

# How to extend your EHS software with integrated systems



Integration with other systems, whether on-premises or in the cloud, has become a key wish list item for many EHS software buyers. It allows you to take advantage of other tools used by your organization (or available from third parties) to simplify processes, access information, and enhance communication, both internally and externally.



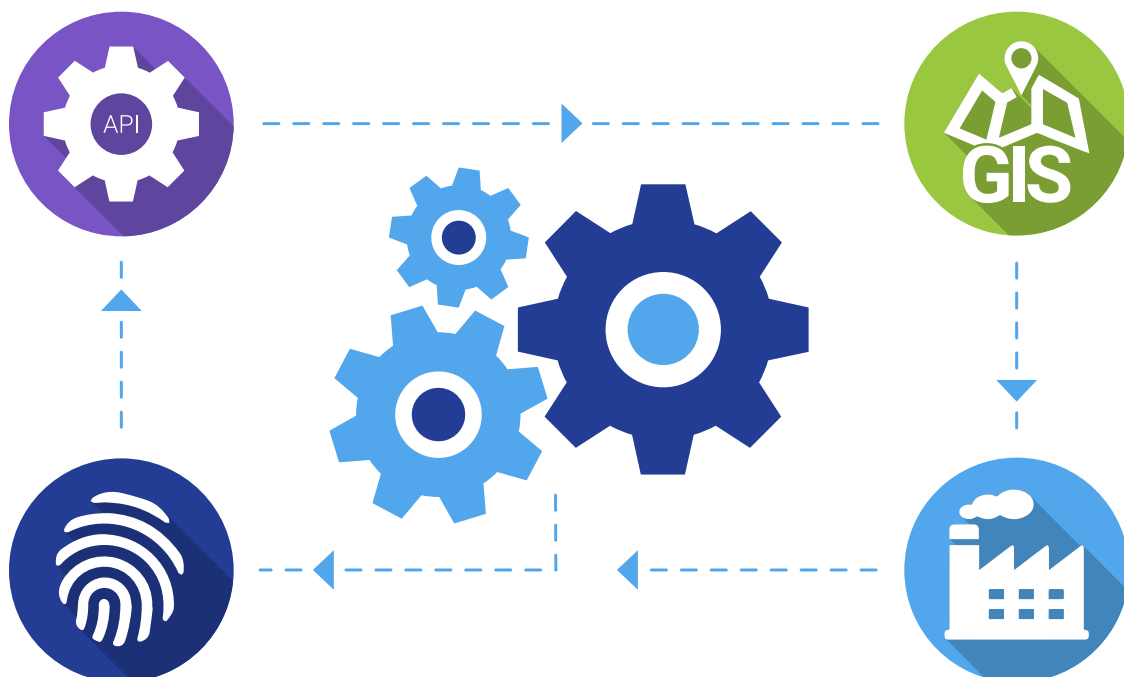
49% of EHS software buyers are unhappy with their current solution's poor integration with internal IT systems.

— *NAEM 2017 EHS & Sustainability Software Buyer's Guide*

Locus software was designed with the native capability to integrate with other systems. To date, we have implemented many successful projects with these integrations. This white paper will cover some real-life examples of how we have successfully made seamless integrations simple and effective for EHS professionals.

We'll focus on these common types of integrations:

- ◇ **Integrate on-premises systems** with cloud EHS software to provide a seamless process
- ◇ **Integrate with identity providers** to enable single sign-on
- ◇ **Integrate with public API** (like EPA or regulatory information providers) for data submittal or private commercial APIs for proprietary content
- ◇ **Integrate with multiple sources** for consolidation and review of disparate data sources (portal integrations)



# Integration with on-premises systems and cloud EHS software

Many potential software buyers want to integrate an existing on-premises system with a new cloud system. This type of integration lets you take advantage of information in existing systems without the additional user burden of accessing multiple software systems, making it easier to perform parts of a unified business process.

