



Build vs. Buy

A complete cost and risk analysis for EHS & Sustainability management systems



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Executive Summary

As laws become stricter and expectations for ESG transparency grow, leaders are asking a basic question:

Should we build our own EHS system, or should we buy ready-made EHS Software? At first, building your own system can look appealing. A homegrown solution seems like it will fit your processes perfectly, avoid ongoing vendor fees, and give your teams full control. EHS professionals may feel they understand their needs better than anyone, and IT teams may feel confident they can deliver.

But once you look at the full picture over several years, this story changes. Modern EHS work goes far beyond a simple incident log. It includes industrial hygiene, chemical and SDS management, process safety, environmental tracking and reporting, and complex ESG reporting. Supporting that range of needs is not a small project. It requires many different skills, keeps changing, and must be reliable under regulatory and legal scrutiny.

This paper compares three choices:

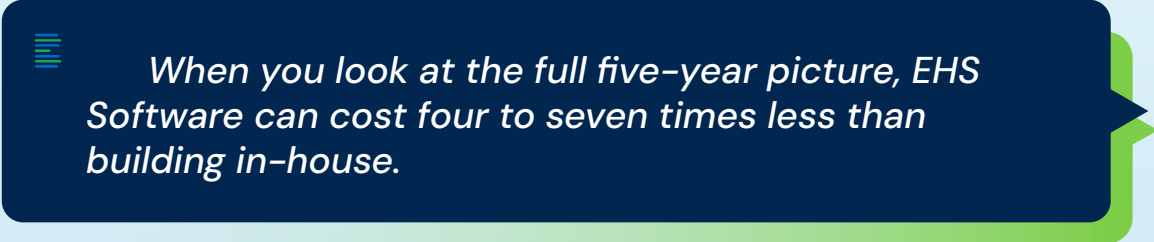
Do-it-yourself (DIY) EHS-led tools
Internal IT-led custom software
EHS Software provided by a specialist vendor

We look at these options over five years for a company with:

- \$1.5 billion dollars in annual revenue
- Fifteen operating sites
- An eight-person EHS team

We include not only direct costs (labor, consulting, hosting, subscription fees), but also indirect costs (inefficiency from scattered tools) and risk-related costs (compliance problems, system breakdowns, rebuilds).

Even at a price of \$120,000 dollars per year, EHS Software proves to be cheaper overall, much safer, and more capable than building your own or relying on a custom IT project.



When you look at the full five-year picture, EHS Software can cost four to seven times less than building in-house.

Scenario and Assumptions

To make this analysis clear and realistic, we use a simple, concrete scenario. This lets you see how the numbers fit together and adjust them later if you want.

Company profile:

- \$1.5 billion dollars in yearly revenue
- Fifteen operating sites (plants, distribution centers, or similar)
- Eight-person EHS team, covering corporate and site-level roles
- Subject to OSHA, EPA, state and local rules, and growing ESG expectations

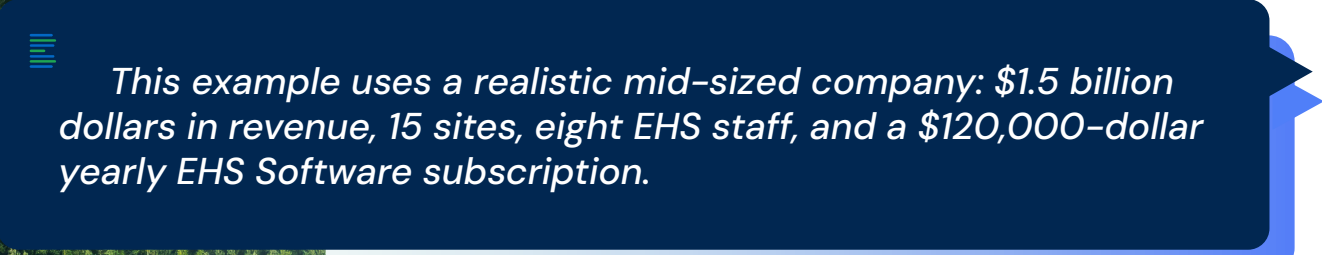
Labor cost assumptions (fully loaded hourly rates):

