WHITEPAPER

next-level contractor safety management with EHS software

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implementing contractor safety management"

This whitepaper serves as a guide to help you develop and implement a contractor safety management standard supported by Environment, Health & Safety (EHS) software. This approach ensures compliance with regulations, such as ISO 45001, and enhances your overall safety management system.

Outsourcing is a common practice in many industries. Companies frequently rely on external expertise and resources to meet project demands, maintain quality standards, and achieve operational goals. However, while outsourcing offers key benefits, it also brings unique risks and challenges that require careful management of contractor relationships.

Using a contractor safety management system is a best practice for effectively managing these risks, ensuring the safety of contractors on-site, and strengthening the overall safety performance of your organization. Therefore, special care should be devoted to contractor relationship management when designing and implementing your first safety management system.

why contractor safety management matters

Companies across various industries rely on contractors for numerous reasons: to control overhead costs, gain access to specialized skills, operate a leaner organization capable of quick scaling, and reduce staffing needs for specific projects. These are just some of the most common scenarios.

When work is outsourced, hiring companies remain accountable for contractors' health and safety. They're responsible for establishing proper procedures and making final decisions, placing liability and regulatory accountability with the hiring organization.

Reflecting this, ISO 45001 expanded the definition of "worker" to include contractors, emphasizing that an organization's moral and legal responsibilities extend throughout its entire supply chain. The standard underscores that:

"The organization shall establish and maintain processes to ensure that the requirements of the organization's OH&S management system [that apply to their employees] are met by contractors and their workers. These processes shall include the OH&S criteria for selection of contractors" and that, "The organization shall establish controls to ensure that the procurement of goods and services conform to its OH&S management system requirements"[1].

Beyond compliance, severe incidents carry significant consequences for hiring firms, such as project delays, increased costs, damage to reputation, and potential legal or financial penalties. Investors also expect companies to manage safety risks and sustainability issues, as highlighted by BlackRock CEO Larry Fink in his recent comments:

"A pharmaceutical company that hikes prices ruthlessly, a mining company that shortchanges safety, a bank that fails to respect its clients – these companies may maximize returns in the short term. But, as we have seen again and again, these actions that damage society will catch up with a company and destroy shareholder value"[2].

Businesses must prioritize the safety of their contractors

While contractors must generally be treated the same as employees, they require even more detailed guidance on the specific risks they face. Risks that are obvious to employees may not be at all obvious to contractors coming from outside the organization. Often they're unfamiliar with the worksite. Never assume that they're aware or knowledgeable about specific risks, such as the safety precautions to follow for specific hazardous chemicals used on site. Furthermore, contractors working for multiple clients may lose track of differing rules for each worksite and, consequently, follow only the absolute minimum of rules.

In a recent TechTalk, David Metcalfe, the CEO of Verdantix, an independent research and consulting firm with a special focus on EHS and ORM (Operational Risk Management), points out that many companies rely on external workers for up to 50% of their operations[3]. For a certified and effective Occupational Health & Safety (OH&S) management system, a company must ensure that hazards are clearly communicated and that all emerging risks are thoroughly evaluated and controlled.

why contractor safety management matters

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While the processes and strategies described in this whitepaper can also be applied to the internal workforce, contractors are more likely to be involved in incidents and injuries, regardless of whether they work with the company on a one-off contract or perform regular maintenance work as part of a long-term contract.

According to David Metcalfe the number of occupational accidents that occur among contractors is two to three times higher than among traditional employees, with 19% of affected contractors needing medical attention, compared to only 6% of internal employees[3].

Contractor work is essential, but increases complexity and risks

Hiring contractors adds specific challenges to safety processes, challenges which are not directly linked to the work performed or the staff of the contracted firms. In a nutshell, these risks can be summarized as internal challenges that arise due to the increased complexity of handling third parties on-site:

- Having multiple companies involved may result in uncertainty regarding chains of command and management.
- Data is kept in silos with little to no exchange between departments. For example, procurement handles contractual relationships and prequalification processes. EHS teams enforce safety policies and yet another team is responsible for managing on-site work. A lack of communication and information exchange typically leads to inefficiencies on all sides.
- Different contractors who work at the same site simultaneously may be unaware of each other, and their lack of cooperation could pose additional risks.
- High contractor turnover complicates tracking individual workers' qualifications and clearances.
- Employers may end up overextending themselves as they attempt to manage administrative demands and continuously renew essential paperwork.