One example is creating a cloud system that integrates with an onsite Enterprise Resource Planning (ERP) system such as SAP. Many business processes need to connect external vendors with internal resources to track work scope, invoices, and payment. Cloud systems are ideal when external vendors need internal interactions.



Here at Locus, we recently configured Locus Platform, our native multi-tenant software platform, to seamlessly connect external vendors with an internal SAP payment system. This integration helps users streamline invoice submittals and process payments for the customer and its vendors.

Previously, vendors had to send invoices as email attachments that were then manually entered into the customer's ERP system. The vendors had no visibility into the processing status of the invoice, slowing down the flow of information between the customer and its vendors. The customer wanted to create a single view of the contracts, vendors, the approved budgets, and the payment approval status to streamline the process and enhance transparency.

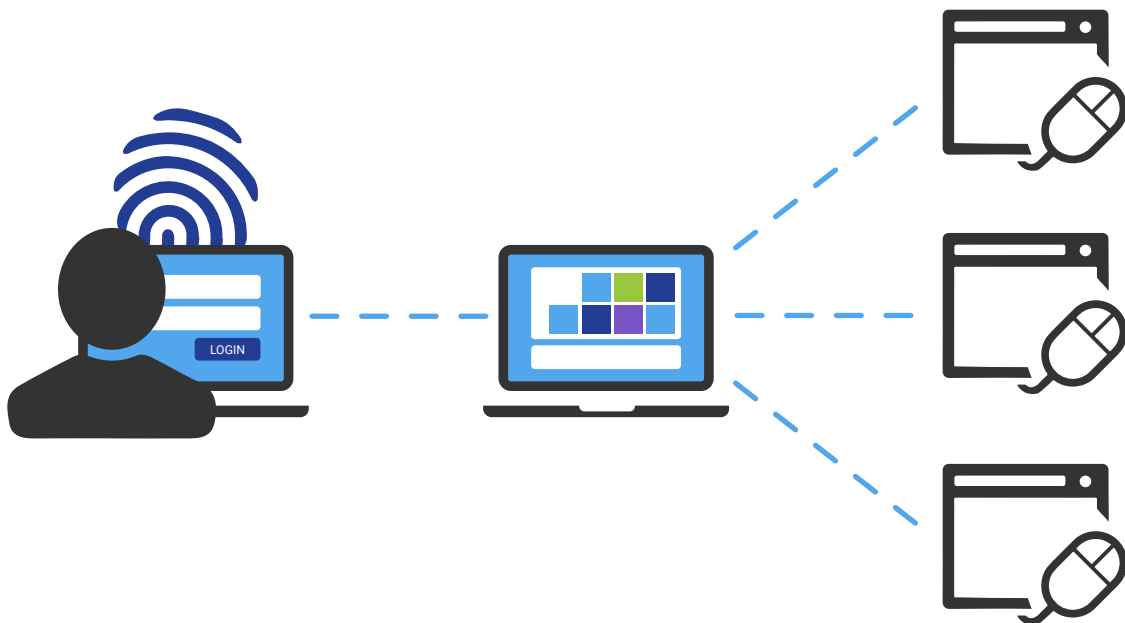
To accomplish this, data had to be integrated securely between the on-premises ERP system and the cloud system. First, the customer established a secure webservice API. Locus Platform could then authenticate and consume the API over an encrypted connection to integrate the process. This maintained security for all parties, and application users were able to access the specific data they needed to fulfill their business flow.

Locus Platform lets you configure integrations easily using drag-and-drop workflows and simple scripting logic. The software is designed to maintain data integrity and security in a highly available and scalable platform. One caveat to this solution is that IT personnel may need to be involved to establish a pathway to the internal data. Therefore, if you want to integrate with internal systems, check with your internal resources to make sure they can work with you to accomplish your goals.

## Integration with identity providers

Larger companies typically request single sign-on (SSO) for their users when accessing a third-party cloud software. This functionality can be a key purchase criteria for selecting a software vendor. This type of integration, termed “integration with identity providers”, is especially important with large enterprises with many geographically distributed users.

