of operational risk management (ORM) and EHS software, services and industry expertise allows organizations to break down information silos and realize operational efficiencies.



# EcoOnline's Rapidly Evolving Platform Offers Robust Chemicals Management Within An EHS Software Package

EcoOnline is a Norwegian-headquartered EHS software vendor founded in 2000. The firm employs over 400 staff in offices across Ireland, the UK, the US, Norway, Sweden, Denmark and Finland to service its 7,000+ client base. Following private equity investments from Summa Equity and Goldman Sachs Merchant Banking Division in 2020, EcoOnline acquired Airsweb to strengthen its foothold in the European EHS software market. Since the last iteration of the EHS Software Green Quadrant assessment, EcoOnline has maintained a highly aggressive growth strategy, having acquired firms including StaySafe for lone worker solutions, Munio for e-learning, Pilotech for crisis management, Chymeia for chemicals management, and Biome for environmental management. This acquisition strategy relies on EcoOnline's module-based platform and defined processes to integrate new software partners.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that EcoOnline has strengths in:

- **Chemicals management.**

EcoOnline's score of 2.1/3.0 for chemicals management is 0.6 points above the category average, reflecting its broad functional strengths, differentiated capabilities within safety data sheet (SDS) authoring through ALMEGO, and use of automated label creation through SDS data extraction. The provider's SDS database consists of SDSs for the European and US markets. Any SDS can be linked to a client's inventory, with reference to specific locations on their organization chart. Furthermore, SDS revisions are automatically made available. Customers have access to a dedicated chemicals approvals module capable of automatically assigning reviewers and approvers. A comparison feature allows clients to easily compare chemicals in the database, taking into consideration both the intrinsic properties of the products and applicable legislation. Such features are applicable to customers intent on pursuing green chemistry principles.

- **EHS compliance and risk management.**

With a score of 1.9/3.0 for EHS compliance and risk management, EcoOnline offers a robust system for managing compliance risks, assigning controls and assessing risks. Verdantix analysis finds that EcoOnline also provides a differentiated solution for crisis management. Its dedicated Global Crisis Management module, available on the web and mobile apps, covers both planning and actual response to an unexpected event. The solution, which is designed to cater for cyber attacks, accidents, reputation incidents, fraud, special operational incidents, sensor-triggered responses and other violations, features a fully redundant infrastructure with a secondary replicated site running in parallel at an independent hosting site – thus ensuring that a firm's system can remain live in a crisis event.

- **Training management.**

EcoOnline scored 1.8/3.0 for training management, placing it in the top half of providers assessed. In December 2021 EcoOnline acquired Munio, a Norwegian provider of EHS e-learning content and a learning management system (LMS). The acquisition has positioned EcoOnline to take advantage of the strong demand for EHS learning solutions (see [Verdantix Best Practices: Adopting Digital Technology For EHS Training](#)). The provider offers over 200 e-learning courses, which are available in different languages and often localized to various jurisdictions. As with many elements of EHS, encouraging engagement with training material is a significant challenge facing firms. EcoOnline addresses this by providing training of varying duration (including five-minute micro-lessons), making content available on mobile browsers and apps, using engaging content with dynamic graphics and animations, and allowing learners to self-enrol on permitted courses. Training can also be automatically or manually assigned based on a series of factors.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that EcoOnline could improve on:

- **Industrial hygiene (IH) and occupational health (OH).**

EcoOnline's health and safety software product is largely focused on the safety component; the provider does not cater to OH or IH functionality needs. Customers in need of an OH solution could consider the use of specialist vendors such as Enterprise Health to fill EcoOnline's functionality gap.

- **Aspects of environmental compliance.**

Verdantix analysis finds that there is an opportunity to deepen functionality within GHG emissions, hazardous waste management, and ESG and sustainability. EcoOnline software can fulfil foundational GHG management needs. For instance, the provider annually updates a series of publicly available emission factor sets, supports the calculation of a range of GHG types, and can perform calculations for Scope 1, 2 and 3 emissions. To enhance its score in this area, EcoOnline should develop its data entry tools and build specialist functionality for Scope 3 emissions.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that EcoOnline should be shortlisted by:

- **European buyers seeking a safety and chemicals management system.**

EcoOnline's customers widely use its solution for safety management functionality, such as audits and inspections, incident management and safety management, as well as for chemicals management, for which over 6,700 customers leverage the firm's SDS database and management solution. Given its array of locations in Scandinavian countries and support for compliance with Control of Substances Hazardous to Health (COSHH) and other European regulations, EcoOnline serves an entirely European client base. However, newly released globally harmonized system (GHS) support for the US does demonstrate its intent to win North American customers.

- **Diverse industries in need of an easy-to-use platform incorporating advanced features.**

Verdantix analysis found the EcoOnline platform to be highly intuitive, with user-friendly web and mobile apps. In particular, the in-built dashboarding solution is impressive, offering users an instinctive solution to build dashboards from a variety of widgets. The built-in tool is primarily used for frequency analysis, with more advanced prediction tools requiring data exports to Power BI, Tableau or other equivalent business intelligence (BI) solutions. EcoOnline's platform caters to a diverse set of industries, with particularly high volumes of customers in business services, chemicals, construction, industrial equipment, retail and municipalities. Given its high number of acquisitions, buyers should investigate the extent of the firm's platform interoperability (see [Verdantix Market Insight: 5 Key Considerations When Buying EHS Software](#)).



# ecoPortal's Intuitive Health, Safety And Risk Management Solution Is Tailored To The Needs Of Australasia-Based Buyers

Australasia-based software provider ecoPortal was founded in 2009 as an environmental management consultancy. Since then, the firm has pivoted to become a health, safety and risk management software business. ecoPortal employs approximately 60 professionals across Australia and New Zealand and serves over 750,000 users in more than 100 organizations, all of which deploy the firm's solution via a multi-tenant cloud. The firm's rapidly growing Australasia-focused client base concentrates on the retail, transport and logistics, and manufacturing verticals. Verdantix analysis finds that ecoPortal, one of the smallest providers featured in this Green Quadrant by employee headcount, has averaged more than 50% year-on-year revenue growth for the past five years. The provider boasts more than 40 new organically won mid-market customers over the past year, adding to its array of customer brands such as Bank of New Zealand (BNZ), Briscoe Group, Foodstuffs and The Warehouse Group.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that ecoPortal has strengths in:

- **User interface (UI) and user experience.**

ecoPortal has made user experience a core focus in its product development, recognizing customer demand for intuitive and simple software that will ultimately increase EHS engagement with frontline workers. Through software demos, Verdantix found ecoPortal's mobile and enterprise app to be highly intuitive. Users of the enterprise app will see a clear demonstration of progress through workflows and a strong use of colour-coding and notifications to alert them to important tasks and events. The ecoPortal design philosophy prioritizes a simple user experience, minimizing the number of buttons users need to press to complete tasks. The platform is designed to be highly configurable; once trained by an ecoPortal consultant, administrative users are empowered to configure language, visuals, workflows and forms through the front-end UI.

- **Safety and incident management.**

ecoPortal scored 1.6/3.0 and 1.4/3.0 for safety management and incident management, respectively – scores that demonstrate its safety management competency. Capturing incidents via the ecoPortal mobile app is straightforward: users can place the incident location on a map through geolocation services, link multiple incident types to a single event, and connect to asset and people registries. They can also manage full incident workflows through the app. Comprehensive event detail capture at the time of an event is ensured through voice-to-text and image attachments. If further information is required, the enterprise app's 'activity stream' feature allows a user to view a complete timeline of incident updates, add comments and message users. This feature permits EHS managers to communicate directly with the individual who logged the event, avoiding the use of third-party messaging systems.

- **Contractor management.**

ecoPortal scored 1.8/3.0 for contractor safety management, above average for the category. Customers can use a dedicated contractor register to trigger automated emails to contractors, requiring them to fill out mandatory pre-qualification questions and upload evidence. Following approval processes, contractors can receive limited access to the ecoPortal system to submit incidents, and track and manage outstanding actions. For site access control, firms can upload and check contractor credentials using an integrated visitor management system, allowing them to configure conditions for entry, such as an induction pass mark percentage.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that ecoPortal could improve by:

- **Broadening its environmental management offering beyond chemicals management.**  
The ecoPortal solution primarily serves the health and safety verticals, with restricted out-of-the-box functionality for air emissions, hazardous waste, and water and wastewater management. Customers seeking to manage permits can, however, configure forms for the manual creation of a checklist against permit requirements. The provider has more than 100 customers utilizing its chemicals management capabilities, which allow users to upload safety data sheets (SDSs) into a dedicated chemicals register and configure workflows to approve new chemicals.
- **Industrial hygiene (IH).**  
ecoPortal acts as a data repository for personal protective equipment (PPE) inventories and IH data, such as air, bulk and wipe sampling and noise and hearing data from laboratories. Customers can enter data manually themselves or by granting a testing provider access; alternatively, results can be directly entered through application programming interfaces (APIs) with laboratories. However, the ecoPortal system does not provide dedicated functionality to establish and track sampling plans, perform analysis on sampling data or manage IH programmes through risk prioritization and the provision of regulatory content.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that ecoPortal should be shortlisted by:

- **Australasia-based organizations looking for a localized vendor.**  
Headquartered in Auckland, more than 90% of ecoPortal's client base is located in Australia and New Zealand. The firm's localized presence and partnerships with firms such as Environment Essentials, the largest EHS content provider in Australasia, allow it to support health and safety needs within its core geography. The provider has the added benefit of an in-house implementation team, able to hand-hold clients through software implementation and offer ongoing support, often implementing and configuring the solution within three to six months.
- **Medium-risk industries seeking a safety-centric solution to encourage EHS engagement.**  
ecoPortal has demonstrated phenomenal organic growth over the past five years, amassing more than 120 customers, predominantly within the mid-market segment. From an industry perspective, ecoPortal is aimed at medium-risk EHS sectors, specifically, retail, transport and logistics, and manufacturing. The firm's robust safety management offering and user-friendly design makes it an appealing choice for Australasia-based firms seeking to increase EHS engagement.



# Enablon's Combined EHS, Sustainability And Operational Risk Management Package Ticks The Boxes For Large Enterprises

Founded in 2000 and headquartered in France, Enablon is a provider of sustainability, EHS and operational risk management (ORM) software. The firm employs over 500 staff across six countries: Australia, France, the Netherlands, the UAE, the UK and the US. Its Amsterdam-listed parent firm, Wolters Kluwer, acquired Enablon in 2016 and maintains operations in 40 countries. In April 2022 the firm announced its Vision 9.4 software release, which offers new ESG disclosure templates, quality management options for teams with shared EHS and quality (EHSQ) functions, improved control of work processes, and consolidated performance data. Having previously acquired the assets of eVision, an operational risk software vendor, in 2018, and CGE Risk, a software vendor specializing in barrier risk management and risk analysis, in 2020, Enablon is well-equipped to bridge the gap between the operations, EHS and ESG functions.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Enablon has strengths in:

- **Control of work, safety management and risk management.**

Enablon received top scores across a host of safety-related categories, notably incident management (2.7/3.0), EHS compliance and risk management (2.7/3.0), safety management (2.7/3.0) and control of work (2.8/3.0). Its Vision 9.4 platform places an emphasis on real-time risk management and on reducing operational risk by connecting incident management to permit to work (see [Verdantix Best Practices: Moving EHS To Dynamic Risk Management](#)). As evidence of Enablon's competencies, a huge array of organizations relies upon its control of work solution; for instance, Shell has created more than two million permits on the Vision platform. Enablon supports an integrated permit and isolations library, lock-out tag-out (LOTO) and isolations management, job hazard analysis (JHA), gas management and simultaneous operations management (SIMOPs). The solution's differentiated process safety offering includes a visual dynamic bow-tie application that shows the shift-to-shift status of barrier health and risk levels of an asset.

- **User interface (UI) and configurability.**

Enablon scored 2.6/3.0 for UI and 2.6/3.0 for configurability – the joint-highest scores amongst the 23 EHS vendors in each category. Users can configure the Enablon solution through its proprietary Application Builder engine, which does not require any technical knowledge or database access to use. Additionally, standard workflows can be tailored through Enablon's Workflow Factory, which, in a similar way to its Form Factory and Rules Factory, can be used without technical knowledge via a drag-and-drop interface. By empowering customers to self-configure, frustrations in customer-vendor relationships can be avoided. The Vision platform's suitability for global deployments is evident in its language offering, with 41 languages available to customers.

