GoodData

Comparing the Best Embedded Analytics Tools

About the Embedded Analytics Tool Market

Data analytics transforms data stored at different locations into comprehensive charts and dashboards — from data integration to data transformation, data modeling, and data visualization. Embedded analytics, in particular, refers to a type of data analytics that is integrated within another software product (application) or web portal.

For those looking for an ideal embedded analytics solution, it's essential to evaluate the different types of embedding. This e-book provides a comparison chart of leading embedded analytics providers, as well as insight into the various embedding types, including pros and cons. Additionally, learn the critical steps that should be part of your evaluation journey.

During your evaluation journey, be sure to explore how different embedded analytics solutions will serve your organization for long-term needs. Your evaluation criteria might differ depending on your use case: For example, you may need embedded analytics for users outside your organization — such as your customers or partners — to be fully integrated into your own marketed product, or perhaps you want embedded analytics for your in-house business teams.

Comparison Chart of Embedded Analytics Providers

	iFrame	Full dashboard embedding with SDK	Single Visualization embedding with SDK	Single visualization embedding programmatically with SDK	Plugins SDK
	✓	✓ [1]	✓ [1]	✓ [1]	✓
sisense	✓	✓ [2]	✓	–	✓
Power BI	✓	✓	✓	–	–
Looker	✓	✓ [2]	✓	–	–
+ableau	✓	✓ [2]	–	–	–
Logi ANALYTICS	✓	✓	–	–	–
cumul.io	–	✓	–	–	– [3]

[1] GoodData.UI is focusing on the React framework.

[2] Technically iFrame embedding. The JavaScript SDK, in this case, only provides a wrapper around the iFrame. iFrame embedding has certain technical disadvantages compared to a proper JS SDK integration, mainly around interactivity, app integration, and security.

[3] Cumul.io has a Plugins API, but that is a different sort of plugin — it allows developers to add custom data sources.

Note: The above evaluation of features is based on our best understanding of publicly available information accessible at the time of publishing (February 2022). To understand more specific details and feature differences, readers are encouraged to perform additional research. All of the product names, logos, and brands used are for identification purposes only and remain the property of their respective owners. Use of them does not imply any affiliation with or endorsement by them.

Types of Embedding

Direct Embedding via iFrame (Easy)

The iFrame approach is excellent when you want to embed your analytics dashboard quickly — without a lot of customization. Even non-technical users (e.g., business managers and specialists) are able to use direct embedding because the process comprises copying and pasting an HTML code made available with the click of a dashboard button.

✓ **If you want to quickly enrich your existing application or web portal with analytics, direct embedding via an iFrame is the right fit for you.**

– **Overall, an iFrame is not recommended for advanced customization or seamless integration with an application. An iFrame generally has poorer performance and interactivity compared to other embedding types. In addition, an iFrame may not meet your security requirements.**

Embedding SDK for Developers (Advanced)

A software development kit (SDK) is a tool for developers to create applications for specific platforms. It includes collections of pre-built, compiled code for your developers, including documentation, code samples, processes, guides, and libraries.

Within the context of analytics, an embedding SDK is for front-end developers who want to embed and customize all aspects of the analytics interface, and it is a vital part of application or portal development. There are different types of embedding SDKs such as React SDK or JavaScript SDK, each with its own capabilities and features.

The embedding SDK method enables you to quickly compose and customize analytics interfaces, dashboards, and visualizations from predefined building blocks or components; it also allows for easily embedding dashboards and visualizations into any application or portal.

This type of embedding also provides your end users with a higher level of interactivity in embedded dashboards and visualizations than that of an iFrame. End users can sort the order in the chart, drill into the underlying details of the chart, and much more.

Regarding development: All of this is happening natively — meaning that the analytics setup you embed via the SDK will be fully compatible with your application or portal immediately, because the SDK was specifically designed to run in your environment.

An analytics provider supplies and maintains an SDK, which should contain a well-developed JavaScript front-end framework library. The provider also builds and tests all elements of the library to comply with cyber and data security standards.

✓ **Embedding SDK with a low level of new code creation — thanks to the libraries and native development — is the most efficient way to embed analytics and develop your application or internal web portal solution. It achieves the best performance and interactivity without any additional security concerns.**

– **Compared to simple iFrame embedding, embedding SK requires at least some development know-how and more time.**

All advanced embedding methods use SDKs; however, there are differences among them regarding flexibility in customization and interactivity in dashboards and visualizations. Meaning, how much end users can adjust and change the embedded visualizations.