In this type of scenario, company employees authenticate in their own employee portal. When an employee clicks on a link to the software provider (such as Locus Platform EHS software), she is taken to the provider’s website and is presented with the correct information based on her authorization, without having to log in again.



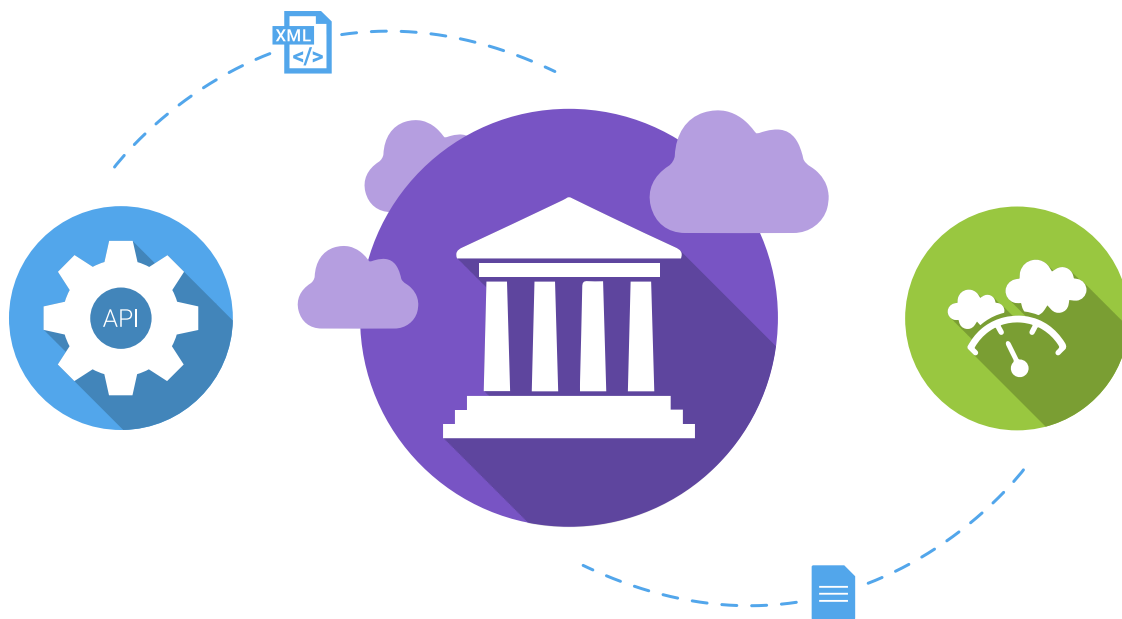
Locus has completed integration with identity providers to simplify user access to our systems, as well as to improve consistency with organizational security requirements. This is the “gold standard” for larger enterprises.

Locus Platform provides such functionality using Security Assertion Markup Language (SAML) assertion through integration with the company’s identity provider (IdP). In a typical use case, Locus maintains the user identities and permissions for every employee at the company that needs access to Locus’ EHS software. When an employee of the company accesses the Locus SaaS applications, Locus sends an authentication request to the company’s IdP. The IdP authenticates the user and sends a SAML response. The user can then access the relevant EHS modules within Locus’ software.

The result for the users is a seamless workflow and one less set of credentials to manage. It also provides a simple way to quickly remove users when they leave the company or no longer need access to the software. Once removed from the company authorization, access to the external software is also removed.

## Integration with public/private APIs

Government agencies and other public/private entities are increasingly delivering services or requiring data submissions via publicly available APIs (Application Programming Interfaces). This technological advancement helps both parties by significantly streamlining data submission (such as submitting hazardous waste manifests to EPA). It all but eliminates the tedium and the likelihood of errors of manual and repetitive data entry. However, the benefits of API data exchange impact users only if their software is capable of making the connection and sending the information safely and accurately to the intended recipient.