- **Air emissions, GHG emissions and ESG and sustainability.**

Enablon displays deep capabilities across the environmental suite of applications, particularly for air emissions (2.5/3.0), GHG emissions (2.4/3.0) and ESG and sustainability (2.5/3.0). The firm's ESG solution packages together ESG reporting capabilities, robust targets management and performance forecasting, and metrics management, stakeholder management and corporate social responsibility (CSR) solutions. Firms can set up quantitative and qualitative objectives which, through a methodology-driven approach, are measurable and time-bound. They can then link objectives to metrics, allowing them to track financial data and other KPIs. A dedicated Scenario Analysis module can simulate potential organizational changes and forecast future performance for any metric, using mathematical expressions.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Enablon could improve on:

- **Training management.**

Enablon's Proficiency module is used by admin users to create training programmes and deploy them to specific employees or groups of employees according to job titles, business units or geographies. Admins can then associate the required skills with employees, and the specific training modules with one or more skills. Despite intuitive training assignment workflows and the availability of training progress statistics such as when a course was started, how long it took to complete, which questions were incorrectly answered, and how many attempts it took to complete, the platform lost points in this category due to a lack of out-of-the-box course content.

- **Aspects of quality management.**

Despite scoring 2.0/3.0 for quality management, Enablon has the potential to expand functionality in this area. For quality-related regulation, the solution pulls data from Enablon's integrated Regulatory Compliance solution, which is capable of supporting standards such as ISO 9001, ISO/IEC 17025 Labs, ISO/TS 16949 Automotive and ISO 14.971 Life Sciences. The Enablon solution excels for supplier data collection, with its IPC-1752-compatible supplier portal 'Connect' centralizing data for procurement, quality and other departments. The firm's Product Catalog also allows users to check products against compliance requirements. Despite displaying a variety of strengths, firms seeking dedicated feedback tools for supplier quality issues and sophisticated equipment maintenance solutions may need to look elsewhere or integrate with an asset management system such as IBM Maximo.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that Enablon should be shortlisted by:

- **Large enterprise firms in need of global deployments.**

Enablon's expertise lies in meeting the software needs of sizeable, multinational enterprises seeking large-scale deployments. The organization's most extensive rollout to date has more than 200,000 users on a single platform and it has multiple instances of deploying software across more than 100 sites. Enablon's customer base boasts 80% of the top ten pharmaceuticals firms, 50% of the top ten chemical producers, and 70% of the top ten technology giants. The majority of its clients are headquartered in Europe or North America, although it has an active presence in all regions globally, making it a prominent choice for large enterprise firms. Whilst Enablon has an excellent network of implementation partners, it does not offer in-house implementation services. Organizations intent on using a single firm throughout their software implementation journeys may consider other options.

- **Asset-intensive and high-risk sectors in need of advanced risk and EHS solutions.**

Given Enablon's strengths in operational risk, firms within high- to very high-risk sectors, such as oil and gas, construction, chemicals, pharmaceuticals, industrial equipment and power utilities, should closely review the Vision proposition. The vendor has also made long-term investments in emerging solutions, such as permit condition extraction using natural language processing (NLP); Juno, its AI assistant; and integrations to facilitate Internet of Things (IoT) data input. For instance, Enablon's relationship with OSIssoft supports real-time data input from assets, machines and IoT devices into Enablon's software.



# Evotix Combines EHS And Training Into A Mobile-First Offering Well-Suited To Mid-Market Buyers

Founded in 1996, Evotix has undergone substantial change in the past two years. The firm rebranded from SHE Software to Evotix in 2021, reflecting its evolved proposition, and in 2020 it secured £7 million (\$9.1 million) in Series B investment from scale-up stage investor Frog Capital. Following this capital injection, Evotix has expanded into the training management space by acquiring StoryShare, a mobile and microlearning provider, and has launched the Evotix EHS Academy, delivering a programme that teaches health and safety (H&S) leaders how to conduct EHS training workshops and develop safety leadership skills. Evotix has two primary solutions within a single platform: Assure spans EHS functionality and includes the analytics tool Insights+ and the mobile offering AssureGO+; Learn, meanwhile, is its microlearning solution. Continued product development has supported the firm's rapid growth trajectory, with the business posting cumulative growth of more than 40% for the eighth straight year. Evotix now employs over 150 professionals across offices in Chicago, Glasgow, London (its HQ), Manchester and Melbourne.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Evotix has strengths in:

- **Mobile functionality, usability and configurability.**

Evotix's mobile-first EHS software development philosophy resulted in an excellent score of 2.5/3.0 for mobile solutions, 0.6 points above the category average. The firm's mobile offering, AssureGO+, which is available unlicensed to all users, has a progressive web app strategy (rather than relying on native apps), which allows for offline functionality, enables updates to automatically appear on mobiles via AssureGO+ and supports broad functionality, covering audits and inspections, incident reporting, risk assessments, safety data sheet (SDS) access, and corrective and preventive actions (CAPA) management. The solution scored strongly for mobile configurability, with users able to build templates using a 'drag and drop' form builder. Administrative users also have full control over the app's look and feel, and its authentication requirements.

- **Training management and improvement solutions.**

In July 2021 Evotix acquired StoryShare, a mobile and microlearning platform. The integration of StoryShare's content into the Learn solution resulted in Evotix scoring 2.2/3.0 for training management. Learn has a library of SCORM-compliant, off-the-shelf content covering EHS, human resources (HR), wellbeing, personal development topics and more. Furthermore, an in-built content creation tool empowers users to create their own training content, add this content as a new course or part of an existing course, assign the content to specific users, and build quizzes. EHS training engagement is encouraged through interaction with material that uses social media-like features, such as likes and comments, as well as gamification techniques such as badges and missions, and a Microsoft Teams integration.

- **Contractor management.**

One of Assure's eight modules is contractor management; its dedicated functionality in this area is reflected in its strong score of 2.2/3.0. The solution supports registration of interest and pre-qualification, through to approval management and annual reviews. Each contractor record can have an associated supplier status (such as pending, approved or banned) and a supplier rating, which might use a traffic light rating system or be based on the expiry date status of insurances and certifications. Customers can use a configurable Contractor Appraisal solution to evaluate contractors based on their performance according to key KPIs.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Evotix could improve on:

- **GHG and air emissions management.**

Evotix scored 0.6/3.0 for both GHG and air emissions management, reflecting its limited in-built tools. The firm relies on a partnership with Metric, a Chicago-based ESG software provider, to facilitate GHG emissions functionality. Permit management can be achieved within Assure, including the management of permit thresholds, dates and performance information in a centralized location. The Assure 'My Task' view also provides easy access to upcoming permit expiries and the visualization of tasks in a calendar. The solution does not provide air emission regulatory reporting capabilities. Whilst Evotix services primarily mid-market firms, there is growing demand for ESG-related functionality, such as GHG emissions, amongst these firms, which may encourage product development in these areas.

- **Chemicals management.**

Assure features a globally harmonized system (GHS) SDS sub-module, where SDSs can be stored in data format or as an attached PDF. Users can also configure automated review processes against SDSs to ensure information is up to date. However, beyond standard workflows to manage chemicals approvals and other checks, Verdantix finds that Evotix lacks depth of functionality within the areas of substitution and toxicology analyses, chemicals inventory management, chemical spills management, and hazardous communication (HazCom) and labelling.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that Evotix should be shortlisted by:

- **Mid-market to large enterprise firms seeking a 'right-sized' H&S software solution.**

Evotix has a track record of providing software and services to predominantly mid-market firms looking for a solution offering functional strength, usability and price. The firm has posted cumulative growth of more than 40% for the past eight years and achieves excellent retention rates, demonstrating the stickiness of its mobile-focused offering. While roughly four-fifths of its customer base are currently headquartered in Europe, Evotix is eating into the Australasian and North American markets, aided by offices in Chicago and Melbourne.

- **Low to high EHS risk verticals prioritizing intuitive interfaces with a modern tech stack.**

Evotix offers eight configurable EHS functional modules: Audit, Asset, Behaviour, Contractor, Environment, Training, Risk and Incident. The firm's largest industry verticals are construction, food and beverage, housing, industrial equipment, manufacturing, municipalities, transport and logistics, and retail. The Assure platform is generally not suited to meeting the needs of very high risk sectors. Buyers frequently prioritize user interface (UI) and usability when selecting software, making Evotix's mobile-first approach and modern, single-code-base architecture – which ensures that all customers get access to the latest updates – an intriguing prospect.



# HSI's Expanding EHS Management Platform Has Training Engagement At Its Core

Backed by private equity firm Waud Capital Partners, HSI was founded in 1977 with a focus on emergency care and first responder training. HSI has continued to build on its speciality as an e-learning provider of EHS and human resources (HR) compliance courses through the acquisitions of complementary training platforms. For instance, in October 2022, HSI acquired Oklahoma-based EHS training content and software provider SafetySkills, which offers over 1,000 compliance courses to more than 1,700 organizations. The vendor also acquired Australia-based EHS software vendor Donesafe in February 2020, forming the foundation of its health and safety, quality, environment and supplier management solutions. Today, Donesafe supports over 400,000 daily active users, including multinational firms such as Lowe's, McDonald's and Telstra.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that HSI has strengths in:

- **Training management.**

Given HSI's historical expertise in training, and its continued investment over the past two years, it comes as no surprise that the firm posted the highest score within the training management category (2.6/3.0). The aggregated capabilities of various of its acquired firms – Blue Ocean Brain, Donesafe, eJ4, Martech Media, SafetySkills, SOS Intl and Vado – mean that HSI has a training library well in excess of 5,000 courses spanning EHS, HR and industrial skills. The provider recognizes the high penetration rates within the EHS training market segment, and continues to stamp the accelerator on product development, extending its learning management system (LMS) capabilities (see [Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences](#)).

- **Contractor safety management.**

HSI displays above-average competency within contractor management, scoring 1.8/3.0. The provider's contractor management module handles suppliers, contracts, audits, tiering, certification and individual contractor employee management. For pre-qualification processes, hiring firms can provide prospective contractors with limited system access to upload trading information, insurances, bank details and other information. Notifications are then sent to action owners via email or dashboard alerts to qualify a contractor to work on site. Once approved, specific users can set up jobs, assign contractors and complete job step risk assessments. Additionally, the system's training strengths come into play within contractor management workflows, with firms able to automatically assign inductions for contractors and visitors to complete. Users can also configure a recently developed visitor management tool to allow entry based on tag requirements at a location level or for certain entry ways.

- **Chemicals management.**

HSI scored above average for chemicals management, reflecting its broad capabilities and proprietary library of safety data sheet (SDS) and chemicals data, which boasts more than one million unique records. In 2016 HSI acquired SafeTec Compliance Systems (SafeTec), which provides the platform foundations for its SDS authoring, management and related on-site inventory services. The solution supports hazardous materials data management and granular chemical area storage information. Users can add new chemicals through configurable workflows that support linear or concurrent reviewers. They can then group approvals by type, such as facility, or to indicate limited approvals and trials. From a compliance perspective, out-of-the-box reporting is North-America-centric, with support for US Environmental Protection Agency (EPA) Tier II, Form R candidates, Chemical Facility Anti-Terrorism Standards (CFATS) and Toxics Release Inventory (TRI) chemicals inventory tracking.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that HSI could improve on:

- **ESG and sustainability.**

HSI's score of 0.6/3.0 is demonstrative of its limited offering and reliance on configurable record management and business intelligence (BI) tools to support sustainability data collection and tracking of metrics over time. Given the prioritization of support for ESG disclosures, HSI customers might benefit from the expansion of its ESG solution – specifically, for dedicated support for the Task Force on Climate-Related Financial Disclosures (TCFD) and other voluntary reporting disclosures – and from in-built target-setting and target management capabilities. The Verdantix 2022 global survey of 400 ESG and sustainability professionals found that climate disclosure rules (that is, TCFD-aligned reporting) are the most significant frameworks with regard to increasing firm expenditure on ESG and sustainability (see [Verdantix Global Corporate Survey 2022: ESG & Sustainability Budgets, Priorities And Tech Preferences](#)). Given the complex web of ESG jargon and disclosures, EHS users could find value in ESG-focused training content.