- EHS professional: \$60 dollars per hour
- Software developer: \$100 dollars per hour
- IT business analyst or solution architect: \$90 dollars per hour
- IT project manager or security specialist: \$110 dollars per hour
- External consultants (industrial hygiene, process safety, ESG, architecture): \$175 to \$300 dollars per hour

EHS Software subscription:

- \$120,000 dollars per year, including hosting, security, maintenance, upgrades, and new features from technology partners.

These assumptions are conservative. Many organizations will see higher internal labor or consulting rates. In those cases, the cost advantage of EHS Software becomes even stronger.



This example uses a realistic mid-sized company: \$1.5 billion dollars in revenue, 15 sites, eight EHS staff, and a \$120,000-dollar yearly EHS Software subscription.

Why Building Your Own Is Hard


Modern EHS and sustainability work touches many areas at once. It is no longer enough to track only incidents or inspections.

A typical EHS Software platform covers a wide range of needs, for example:

- Incident and near-miss reporting, investigation, and root cause analysis
- Audits, inspections, and risk assessments with detailed findings and action tracking
- Corrective and preventive actions, including due dates, reminders, and follow-up checks
- Training and competence tracking, including learning plans and completion records
- Policy and document control, including approvals and version history
- Industrial hygiene programs, sampling plans, exposure assessments, and risk limits
- SDS and chemical management, including approvals, storage locations, and labels
- Process Safety Management elements such as hazard analysis and management of change
- Environmental monitoring, permits, waste, emissions, and formal reporting
- ESG and sustainability reporting across common frameworks and investor expectations
- Compliance calendars, tasks, deadlines, and accountability
- Mobile access, including offline use for field work
- Dashboards, trend charts, and analysis tools
- Integrations to HR systems, maintenance systems, ERP, sensors, and lab systems

Building one or two simple tools is possible. Building all of this, keeping it working, and updating it as rules change is a different order of magnitude.

A homegrown solution has to keep pace with new laws, new reporting standards, and new technology over time. The cost is not just in building the system once, but in owning it for years.



A complete EHS platform is more like a toolbox with many specialized tools than a single app or spreadsheet.

Three Strategic Approaches

Organizations tend to follow one of three main paths when digitizing EHS and sustainability:

DIY systems created and managed by EHS teams



Custom systems built and run by IT



EHS Software provided by a specialist vendor



DIY and homegrown systems have appeal, but also many hidden costs.

1

DIY EHS–Led Build

In a DIY approach, the EHS team drives the work. They use things like spreadsheets, low-code tools, or simple databases to set up:

- Incident forms and logs
- Audit or checklist tools
- Action item trackers
- Basic reports and dashboards

On the surface, this looks fast and inexpensive. People can design forms that match their current process. There is a sense of control and flexibility.

However, several issues appear over time:

- **Limited capabilities:** do-it-yourself tools struggle with advanced needs like industrial hygiene, SDS workflows, or process safety.
- **Time drain:** EHS staff must act as designers, builders, testers, and support, on top of doing their core jobs.
- **Inconsistent adoption:** different sites may use slightly different versions of the same tool.
- **Data scattered in many places:** information lives in multiple files and apps instead of one system.
- **Higher chance of compliance gaps:** manual processes and incomplete tracking can lead to missing records.



DIY tools are fine for quick fixes, but they tend to grow into a maze of spreadsheets and apps that are hard to manage across multiple sites.

2 Internal IT–Led Custom Build

In an IT–led project, EHS defines the needs and IT teams design and build the system. A typical process:

- EHS describes workflows, rules, and reporting needs
- Business analysts document requirements
- Architects and developers create the software
- QA tests functions and performance
- IT handles hosting, security, and integrations
- EHS provides ongoing feedback and domain expertise

This approach can produce strong technical solutions and good links to other internal systems. It fits well with existing IT governance, security, and support models.