All these issues combined can result in increased risks and higher incident rates when collaborating with contractors.

A company's expectations for itself cannot differ from the expectations it has for its contractors. These expectations must be applied consistently and equitably across all scopes of work[4].

2-3X

the number of occupational accidents that occur among contractors is 2-3 times higher than among traditional exmployees

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Maximizing contractor safety: the role of EHS software

According to Verdantix[5], Contractor Safety Management is defined as:

Procedures, systems and technology solutions designed by hiring clients collaboratively with contractor organizations to improve the safety performance of contractors' work through prequalification checks, safety training, on-site EHS systems and competency tracking[6].

Verdantix industry-wide surveys show that companies are very aware of the importance of establishing such procedures: 91% of respondents considered Contractor Safety Management as significant or very significant to their firm's operational excellence[7].

Still, EHS software provider AMCS found out that more than 75% of companies use either in-house software, which often means a self-made spreadsheet or simple database solution, or no software at all to handle such tasks and processes.

In the same poll AMCS recently conducted among EHS professionals, more than 90% of companies profess a need for a solution, and less than 10% utilize software that goes beyond simple templates in Microsoft Word or Excel.

However, to manage the risks described above effectively and efficiently, a tried-and-tested Contractor Safety Management solution is needed. Managing contractors (and subcontractors) is a multi-step process that requires constant communication and feedback at every step along the way.

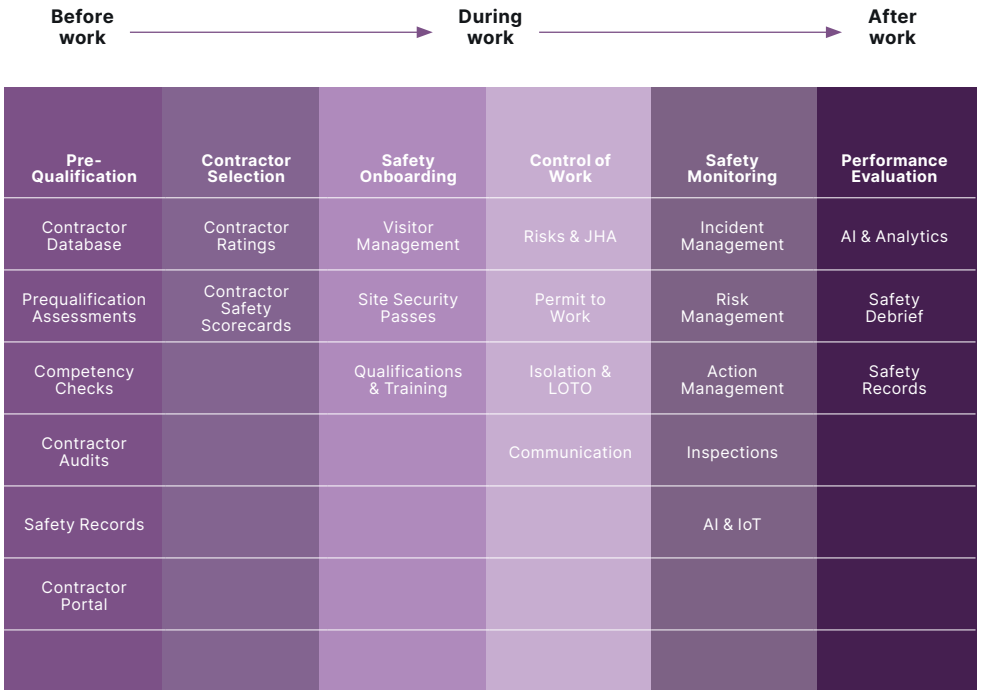
The following chapters outline the key requirements for an effective solution. They also demonstrate how a comprehensive EHS platform enhances the overall safety of both contractors and regular employees while helping to mitigate potential risks.

a 360° view of contractor safety management

In many organizations, multiple parties are involved in the process of hiring contractors and subcontractors. Procurement, Management, Operations and even IT may play a role. But most importantly, Contractor Safety Management is positioned squarely at the intersection of safety and operations, perhaps more so than any other activity. While Environment and Health & Safety Management sets the basis for safe work with guidelines, rules and regulations, effective Operational Risk Management is needed to ensure on-site compliance with these rules and guidelines. Ensuring efficient communication and information sharing prevents a problematic gap from forming between Operational Risk Management and Environment, Health & Safety. To best manage all safety-related aspects, a 360° view should be adopted when collaborating with contractors.