- **Industrial hygiene (IH) management.**

HSI scored just 0.4/3.0 for IH, as it does not offer out-of-the-box functionality for this category currently. The platform's no-code configurations system enables users to track and report against any event, asset or worker, interlink registers and automate corrective actions. HSI would benefit from offering basic applications such as for similar exposure group (SEG) management and for air, bulk and wipe sampling data. Personal protective equipment (PPE) management is handled through its Asset and Maintenance module and has been configured by existing customers to manage respiratory fit testing.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that HSI should be shortlisted by:

- **Firms intent on upgrading safety performance and establishing strong safety cultures.**

HSI's comprehensive training content and ability to deploy micro-learning lessons for just-in-time learning, or assign content as a refresher or remediation, are suited to firms seeking to engage frontline workers or executives in health and safety learning and development initiatives. For instance, during incident workflows, users can build in training content. Our 2022 global survey data validate HSI's highly accessible training approach, with more than half of respondents considering increasing engagement with EHS training to be a high priority over the next two years (see [Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences](#)). The HSI customer base is predominantly located in North America, although the acquisition of Donesafe has expanded its presence in Australasia.

- **Mid-market and lower enterprise buyers needing safety and chemicals management functionality.**

Due to the applicability of HSI's broad training, and its safety and chemicals management solutions, it has amassed a distributed customer base. Industries with a large number of HSI customers include business services, construction, industrial equipment, logistics and retail. Most of these customers are found within the mid-market segment, such as brands Black & Veatch, Cayuga Health System, North Carolina State University and Pacific Northwest National Laboratory.



# Ideagen's Constantly Evolving Quality and Safety Focused Offering Targets Heavily Regulated Industries

Founded in 1993, Ideagen is a UK-based EHS and quality (EHSQ) and governance, risk and compliance (GRC) software provider. It was acquired by private equity firm Hg Capital in a £1.05-billion (\$1.28 billion) take-private deal in July 2022. Ideagen has three primary offering types, segmented according to use case and target industry: Q-Pulse, a quality, environmental, health and safety management (QEHS) solution targeted at regulated industries; Pentana, an internal audit and enterprise risk management (ERM) solution; and Coruson, a risk and safety management solution for the aviation and transport industries. Notable clients include BDO, Dubai Natural Gas, Morgan Stanley, the UK's NHS, and Spirit AeroSystems. Having acquired more than 27 firms, Ideagen operates an aggressive buy and build model to broaden its capabilities (see [Verdantix Ideagen Offers Deep Quality Management Expertise Targeted At Heavily Regulated Industries](#)). Most significantly, in October 2022, Ideagen – with the backing of Hg Capital – acquired ProcessMAP. Whilst the combined offering and extent of integration remains to be seen, the aggregated solution will present a broad EHSQ management platform. The consolidated enterprise now has 1,350 employees across Asia-Pacific (APAC), Europe and North America, serving over 11,200 customers. The profile below represents the functional capabilities of Ideagen prior to acquiring ProcessMAP.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Ideagen has strengths in:

- **Quality management.**

Ideagen scored 2.7/3.0 for quality management, which is the highest in this category. The firm has multiple dedicated quality offerings. Firstly, Q-Pulse QMS (quality management system) focuses on three core functions: documentation management, audits and action handling, and caters to eight quality processes, comprising new product introductions and production part approval process (PPAP), advanced product quality planning (APQP), assets and equipment calibration management, failure mode and effects analysis (FMEA), and customer complaints and feedback. Also in the Ideagen line-up is Q-Pulse PM (product management), a solution used to create the inspection plans and quality reports required in the manufacturing of products and parts. The tool can simplify the process of creating industry-specific reports, manage new product introduction (NPI) processes and automatically pull specifications to populate FAI (first article inspection), ISIR (initial sample inspection) and PPAP reports.

- **Document management.**

Ideagen was the top scorer for document management (2.5/3.0), reflecting its ability to amend documents without reliance on third-party solutions such as SharePoint. The provider has made multiple acquisitions within this sphere, notably of PleaseTech, an information management software firm in 2017; Huddle, a secure content collaboration and workflow solutions provider in 2020; and Qualtrax, a document management and training provider in 2021. The firm's rebranded document solution, PleaseReview, has robust document alteration capabilities, allowing multiple users to work on a document concurrently, as well as security and auditing features. The solution's ability to comply with industry standards has led to its wide adoption within the life sciences, military, government, utilities, energy and other closely monitored sectors. For instance, PleaseReview is utilized by 85% of the top 25 global pharmaceuticals firms.

- **Training management.**

Similar to other strengths of the Ideagen platform, the provider's e-learning solution, Q-Pulse WorkRite, was obtained through acquisition in 2020. Ideagen's learning management system (LMS) provides training on a variety of topics, such as agile working, asbestos, COVID-19, Control of Substances Hazardous to Health (COSHH), first aid, food hygiene, employee inductions and workplace stress management. Users can assign each course or trigger it individually based on rules, as well as set up an escalating competency-dependent curriculum. The system maintains training records for all users, with a history of course completions that notes date of completion, scores and expirations.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Ideagen could improve by:

- **Leveraging the ProcessMAP acquisition to broaden its EHS suite.**

At the time of our assessment, Ideagen offered an EHSQ management system with a concerted focus on quality. Verdantix analysis finds that the firm has a limited environmental management offering and also has the opportunity to expand aspects of its safety and health functionality. Ideagen has addressed these gaps through the acquisition of ProcessMAP – an aggregated platform representing a broad EHSQ management solution. Buyers will need to conduct due diligence to uncover the extent of integration and ability for users to pass between the two systems.
- **Upgrading its platform infrastructure and database design.**

Given Ideagen's huge volume of acquisitions, the provider faces a mounting challenge in integrating various systems into a single technology stack. Ideagen scored below average for database design and data integrations, reflecting limited integration between products. Having an open architecture, single code base and multi-tenant deployment offers various advantages to customers. Inter-module data flows are critical for occupational health (OH) and for risk, incident and document management modules, to name a few. While the provider has developed a standard process for integrating new solutions, fully merging multiple platforms is a time-consuming endeavour.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that Ideagen should be shortlisted by:

- **Buyers in highly regulated sectors like life sciences, food and beverage, and aerospace and defence.**

Ideagen's combination of extensive quality management expertise and a compliance-driven EHS solution is well-suited to firms within highly regulated industries, specifically, the aerospace and defence, construction, pharmaceuticals, life sciences and food and beverage sectors. While its OSHENS and Scannell EHS solutions are industry-generic, Coruson is a standalone software solution catering specifically to the safety needs of large Tier 1 aviation and rail firms. Ideagen has amassed over 300 global aviation clients, including HAECO Group, a Hong-Kong-headquartered aircraft engineering firm with revenues of approximately \$1.8 billion.
- **Mid-market firms within Europe.**

Ideagen's core EHSQ offering, Q-Pulse, is suited to small and medium-sized enterprises (SMEs) seeking to enhance their EHS maturity; more than 90% of the firms with which Ideagen works are organizational entities with annual revenues below \$1 billion. Recognizing the mid-market opportunity, Ideagen has released its 'essentials editions' – a pared-down version of its solution that delivers indispensable functionality and is easier to implement for small organizations. From a regional perspective, the provider's customers are largely based in Europe, with a heavy concentration in the UK. However, the acquisition of firms headquartered in other regions (such as US-based Qualtrax) has enabled Ideagen to distribute its client base and bring on a variety of US-headquartered clients, including the Colorado Bureau of Investigation, the Washington DC Office of the Chief Medical Examiner and Walmart.



# Intelex Provides A Focused EHSQ Offering Capable Of Deploying Connected Digital Ecosystems

Founded in 1992 and headquartered in Toronto, Intelex develops and supports EHS and quality (EHSQ), operational risk (ORM) and ESG management programmes for around 1,400 clients and 3.5 million users. Acquired by Industrial Scientific, a subsidiary of Fortive Corporation, in 2019, Intelex has the backing of a Fortune 500 firm with more than 15 operating subsidiaries that provide vital technologies for connected workflow solutions (see [Verdantix Intelex Taps Into Fortive To Help EHS Clients Navigate The Emerging IoT Landscape](#)). As a Fortive firm, Intelex has access to a broad technology ecosystem, which includes the 2019 acquisition of Predictive Solutions, the 2020 acquisition of ehsAI, and Fortive's in-house AI group. Since the last Green Quadrant benchmarking, Intelex has moved strategically to capture a slice of the expansive ESG market opportunity (see [Verdantix Market Size And Forecast: Carbon Management Software 2021-2027 \(Global\)](#)). The provider released an upgraded suite of ESG management solutions in April 2021, and less than six months later entered an exclusive reseller partnership with Datamaran, an ESG analytics software provider. Today, the provider employs around 500 staff across offices in Canada, Singapore, the UK and the US, serving predominantly North-America-based customers.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Intelex has strengths in:

- **Safety management and audits and inspections.**

Intelex scored joint-highest amongst our assessed vendors for safety management (2.7/3.0) and performed exceptionally well for audits and inspections and incident management, demonstrating its core competencies within the 'S' pillar of EHS. The firm provides broad regulatory coverage through its centralized Compliance Assurance solution, its integration tools for automatic connections with content providers Enhesa and RegScan, and its streamlined applicability analysis workflows. These workflows can use screening questions or can create profiles (such as a manufacturing site or office) and associate groups of requirements with these. The firm also leverages natural language processing (NLP) technology from ehsAI that automatically separates out citations, descriptions, requirements, tables, references and frequencies, to facilitate actionable task generation and bulk import of permit conditions and regulatory requirements. Aside from compliance, Intelex offers differentiated functionality for safety meetings and lessons distribution through its Meetings Management system and Bulletins feature.

- **ESG and sustainability.**

With a score of 2.0/3.0, Intelex demonstrates above-average capabilities for ESG and sustainability management. The provider's exclusive reseller partnership with Datamaran offers a unique proposition within the EHS software market and bolsters the firm's score for stakeholder management and materiality. Datamaran provides clients – including Cisco, Johnson & Johnson and Unilever – with external risk and opportunity data aligned with over 400 external risk factors. Users can view a Materiality Snapshot by Datamaran as a dashboard from within Intelex, giving them access to benchmarking information to make informed, dynamic decisions concerning materiality. Aside from the Datamaran partnership, Intelex offers an array of in-built ESG management capabilities, such as pre-defined configurations for the Carbon Disclosure Project (CDP), the Global Real Estate Sustainability Benchmark (GRESB) and the Global Reporting Initiative (GRI) frameworks, as well as for the creation of net zero programmes and management of corporate social responsibility (CSR) initiatives.

- **Quality management.**

Intelex received a score of 2.6/3.0 for quality management; its competencies in this area are recognized by the more than 400 customers using its quality management system. The Intelex suite of Supplier Relationship Management applications uses a supplier portal to support tracking of supplier facilities, contact information and documents that certify suppliers' operations. Through the portal, suppliers can see the status of supplier audits and understand requirements for correction, facilitating strong relationships. Alongside broad



quality-focused regulatory coverage, non-conformance reporting capabilities, quality control and product management functionality, Verdantix found strengths in customer feedback through a dedicated Customer Complaints application.

## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Intelex could improve on:

- **Chemicals management.**

Intelex scored 1.6/3.0 for chemicals management, reflecting its ability to provide clients with functionality to store and deconstruct their safety data sheets (SDSs), manage material approvals and inventory, manage chemical spills in compliance with the US National Response Center (NRC) and state agency reportable quantities (RQ), generate reports, and directly submit data to the US Environmental Protection Agency (EPA) online tools. While pre-existing functionality can serve some firms' needs, Intelex has the potential to expand its solutions for hazardous communication (HazCom) labelling (for which it currently relies on its partner 3E), broaden its out-of-the-box reporting capabilities beyond the US, and develop its chemicals substitution analysis tools, which at present depend on a user to suggest alternative materials.

