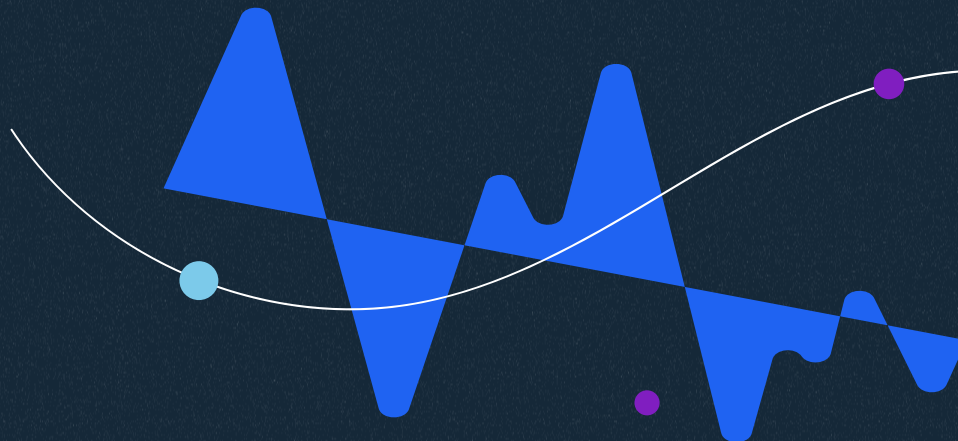


Procurement Analytics & Data Integrations

WHITEPAPER

Sievo



The challenge of Procurement data management

Master data management is the process of making sense of master records across different systems in the organization.

Data management in procurement is a commonly recognized problem for organizations. In a multi-ERP landscape duplicate entries, out-of-sync dates, and mismatched supplier names are a few of the many arising challenges. With the push to automate business processes and integrate analytics solutions, master data problems can complicate matters.

Even between ERP versions, the matter is not so simple: a [recent study](#) found that 2/3rds of SAP users in the UK and Ireland believe data management is a challenge when migrating between database systems¹.

If transitioning between platform versions can be a headache, then introducing a third-party system can be downright scary.

However, robust integrations is a must for analytics, insights, and the strategic leveraging of procurement data. With this guide, you will understand the myths regarding data integrations, how Sievo approaches data integrations, and some considerations provided by experts.

¹ Clark, L. (2022, Mar 30). SAP users struggling with data management for S/4HANA migration, *The Register*.

How Sievo approaches Data integration: **from Source-to-Screen**

1

Extract data

Sievo Data Extractor

& Extend

From suppliers with a web upload tool

2

Cleanse and Enrich

Collaborative classification

Supplier consolidation

Currency rate conversion

Translations

3rd party data

3

Report and Analyse

Dashboards, maps

Dynamic drill-downs

Audit trail to transactional data

An analytics partner You can trust.

950+

Active system
integrations in
place

330k+

Files managed
yearly

550m

Lines managed
yearly

850bn+

Spend managed
yearly

Integrating analytics with complex procurement data has been the core of the business. Our customers are typically multi-billion-dollar companies with truly complex IT landscapes. For nearly two decades, we've had to connect to hundreds, if not thousands, of ERP systems and other relevant sources of data.

Over the years, we've accumulated knowledge on nearly all different versions and customizations—so we are best prepared to integrate with any data source. In addition, we have established plug-and-play integrations with many leading third-party data providers, including Ecovadis, Dun & Bradstreet, Riskmethods, and more. But still, there are many concerns we hear from prospects and customers regarding analytics integrations. We hope to put your mind at ease and show you how we do it.

How Sievo approaches Data integration

Procurement data integration is the connection between an analytics platform and any ERP, enterprise data lake, external data provider, or other procurement solution.

From Source-to-Screen

Integrating data is a must for achieving insights through analytics. Procurement organizations are swimming in data, but not always sure what to do with it. As data in ERPs moves from data warehouses to data lakes and the cloud, the opportunities for integrating large sets of data are limitless. Through proper data integration, spend data becomes richer with additional perspectives and dimensions relevant to your business domain.

When introducing the concept of third-party integrations for procurement analytics, a serious conversation needs to be had between IT and procurement stakeholders. The ERP tools, data management processes, and overall IT architecture of your organization are all factors to consider in building a secure and effective analytics integration.