## EPA's public REST API for submitting GHG emissions reports

One example where APIs are highly useful is the process of submitting annual GHG (greenhouse gas) emissions to EPA. Previously, GHG regulatory report submission was a manual process on the EPA website. Data was calculated in spreadsheets for multiple sites and manually entered into the EPA website. This manual process was both slow and highly prone to error.

To streamline the regulatory reporting process, EPA introduced an option to upload files that are formatted per EPA specifications. The specification allows combined data from each reporting site to be submitted as a consolidated XML.

Locus Platform provides reporting tools that make it easy to run multiple reports and combine results in a single XML, which is designed to be suitable for submission to EPA. In the future, when EPA provides an API, the process will become even more streamlined for data owners, and the upload portion of the process can be eliminated.

EPA's e-Manifest system will go live in 2018 and is another great example of integration with a public API. Automating submission of hazardous waste manifests will be a huge time saver for all entities that are required to ship waste. The new system will also finally put to rest the clunky dot matrix printers that are kept around only to print out these manifests. Locus is using our Locus Platform built-in tools to configure automatic submission of manifests with EPA's public REST API web service.

**Locus is ready for e-Manifest**

Locus Platform's Waste Management & Tracking app automatically assigns EPA and Department of Transportation regulatory information to waste chemicals and manages waste profiles, supporting all your EPA reporting requirements.

Take advantage of Locus Platform's configurability for the perfect Waste Management & Tracking app

e-Manifest | EPA

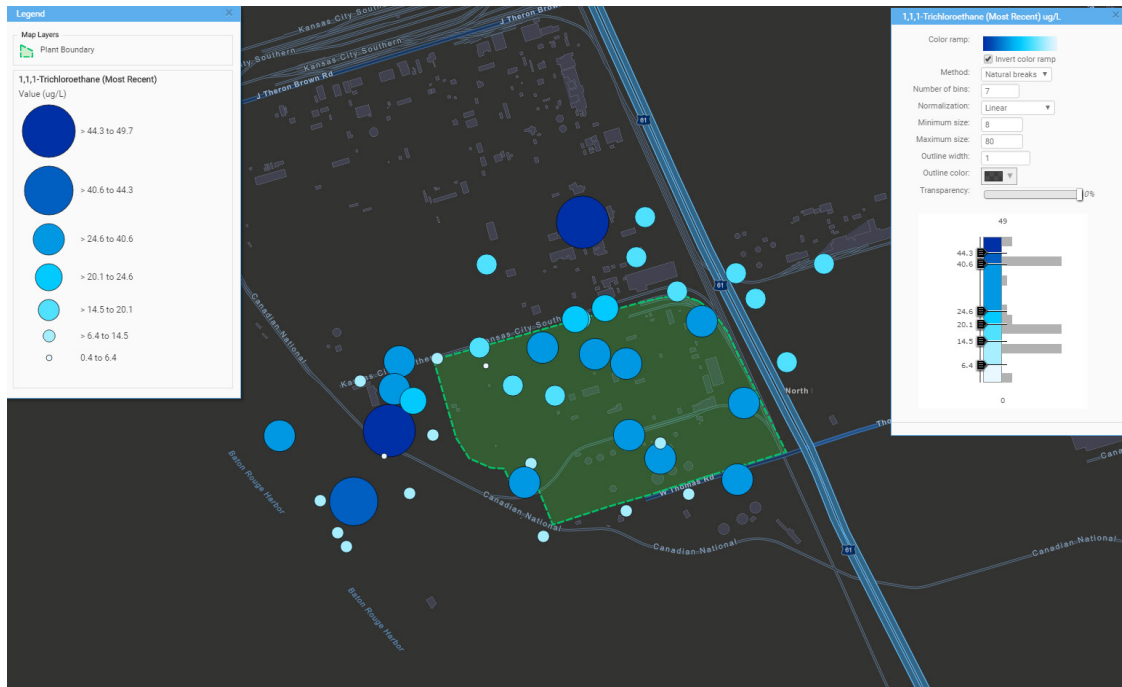
- Design your own workflows to match your business.
- Add or remove data fields to track the specific information important to you.
- Robust permission model to segregate functional responsibilities. Waste generators can have simplified workflows, while waste administrators can take control of all the forms.
- Automate reporting and notifications.
- Integrate with Locus EIM to track laboratory results or use our built-in document management to simply track lab reports—it's up to you!