- **Training management.**

Although Intelex scored 2.0/3.0 for training management, 0.4 points above the category average, there remains opportunity for the firm to deepen its training offering. Intelex has formed savvy partnerships with BLR and Skillsoft to provide training content and allows clients to upload SCORM-compliant courses for delivery through the Intelex Training tool. To bolster its offering, the vendor could enable customers to create their own training content natively within the platform and provide its own library of in-house content. Intelex's robust training scheduling tools allow users to assign courses to a group of individuals, leveraging metadata on employees or contractors to define and drive training needs analysis. The solution can also automatically trigger training requirements for newly assigned roles and responsibilities.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that Intelex should be shortlisted by:

- **Enterprise and mid-market firms in need of a configurable EHSQ system.**

Intelex offers a strong portfolio for both enterprise and mid-market firms. The provider has an extensive EHSQ platform that serves as a one-stop shop for prospective buyers of an enterprise-grade management system. As demonstrated by the solution's 28 out-of-the-box languages, Intelex has diversified its customer base from predominantly North-America-based organizations to cover countries in Europe, the Middle East and Africa (EMEA), the Gulf States and the Asia-Pacific (APAC) regions. To further customer flexibility, the platform's Application Builder allows users to create custom low-code EHSQ applications to fit their unique processes and workflows. Moreover, a shrewd partnership strategy provides Intelex customers with access to best-of-breed solutions such as SAFER One for dynamic and visual plume modelling, and Datamaran for ESG risk assessment and materiality solutions.

- **Medium- to high-risk industries seeking to strengthen their IoT ecosystems.**

Given the breadth and depth of the Intelex platform, particularly in safety management, and its extensive configurability options, the Intelex customer base naturally gravitates towards medium- and high-risk industries such as airlines, construction, food and beverage, industrial equipment and manufacturing. Intelex is deliberate in its industry targeting; its focus on EHSQ and omission of extensive operational risk functionality means that firms in very high-risk sectors seeking a joint operational and EHS risk solution are not its primary customer base. Recognizing demand for proactive risk management, Intelex has expanded its Internet of Things (IoT) partnership network, most notably partnering with Industrial Scientific in April 2021 to strengthen its connected safety offering, and with Zebra Technologies in December 2021. It is also investing in computer vision and has established a group of in-house experts.



# IsoMetrix's Integrated EHS, Sustainability And Risk Management System Services Customers With A Risk-Centric Approach To EHS Management

Founded in 2002, IsoMetrix first emerged as an ISO 14001 compliance tool for the mining industry in South Africa. Now an integrated risk management software firm, it is majority-owned and funded by the Carlyle Group, a multinational private equity firm with over \$370 billion of assets under management. Having diversified its customer base beyond Africa to North America and the Central and South American markets, IsoMetrix continues to see strong year-on-year growth. The provider employs around 250 staff across offices in Australia, Canada, South Africa, the UK and the US. Catering predominantly to high-risk industries, IsoMetrix has developed into a two-platform offering, comprising its EHS solution, and Lumina, an ESG and sustainability software platform released in March 2022.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that IsoMetrix has strengths in:

- **EHS compliance and risk management.**

IsoMetrix scored 2.4/3.0 for EHS risk management, which is well above the average (1.8/3.0) for this category. To support compliance, users have a centralized view across all applicable data, including legislation, permits, contracts, licences and more, through the Compliance Universe tool. The IsoMetrix risk management offering cannot be accurately represented without mention of 'Golden Threads'. Golden Threads are how IsoMetrix describes the interrelationships connecting data such as risks, controls and risk impact types, across the breadth of the platform. For instance, the platform can associate controls with related risk sources, categorize and set up controls as preventative or mitigating, weight controls, and associate controls with an owner based on job profile. The provider's depth of functionality across risk management and crisis management has led to a host of clients in high-risk industries relying on IsoMetrix, including Anglo American, Barrick Gold and ExxonMobil.

- **Incident management.**

IsoMetrix scored 2.1/3.0 for incident management. The solution breaks down barriers to data submission by providing multiple incident reporting avenues, including anonymous web pages, an adaptive card in Outlook, and a mobile and web app with offline capabilities. Through Golden Threads, incident data are connected to risk management, to identify the sources of the unwanted event, the control failures (failed or absent), the applicable business processes, the equipment, and the node on the organization structure. The platform can then automatically notify control owners, flag the controls for review and monitoring, and identify all risks where the same control is critical. The solution also supports a broad set of incident analysis methodologies and a correction action module that allows users to communicate with action owners, and vice versa.

- **Stakeholder management and other ESG components.**

IsoMetrix scored 1.9/3.0 for its sustainability management capabilities, reflecting the breadth of both its EHS management solution and its ESG reporting-focused Lumina solution. Lumina encompasses functionality for ESG reporting frameworks; target-setting; metrics management across E, S and G; forecasting; baseline assessments; issue monitoring; stakeholder engagement; socio-economic assessment; and more. Currently, Lumina has out-of-the-box reporting frameworks for the Task Force on Climate-Related Financial Disclosures (TCFD), the Global Reporting Initiative (GRI), the World Economic Forum (WEF) and the Sustainability Accounting Standards Board (SASB), allowing full disclosures against each. Owing to its background in heavy industry, the platform comes into its own for stakeholder management and corporate social responsibility (CSR). Users can create and visualize the mapping of stakeholder relationships and use this information to formulate stakeholder engagement plans and track social sustainability and performance-related metrics.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that IsoMetrix could improve on:

- **Document management.**

Document management functionality is heavily reliant on integration with document management systems, such as SharePoint, resulting in a below-average score of 0.9/3.0. At present, document alteration, version control and export and import features are made available via a standard SharePoint integration, with no in-built solution. From an audit trail perspective, users can still electronically sign off on documents through the mobile app or upload an electronic signature into the attachments control on any record.

- **Chemicals management.**

IsoMetrix scored 0.9/3.0 for chemicals management – a score that is representative of the need for customized solutions to manage chemicals approvals and inventory tracking, and a lack of out-of-the-box chemicals compliance regulatory reports. IsoMetrix focuses on the management system aspects of chemicals-related processes, such as data capture, data flows, workflows for chemical spills and analytics. The system is also fully integrated with 3E and its Protect SDS software, enabling access to extensive safety data sheet (SDS) content and a hazardous chemicals register, within which SDS sheets are associated with chemicals and products.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that IsoMetrix should be shortlisted by:

- **High-risk industries looking for a provider to manage EHS hazards and risks.**

Industries in high-risk sectors with a risk-centric approach to EHS can benefit from deploying the IsoMetrix EHS and risk management system. Prospective buyers should strongly consider the value to their organizations of the Golden Threads' risk mapping workflows, as well as the platform's strong overall compliance and safety management offering. IsoMetrix has a track record of serving verticals such as construction, industrial equipment, logistics and transport, metals and mining, and oil and gas. Aside from an industry view, the firm is one of the few featured providers with a significant client base in Africa, in addition to its deployments in Central and South America and North America.

- **Firms seeking a combined solution to tackle EHS, ESG and stakeholder engagement.**

Organizations pursuing a solution that can perform core EHS workflows as well as stakeholder and ESG management should consider IsoMetrix. The vendor traditionally engages energy and mining firms on questions around their social licence to operate. Through the launch of Lumina, IsoMetrix has expanded its ESG capability and broadened its reach to all medium- and high-risk verticals that aim to combine EHS and ESG. Buyers should also consider IsoMetrix's business intelligence (BI) strengths, enabled through an integration with the Qlik BI tool.



# Origami Risk Integrates EHS And Risk Management Solutions Across A Unified Platform

Headquartered in Chicago, Origami Risk was founded in 2009 as a cloud-based risk management information system (RMIS). The firm now provides software spanning four primary product suites: EHS; governance, risk and compliance (GRC); RMIS; and healthcare. The provider also offers two property and casualty (P&C) solutions for claims and policy management within the insurance industry. In 2018 Spectrum Equity, a technology-focused institutional investor, purchased a minority stake in Origami Risk, encouraging further expansion of the firm's offering. In the past year alone, new chemicals and environmental management, occupational health (OH), industrial hygiene (IH) and ergonomics functionality has been added, as well as enhancements to process safety management (PSM) features. At present, Origami Risk employs over 600 professionals across five offices in the US and London, serving primarily medium- and high-risk industries for EHS (see [Verdantix Origami Risk Integrates EHS And Risk Management Solutions Across A Unified Platform](#)).

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Origami Risk has strengths in:

- **EHS compliance and risk management.**

Building on Origami Risk's RMIS background, the firm's excellent score of 2.4/3.0 for EHS compliance and risk management puts it among the upper echelon of providers. Assessing and maintaining registers of both controls and risks are core competencies of the platform. An internal control management (ICM) solution provides tools to assess controls and monitor their status through interactive reports and dashboards. The ICM solution also allows clients to rate control effectiveness through configurable scoring, set control hierarchies, and associate controls with risk, regulations, processes, frameworks or any other record. Risk assessments within the platform stretch far beyond health and safety; clients can configure different lenses to assess residual and inherent risk for types such as financial and reputational risks. The platform also allows for the management of critical events through a Business Continuity Management (BCM) solution that supports business impact analyses (BIAs), business continuity plans and stress test plans. Regulatory content for EHS is provided through the firm's integration with STP.

- **Control of work.**

Origami Risk scored above average for control of work (CoW), with 1.8/3.0. Its dedicated PSM tool services core CoW functionality, such as permit to work (PtW), job hazard analysis (JHA), process hazard analysis (PHA), lock-out-tag-out (LOTO), and mechanical integrity and operating procedures. Its breadth of functionality has led to more than 100 organizations leveraging the solution for CoW, including Cornerstone Building Brands, Las Vegas Valley Water District and Quality Carriers. Origami Risk comes with a range of out-of-the-box permits for various processes, such as hot work, cold work, confined space entry, working at height, and energized electrical work. Critically for permit compliance and management, users can visualize and easily access permits for reference and review.

- **Safety and incident management, especially worker compensation management.**

Origami Risk scored 1.8/3.0 and 2.0/3.0 for safety management and incident management, respectively – scores that are representative of its concrete functional capabilities. The platform features multiple incident event capture methods, including anonymous reporting and links; linkages to operational risk; comprehensive root cause analysis methodologies; and a robust actions management system. The system also supports the configuration of triggers to automate aspects of workflows such as the assignment of corrective actions based on responses to an incident investigation, alerts based on root cause analysis outcomes, and notifications dependent on incident count or severity thresholds. Verdantix analysis finds that the system comes into its own for claims management, with its dedicated, end-to-end solution streamlining claims workflows and consolidating data.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Origami Risk could improve on:

- **ESG and sustainability, and GHG emissions.**

Origami Risk demonstrates foundational capabilities for ESG and sustainability and for GHG emissions, leading to scores of 1.1/3.0 and 1.0/3.0 in these areas, respectively. The solution does demonstrate strong sustainability performance and framework management functionality, with the platform able to visualize linkages between various business initiatives and their impact on ESG goals. However, functional gaps when calculating Scope 1, 2 and 3 emissions, reliance on third parties or customers to provide their own emission factors, and limited calculation engine capabilities capped the provider's score.

- **Training management.**

Whilst the Origami Risk platform does allow firms to house training content, organizations seeking dedicated training management, automated scheduling functionality and in-built content will be limited by Origami Risk's existing functionality. The scheduling of training is achieved through safety meetings with attached training or by creating employee profiles with corresponding training requirements, and associating these profiles with individual employee records. This allows users to identify upcoming, missing or expired training, but lacks more sophisticated notification and group assignment features.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that Origami Risk should be shortlisted by:

- **High- to medium-risk industries within North America.**

Although the firm takes an industry-agnostic approach, it has strong traction within medium-and high-risk industries, such as manufacturing, transportation, construction, food and beverage, entertainment, retail and government. Organizations in very high-risk industries, such as oil and gas, and chemicals, are typically not suited to Origami Risk's combination of modules. The firm's client base is strongly skewed towards the North American market, although its London office does open the potential for new customer wins within English-speaking Europe.

- **Firms seeking a joint RMIS and EHS platform.**

Many EHS customers come to deploy Origami Risk through a cross-selling approach between its RMIS and EHS software offerings. Organizations can achieve operational efficiencies and improved risk visibility by combining core EHS functionality with a tightly integrated RMIS solution that has adjacent functionality for asset tracking, value tracking, total cost of risk calculations, vendor management, policy management and insurance and claims management. Verdantix survey data find that in more than half of cases, firms are using a distributed mix of six or more different systems to manage EHS workflows (see [Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences](#)). Organizations wishing to cut down on enterprise software complexity should review Origami Risk's EHS and RMIS offerings.