But there are major downsides:

- **High upfront cost:** a full custom system requires many months of work from several IT roles.
- **Long delivery times:** it can take six to twelve months to reach the first usable version.
- **Changing requirements:** new regulations or business changes can force major rework.
- **Limited innovation capacity:** IT must support many projects, so improvements to the EHS system may be slow or infrequent.

An IT–led build can deliver robust core features. However, the cost and effort to add and maintain all the specialized EHS modules remains very high.



IT–led builds can be solid technically, but they are expensive and slow to change in a fast–moving regulatory environment.

3

EHS Software

EHS Software is built specifically for EHS and sustainability. Most common workflows and modules come ready to use, and the system is designed to scale across sites and regions.

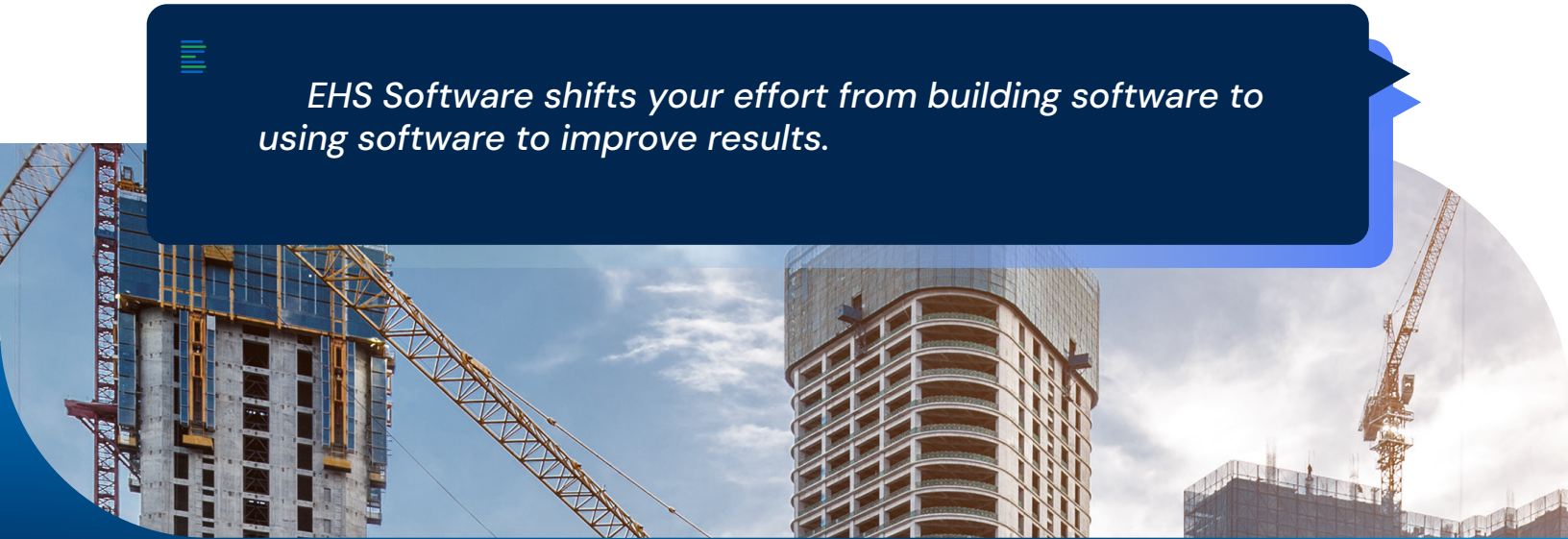
Key aspects:

- Pre-built modules for incidents, audits, CAPA, IH, SDS, PSM, environmental, ESG, and more
- Configuration-based changes rather than custom coding in most cases
- One shared database for all sites and modules
- Vendor-managed hosting, performance, backups, and disaster recovery
- Regular updates based on regulation changes, customer feedback, and new technologies

The organization's role is to:


- Configure the software to match its structure and vocabulary
- Import data (sites, employees, assets, historical incidents)
- Train users and roll out the system
- Use the system, provide feedback, and adjust configurations as necessary

The EHS Software model lets the vendor handle the heavy technical work and long-term product roadmap, while the EHS and IT teams apply their time to using the system and improving safety and environmental performance.