1. Embedding Pre-Built Dashboards and Visuals

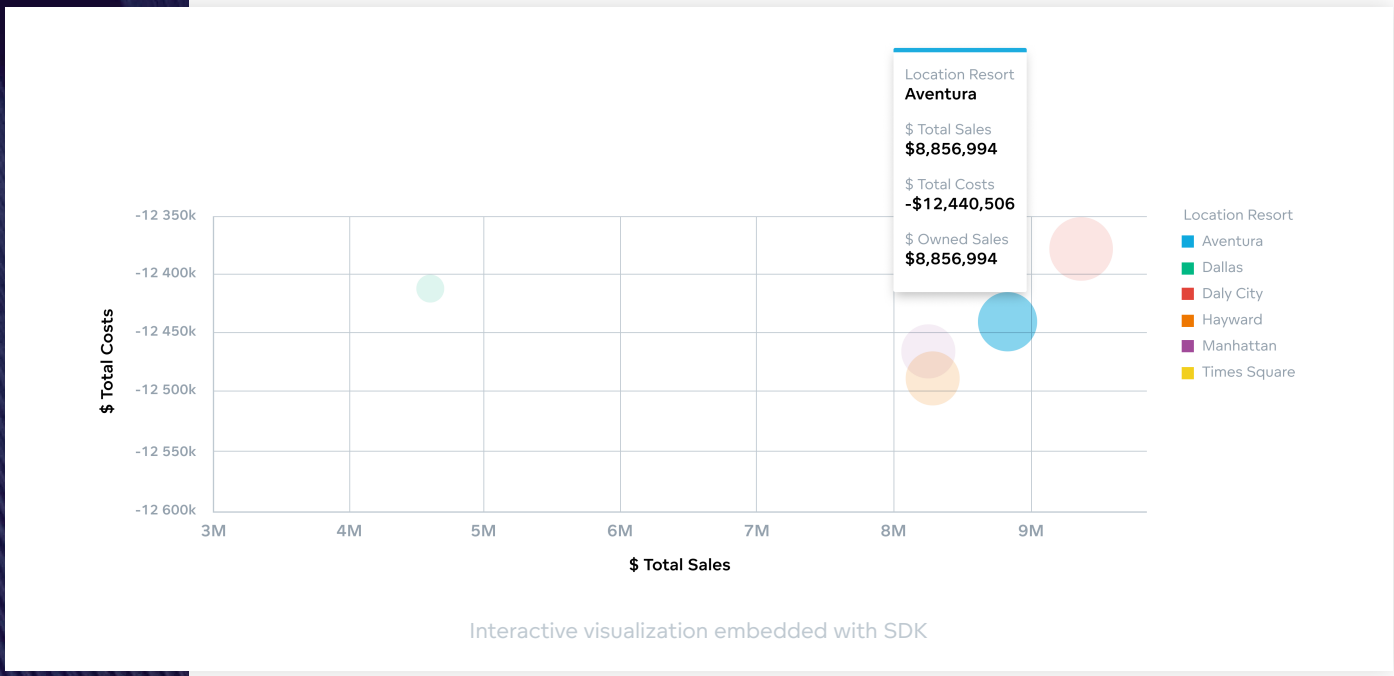
With this method, you can create dashboards and visualizations by using pre-built components directly in the interface — all without touching any code and mostly by using drag and drop. As a final step, you can embed completed dashboards or visualizations natively via the SDK into your application or portal.

A. Full Dashboard Embedding

Full dashboard embedding allows you to take the whole dashboard and embed it into your application. This combines the speed of static iFrame embedding with seamless interactive custom development. Because the dashboard becomes a true component of your application, you'll be able to customize its behavior and integrate it with the app more tightly.

B. Single Visualization Embedding

Compared to full dashboard embedding, embedding a single visualization gives you more flexibility. It allows you to select visualizations that are most important to your end users and strategically embed them into their workflows.



Interactive visualization embedded with SDK

2. Embedding Programmatically

The most advanced embedding method is to embed visualizations programmatically. This means you use the code of pre-built components to build your visualization without accessing the analytics provider's interface; the SDK renders the pre-built code.

