ARRIA + TIBCO

ARRIA NLG STUDIO FOR TIBCO

**TIBCO Spotfire visuals
+ Arria NLG expert narratives.
No interpretation necessary.**

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Monthly Fund Commentary

ARRIA TIBCO

January 2020 — Overall Return: 8.5%

Consolidated Holdings, Inc

Objective: **Long-term growth of capital**
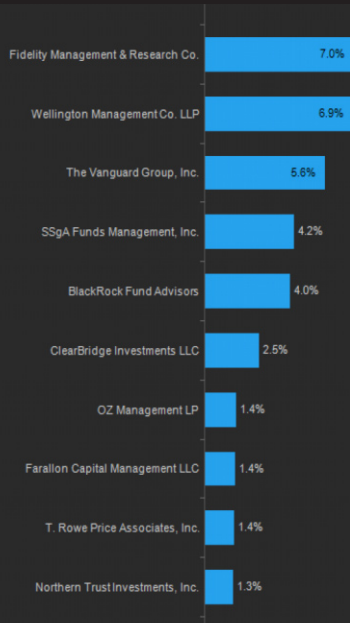Use for: **Core large-cap holding**
Morningstar category: **Large Value**

BROAD MARKET OVERVIEW
U.S. equity markets declined during August as the S&P 500 Index returned -1.58% for the month. A rekindling of tariff and trade concerns drove the pullback. Brexit fears also weighed on markets as there continues to be no deal in place for an exit due at the end of January. Value stocks lagged growth stocks, with the Russell 1000 VI returning -2.94% and the Russell 1000 Growth Index returning -0.77%.
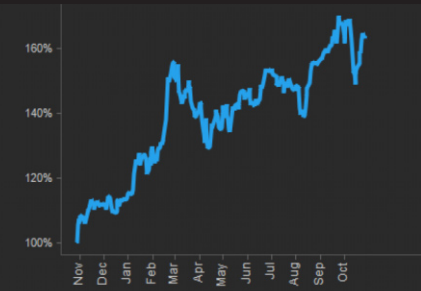
FUND POSITIONING HIGHLIGHTS

- In December, the fund's Class I shares returned -2.84%, outperforming the benchmark return of -2.94% and falling slightly behind the peer group average of -2.80%. The fund ranked in the 52nd percentile for the month.

- Stock selection was a positive driver of performance during the month. Selection was positive in consumer staples, industrials, and real estate, detracting only in utilities and healthcare.

- Sector allocation was a detractor. As markets pulled back and interest rates declined.
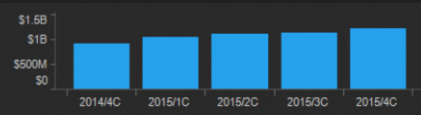
Top Holdings By Percent Held

Fidelity Management & Research Co.	7.0%
Wellington Management Co. LLP	6.9%
The Vanguard Group, Inc.	5.6%
SSgA Funds Management, Inc.	4.2%
BlackRock Fund Advisors	4.0%
ClearBridge Investments LLC	2.5%
OZ Management LP	1.4%
Farallon Capital Management LLC	1.4%
T. Rowe Price Associates, Inc.	1.4%
Northern Trust Investments, Inc.	1.3%

Indexed Price Chart

Historical Results

Calendar Quarter Results

The only NLG platform that narrates <u>all</u> your TIBCO dashboard's underlying data.

And lets you customize your own projects.

Arria NLG Studio For TIBCO gives you the ability to create dashboards that are simpler and faster to interpret by instantly generating expert narrative to accompany the visuals on your TIBCO dashboards. Plus, it analyzes and narrates all the underlying data to make sure you have the full picture—with no hidden surprises.

What makes this all possible is an advanced form of Artificial Intelligence known as Natural Language Generation (NLG) which instantly converts multiple data streams into expertly written text.

△ Studio

Arria's TIBCO add-on tool is part of the Arria NLG Studio Platform—which empowers writers and subject matter experts to create an unlimited number of sophisticated narratives based on structured data sets.