The management process starts long before the on-site work with tools and procedures for selecting the right contractor, assessing their qualifications and skills as well as considering past performance. Once workers arrive on site, they need to be onboarded, instructed and provided with passes, granting them access to the site. To bridge the gap between operations and the factory floor, manage approvals and mitigate safety hazards, various Control of Work procedures are typically implemented. During work, all activities are closely monitored, allowing incidents and risks to be mitigated by preventive and corrective actions. AI and advanced data analytics help to predict and prevent hazardous situations. In the end, (safety) performance is evaluated – which provides a feedback loop for learning and serves as input for later projects.

Contractor Safety Management should not be considered a one-time activity, but rather viewed as a closed project loop where information is collected across the entire duration of a project, from the prequalification phase until its completion. Only with an integrated digital solution can data silos be overcome and transparency ensured throughout and beyond the project lifecycle.



implement end-to-end contractor safety management using an EHS platform

Whether you're an EHS-focused employee for a small-to-midsize operator or you manage a remote site project with thousands of employees, one thing is true: You need a well-documented occupational health and safety management system to ensure that both your employees and contractors are safe. Your company's system should be digitally recorded, communicated to everyone, and then put into practice. This is the basis for adopting a full contractor management process as described in the previous chapter. The following section shows how the different phases can be implemented using a platform such as AMCS EHS Management.

Prequalification

When establishing or improving contractor prequalification procedures, companies should introduce a (standardized) way to evaluate EHS processes and the performance of a potential business partner. This should include gathering details about insurances, liabilities, licenses and certificates as well as safety metrics from past projects, safety programs and training. In order to regularly revise this data once a firm has been contracted, this information should be stored in a central database designed to serve as an always-up-to-date source of accurate information.

The following table shows the main components that the prequalification phase of Contractor Safety Management should include and how they can be easily implemented with a best-in-class EHS platform, avoiding tedious and time-consuming paperwork:

COMPONENT	FUNCTIONS
Contractor Database	• Provide a central database of contractors with detailed information and relevant documents as a single source of truth • Provide abilities to search and filter • Leave reviews and ratings for agencies, individual contractors and subcontractors
Prequalification Assessments	• Allow certificates and descriptions of competencies to be uploaded to the contractor database, letting hiring managers filter by required qualifications
Competency Checks	• When on site, check the contractor's personal qualifications and certificates to validate that they have completed the required instructions • Allow authorized supervisors to access that data at any point in time, even when on site
Contractor Audits	• During the bidding phase, review safety documentation uploaded by the contractor • Provide checklists to run EHS compliance and competence checks on the site of the contractor
Safety Records	• Manage complete safety records for every single contractor, grouped together by agency • Keep a record of qualifications and competencies, track incidents, rate and score the agency based on their contractors
Contractor Portal	• Portal for contracted agencies to update their information on audits, certifications, competencies, employees and to upload documents

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Contractor selection

Contractor selection is the process by which a hiring firm chooses a specific contractor for an upcoming project. Assuming all required qualifications, relevant audits, financial information and other key data have been approved, soft factors can be taken into account at this stage. Evaluations and ratings from previous projects can give valuable insights in the contractor's performance. The rating system, which we're all familiar with from e-commerce and booking portals, is an easy-to-use and visually attractive tool. Information to fill these ratings with meaningful insights can be gathered by conducting audits on specific contractors with the goal of assessing aspects such as safety performance, reliability, or quality of work. This sort of audit should always be conducted at the end of a project to make the results available for future projects. Regular reviews can help dashboard applications provide insights to those interested in hiring. This rating approach provides various benefits for hiring firms, from compliance with standard operating procedures throughout the contractor procurement lifecycle to improved safety performance for contractors as well as internal staff.

When consistent rating methods are used and publicized, an agency proven to have more reliable contractors will increase chances of success, which in turn encourages the agencies to consistently improve their safety procedures:

- **Contractor ratings**
  When selecting a contractor, utilize safety ratings from prior projects and other sources to get a better idea of the contractor's performance
- **Contractor safety scorecards**
  Pull up the safety records of a contractor and update them with live data as the contractor works to build a real-time scorecard that reflects their safety performance

Possibilities to review performance go beyond the scope of EHS. Often, the quality of work goes hand in hand with EHS performance, but specific inspections, such as acceptance tests, usage control, installation inspections, quality assessments, own work checklists, error reporting, site diaries, recording meeting minutes or technical inspections all allow you to audit contractor work without a particular EHS focus. Documenting the work contractors perform during maintenance and other assignments is crucial to keeping track of shared sites. The more on-site data you have, the easier it becomes to identify ways to improve productivity, quality, and EHS.