EHS Software shifts your effort from building software to using software to improve results.

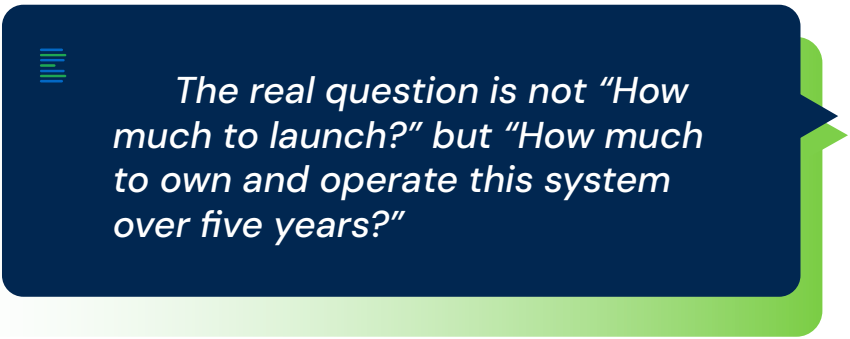
Cost Components for Build Approaches



To compare options fairly, it is not enough to look at startup costs alone. A complete view of Total Cost of Ownership over five years should include:

- Initial build or setup
- Ongoing fixes and enhancements
- Infrastructure and security
- Time wasted due to scattered tools and data
- Consulting and external expertise
- Innovation and keeping up with new needs
- Compliance risks and potential failures

The following parts explain how these costs show up under DIY and IT-led approaches.



The real question is not “How much to launch?” but “How much to own and operate this system over five years?”

1

DIY EHS–Led Build: Core Effort

A basic DIY system for incidents, audits, and actions will usually include:

- Mapping processes and requirements: 40–80 hours
- Designing data structures and importing starting data: 60–100 hours
- Setting up forms and workflows: 120–200 hours
- Setting up roles and permissions: 20–40 hours
- Designing reports and dashboards: 60–100 hours
- Testing and running a pilot: 40–80 hours
- Training users and rolling out at all sites: 20–40 hours
- Fixing issues and making changes after feedback: about 150 hours

At \$60 dollars per hour for EHS staff, this is roughly \$30,000 to \$42,000 dollars in labor. After launch, the system needs regular attention. A careful guess is about 120 hours per year for changes, fixing problems, and user support. That is \$7,200 dollars per year, or \$36,000 dollars over five years.

And at this point, the system only covers core safety items. It has not yet tackled advanced areas such as industrial hygiene, SDS, PSM, environmental reporting, or ESG.



A basic DIY system might cost under \$50,000 dollars to launch, but it covers only a portion of what an EHS program needs.

2

Building Specialized EHS Modules

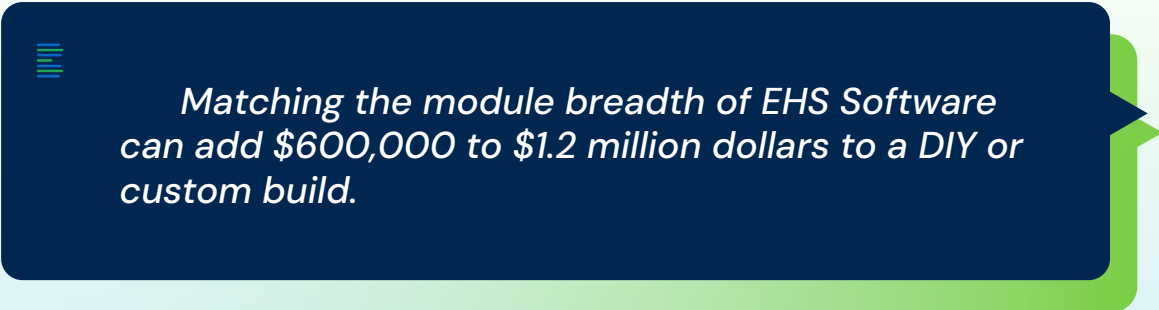
To match the coverage of EHS Software, your own system would need strong modules for:

- Industrial hygiene
- SDS and chemical inventory
- Process Safety Management
- Environmental tracking and reporting
- ESG and sustainability metrics

Each of these is complex. Typical effort for a single advanced module might include:

- 300 to 600 hours of developer time
- 80 to 150 hours of EHS subject-matter time
- 40 to 100 hours of testing and refinement

Using the earlier hourly rates, each module might cost \$60,000 to \$120,000 dollars to build and stabilize. Building 10 such modules over time would total about \$600,000 to \$1.2 million dollars, not including future updates.



Matching the module breadth of EHS Software can add \$600,000 to \$1.2 million dollars to a DIY or custom build.

3

Internal IT-Led Custom Build

A more formal IT-led project includes time and cost across many roles:

- **IT project manager:** about 200 hours at \$100 dollars per hour = \$20,000 dollars
- **Business analyst or architect:** 150 hours at \$90 dollars per hour = \$13,500 dollars
- **Developers:** 800 hours at \$100 dollars per hour = \$80,000 dollars
- **QA engineer:** 120 hours at \$90 dollars per hour = \$10,800 dollars
- **EHS SME support:** 120 hours at \$60 dollars per hour = \$7,200 dollars
- **Security and architecture review:** 80 hours at \$110 dollars per hour = \$8,800 dollars
- **DevOps and hosting setup:** 60 hours at \$110 dollars per hour = \$6,600 dollars

Total for a basic system: about \$147,000 dollars.

As with DIY, this is only a starting point. Once you begin adding modules for IH, SDS, PSM, environmental tasks, and ESG, the total can easily climb by another \$1.2 to \$2.4 million dollars over several years.



An IT-led custom EHS system can exceed one million dollars once you include advanced modules.



4

Consulting Support

Few organizations have all the necessary EHS and technical expertise in-house. They rely on consultants to:

- Design and validate complex workflows
- Interpret new rules and guidance
- Configure systems for advanced ESG reporting
- Integrate with specialized equipment and third-party data sources

Even modest use of external advisors might involve 100 to 250 hours per year at roughly \$200 dollars per hour. That is \$20,000 to \$50,000 dollars per year, or \$100,000 to \$250,000 dollars over five years.



External consulting can easily add a six-figure cost over five years for DIY or custom solutions.

5


Data Silos and Tool Sprawl

When each site or team builds what it needs, you often end up with:

- Multiple spreadsheets tracking the same kind of data
- Small apps built by different people
- Site-specific tools that do not share information
- Separate systems for chemicals, incidents, audits, and training

This leads to wasted time and unreliable data. EHS staff spend time merging data, checking for errors, and fixing mismatches.

For an eight-person EHS team, it is reasonable to assume at least 20 percent of time is lost to these inefficiencies. That is 1.6 full-time equivalents, or about 3,000 hours each year. At \$60 dollars per hour, that works out to \$180,000 dollars per year, or \$900,000 dollars over five years.



Scattered tools and data can quietly cost \$900,000 dollars in wasted EHS time over five years.

6


Infrastructure, Hosting, and Security

Any internal EHS system needs solid technical foundations:

- Servers or cloud infrastructure
- Database management and storage
- Backup and restore systems
- Disaster recovery planning
- Security controls and updates
- User account and access management

These elements often cost \$50,000 to \$75,000 dollars per year for a system of this size, or \$250,000 to \$375,000 dollars over five years.