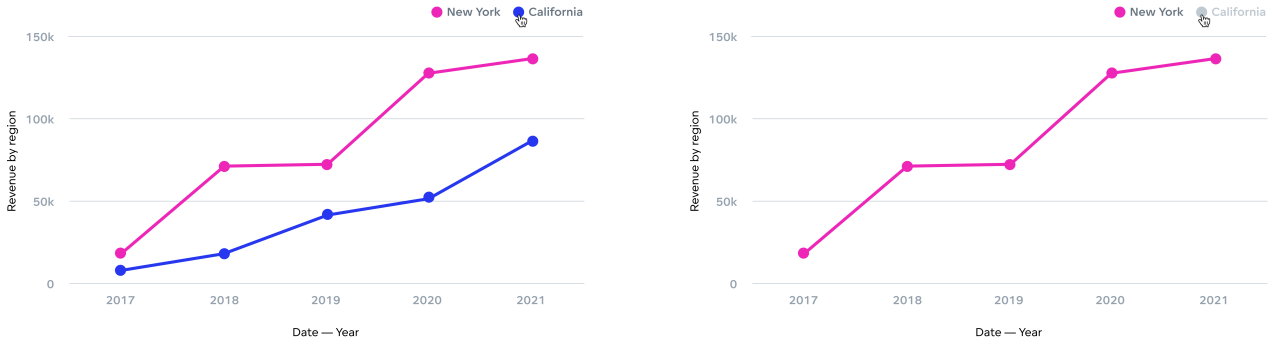
Powerful and flexible, embedding programatically is highly recommended if organizations want to achieve top-line front-end development of products, applications, or portals.

A. Single Visualization Embedding Programmatically

Not having to consider an unfamiliar analytics interface is a welcome benefit for many experienced developers. Programmatic embedding also offers more options when it comes to visualizations. It enables developers to create richer dashboards and improve analytical experiences with the following features.

i. Embedded Dynamic Visualizations

From the perspective of end users, this type of visualization is a level higher than interactive visualizations in terms of what end users can change and how the chart behaves. The dynamic visualization contextually changes depending on the end user's actions.



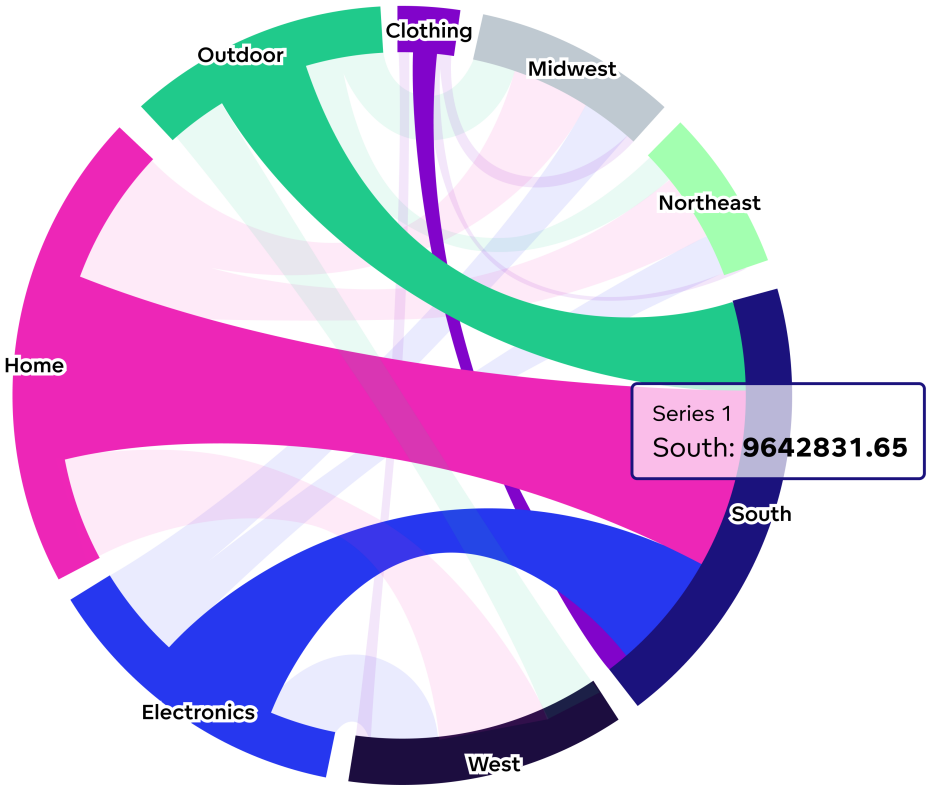
Dynamic visualization - the end user removing metrics from the embedded visualization

For example, by selecting one category, all charts in the dashboard automatically change. For end users, dynamic visualizations offer more options in terms of interactivity: They can change the type of chart, change granularity, change "slice by," remove metrics from the chart, and much more. From the perspective of developers, dynamic visualization is a term referring to programmatic embedding. It allows them to program visualizations to maximum flexibility for end users.