Together with our clients, the vision of the "Procurement Information Hub" is the combination of multiple data sources to create a single source of truth for decision making. The foundational mechanics of a Procurement Information Hub is the Source-to-Screen process. This process brings your data from its raw source form to visualizations and ultimately, enabling strategic decisions. Source-to-Screen happens in three steps:

1. Data is extracted from the source(s).
2. Data is cleansed, classified, and enriched.
3. Data is analyzed and visualized.

This whitepaper focuses on how we address step 1, data extraction.



Myths regarding procurement data integration

Over the course implementing 950+ system integrations, there are three common concerns that are raised by prospects and customers. These 'Myths', in our experience, don't hold up with the proper approach.

Data integrations will require significant effort from IT

We have developed tools and methodologies that enable us to take full responsibility of data extraction, meaning little to no effort for you. On average, the required resource needed from client IT is one day per system during implementation. With Sievo Data Extractor, our lightweight program that connects to ERP systems, the only responsibilities for IT are to maintain the ERP system as usual. Sievo Data Extractor is automated, and extractions are triggered by a preprogrammed calendar date and time. Extractions usually happen overnight or during low traffic hours and after books are closed, minimizing the impact on your ERP systems speed.

Combining data from multiple sources is unfeasible

Large enterprises have complex IT structures. Many feel their custom-built, business specific architecture cannot be integrated with by outside parties easily. However, in partnering with Sievo, you can put your mind at ease. We're keeping up with market development when it comes to cloud storage and third-party data providers, are experts in procurement data models and user needs, and are confident with any ERP system versions and the technicalities of connecting to them. We understand the logic of building connections between procurement data points.

Data combination is in our DNA. For instance, matching invoices with purchase orders and contracts whenever feasible, even when there is no direct connection between them in the source tables. The same goes for external data enrichments. We offer several competitive integrations with data providers of supplier risks, supplier diversity, carbon footprint, sustainability scores, market prices,

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Myths regarding procurement data integration

and more. If something else is important to you, we are open to building automated integration with any external third-party data provider that you deem useful for your analytics purposes. We understand procurement process, and don't just blindly visualize data.

Source data quality is too poor

This concern is undoubtedly the most deep-seeded. We've heard it from companies of all sizes, that the data can't possibly be worked with. But we've adapted to all sorts of data sets. Sievo Data Extractor works best when connecting to the raw data outputs from your ERPs. During data extraction, we want to get an accurate look as it appears in your ERP systems. The philosophy is to do as few transformations during this extraction as possible to be able to connect to the data in the earliest and most unprocessed stage, because that's where our data modeling templates and extracting gain the most value. We've come across some very dirty data, but there has never been something so dirty it's completely useless.

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I think it was one of our clients who said, that 'the worst data is the data that is not being used'. Our ideology in the Source-to-Screen process is to mine as much value as possible from the raw data at hand. There is always some pattern to be identified, visibility to be gained, no matter how flawed or inaccurate the source data might be.”