On top of that, security and governance activities like penetration tests, access audits, and compliance documentation can cost another \$20,000 to \$40,000 dollars per year. That is an additional \$100,000 to \$200,000 dollars over five years.



Hosting and protecting an internal EHS system can add \$350,000 to \$575,000 dollars to total cost over five years.

7

Compliance Risk and System Failure

When a system has gaps or is not kept up to date, risk increases. For a \$1.5 billion dollar business, this might include:

- Fines and penalties from OSHA or environmental agencies
- Legal costs and settlement expenses
- Forced shutdowns or production delays
- Damage to reputation or customer trust
- Problems with investors and regulators due to weak ESG reporting

Internal systems, especially those built ad hoc, are more likely to have weak spots. If we estimate that system shortcomings add a five percent chance each year of a significant compliance or data failure, with expected cost of \$1.5 million dollars over five years, the risk-adjusted cost is \$75,000 dollars per year. Over five years, that is \$375,000 dollars.



Gaps in homegrown EHS systems can add an expected \$375,000 dollars in compliance-related risk over five years.

8

Cost of Innovation and Keeping Up

EHS and ESG expectations are changing quickly. New frameworks, new data sources, and new technology appear constantly. EHS Software vendors invest in:

- New modules and features
- Better reporting and dashboards
- Integrations with sensors and IoT devices
- Updates for new ESG and regulatory requirements
- Mobile and user experience improvements

Internally, keeping pace with all of this would require dedicated development and product management. A reasonable estimate is \$150,000 to \$300,000 dollars per year in effort to keep an internal system competitive. Over five years, that is \$750,000 to \$1.5 million dollars.



Staying current with EHS and ESG technology in-house can cost up to \$1.5 million dollars over five years.

5-Year Total Cost of Ownership Comparison

Bringing all of the cost elements together, we get the following 5-Year Total Cost of Ownership (approximate ranges):

DIY EHS LED BUILD:

- **Initial DIY build (core system):** \$36K
- **Extra modules:** \$600K - \$1.2M
- **External consulting:** \$90K - \$350K
- **Data silos and inefficiencies:** \$900K
- **Infrastructure and hosting:** \$250K - \$375K
- **Security and governance:** \$100K - \$200K
- **Risk-adjusted compliance exposure:** \$375K
- **Rebuild if system fails or is replaced:** \$150K - \$300K
- **5-Year Total Cost of Ownership: \$2.5M - \$3.7M**

INTERNAL IT LED CUSTOM BUILD:

- **Initial core build:** \$150K
- **Extra modules:** \$1.2M - \$2.4M
- **External consulting:** \$150K - \$400K
- **Data silos and fragmentation:** \$450K
- **Infrastructure and hosting:** \$250K - \$375K
- **Security and governance:** \$150K - \$250K
- **Risk-adjusted compliance exposure:** \$200K
- **Enhancements and refactoring:** \$300K - \$500K
- **5-Year Total Cost of Ownership: \$2.8M - \$4.8M**

EHS SOFTWARE:

- **Subscription and support for five years:** \$600K
- **Configuration and onboarding:** \$25K
- **Internal administration:** \$12K
- **Optional consulting:** \$50K
- **Infrastructure, hosting, security, innovation:** included
- **5-Year Total Cost of Ownership: \$687K**



Over five years, building your own system can cost millions more than using EHS Software.

Strategic Implications for a Multi-Site Enterprise

Beyond the numbers, there are several important strategic points to consider.

Unified data and visibility:

EHS Software gives you one shared system for all EHS data across all sites. You can see trends, compare locations, and report consistently. It becomes easier to answer questions from executives, regulators, investors, and other stakeholders.

DIY and custom builds often lead to different tools at different sites. Over time, this makes it much harder to trust your data and tell a clear story about your EHS and sustainability performance.