# ProcessMAP – An Ideagen Solution – Offers Robust Health Solutions Within Its Cloud-Hosted EHS Platform

Founded in 2000, ProcessMAP is a US-based EHS software vendor employing over 250 staff across offices in Canada, India and the US. More than three million users currently access ProcessMAP across 140 countries and in 27 languages. ProcessMAP has a diverse customer base, serving firms across all industries, with a leaning towards business services, chemicals, construction, electrical goods, industrial equipment and road vehicle manufacturing. In a significant move in the firm's history, Hg Capital, a private equity investor with \$40 billion of funds under management, made a substantial investment in ProcessMAP in January 2022. Less than one year after the investment, Ideagen, with the backing of Hg, acquired ProcessMAP. The combined entity opens intriguing cross-sell opportunities for both firms and further supports ProcessMAP's expansion into the European market. The deal also broadens ProcessMAP's functional capabilities, providing access to Ideagen's quality and governance, risk and compliance (GRC) solutions. At present, the vendor is predominantly active in North American markets. The profile below represents the functional capabilities of ProcessMAP prior to joining Ideagen.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that ProcessMAP has strengths in:

- **Industrial hygiene (IH).**  
ProcessMAP scored 2.6/3.0 for IH, second only to Cority and VelocityEHS. The firm's solution supports overall IH programme management, with industry-specific workflows and comprehensive management of chemical sampling data. It can capture chemical sampling results from a variety of air monitoring pumps and other sources, and compare them with occupational exposure limits (OELs) from the American Conference of Governmental Industrial Hygienists (ACGIH), internally set standards, and country, state and provincial-level limits. Regulatory limits are provided for over 40 countries; an internal algorithm automatically selects the most conservative applicable limit. The solution can also calculate eight-hour time-weighted averages, short-term exposure limits and ceiling limits. Beyond exposure data management, ProcessMAP offers direct integrations with over 20 major laboratories, including Bureau Veritas Laboratories, EMSL Analytical, RJ Lee Group and SGS.
- **Occupational health (OH) and ergonomics.**  
ProcessMAP posted above-average scores for both OH (1.9/3.0) and ergonomics (2.0/3.0). The provider's OH module enables firms to manage employee fitness for duty assessments, clinical notes, leave and restrictions, case and claims management, wellness checks and vaccine status. Whilst ProcessMAP does provide a rounded OH offering, buyers should be aware that the solution is centred on the needs of US-based customers. For instance, occupational illness reporting is in line with the US Occupational Safety and Health Administration (OSHA) requirements. Users also have access to an Ergonomics Assessment module that includes various ergonomics analysis methods – the Moore-Garg Strain Index, the US National Institute for Occupational Safety and Health (NIOSH) Lifting Equation and the Ergonomic Job Measurement System (EJMS) Lifting Analysis, to name a few.
- **Safety and incident management.**  
ProcessMAP achieved a score of 1.9/3.0 for both safety management and incident management. The firm's partnerships with Enhesa and STP grant customers access to a global EHS regulatory landscape. Additionally, as firms progress towards proactive safety management, the use of leading indicators, analytical insights and observation data becomes critical to achieving zero-incident workplaces. To further facilitate meeting zero-incident goals, ProcessMAP's Lessons Learned functionality automatically creates reports from incidents to highlight underlying causes and visualize high-risk concentrations with Risk Point. The incident management solution integrates with other core modules, such as Risk Assessment, Training Management, Occupational Health and its Asset Registry, to streamline EHS workflows.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that ProcessMAP could improve on:

- **Contractor safety management.**

ProcessMAP achieved a below-average score of 1.2/3.0 for contractor safety management. The solution does not have a contractor qualification solution that can support aspects of contractor pre-qualification, pre-work activities, training and orientation, and ongoing analysis. Additionally, the system's permit to work tools allow for the tracking of permits and enable users to identify and rectify conflicting work activities. A QR code can also be issued to employees and scanned by security to determine proper access. However, while ProcessMAP offers dedicated solutions for third parties, there is opportunity to deepen its functionality to include portals for the aggregation and comparison of supplier data, and to expand control of work through features such as site visualization and advanced work scheduling.

- **Management of change.**

Within ProcessMAP's Management of Change (MOC) module, users can create configurable workflows to process organizational change using ProcessMAP's no-code workflow builder. Users also have flexibility to create multiple workflows based on change type. The high-level MOC workflow follows MOC requests, form submission, processing of change and associated actions management steps, after which a change request is closed. The module uses a role-based security model to assign various roles, such as requester, reviewer and approver. Verdantix analysis finds that there is opportunity to expand complexity in this area around assessing associated change risks and data change controls.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that ProcessMAP should be shortlisted by:

- **US, European and Asian firms searching for a health and safety-centric software platform.**

Prospective buyers searching for a vendor with strengths in the health pillar should consider the expertise ProcessMAP offers. In part due to the wealth of sensitive personal data management involved in OH and IH, the provider performs well for application and data centre security; for instance, it has sought third-party GDPR (General Data Protection Regulation) certification from Privacy Shield. ProcessMAP's locations in the US, Canada, England, Germany and India enable it to serve customers across North America, Europe and Asia-Pacific (APAC).

- **Medium- and high-risk industries seeking a cloud-hosted platform.**

ProcessMAP predominantly targets the automotive, chemicals, energy, food and beverage, pharmaceuticals, industrial manufacturing, construction and logistics verticals, and can name a variety of well-established brands within its client base of over 150 customers, including Allergen, the Goodyear Rubber and Tire Company, John Deere, Johnson Controls Inc. and Stellantis (formerly known as Fiat Chrysler Automobiles). Additionally, ProcessMAP has been built on a multi-tenant architecture, with all customer sites pointed to a common code base. Consequently, all of the provider's multi-tenant cloud customers are on the latest version of the software.



# Quentic Delivers Well-Rounded EHS And Sustainability Software For European Firms

Founded in 2007 as Ecolntense, Quentic is an EHS and quality (EHSQ) and ESG management software provider headquartered in Berlin. The firm currently employs over 250 staff at 14 offices across Europe and North America. Over 900 firms, predominantly located in Europe, use Quentic's software to strengthen EHSQ and ESG management, and ensure compliance with ISO 14001, ISO 45001 and ISO 50001 regulations. In July 2022 the firm was acquired by AMCS, a global supplier of integrated software and vehicle technology for the environmental, utility, waste and resource industries. The deal signals Quentic's strong growth, having brought on nearly 100 new customers across Europe in 2021. Access to AMCS organizational resources will also likely encourage growth beyond Europe, including in North America and Australasia. Quentic's customer base is spread across diverse industries, such as business services, electrical goods, food and beverage, industrial equipment, mining and metals, utilities, and road vehicle manufacturing.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Quentic has strengths in:

- **Audits and inspections.**

With a score of 2.1/3.0 for audits and inspections management, Quentic displays differentiated functionality and automated aspects of workflows. The solution streamlines the creation of checklists for audits by importing existing checklists using Excel, grouping questions into topics, and inserting combinations of question sets using the software's form-building tools. Users can also schedule and plan audits by selecting the audit team and configuring triggers to automatically send invites and reminders. Auditors can rapidly act on non-conformities and non-compliance within the findings management solution to ensure full ISO compliance. The firm's competent overall audits management solution has led brands such as Bosch, Schnellecke and Unilever to utilize it for audits and inspections.

- **Incident and safety management.**

Quentic scored at, or above average, in the incident and safety management categories. Through Quentic software, organizations can manage many incident types, such as personal injuries, environmental or property damage, and security breaches. When investigating events, users can create cross-module links between risk assessments, root causes, activities, equipment and other operational items, so that incident causes and impacts are thoroughly understood, and information shared with relevant persons. Whilst the provider is highly familiar with supporting legal compliance within Germany and other European countries, it also supports global regulations. In 2022 Quentic bolstered its legal incident compliance offering through the release of Job Profiles, a feature that produces reports for local authorities listing job types, employees associated with each job, activities conducted by employees, and risk assessments per activity.

- **Chemicals management.**

Quentic performed above average in this category, with 1.9/3.0, reflecting ongoing enhancements to its chemicals management offering. Verdantix finds that Quentic provides a broad chemicals solution spanning safety data sheet (SDS) management and data extraction tools, chemicals approval workflows, inventory analysis down to the container level, configurable evaluations of high-risk chemicals, chemical incidents management and compliance, and hazardous communication (HazCom) and labelling functionality. Quentic has also integrated machine learning into its SDS Extract feature, which is able to automatically pull and read data from SDSs to create data records. In addition, the firm offers chemicals-related services such as plausibility checks and data maintenance services for compliance with the EU's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation and its Classification, Labelling and Packaging (CLP) regulation.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Quentic could improve on:

- **Hazardous waste.**

With a score of 1.3/3.0, Quentic's platform has an opportunity to broaden its hazardous waste capabilities. The solution does have robust hazardous waste regulatory coverage, with management of hazardous waste permits, and can leverage its chemicals module to create labels for hazardous materials containers in accordance with regulations. To further strengthen its score, Quentic could expand its out-of-the-box offering for hazardous waste inventory and disposal management. At present, inventory data are held in a corporate waste register as part of the Quentic environmental module. There is opportunity to add functionality for detailed container tracking and timed storage support, as well as automated notifications for substance threshold exceedances.

- **Management of change.**

Quentic scored 1.3/3.0 for management of change functionality – about average in this category. Due to variations in organizational change processes, Quentic does not provide pre-configured templates for the management of change. Rather, the provider leverages its consulting services during the implementation phase to configure the tool to customer needs. Its Change Requests tool can compare actual and desired states and can be configured to define various phases of change processes, all of which tie in with the platform's actions management system. All change phases and actions, statements and relevant documents are then associated with the change request. Firms seeking multiple configurable management of change workflows dependent on change type, and dedicated support for elements of a process safety change programme, may prefer other systems.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that Quentic should be shortlisted by:

- **European firms of all sizes.**

Quentic has 13 office locations dotted across Europe. Given European customers' general preference for a localized provider with a physical presence, it comes as no surprise that the Quentic customer base is heavily skewed towards European-based firms, many of which are headquartered in Germany. The provider is also adept at meeting the country-specific EHS requirements of European – and particularly German – customers. For instance, DMK Group, Dussmann Group, Nobilia and Scholz all utilize the Quentic platform. The combined entity of AMCS and Quentic also opens capacity for new EHS customer wins within North America.

- **Firms seeking an integrated, quick-to-implement, cloud-hosted EHS software solution.**

Quentic offers quick-to-deploy cloud-hosted solutions, through which all new Quentic customers can expect to be brought onto the latest version of the software and automatically upgraded with each new release. Quentic emphasizes its single platform architecture, which is utilized to integrate processes across modules. For instance, interfaces with legal content providers populate content into the legal register; content is then also made accessible in legal audits and findings. Firms in need of rapid deployments should consider Quentic's in-house services abilities to implement software, migrate data, and onboard and train users. This is particularly suited to mid-market firms seeking to quickly derive value from an EHS management system. The provider cites the ability to implement software in as little as two weeks, although it should be noted that the given timeline is highly dependent on the level of configuration, modules selected and the customer's own resources.



# SAI360's Integrated Risk Approach Produces An End-To-End EHS Software Offering

Founded in 2008 as part of SAI Global, SAI360 is an enterprise risk management, standards and information management provider. Headquartered in Chicago, SAI360 employs over 450 staff across offices in Asia, Australia, Europe and the Middle East. More than one million users currently access SAI360 in over 50 countries. In 2021 the SAI Global Standards and Assurance divisions were sold to the Intertek Group, and the Risk and Learning practices were rebranded as SAI360. This unified the firm's name and logo around the SAI360 platform, which is the integrated risk management software suite offered today. The provider's vision is evident in its four solutions: ESG; governance, risk and compliance (GRC); EHS and sustainability (EHS&S); and Learning, which are housed in a connected ESG cloud platform. SAI360 has a strong customer base within logistics, metals and mining, oil and gas, utilities, and healthcare and hospitals. The firm has a global customer base across Asia-Pacific (APAC), North America and Europe.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that SAI360 has strengths in:

- **EHS compliance, risk and safety management.**

SAI360 achieved a score of 2.6/3.0 for EHS compliance and risk management, which is among the highest in the category. Compliance risks are managed through SAI360's Obligations Management module, a tool used for managing, monitoring and reporting all types of obligations, not just regulatory. The module, which is also available via mobile, automatically generates compliance actions, notifies users and tracks completion, ensuring accountability and the completion of compliance tasks. Beyond compliance risks, Verdantix found robust functionality across controls management, risk identification and prioritization, risk assessments and risk registers. SAI360 comes with integrated bow-tie capabilities and several risk analysis reports out of the box to help EHS managers rapidly identify areas of concern in their organization.