**Infographic: Locus is ready for e-Manifest**  
[Click here to find out more](#)

## GIS integrations for visualizing site and facility data

Mapping and geographic information systems are another popular public API integration option for EHS software. Using Esri (a leading geographic information system) public APIs, EHS software can validate location data for address formatting and accuracy across a range of applications. This type of integration is easy to configure using a drag-and-drop form builder. You just need to create the configurable business rules that integrate with Esri APIs to check, format, and store the correct address and geo-coordinates for locations.

Google Maps APIs can be used to show relevant maps of sites or facilities and overlay useful information like terrain, demographics, or traffic to make the EHS data more meaningful and understandable. Similarly, devices with GPS tracking can be visualized in dashboards to see current sampling locations or inspection locations



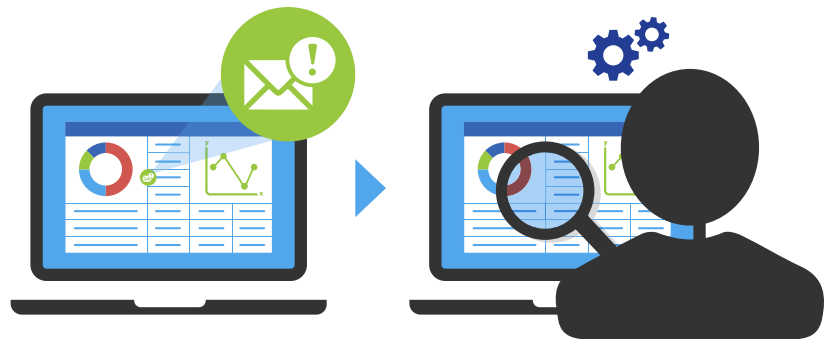
Locus GIS+

## Content services integrations provide up-to-date regulatory notifications

From a private API perspective, consider content management services like RegScan and Verisk 3E. Using services like this, companies can connect with third-party providers to get information about the latest important environmental regulations delivered within their software application.

For example, Locus integrates with RegScan using their supplied API. This means Locus Platform users can access articles that provide clear analysis on evolving environmental regulations. Also by integrating with the RegScan alert system, Locus users can get notifications for changes to the underlying regulations, helping them stay up to date with any and all changes. Through robust integration via public or private API, software vendors can provide enhanced content to users well beyond what the software vendor natively supplies.

Two major advantages of public and private APIs is that no permissions are needed to access the information, and that users have immediate access to updated and reliable content at all times. Effective integrations can reduce the time needed to research related information from other sources and eliminate many manual errors by having applications connect directly to each other.