Innovation and future-proofing:

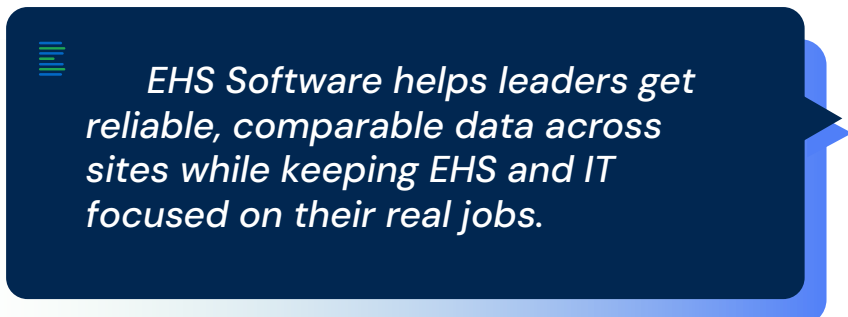
EHS Software is built for change. Vendors add new features and modules based on changes in law, investor expectations, or new technology. You gain access to these improvements as part of your subscription, without needing to run separate internal projects.

With a homegrown system, every new requirement or idea is another project your team must fund and deliver. If priorities or budgets change, EHS systems often fall behind.

Use of EHS and IT time:

EHS professionals are most valuable when they focus on preventing injuries, reducing environmental impact, improving training, and shaping culture. IT teams are most valuable when they focus on overall technology strategy and key business systems.

When either group spends large amounts of time building and fixing EHS software, that time is taken away from their core strengths. EHS Software reduces this distraction and lets your teams spend more time on work that directly improves safety and environmental outcomes.



EHS Software helps leaders get reliable, comparable data across sites while keeping EHS and IT focused on their real jobs.

Conclusion

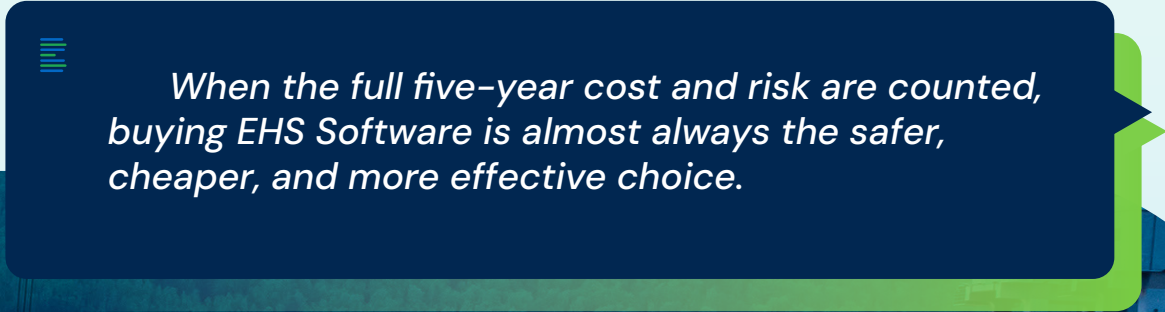
Deciding whether to build or buy an EHS and sustainability system is not just a technical decision; it is a financial, operational, and risk decision.

When you count all the elements of Total Cost of Ownership over five years—development, maintenance, consulting, infrastructure, innovation, wasted time, and added risk—the pattern is clear:

- DIY EHS-led tools can cost roughly \$2.5 to \$3.7 million dollars over five years.
- Internal IT-led custom systems can cost roughly \$2.8 to \$4.8 million dollars over five years.
- EHS Software with a \$120,000-dollar yearly subscription costs about \$687,000 dollars over the same period.

At the same time, EHS Software offers broader features, better data, more timely updates, and less internal burden. It lets EHS and IT teams concentrate on what they do best: managing risk, staying compliant, and creating value for the business.

For a \$1.5 billion dollar company with 15 sites and an eight-person EHS team, the most practical and cost-effective choice is to use EHS Software and reserve “build it yourself” efforts for rare cases where needs are truly unique and long-term resources are clearly available.



When the full five-year cost and risk are counted, buying EHS Software is almost always the safer, cheaper, and more effective choice.





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