- **Solution configurability.**

From a customer perspective, ease of self-configurability is often a highly important factor during software selection. Frustrations arise when customers are reliant on suppliers for frequent and minor configurations. SAI360's 'self-service' configuration means that the same tools used by its implementation partners are available to its customers, leading to SAI360 achieving the highest score in this category. The provider's Designer Toolkit within the main SAI360 web application provides a no-code graphical user interface (UI) with drag-and-drop features to configure forms, terminology and the look and feel of dashboards across both the web and mobile applications. A range of other dedicated tools supports configuration of business rules, workflows and role definitions.

- **Contractor safety management.**

SAI360 takes an integrated approach to contractor management, generating a score of 2.5/3.0. Its Contractor Management module has capabilities to manage contractor firm details and workers, undertake pre-qualification, track inductions, and issue approvals to enter sites. The Contractor Management register is linked to other safety modules to monitor ongoing performance, allowing for a centralized view of all contractor EHS records. Users can even compare contractors through Contractor League Tables, showing metrics such as the number of incidents in which contractors have been involved, injury rates, unsafe behaviours, drug and alcohol tests, and non-conformances. SAI360 customer Yarra Valley Water uses these tools to automatically allocate work based on contractors' safety performance.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that SAI360 could improve on:

- **Quality management.**

With a score of 1.0/3.0 for quality management, SAI360 customers can rely on a combination of contractor, incident, audit, obligations and actions management modules, as well as benefitting from strong overall platform configurability to fulfil quality-related workflows. The solution does have some dedicated functionality; for instance, Quality Consequence, part of the Incident Management process, manages product issues and recalls. The tool can support investigation of product contamination, downgrading and packaging, raw materials shortages and supplier quality issues.

- **Chemicals management.**

SAI360's score of 1.5/3.0 for chemicals management is just above the category average. The solution features a chemicals register and a partnership with 3E to provide clients with up-to-date access to safety data sheets (SDSs). Within the chemicals register, users can attach SDSs and access associated metadata. For inventory management, users can track chemical storage details, review chemicals for approval by comparing risk ratings, and set up reports based on legislative requirements. Clients with complex chemicals management needs may find that SAI360's lack of associated SDS service offerings and chemicals labelling functionality make it insufficient for their needs.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that SAI360 should be shortlisted by:

- **Mid-market firms operating in medium- to very high-risk industries.**

SAI360 features a customer base that is spread across Australasia, North America, Europe and Asia. Breaking this down further, its core sectors encompass mining and metals, power utilities, oil and gas, construction, pharmaceuticals, and life sciences. Firms across these medium- to very high-risk sectors in need of a single configurable solution with strong mobile capabilities that will also support organizational safety culture transformation should strongly review SAI360's offering. The SAI360 platform is the tool of choice for brands such as 3M, Natural Power and Sandvik.

- **Firms that would benefit from deploying SAI360's GRC and training solutions.**

Alongside a versatile EHS software platform, prospective buyers should be cognizant of SAI360's broader offerings for GRC, ESG and training solutions. Through SAI360, firms can achieve an overarching view of risk by combining enterprise and operational risk management (ERM and ORM) with EHS risk. This also enables firms to break down data silos by compounding functionality through a single provider.



# SAP Delivers EHS Information Management That Leverages Its Enterprise IT Resources

Founded in 1972, SAP has grown to become Europe's largest software vendor by revenue. Headquartered in Germany, SAP employs over 110,000 employees globally across more than 130 office locations. While the vendor is most widely recognized for its enterprise resource planning (ERP) software, it also offers an integrated EHS management suite of solutions covering incident, health and safety, environment and compliance management, and worker safety. The SAP EHS Management software suite is available both on-premise and cloud-hosted, and integrates with the SAP portfolio of solutions, including SAP Enterprise Asset Management (EAM), SAP Human Capital Management (HCM) and SAP Quality Management (QM). Key industry segments that SAP works with for EHS information management are chemicals, food and beverage, metals and mining, oil and gas, and power utilities.

Note: SAP declined to participate in the 2023 EHS Software Green Quadrant. Data used to score SAP were sourced from the 2021 Verdantix EHS Software Green Quadrant, and from publicly available sources.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that SAP has strengths in:

- **Incident and safety-related risk management.**

SAP has been active in the EHS software market since the 1990s and has a proven track record in providing a centralized, integrated solution for incident entry, investigation and corrective actions. The vendor offers direct integration with its native SAP ERP and SAP HCM software solutions, as well as EHS functionality encompassing online and offline data entry via desktop or native mobile app, automated notifications, audit scheduling, template-based reporting such as for US Occupational Safety and Health Administration (OSHA) 300A forms, drill-down reporting, risk analysis and evaluation, risk control cataloguing and inspection, and workplace sampling management. CenterPoint Energy, a \$9-billion-revenue US-headquartered utility firm, was able to rely on SAP to reduce preventable incidents by 52% within a two-year period; decrease both its OSHA recordable and days away, restricted or transferred (DART) rate by 38%; and increase employee safety programme participation by 104%.

- **Management of change processes.**

Reflecting its extensive experience of working with complex, large, multinational firms, SAP registered an average score for management of change (MOC) functionality among the 23 vendors benchmarked. Originally built for process safety management, the SAP EHS MOC module provides pre-configured templates for various types of change requests, such as heavy asset equipment change versus incident prevention process change. The rule-based framework automatically generates a set of pre-determined risk assessment activities based on configured workflows to initiate a hazard and operability study (HAZOP), pre-startup safety review (PSSR), or other list-based and nested methodologies. The MOC module can also be applied out of the box for chemicals use and approval workflows, industrial hygiene (IH) occupational exposure limits (OELs) for emission threshold changes, and requests for e-signatures when necessary.

- **Quality management.**

The SAP QM software module is part of the SAP ERP application and is available to existing customers as part of the base package without any additional licensing costs. SAP estimates that approximately two-thirds of its EHS software customers have also implemented some aspect of SAP QM. SAP QM provides out-of-the-box monitoring of quality-related issues through issues identification, root cause analysis and issue prevention and resolution, with pre-defined corrective and preventive actions (CAPA). Other capabilities encompass supplier specifications tracking, source inspection records at supplier facilities, inspection findings upon goods delivery, supplier audits, and integrating with the SAP Supply Network Collaboration.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that SAP could improve on:

- **User-controlled configuration options.**

While SAP offers select pre-defined templates such as for the OSHA 300A form, the vendor would benefit from further increasing the options for users to make configurations directly. Beyond the SAP Business Rule Framework and SAP Workflow Engine, users would benefit from drag-and-drop features or centralized access to all configuration options via a designer toolkit to simplify the user interface (UI). Previous Verdantix corporate EHS surveys found that the ability to configure workflows and forms to generate visual graphic-centric dashboards ranked among the top three criteria during the vendor selection process. Large firms that often reconfigure their corporate organizations also value solutions where such changes are easy to enact.

- **Digital ecosystem software platforms for workplace safety.**

Given SAP's strengths in offering a network-connected enterprise platform, the vendor is well-suited to maintain or accelerate its momentum on connected workplace safety offerings. Existing SAP digital ecosystem partnerships include that with Guardhat for connected worker wearables and industrial Internet of Things (IIoT) devices. The 2022 Verdantix corporate EHS survey found that one-quarter of respondents are looking to expand their use of advanced EHS analytics. The most frequently cited IoT technologies were digital sensors for environmental data collection, location tracking wearables, drones, and connected worker platforms (see [Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences](#)).

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that SAP should be shortlisted by:

- **Buyers looking to adopt SAP's ERP, HCM and EHS functionality as a holistic IT platform.**

SAP offers a consistent application architecture throughout its offerings, with strengths in delivering integrated solutions for deep point solution capabilities. SAP EHS Management, SAP HCM and SAP ERP all operate with the consistent SAP Fiori front-end UI and S/4HANA back-end database. Existing SAP users and prospective SAP buyers looking to keep enterprise asset, human resources (HR) and EHS data under one platform will find that SAP fits the bill.

- **Firms with the resources to build their own EHS platforms using SAP solutions.**

SAP offers a significant breadth of resources that enables firms with the resources and desire to do so to mix and match, customize and build their own integrated software platforms through the various modular solutions available. Witness vendors such as ConvergentIS, which specializes in developing bespoke SAP EHS solutions for firms, and Augmentir, which has extended SAP Plant Maintenance (PM) and SAP EHS to include bespoke connected worker platforms.



# Sphera Offers Environmental Excellence Through Its EHS And Sustainability Management Platform

Headquartered in Chicago, Illinois, Sphera is composed of several firms that have evolved to provide software solutions for EHS, operational risk management (ORM), product stewardship, and ESG and sustainability management. The provider serves more than one million users and has operations in Australia, Canada, Germany, India, Italy, Japan, the Netherlands, the UAE, the UK and the US. Additionally, a majority of the firm's 1,200-strong workforce is dedicated to its EHS and ESG software products and consulting services. In July 2021 Blackstone, a private equity firm with more than \$619 billion of assets under management, acquired Sphera for \$1.4 billion. The acquisition is demonstrative of Sphera's functional strengths, with the firm having bolstered its capabilities through a string of acquisitions itself in 2019, including Petrotechnics, an ORM firm; SiteHawk, a chemicals management firm; and thinkstep, a sustainability management and product lifecycle assessment (LCA) provider. Since the backing by Blackstone, Sphera has continued its aggressive acquisition strategy, acquiring riskmethods, a Germany-based, AI-enabled supply chain risk management software provider, in October 2022.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Sphera has strengths in:

- **ESG and sustainability management.**

Verdantix finds that Sphera has a highly comprehensive ESG and sustainability offering, scoring top amongst the 23 vendors assessed. The Verdantix carbon management Green Quadrant reiterates this assessment, placing Sphera second only to IBM for capabilities (see [Verdantix Green Quadrant: Enterprise Carbon Management Software 2022](#)). From an ESG and sustainability disclosure perspective, Sphera is one of only a few of our assessed providers to be accredited by the Carbon Disclosure Project (CDP) and certified by the Global Reporting Initiative (GRI). For the Task Force on Climate-Related Financial Disclosures (TCFD), the firm uses tagging to associate data with the respective frameworks, streamlining the reporting process. Sphera also comes with a wealth of net zero performance metrics available out of the box, and can identify correlations between metrics using the AI-powered SpheraCloud Corporate Sustainability Trend Finder feature. The platform supports target-setting at various organizational levels, sustainability programme management, advanced forecasting and trend finding, and stakeholder and grievance management.
- **Air emissions management.**

Sphera was top amongst the 23 assessed vendors for air emissions, with a score of 2.7/3.0. More than 1,800 customers have selected Sphera to manage their air and related emissions, reflecting the firm's ability to meet regulatory demands across multiple jurisdictions, including the US, Canada, Australia, the EU and the UK. The software's permit management functionality is integrated with other modules (compliance assurance, environmental management, incident management and chemicals inventory), allowing users to track permit limits, automatically assign tasks and track permit field changes and applicability. Air emissions are enabled via a robust calculation engine and formula builder, which includes access to troubleshooting tools. Further troubleshooting is supported by an Expression Analysis tool that allows users to see an expression visually, along with intermediate calculated values and the source of each parameter.
- **GHG emissions management.**

Sphera's score of 3.0/3.0 for GHG management is reflective of its extremely robust offering across Scope 1, 2 and 3 emissions. Users can report against GHG regulations globally through an array of out-of-the-box reporting templates and a comprehensive library of emission factors from both public sources and the firm's proprietary Managed Life Cycle Assessment Content (formerly GaBi database), which provides more than 15,000 data sets. Firms are supported in calculating not only carbon dioxide (CO<sub>2</sub>) output and its equivalent (CO<sub>2</sub>e), but also sulphur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFCs) and perfluorocarbons in CO<sub>2</sub>e, and global warming potential (GWP) in 100 years CO<sub>2</sub>e, to name a few. Sphera has an array of



solutions to facilitate data collection and data checks for Scope 1, 2 and 3 data. For instance, users can gather data through automated readings from meters and sensors, and automate utility data capture from gas bills or from utility bill data service providers. Meanwhile, data from application programming interface (API) integrations with enterprise resource planning (ERP) or procurement systems, and employee commuting surveys, as well as a flight distance calculation engine, support the accurate quantification of Scope 3 emissions.

## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that Sphera could improve on:

- **Training management.**

With a score of 1.2/3.0 for training management, Sphera scored below average in this category. Sphera does offer the SpheraCloud Training & Competence management solution, which enables customers to automate the management of training and competence records, licences to operate, and qualifications across their organizations, giving visibility into the status of compliance. The training solution also features a training passport that shows individual users' completed, proposed, due and overdue trainings. Although the solution has some advanced tools such as automated training, Sphera's solutions are not intended to provide or host training content, limiting the firm's ability to score highly in this category.

- **Quality management.**

Sphera's score of 1.1/3.0 for quality management is representative of its foundational capabilities within several aspects of quality management, such as equipment maintenance and inspections, customer feedback, process control, and product design, manufacturing and parts management. For instance, at present users can store equipment as assets, with defined inspection and calibration periods. They can then create inspections automatically or manually. Some providers have added functionality to integrate with maintenance standards to ensure that assets are inspected and maintained in line with regulations. Firms with basic quality management needs may therefore be able to fulfil their requirements using Sphera.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that Sphera should be shortlisted by:

- **Large multinational firms in North America and Europe.**

Sphera has a track record of serving large multinational firms, particularly in business services, chemicals, consumer goods, electrical goods, government, oil and gas, pharmaceuticals and life sciences, logistics, mining and metals, and universities. From a regional perspective, Sphera's largest customer base is in North America, followed by Europe; however, it also has proven deployments across Asia-Pacific (APAC). Aside from the strengths already mentioned, the firm's embedded use of Qlik provides access to an easy-to-use dashboarding and reporting tool. Moreover, the platform's API Portal encourages customers to extract live data feeds via an OData interface. Sphera provides interfaces to more than 400 data sources and even displays live data feeds on its mobile app.

- **Firms seeking to combine functionality across EHS, ESG, ORM and product stewardship.**

Sphera's array of acquisitions has led to a platform with strengths across EHS, operational risk management (ORM), ESG and sustainability, and product stewardship. For instance, Sphera acquired BOMcheck as part of its acquisition of thinkstep in September 2019, bolstering its dedicated product compliance solution (see [Verdantix Buyer's Guide: Product Compliance Software \(2022\)](#)). Verdantix finds that customers are increasingly seeking to eradicate the data silos that have historically existed between EHS and adjacent functions. Firms in need of a solution that spans these areas, or intent on deploying a comprehensive environmental management platform, should ascertain the value of leveraging Sphera.



# StarTex's EHS Insight Offers A Clean, Safety-Focused Solution That Fits The Bill For Mid-Market Firms

Founded in 2009, StarTex Software is a Houston-headquartered provider of EHS and corporate sustainability solutions. The firm employs 40 staff across its two locations in the US and the Netherlands. EHS Insight, StarTex's EHS software brand, supports over 500,000 users largely located in North America, but also in Europe. EHS Insight has an array of modules spanning environmental management and compliance, health and safety, quality management and training management, as well as ISO compliance for 9001, 14001 and 45001. The provider, which has 100% of its customers on multi-tenant cloud deployment, has continued to release product enhancements in the past year, having added QR codes to simplify audits and made improvements to its Safety Data Sheets (SDS) module to streamline chemicals management workflows.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that StarTex has strengths in:

- **Incident and safety management.**

With scores of 1.6/3.0 for both incident and safety management, StarTex offers customers a robust platform to capture incident details and produce US Occupational Safety and Health Administration (OSHA) 300A reports. When collecting data, configurable forms allow users to submit various event details relating to injuries, consequences, asset data or environmental accident information. The module offers several investigation methods, including 5 Whys, and a causal analysis mechanism that can be configured to accommodate a variety of causal factor analysis methodologies. Following investigation workflows, organizations can manage insurance claims and associate these with incident consequences using a dedicated Claims Management module. Users can produce reports that show various claims by policies and costs, as well as industry-standard claim cost metrics.

- **Audits and inspections.**

StarTex's EHS Insight platform scored 1.7/3.0 for audits and inspections. The Compliance Task module centralizes all actions and can be used to schedule audits, offering the ability to set recurring reminders and escalations, as well as view upcoming audits in a compliance calendar. The creation of new audit checklists is facilitated in one of two ways; users can either import question sets from an Excel template, or can create checklists using the Question Set Designer end-user tool. EHS Insight leverages a partnership with STP, giving users access to STP's checklist content and online regulatory applicability analysis tools. StarTex's functional, no-frills approach to EHS workflows has led to over 300 customers using its solution for audits and inspections.

- **Training management.**

StarTex's strong score of 1.6/3.0 for training points to its ability to serve organizations as an EHS training content provider, whilst also facilitating the scheduling, tracking and measuring of learning, and the tracking of safety meetings. EHS Insight is designed to engage individuals in training, with the aim of improving performance and compliance. The StarTex library contains over 200 EHS courses available in multiple languages. If customers seek to deploy their own training material, EHS Insight supports content creation using its internal tool, through which users can add text, attachments or embedded videos.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that StarTex could improve on:

- **GHG emissions and air emissions.**

The StarTex customer base is largely made up of mid-market organizations, where demand for ESG and sustainability-aligned solutions is not as high as in the large enterprise segment (although upcoming rule changes to the US Securities and Exchange Commission (SEC) regulation may increase demand amongst smaller firms). As such, EHS Insight's safety-centric software is not equipped to handle organizations' GHG management and air emissions needs. The solution does not provide dedicated emissions workflows or feature a calculation engine. For ESG and sustainability, the firm's Sustainability module utilizes configurable forms to capture metrics for reporting and trending.

- **Chemicals management.**

The StarTex EHS Insight chemicals management solution features functionality to browse, preview and add new safety data sheets (SDSs); capture and track chemicals usage for US Environmental Protection Agency (EPA) Tier 2 reporting; and configure chemicals request and approvals workflows. StarTex also offers services to maintain and build SDS libraries within the EHS Insight Community Library tool. To broaden its chemicals management offering, StarTex can add support for producing globally harmonized system (GHS)-compliant labels and can enhance its SDS database management sophistication to allow for cross-referencing of current chemicals inventories with applicable regulations to identify non-conformances.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that StarTex should be shortlisted by:

- **Mid-market firms in North America seeking to reduce EHS management complexity.**

StarTex's EHS Insight platform offers a functional platform with reduced complexity, suited to the needs of its predominantly mid-market client base. Customers seeking competency across safety management, training and ISO compliance should consider the value that can be realized by deploying StarTex's platform. Prospective buyers should note that the provider does not have an in-house implementation offering, and customers will be reliant on third-party services firms for this. Although StarTex has a North America-dominated customer base, it is growing within the European market.

- **Medium- to higher-risk industries on the look-out for a modern safety management tool.**

StarTex has a distributed customer base, with a particular focus on the business services, chemicals, construction, consumer goods, food and beverage, industrial equipment, pharmaceuticals and life sciences, power utilities, automotive, and telecoms sectors. At present, EHS Insight's limited offering within GHG and air emissions makes it an intriguing option to be deployed as a point solution, with the potential to expand functionality at a later date. Importantly, the EHS Insight platform is entirely developed by StarTex and no acquired software has been integrated. All customers are on the latest version of the solution and have agile tools on hand to integrate external data using its RESTful API (representational state transfer application programming interface) strategy.



# TenForce Blends Strong Control Of Work And Operational Risk Functionality To Create An EHS Solution Well-Tailored To Asset-Intensive Industries

Founded in 2001, Belgium-based EHS and quality (EHSQ) and operational risk software provider TenForce employs over 80 professionals across its offices in Belgium, Italy, Germany and the US. In September 2019, Finnish telecommunications firm Elisa acquired a majority stake in TenForce. Elisa supports the development of capabilities in machine learning (ML) and AI, providing TenForce with access to complementary AI-enabled capabilities and accelerating its overall growth. The provider also partnered with Rombit in April 2022 to integrate the latter's industrial wearable solution. The collaboration facilitates the transmission of real-time location and alerts, expediting the TenForce permit to work (PtW) management and lock-out-tag-out (LOTO) systems. TenForce caters to all industries globally, with a strong track record and focus among manufacturing, utility and government technology sectors. While TenForce's customer base largely encompasses Europe- and North-America-headquartered firms, it is also active in South East Asia.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that TenForce has strengths in:

- **Control of work.**

TenForce scored 2.5/3.0 for control of work functionality, well above the category average of 1.6/3.0, and among the frontrunners in this year's analysis. TenForce's strong showing is in part due to its permit to work workflow, which offers complete risk assessments following job hazard analysis (JHA) or other recognized risk assessment methodologies, integrated isolations management, detailed records for simultaneous operations (SIMOPs) and permit compliance tracking. Furthermore, TenForce's mobile application allows users to view or create permits via the app and supports QR codes linked to assets for information tracking and input. The provider has some of the most robust shift management functionality of all vendors in this survey, covering all aspects of shift handover, with visibility into active permits, isolations and change requests.

- **Safety management.**

TenForce scored well for safety management functionality. The vendor offers compliance and safety regulatory management through its partnership with Enhesa; Enhesa regulatory content is integrated into TenForce, allowing for regulatory tracking and follow-up through dashboards showing implementation progress. Additionally, TenForce facilitates strong safety meeting management, with a specific feature set to support the documentation, planning and follow-up of meetings. Users can create and plan (recurring) meetings, include documents or set a meeting agenda, as well as invite other users and link incidents or other events that occurred during the last meeting registered in the system.

- **IoT device integrations.**

TenForce scored highly among competitors for its innovative focus on the integration of Internet of Things (IoT) devices, including wearables and smart sensors. One such advance is the development of TenForce Senses as part of the provider's application programming interface (API) package, which is specifically designed to integrate with IoT platforms. Through this, TenForce has successfully deployed multiple wearable and sensor integrations and expanded its IoT partnerships; this includes its recent partnership with Rombit, which is aimed at enhancing PtW management with real-time location and event data and alerts, using the RombitONE industrial wearable solution.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that TenForce could improve on:

- **Chemicals management.**

While TenForce does offer some robust functionality for safety data sheet (SDS) management, including breaking down each SDS into metadata for a component view and tracking these as reference data usable in other parts of the system, the provider does not yet provide frequently updated regulatory information for SDSs – instead allowing customers to keep track of their own. Additionally, the TenForce system may enable toxicology analysis through a combination of separate module functionality, but does not offer any targeted functionality or alternative chemical identification at this time.

- **Environmental functionality.**

TenForce achieved lower marks in several environmentally focused categories, scoring 1.0/3.0 for both air emissions and GHG and 0.5/3.0 for sustainability and ESG functionality. TenForce does offer some functionality in these areas, encompassing the ability to input sustainability metrics, a calculation engine and an integration with Enhesa for ESG and sustainability-related regulatory coverage. However, the firm could leverage its deep understanding of manufacturing verticals to develop industry-specific emission factors and look to increase the amount of out-of-the-box reporting frameworks available to its customers.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that TenForce should be shortlisted by:

- **Manufacturing firms looking for an EHS solution that can support operational reliability.**

TenForce brings years of experience in the operational risk sector and combines it with robust EHS functionality to provide asset-intensive industries with an integrated solution – as evidenced by its inclusion in the 2021 Verdantix Green Quadrant for process safety management (see [Verdantix Green Quadrant: Process Safety Management Software 2021](#)). TenForce serves hundreds of customers in the mid-market manufacturing and utility verticals and offers asset- and risk-focused functionality essential to these industries, such as mechanical integrity, management of change, permit to work and process documentation.