Dynamic visualization - the end user changing the chart type of the embedded visualization

ii. Custom Visualization Types

Developers can combine various third-party libraries with the provider's SDK, as well as access charts and visualization types not supported by the vendor.

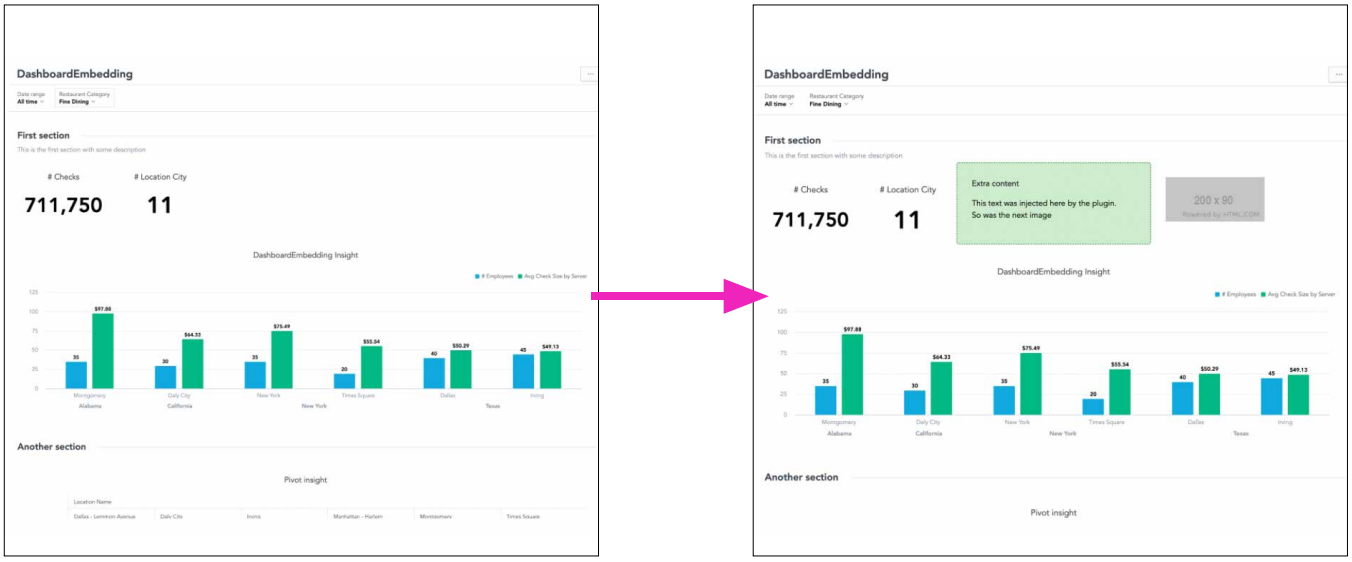


Third-party libraries — this chart has been built using the Highcharts library

3. Plugins

Plugins differ from other embedding types because they enrich a completed dashboard or visualization with additional properties, such as pictures, comment sections, and more. They also can be used to insert charts from other analytics tools.

Usually built by developers according to a specific need, plugins can easily be added to dashboards. This more flexible method can complement an iFrame and full dashboard embedding.



Dashboard plugins

Other Features to Consider

The aforementioned types of embedding are crucial, but they're not the only aspect you should evaluate thoroughly when choosing your new embedded analytics solution.

For example, while single sign-on is fundamental for embedded analytics, the following three capabilities may prove to be more impactful for your organization and teams:

1. Automated analytics scalability that doesn't limit performance
2. Pricing that promotes analytics adoption
3. Self-service visualization interface that empowers business managers and specialists

Where GoodData Stands in the Embedded Analytics Tool Market

As a leading embedded analytics provider, GoodData offers every method of embedding mentioned in this e-book for external and internal use cases. GoodData also is known for its programmatic embedding, ability to scale efficiently without sacrificing performance (or accruing hidden costs), and easy-to-use, self-service visualizations.

Not to mention, GoodData's embedded analytics customers include the world's biggest financial services providers, e-commerce platforms, and others.

Looking for more than just a comparison chart?

Wanting to integrate analytics with your software product, but you don't know where to begin? Check out our Starter's Guide: Embedded Analytics in Your Software Product e-book.

Seeking more technical details from the perspective of a developer? Discover our Tech Guide for Launching Embedded Analytics e-book.

Don't have time to read additional e-books, but want more information? Schedule a commitment-free demo with a GoodData expert.