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Safety onboarding

Once the selection process is complete, it's time to onboard the contractors. An efficient and engaging onboarding process can reduce safety incidents significantly. Contractors are entering a new space with new rules and new procedures, and their safety depends on becoming operationally independent as soon as possible. The key to successful onboarding is to have your permanent staff model safe behaviors, so that contractors are more likely to follow:

Visitor management

- Welcome visitors and identify contractors
- Quickly check if contractors hold the required qualifications and certificates
- Run on-site instructions
- Issue site security passes

Site security passes

- Have some kind of pass, personalized ID, QR code or chip card that lets individual workers access the site
- Link these passes to workers' personal safety records
- List active permits to work that the person possesses
- Enable/disable access for individual workers, or even blacklist them if needed

Qualifications and trainings

- Give contractors access to qualifications and trainings that meet their exact needs
- Manage qualification plans and track pass/fail rates

As mentioned before, when information about contractors and their employees is imported into an EHS platform, then all the EHS functions available on the platform can be provided to them, from management of upcoming qualification plans to tracking pass/fail rates on instructions remotely or directly at the gate via dedicated terminals. Visitor Management lets companies identify visitors at the gate and print visitor badges for them on the spot. During onboarding, workers are actually present on site. From that moment on, it's essential to keep a digital record that tracks their activities, incidents and safety training. It's also highly recommended to provide workers with easy access to all safety materials, operating instructions, and other resources, preferably via a mobile app.

implement end-to-end contractor safety management using an EHS platform

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Control of work

Systems that control work processes in order to prevent major accidents have been used widely in the chemical, power, oil and gas industries for quite some time. Other industries, such as transportation or facility management, are just now starting to see the need for permits to work. Furthermore, Control of Work functionalities extend the scope of an organization and combine job hazard analysis, permit to work, and isolation management in an integrated workflow:

- **Risks & job hazard analysis**
  Run job hazard analysis (JHA), identify risks and define safeguards
- **Permit to work**
  Use JHA and safeguards to create formal processes for executing maintenance work and get all required approvals to ensure safety
- **Isolation & lock-out tag-out**
  Follow Permit to Work stipulations to define processes for isolation, management and de-energization of live machinery; Integrate these processes with Lock-out tag-out (LOTO) procedures
- **Communication**
  Communicate in real-time about changes and planned or sudden modifications; Make information universally available across devices and platforms

Many companies, even larger ones, have long handled Control of Work with a complicated and tedious paper-based process. Today, digital solutions for Control of Work offer a much more efficient and safer way to keep track of all contractors on site. Risks & Job Hazard Analysis, may to a large extent, already be available in the EHS system from regular work and can simply be integrated into the contractor onboarding process. Permits to work can be issued and controlled within seconds. Technical solutions allow you to issue permits for limited time frames during a day and also to control their validity on the spot, which reduces the administrative workload by eliminating questions about who has to sign the permit, who has the final say over its validity, and so forth. It provides clear and complete information and can compile all relevant EHS data from the overall system in a standardized format. In addition, it offers a permanent record of which work has been done at a specific machine. This makes it easy to gather information weeks, months, and even years later.

Many serious accidents in the past have been the results of inadequate maintenance or modification, combined with an unexpected malfunction, and attempts to correct it ad hoc. The accidents in Flixborough in 1974 and Bhopal in 1984 have become infamous for these very reasons.[8] What can happen if a permit to work is not well managed? One example from a refinery in Delaware City, Delaware shows us: In July 2001, an explosion occurred. A work crew had been repairing a catwalk above a sulfuric acid storage tank farm when a spark from their hot work ignited flammable vapors in one of the tanks. This tank had holes in its roof and shell due to corrosion. The tank collapsed, killing one of the contractors and injuring eight others. The explosion released a significant volume of sulfuric acid into the environment as well[9]. Hot work permits to work on the catwalk grating had previously been denied, yet on the day of the accident, the hot work permit did not specify the need for periodic retesting or continuous monitoring of the atmosphere around the work area for flammables. The unsafe practices used to control the maintenance work were a contributing factor to an appalling accident here.

implement end-to-end contractor safety management using an EHS platform

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Safety monitoring

Safety monitoring provides digital workflows that accompany the actual work in order to promote a proactive safety culture. Keep the contractor in the loop at all times making them an active part of this safety culture. It is easier to understand the nature and purpose of a task when it is parsed out, visually depicted and communicated proactively.