- **Firms seeking a forward-thinking vendor to integrate IoT in risk management programmes.**

TenForce has embraced the ability of IoT devices – which enable real-time data collection and visibility – to enhance organizational safety and risk management. In the latest Verdantix global survey, 42% of the 302 EHS decision-makers polled said that the integration of real-time IoT data was highly valuable to their risk management goals (see [Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences](#)). Aligned with this market trend, TenForce has been increasingly partnering with new IoT technology providers and developing new APIs to enhance integrations with a range of devices. In November 2020 TenForce joined an international consortium consisting of industry firms such as Continental and INEOS, for the implementation of a three-year, multi-million-euro project on the integration of IoT, smart wearables and extended reality (XR) solutions. The goal of the project is to bring these solutions closer to the real-world use cases of the European process industry.



# UL Offers A Comprehensive Set Of EHS And Sustainability Solutions, Enabling Razor-Focused Expertise And Content

Founded in 1894, UL is a global applied safety science vendor, which specializes in developing standards and certifications for integrated health and safety, sustainability, product compliance and supply chain management. Headquartered in Illinois, UL employs over 14,000 staff in offices and laboratories across six continents and is ultimately governed by a non-profit, allowing it to channel profits into furthering R&D. UL's EHS software, PURE, features incident reporting, safety audits and learning management; sustainability functionality is provided through its UL 360 product. The firm has over 600 customers in a variety of industries, such as aerospace and defence, construction, electrical goods, food and beverage, logistics and transport, pharmaceuticals, utilities, retail, telecoms and hospitals, although it is typically not well-suited to very high-risk sectors such as oil and gas.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that UL has strengths in:

- **Occupational health (OH).**

UL scored 2.0/3.0 for OH management, which is above the average of 1.5/3.0 across the participating Green Quadrant vendors. UL boasts a complete Electronic Medical Records (EMR) management system, designed to capture any data required by clinical or industrial staff and display these throughout different areas to optimize clinician workflows. The configurable EMR solution allows clinicians to configure their own fitness for work exams, as well as to track restricted and lost duty. Moreover, each case or health incident features full management support and cost reporting. While UL's OH software is most active in Europe and North America, it also has a growing presence in China.

- **GHG and ESG-focused management.**

UL demonstrated strong functionality across a few areas targeted towards the growing demand for ESG tracking, management and reporting – including the third-strongest GHG emissions management score, of 2.6/3.0. Additionally, UL scored well for ESG and sustainability management (1.9/3.0) and for water and wastewater management (2.3/3.0). UL 360 includes a comprehensive emissions factor database with over 60,000 emissions factors and dozens of emissions factor sets, covering Scope 1 emissions, Scope 2 location-based and residual mix for CO<sub>2</sub>e, CH<sub>4</sub> and N<sub>2</sub>O, and all Montreal Protocol GHGs. Combined with these is a framework module for reporting to the Task Force on Climate-Related Financial Disclosures (TCFD) and a collection of voluntary disclosures. UL also has a specialist solution for reporting to the Global Real Estate Sustainability Benchmark (GRESB), which contains all the data points and certifications required and is submittable via an API.

- **Training management.**

UL scored 2.2/3.0 for training management, which sits among the top five scores for this category. UL's strong showing comes from it being one of the few Green Quadrant vendors to have developed its own in-house repository of training content. The provider has built a library of over 1,400 EHS-focused titles, as well as over 400 regulator course titles deployed on its ComplianceWire solution, jointly developed with the US Food and Drug Administration (FDA), and used by pharmaceuticals, medical device and biologics firms to help improve productivity and reduce risk. Additionally, UL's learning management system (LMS) supports video, eBooks, instructor-led, blended, collaborative and team learning training types, with a growing focus on micro-learning and gamification to align with customer need for impactful and resonant training.



## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that UL could improve on:

- **Ergonomics and wellness.**

While UL has strong capabilities in OH, it lacks functionality in some areas of growing focus around worker wellness. Verdantix heard from its 2022 global survey of 302 EHS decision-makers that 66% of the respondents manage or influence worker wellness strategies at their firms (see [Verdantix Global Corporate Survey 2022: EHS Budgets, Priorities And Tech Preferences](#)). UL has an opportunity to develop specific functionality to support mental health and wellbeing programmes, such as specialized training and questionnaires. Additionally, a greater focus on dedicated ergonomics inspections and assessments could support firms in physically intensive industries with a high prevalence of musculoskeletal disorder (MSD) issues.

- **Contractor management.**

UL scored 0.9/3.0 for contractor management, which is below the average of 1.7/3.0. The UL platform does offer basic functionality in terms of assigning user roles to contractors and supporting contractor access. However, it does not feature dedicated capabilities for managing contractor qualifications, competencies, tracking or ESG data collection. UL should consider developing built-in tools that enable better management of contractor safety, such as for contractor history investigation, pre-qualification documentation and tying in contractor job safety analysis.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that UL should be shortlisted by:

- **Firms looking for EHS software with strong Scope 3 reporting capabilities.**

The market is seeing increased scrutiny of supply chains, as firms continue to evaluate their carbon footprints and attempt to meet regulatory and voluntary requirements. A new focus on Scope 3 emissions saddles organizations with the complex and difficult proposition of understanding the carbon footprint of their downstream operations. To support this, UL has developed a strong Scope 3 reporting solution, in which all 15 categories of Scope 3 can be managed across its applications. For example, the provider offers out-of-the-box solutions for purchased goods and services, integrating EEIO (environmentally extended input-output) emissions factors to allocate spend to carbon emissions, as well as collecting data directly from suppliers.

- **Large enterprises seeking a comprehensive regulatory and compliance solutions partner.**

Large multinational firms situated in complex regulatory environments can benefit from leveraging UL's deep expertise and database of compliance-related content. The provider offers extensive compliance data, including over 6,500 global regulatory lists from more than 130 countries, and 25,000 certified safety phrases in 56 languages. UL has longstanding partnerships with organizations such as the CDP (Carbon Disclosure Project), GRESB, the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB). It is itself an ANSI (American National Standards Institute)-accredited standards development organization and a member of the US Technical Advisory Group to the ISO 45001 standard for global OH and safety management systems.



# VelocityEHS Continues To Push Innovation In The Chemicals Management And Broader Digital EHS Space

Headquartered in Chicago, Illinois, VelocityEHS is a cloud-based EHS and ESG software provider to global enterprises and mid-market firms. Founded in 1996, the firm was established through the merger of EHS software vendor KMI and chemicals management firm MSDSONline. As of June 2021, the firm has aggregated all functionality through its Accelerate platform, spanning EHS and ESG functionality. VelocityEHS has more than 500 employees spread across seven offices in Australia, Ireland, the UK and the US, serving an expansive customer base of over 16,000 firms and 10 million users. Whilst many of its customers exclusively utilize its safety data sheet (SDS) solutions, the firm has a growing enterprise customer base, serving one-third of the Fortune 500. During 2021, VelocityEHS advanced its capabilities in AI and mobile technology through the acquisition of Kinetica Labs, a developer of machine learning (ML)-enabled simulation technology for occupational safety and health, and furthered its expansion into the operational risk management (ORM) space through the acquisition of permit to work software firm OneLook Systems. The firm's profit engine of chemicals compliance customers, and its continued product development, led to Switzerland-based Partners Group acquiring a significant minority holding in the business in August 2022, with CVC Growth Partners retaining majority control.

## Strengths And Differentiators

Based on the EHS Software Green Quadrant analysis, Verdantix finds that VelocityEHS has strengths in:

- **Chemicals management.**

VelocityEHS scored 2.9/3.0 for chemicals management, the highest among all the 23 vendors benchmarked in the Green Quadrant. From its background as MSDSONline, VelocityEHS has served the chemicals management needs of thousands of customers. The firm maintains an immense database of SDSs, coupling this with the provision of full compliance support for hazardous communication (HazCom) regulations around the world, as well as ingredient compliance and inventory tracking and management. Despite its existing strengths, VelocityEHS has not rested on its laurels, but has looked to continue innovating its chemicals management functionality. For instance, the firm launched a Green Chemistry solution in 2022, which can scan customer inventory lists to identify the Level of Concern of chemicals based on over 100 regulatory lists.

- **Ergonomics management.**

VelocityEHS scored a perfect 3.0/3.0 for ergonomics, coming ahead of all other assessed vendors in this year's Green Quadrant. VelocityEHS offers a wide range of out-of-the-box ergonomics assessments and inspections. Where it stands out from its competitors is in its innovative means of ergonomics risk identification and quantification. For example, one of several methods of management it offers is AI-enabled motion-capture risk-based assessments. EHS team members can upload a video of operators performing tasks and run this through proprietary computer vision processing to produce quantified posture, frequency and duration risk scoring across body segments. The AI-enabled results are then used as guidance on the most likely causes and effective controls associated with the identified risks. The firm's competency in this area has led to over 350 global enterprises selecting VelocityEHS for ergonomics management.

- **Hazardous waste and water management.**

VelocityEHS scored highly in two environmentally focused categories receiving increased interest from corporate EHS firms: water and wastewater management (2.5/3.0) and hazardous waste management (2.7/3.0). The firm's solutions allow for tracking and compliance against most major waste-related regulations across the EU, the UK and North America, as well as a fully automated Toxics Release Inventory (TRI) reporting process, with generation of the Form R and Form A electronic XML file formats that are subsequently uploaded to the US Environmental Protection Agency (EPA) TRI-ME website for report submission. Water management has been a topic of growing concern in recent years, exacerbated by current climate risks and a mounting ESG focus. VelocityEHS offers the ability to track water usage, comply with most water regulations



and manage water permitting, encompassing the setting of water quality limits and compliance thresholds, and support for minimum, average and maximum concentration limits, and average loading limits for variable time periods.

## Improvement Opportunities

Based on the EHS Software Green Quadrant analysis, Verdantix finds that VelocityEHS could improve on:

- **Management of change (MOC).**

VelocityEHS scored 1.5/3.0 for MOC, just beating the average functionality score across the Green Quadrant benchmarking. VelocityEHS does have comparable MOC workflows, pre-configured to accommodate standard change types and change categories, and best-practice-based workflows designed in collaboration with its customers in the chemicals manufacturing and oil and gas processing industries. The firm could look to add increased functionality through integration with its risk management modules to visualize change risk through different methodologies and display this on matrix-type reports and dashboards. Additionally, adding the ability to develop visual equipment maps to tie specific equipment and locations into MOCs would provide additional support to its customers.

- **ESG and sustainability management.**

VelocityEHS scored well for ESG and sustainability management (2.0/3.0), but as trends with the greatest tailwinds in EHS, the provider could look to enhance its existing functionality to support firms with the growing complexity of ESG requirements. For instance, VelocityEHS could expand its existing Sustainability Accounting Standards Board (SASB) and Global Reporting Initiative (GRI) disclosures to include Task Force on Climate-Related Financial Disclosures (TCFD) reporting capabilities. VelocityEHS also allows users to configure their own sustainability target metrics, which are heavily utilized among its customers; however, it could also look to leverage partnerships or provide out-of-the-box materiality metrics to support organizations with lower sustainability maturity.

## Selection Advice For Buyers

Considering all supplier offerings assessed in the Green Quadrant analysis, we believe that VelocityEHS should be shortlisted by:

- **Enterprise and mid-market customers looking for a scalable, innovative, integrated platform.**

VelocityEHS has built its Accelerate platform to be a true cloud-native software as a service (SaaS) solution for fast and simpler deployments for its customers. Recently, the firm built the platform to implement a micro-services architecture, creating a solution that delivers faster iterations of capabilities, supports single sets of master data, and allows for scalability on demand. With these changes, and by leveraging new back-end data lakes such as that of Snowflake, VelocityEHS can provide customers with a technically efficient integrated solution with strong EHS functionality. Additionally, the firm continues to lead the way in defining how AI and ML can enhance an existing EHS platform and develop relevant EHS use cases.

- **Firms searching for digital solutions to elevate their sustainable chemicals management.**

Green chemistry has become a hot topic in the chemicals management and product compliance space, as increased scrutiny is placed on firms, their products and their supply chains. VelocityEHS pairs its robust chemicals management solution with a new and innovative green chemistry capability. The firm has partnered with Praedicat to give customers access to predictive risk profiling for chemicals and to allow them to quickly and easily identify safer alternatives. Praedicat's forward-looking risk model is based on the latest data from scientific journals, ensuring that information stays ahead of any changes to regulated chemicals lists and legislation.



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