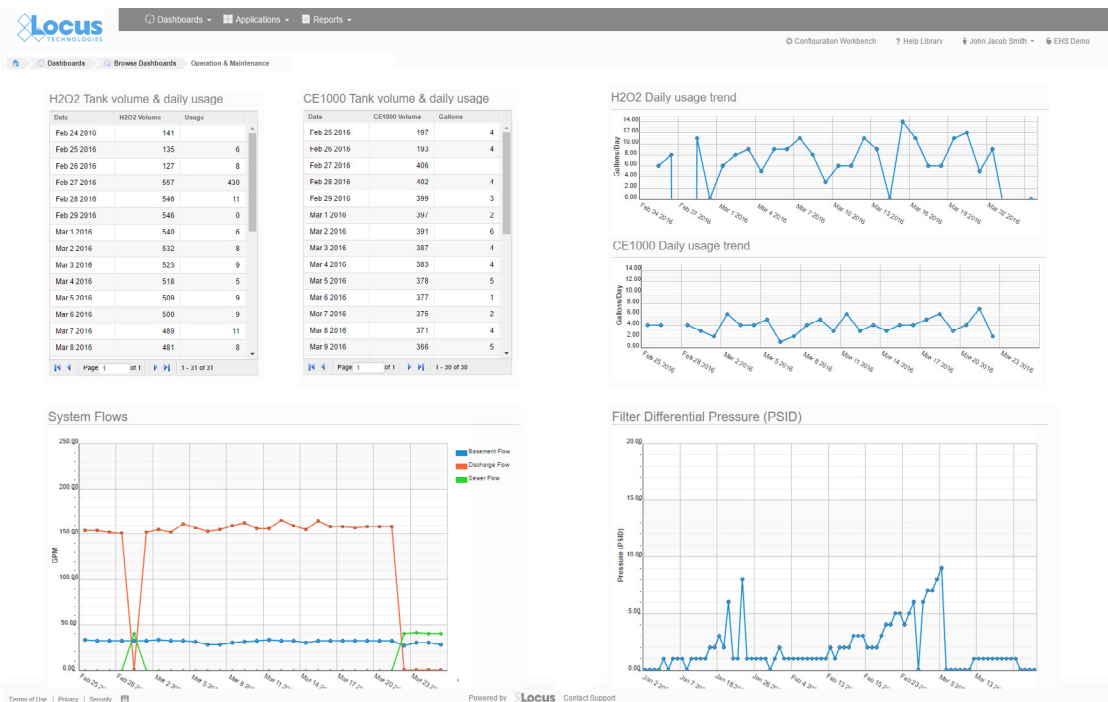


# Portal integrations

Another common need is “portal integration”, or the melding of various streaming data sources (such as “big data” or IoT data) into a single system to enable better data analysis and insight. For example, many companies have multiple continuous monitoring systems that generate huge amounts of data at frequent intervals. With such huge volumes of data, it is hard to review and take action without condensing the information into an understandable format.

A modern platform with built-in integration tools is essential to bring various data sources together and display the information in a meaningful way. Locus Platform dashboards are designed for this type of data, providing a way to integrate data from different data sources into a single unified view that is easier to interpret.

Locus Platform also provides tools that make it easy to combine and present data using different types of graphical charts and as GIS maps. Data summaries on dashboards are secured by built-in roles and authorization, providing access to this data only to specified groups of users. Using such roles, it’s easy to provide management with just the views they need in the visual format that is most useful to them. Locus has implemented these integrations to aggregate data for water treatment systems, stack emissions monitoring, remote sensor networks, and many other applications.



*Locus Platform automation / IoT dashboard*

Like integrations with on-premises systems, system owners will need to be involved in setting up the integration, and software collecting the streaming data will need to be sophisticated enough to be readable by modern systems. If you’re using legacy data collection systems such as SCADA in your organization, Locus has completed integrations with those systems as well, avoiding the need for costly hardware upgrades.