It's essential for all workers to have unrestricted access to this data, regardless of whether they are employed or contracted. All data can be only managed in a unified platform with automated safety workflows and consistent reporting when everyone involved has access to it.

If your chosen EHS platform also offers a mobile app, workers will not only be able to access all relevant information at any time, but can also report incidents instantly or conduct inspections on the go. This, in turn, allows a company to go from just tracking lagging indicators (such as lost working days or number of recordable incidents) to being able to proactively concentrate on leading indicators (such as level of engagement in safety endeavors or the number and pass rate of safety training). Depending on your industry and the type of work you perform, you may be interested in additional technology, such as IoT, geo-fencing or wearable sensors that track the locations and vital signs of workers in hazardous environments.

The approach of AMCS here is to treat contractors the same as formal employees in the system, meaning that – given they have permission – they have access to the same functions and data as internal employees. The only requirement is that data on contractors be mapped from the procurement system onto the internal structure of an EHS software, such as AMCS EHS Management, typically via routine automated imports.

CATEGORY	TASK
Incident Management	• Incorporate contractors into the incident management process and allow them to report incidents • Track incidents back to the contractors and individual workers who caused them when giving ratings in the contractor database
Risk Management	• Integrate Contractor Safety Management processes with Risk Management • Give contracted workers access to all relevant information on hazards and safeguards
Action Management	• Create, assign and track the progress to actions to ensure risks are mitigated and findings resolved • Involve contractors in these processes
Inspections	• Organize on-site inspections and safety walks to monitor safety performance during work
AI & IoT	• Utilize Artificial Intelligence, the Internet of things (IoT) and other technology to better supervise the factory floor and detect and predict safety issues

implement end-to-end contractor safety management using an EHS platform

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Performance evaluation

Finally, to close the loop, a performance evaluation needs to be undertaken at the end of every project. This allows companies to make informed choices anchored in solid data when conducting future pre-qualification processes. Keeping track of the experiences your company has with a particular contractor can eliminate the potentially harmful effects of relying on vague impressions, which can sometimes be misleading. And it allows you to compare the actual results with your prior expectations.

AI & Analytics
Collect data on incidents and other safety aspects, calculate relevant KPIs and use dashboards as well as alerts, and run data analytics to predict issues in advance and allow for benchmarking

Safety debrief
Run a post-project safety debrief with the contractor to review and improve safety aspects as well as to eliminate major risks for future projects

Safety records
Update the safety records of contractors and workers to reflect their safety performance during the project, so that this information can be consulted prior to awarding future contracts

Performance evaluations that turn up findings can trigger corrective and preventive actions, which can subsequently be tracked and reviewed in a robust EHS platform. In some cases, special audits and inspections dedicated to the finding may be scheduled.

An example of this policy in action would be a car manufacturer providing a general framework for all its suppliers. These suppliers must then submit to auditing multiple times: once when they are initially added to the manufacturer's supplier list and then on a recurring basis. These audits are conducted according to a rigid default pattern that assesses clearly defined criteria. The interconnectedness of the above processes makes it highly beneficial to have an integrated EHS platform, as opposed to using individual solutions that are difficult and time consuming to integrate with one another. An advanced module-based system provides a ready-made dashboard for relevant safety KPIs and process metrics, making current statuses and trends – including industry benchmarks – transparent for all involved stakeholders. Also, in connection with contractor safety, dashboards that track audit results and other data can be used to keep an eye on the performance of contractors.

When collaborating with contractors, keep them involved. Provide constructive, objective feedback at regular intervals. Show them where and how they made an impact, but also show them concrete ways to improve their performance. In the long run, a safety program can help contractors offer a superior level of service to you and get them more engaged with safety overall.