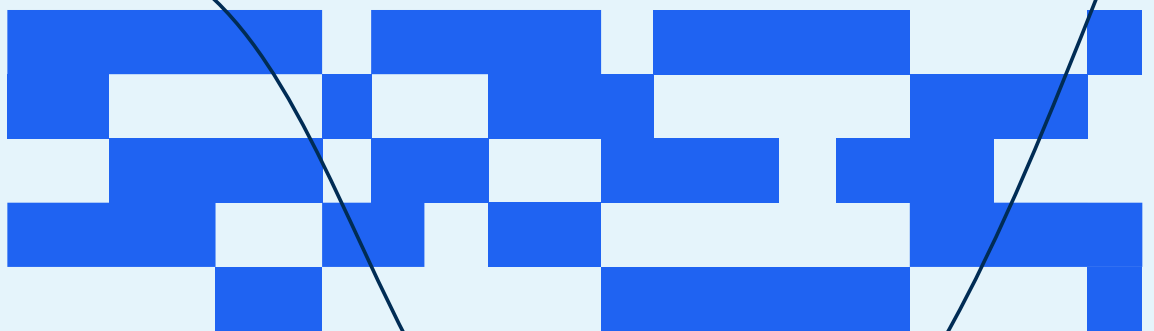


Sergey Zakrytnoy

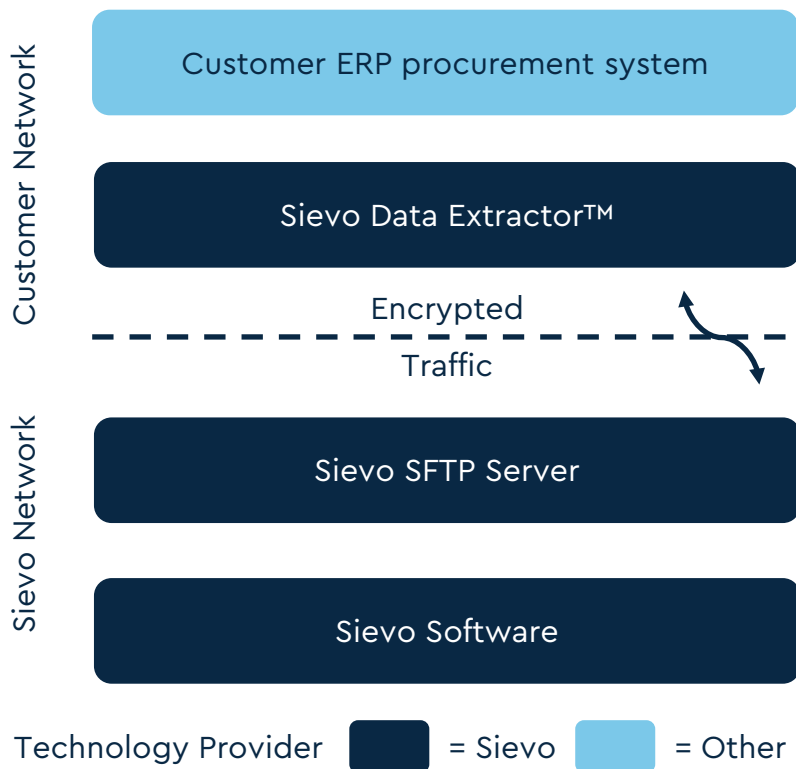
Solution Owner – Spend Analysis

Sievo

3 ways of Integrating Data



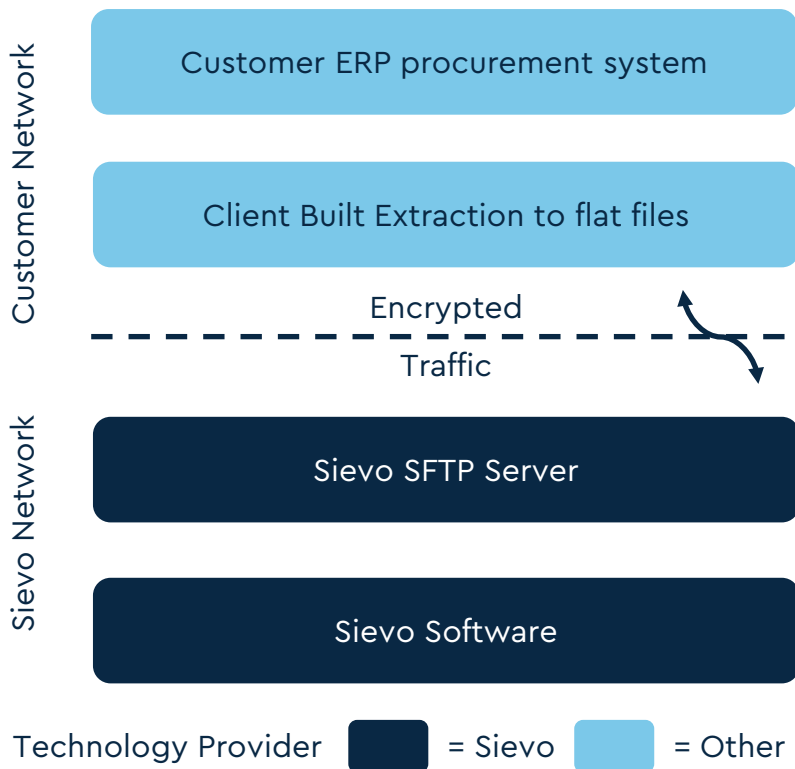
Option 1: Sievo Data Extractor



Sievo Data Extractor is our proprietary program that connects directly to ERP systems, extracts raw data, and processes and loads the data into Sievo databases and the web tool. It works by running SQL queries against ERP databases and writing the results as text files, which can be processed for analytics needs. It allows for automated extractions from an unlimited number of ERPs, procurement and finance systems, and client data lakes. It includes a built-in error correction logic and uses preconfigured templates to