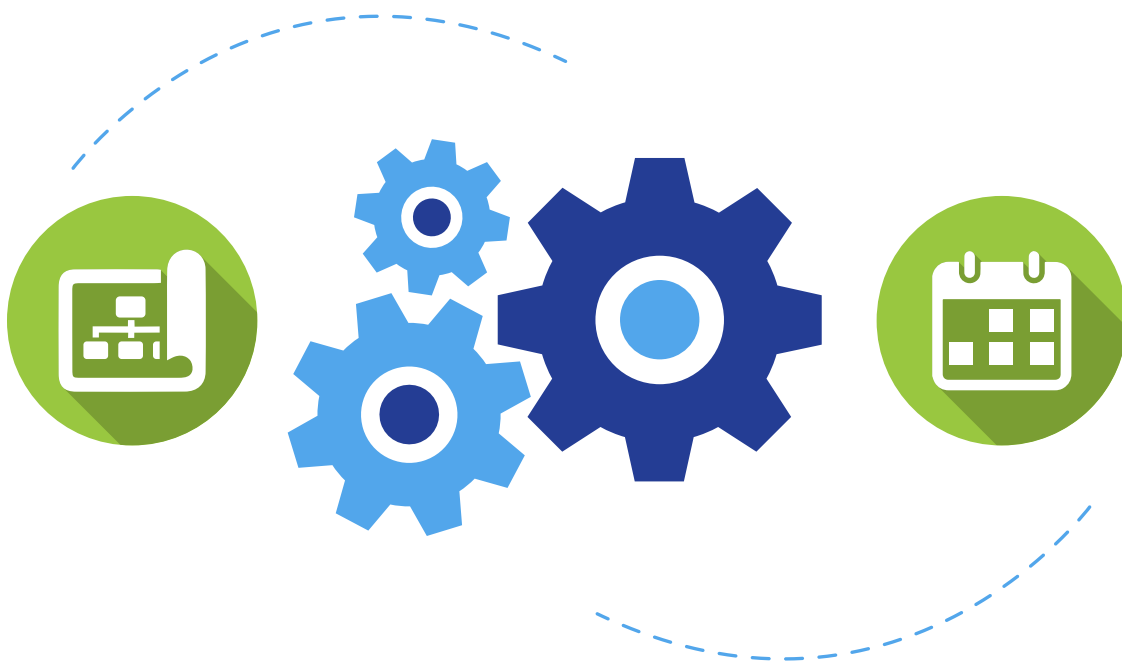


## Careful planning to ensure integration success

With all the advances in software platforms and commercial data sources providing enhanced linkage to data that was previously unavailable or behind firewalls, EHS software customers have a lot to consider when evaluating options. In the last several years, software integration has become a hot topic and something most EHS departments are at least talking about. If you're evaluating EHS software solutions, you would be wise to add one or more of these integration capabilities to your "wish list" for any potential vendor solution.

Locus Platform was built with integration in mind. Our implementation team has a proven track record of successful integrations with internal and external systems. Consider the exact information you want to bring into your EHS software, the quality of the information you want to consume, and the reliability of the source.

Also, remember that internal and external data providers may upgrade or change over time. For that reason, the ease and reliability of integration is an important parameter to consider. A system like Locus Platform can not only handle the initial integration setup, but also maintain it over time—so that you have an integrated system that is a reliable and highly available long-term solution.



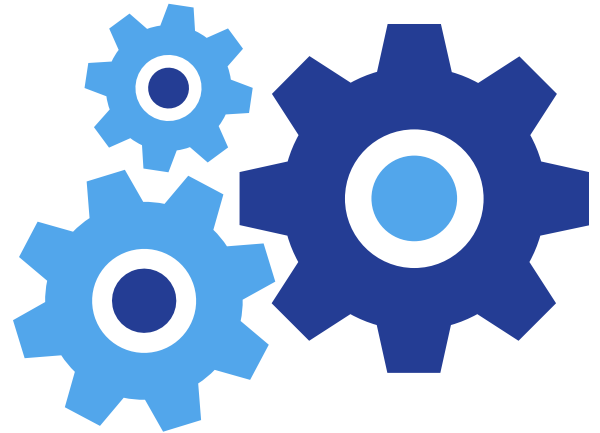
There are many clear benefits to taking advantage of modern integrated software tools wherever you can in your EHS processes. Even if some integrations are only optional for your needs, consider the added value to your organization in simplifying your EHS software implementation, maximizing other available resources, and improving the reliability and accuracy of data sources driving your EHS decisions.

Integrations are sometimes initially perceived as an optional feature, but you should consider making it a requirement for your EHS software based on these benefits. And as new integration tools increasingly become available, you'll find more value out of having a system that can use them to their full advantage.

# How can we help?

If you're looking for an all-in-one EHS solution you can count on, make sure to put [Locus Technologies](#) on your shortlist! Our fully configurable solutions for environmental, health & safety, incident reporting, air quality, waste management, sustainability tracking, and other compliance-related data are built to adapt to your business processes, down to the most specific state regulation or corporate metric.

Find out more about Locus, our service-oriented staff of engineers and domain experts, and why our EHS software is the solution you've been looking for:



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