mastering contractor management

Best-in-class contractor management in seven steps

1. Establish a clear communication strategy to avoid unclear chains of command: define what information will be communicated to contractors and make sure individual workers can be reached when needed. Determine which communication channels to use and make sure everyone can access them.
2. Create a centralized contractor portal that acts as a single source of accurate information, including safety records for all contractors. Define clear guidelines outlining who is responsible for maintaining this data and the processes for keeping it up to date.
3. When selecting a contractor for a job, use the self-reported information in the contractor portal. Consider safety performance data from previous projects and insights gained from on-site inspections and audits at the contractors' worksites as part of your decision-making process.
4. Keep safety records for individual contractors to assess their safety performance and, in extreme cases, even blacklist them.
5. Integrate contractor management with other safety processes in a seamless manner, most notably with risk and incident management. This ensures that contractors do not encounter any barriers when accessing safety-relevant information.
6. Do not just collect data on lagging indicators, but also direct your focus to leading indicators that can predict future safety performance.
7. Cultivate a close partnership with your contractors to make improved safety a win-win for both your company and the contractors it employs.

about amcs

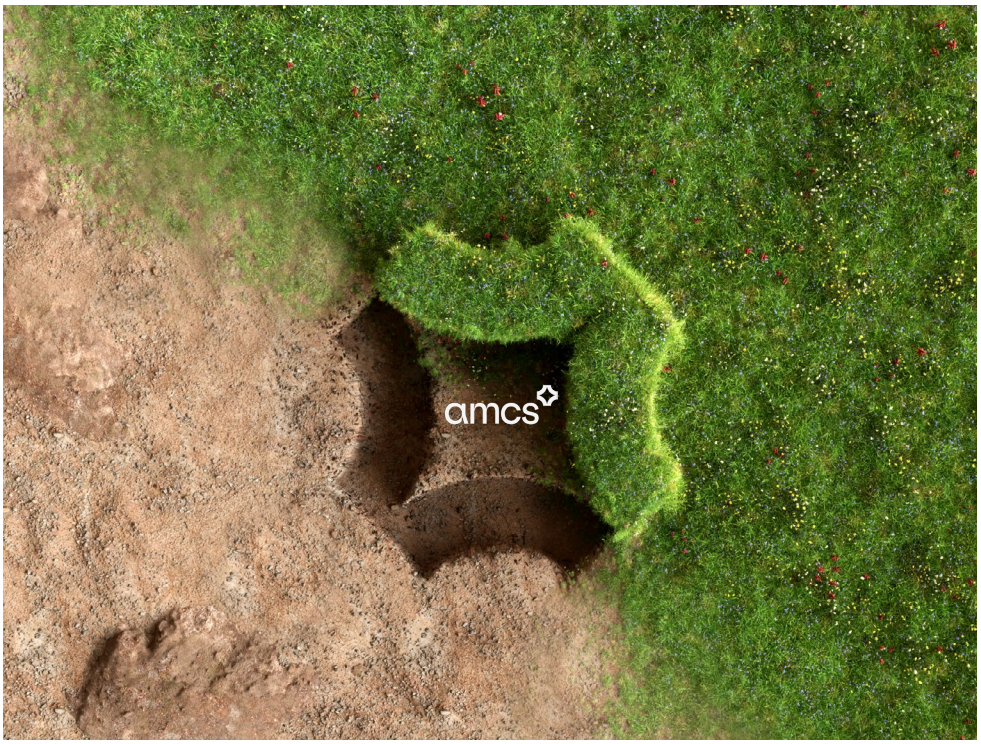
About AMCS

Sustainability that means business

AMCS is the market leader in Performance Sustainability, enabling you to boost sustainability and profitability at the same time. With AMCS, you can achieve sustainable growth and transparent social responsibility while also safeguarding the environment and reducing operational risks.

AMCS EHS Management is our modular, cloud-based software solution that helps you easily keep track of all your health and safety, environmental and quality management requirements. It allows you to document, streamline, evaluate, and control processes, bringing all EHS stakeholders together in a unified, centralized system, certified for ISO 9001, ISO 14001, ISO 27001, ISO 45001, and ISO 50001.

Learn more at **www.amcsgroup.com.**



sources

1. Occupational health and safety management systems – Requirements with guidance for use (ISO 45001:2018)

2. https://www.blackrock.com/ch/individual/en/larry-fink-ceo-letter

3. https://research.verdantix.com/report/operational-excellence/techtalk-contractor-safety-management

4. Understanding the Contractor Management Paradox, Malhotra, 2019

5. http://www.verdantix.com

6. Smart Innovators: Contractor Safety Management. Verdantix. November 2019

7. Achieving Holistic Contractor Safety Management with Digital Innovation. Verdantix. September 2019

8. From Flixborough to Bhopal: is legislation enough? British journal of industrial medicine 1986, 43:1-5

9. https://www.csb.gov/motiva-enterprises-sulfuric-acid-tank-explosion/