standardize output from any source. For these reasons, this is our recommended integration choice. To clarify some common questions, Sievo Data Extractor has read-only rights, so no installations to ERPs required. Access can be limited to tables in extraction scope, and there is no automated file sending: all data can be checked before sending. Sievo Data Extractor also boasts no performance slowdowns for your systems. It has been tested and verified with high volumes of data. Its automatic extraction process can be scheduled during your slowest hours, as well.

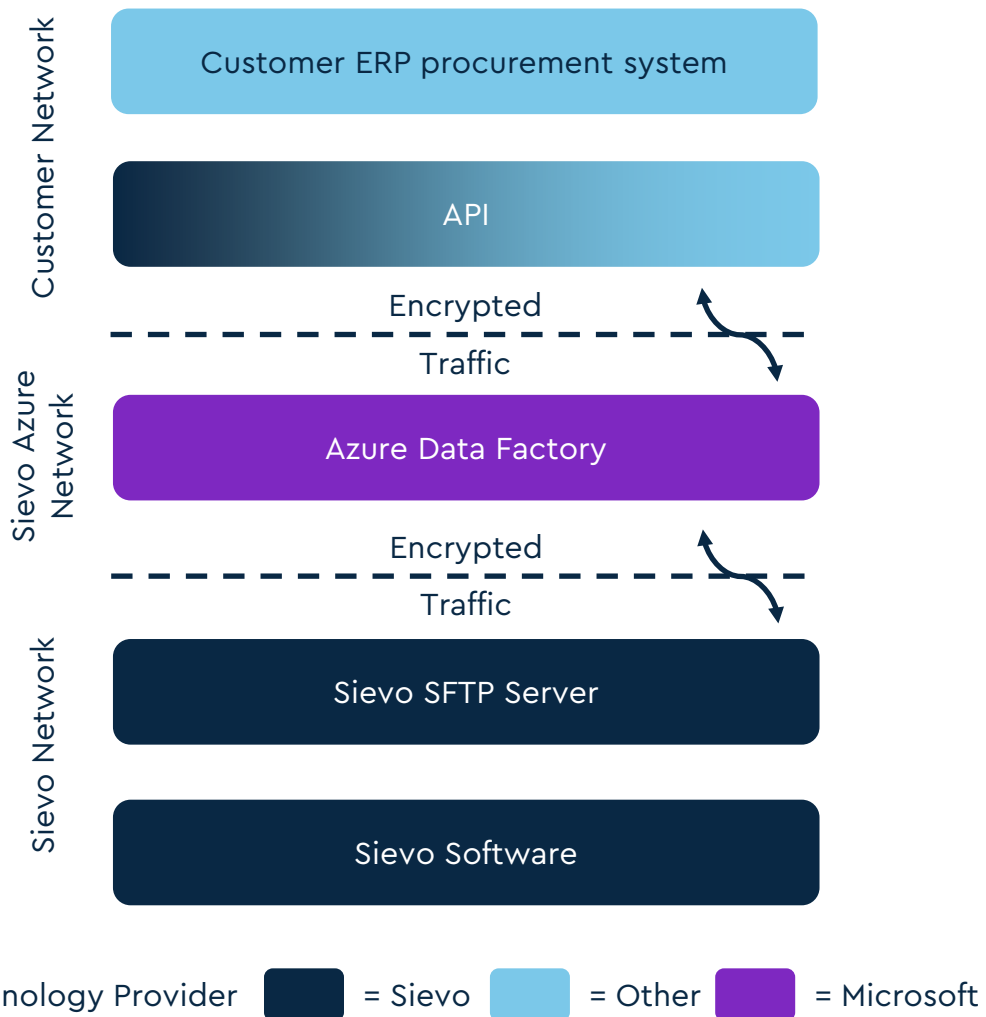
Option 2: Client Built Extraction



There's also the possibility to integrate with files that you already have extracted. This means you would send files directly to Sievo's SFTP server using your own SFTP process. To streamline this process, we offer a Web Upload tool which allows you to upload individual files; during upload, error correction automatically takes place and guides the user to make corrections. This can be used in situations where it's not feasible to connect the Sievo Data Extractor to that ERP system.

Typically, this feature is only used for files that are infrequently updated (e.g., company codes, preferred supplier lists), problematic data sets, or custom data sets. This process requires someone to manually upload the file into the tool, so there is no automatic scheduling. While the most common method is Web Upload, clients can also send files directly to Sievo's SFTP server using their own SFTP process.

Option 3: API



We have expertise to perform API extractions. An API is set up as part of the ERP system. We use Azure Data Factory to connect to the API and send the data to Sievo through SFTP connection. This option requires a little bit more IT support, simply

because there are more credentials involved and more exposing of tables. Therefore, it is not our first recommended choice. Sievo also can support API building, although it is the client's final responsibility, as it remains on their servers.

What to consider when Integrating Analytics

Two arguments should be made before choosing to integrate analytics with your ERP system: is there a strong business case, and can the analytics process enrich our current data?

On the first point, there needs to be an informed decision estimating benefits and costs. Building in-house requires someone to take responsibility of building similar extraction/transformation processes from all the data sources. If those data sources are numerous, then the resources easily can spiral out of control. For more light data needs, there is no reason why Excel can't be used. Sievo's key benefit for your business is the leveraging effects of scale and expertise to connect to sources more optimally.

On the second point, the true added value of an integrated analytics platform is that whatever data enrichment, cleansing, and classification is done to your data can be fed back into your own system. At Sievo, this is a principle we sometimes call "reverse extraction". With extensive exporting functionality directly from analytics, the data can

be used for any purpose you see fit. In our vision with customers of the Procurement Information Hub, data in the analytics sphere feeds back into your ERP systems while also being enriched by third-party data providers. For that reason, extracting, extending, and enriching data from multiple sources is the core of our business.


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Procurement analytics with Sievo is about connecting internal data with external data. And on both ends, extracting the data has been at the core of our business.”



Daniel Pitherin
Product Data Engineer
Sievo

What do analysts say about **Sievo data management**?



By offering a hybrid model to data management, Sievo provides a key to characteristic that procurement organizations are looking for in their solution providers: flexibility. When it approaches customers of varying size across different industries, Sievo can offer as much technical capability as needed while also letting the client retain enough control to feel involved in the spend analysis process.

A small company with scarce resources, for example, may be thrilled to learn Sievo can handle the bulk of data management, allowing procurement to spend less time fiddling with import tools and more on improving strategy based on analytical insights. A large company, however, may want to take a more active role in classifying its complex data, collaborating with Sievo along the way in a more partner-like relationship.

Nick Heinzmann,
Spend Matters

[Read the full report here](#)

FAQ with the authors

D: Daniel, S: Sergey

How much access does the Sievo Data Extractor need?

D: Sievo Data Extractor is installed inside of your network. This allows you to maintain visibility on what the data extractor is doing and what it can and cannot access. We only ask that the data extractor have a virtual machine that's dedicated to it so that we can really limit the amount of access that data extractor has, and we can limit who might have access to settings. There might be some opening of firewalls that need to happen if the ERP system is not directly on the same network as the data extractor is, but that still happens within your network.

Is Sievo Data Extractor installed on our ERP system?

D: No. The program has read-only rights, so it only connects to it and runs queries.

How is Sievo Data Extractor implemented?

S: Typically, this process is done remotely. The EXE file will be shared, unzipped on the target virtual machine, and with some minor configurations, it is ready.

What happens to the data after it is extracted?

S: The text files are sent using encrypted traffic through an SFTP connection. The files arrive safely in Sievo's server, and from there we handle them. They are not visible to anyone outside of Sievo's network at that time. If you prefer, we can also configure the files sent to be sent to a location on your network first for your approval. After extracting the data, we apply as few modifications as possible, so that our cleansed version of the data as well as the raw detail that we extracted from the system are also available for reporting.

How far back does the data go during extraction? How often?

D: Extractions give a snapshot of the master data, purchasing data and payment data, during a particular time. For purchasing data, this typically goes three months back, which allows us to catch invoices which may have been posted late. Extractions are usually programmed to happen every 5-10 business days, but this is up to the client's preference.

How can we ensure the security of our data after extraction?

S: Sievo provides spend management solution for large, globally operating companies. Our clients put trust on Sievo to treat their information in a reliable and confidential manner.
(continues next page)

FAQ with the authors

Sievo is ISO/IEC 27001 certified and are audited once a year for ISO/IEC 27001 compliance by a third-party accredited certification body. For more information, please refer to our Trust Center on sievo.com.

Does the Sievo Data Extractor cause slowdowns on our ERP system performance?

D: Absolutely not. We have heard feedback from many clients with very large datasets that there is not any noticeable impact on performance. In rare cases, some clients have reported a tiny blip in performance that could have just been coincidental. If performance issues are a major concern, Sievo Data Extractor can also connect to a replication of the production ERP.

What if we have multiple ERP systems?

D: This is not a problem. Ideally, what we like to do is have one extractor per client, and then we'll be able to use that data extractor to connect to multiple ERP systems.

What if we want to only do a single Spend Cube or POC?

S: When we work with consultancies or simply build one off spent cubes or proof of concepts, projects are even easier and simpler. For a one-off data

extraction to build a spent cube, we may use about 1-2 hours of time from an IT representative from the client side. We would send over a configured data extractor as a piece of software, and then that person from client IT side would be given instructions by our data architect. That cuts off the virtual machine part and perhaps some data validation.

Does Sievo Data Extractor change any data on our ERPs?

S: No. During extraction there is an error correction logic that can adapt data to tables even if something is wrong with the data format, or some columns are missing, for example. The final Sievo solution can be used to improve data quality in the sources. But we only extract a snapshot of what is stored in the ERP system, and we never, ever connect to modify the data in in the ERP system.

How can we update our ERPs with the cleansed data after extraction?

D: The "reverse extraction" happens like this: we set up a process inside of Sievo to create a text file containing data configured to a client's needs. We store that data in our SFTP server and clients can access it for their own needs. There are zero configuration needs from the client side to benefit from reverse extraction.

FAQ with the authors

Does Sievo provide an API for extracting data from our ERP system?

D: ERPs usually provide a pre-made API. If the API isn't available as part of the ERP, we are happy to support you create one, although it is your final responsibility as it is on your network.

Can Sievo Data Extractor connect directly with our data lake?

D: Yes, we have used Sievo Data Extractor to connect to data lakes. While connecting directly to the ERP is our preferred method, a data lake can also provide the raw data we need to provide complete visibility. Let's say that you've got an SAP or Oracle system feeding into that data Lake. We've got the templates for both of those, and many more. In those instances where we can't use the data extractor, then we can use the API connection and Azure.

Can Sievo Data Extractor connect to our Data Warehouse?

S: This is not our preferred method, and the results could be less than ideal. We prefer to get as close to the raw data as possible: flaws and all. With heavily processed data, there can be suboptimal logics in place, and we will not be able to trace what was done in order to understand it. This minimizes the value add of Sievo.

Can we customize new analytics integrations to, for instance, public data sets?

S: Absolutely. Any data that is available to the client, they can upload it via Web Upload or we can build an API connection. For cases where the client wants to add another attribute which matches one-to-one with descriptions or ID, this takes minimal effort with Web Upload. If it is a custom analytics app, it will bear implementation and maintenance costs.

[Still have questions? Let's talk. Book a demo at \[sievo.com\]\(https://sievo.com\).](#)

About the authors



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Product Data Engineer

Daniel is an experienced Data Engineer working with both project implementation and ESG teams at Sievo. He specializes in designing, implementing, and maintaining data pipelines between client systems, 3rd-party systems, and Sievo.

Sergey Zakrytnoy

Product Owner, Spend

Sergey is a Product Owner for Sievo Spend Analysis solution. He combines background in enterprise sales, software engineering and applied data science. In his work, Sergey makes sure that the developed functionality helps procurement professionals address complex analytical and decision-making problems.

About Sievo

The procurement analytics solution for data-driven enterprises.

We're big enough to deliver, small enough to care.

We master the art of extracting, classifying and enriching data across all ERPs, procurement systems and external data sources. Since our founding in 2003, we've pushed the boundaries of spend analytics for two decades – and we're just getting started. Sievo's SaaS procurement analytics solutions include: Spend Analytics, Savings Lifecycle, Contract Analytics, Materials Forecasting, and CO2 Analytics. Spend Matters "50 to Know" Procurement Vendor since 2017.

Learn more at sievo.com.