The insights contained within your data are discovered, analyzed and communicated in real-time so you can take immediate action.
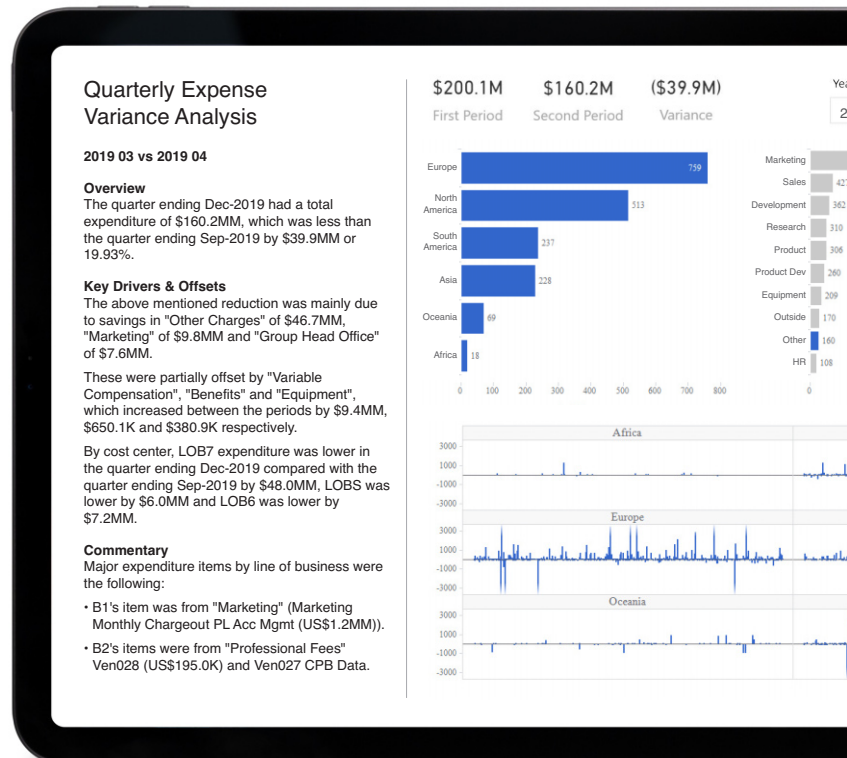
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ADVANCED INTEGRATION

Breakthrough integration allows you to narrate your entire dataset (not just the visuals)

Arria's TIBCO integration aggregates and narrates all the underlying data available within your dashboards (not just the visuals), going well beyond two-dimensional visuals which are open to interpretation and may not tell the whole story.

This gives you unlimited drill down capabilities with an unlimited number of dimensions from any number of external data feeds.

TIBCO Spotfire

TIBCO Spotfire® makes it fast and easy for everyone to benefit from data, whether they are just getting started with data analytics or an expert trying to develop deeper insights. It's a fusion of agile, automated, and AI-driven analytics approaches along with native real-time awareness capabilities.

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SOPHISTICATED ANALYTICS

Turbocharge your TIBCO dashboard with powerful analytic and linguistic capabilities

Only Arria combines Advanced Analytics with Advanced Computational Linguistics to automate reporting at a level equal to your subject matter experts, only infinitely faster!

The speed and consistency of Arria NLG-driven report automation is unequalled. Arria NLG Studio for TIBCO narrates multiple data sources, Excel with multiple sheets, JSON data, nested data, data coming from SQL, and so much more.

Arria's analytic and linguistic capabilities generate narratives that need no interpretation.

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CONFIGURABLE & SCALABLE

Enjoy the option of bringing NLG inhouse and generating narratives on your own

Arria offers instant out-of-the-box insights that TIBCO users can easily customize themselves, as needed, in minutes. Additionally, Arria NLG Studio for TIBCO gives users complete control to create and build their own insightful narratives integrated and displayed directly inside their TIBCO dashboards—all without a developer or costly professional services.

With flexible pricing, TIBCO users can instantly derive value from NLG integrations.

Generate out-of-the-box or custom narratives to accompany your TIBCO dashboard visuals.

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FLEXIBLE DEPLOYMENT

The world's only NLG provider that offers you three deployment options

Arria NLG Studio lets you easily integrate NLG into your current infrastructure of choice—public cloud, private cloud, or customer hosted —to accommodate your permissions and data security requirements.

Arria Hosted Public Cloud

Multiple users, simple data use-cases, lowest price per user, fastest adoption and setup (Org-SSO not available)

Arria Hosted Private Cloud

Arria deployed and maintained single customer dedicated environment, optional integration with customer authentication (via SSO)
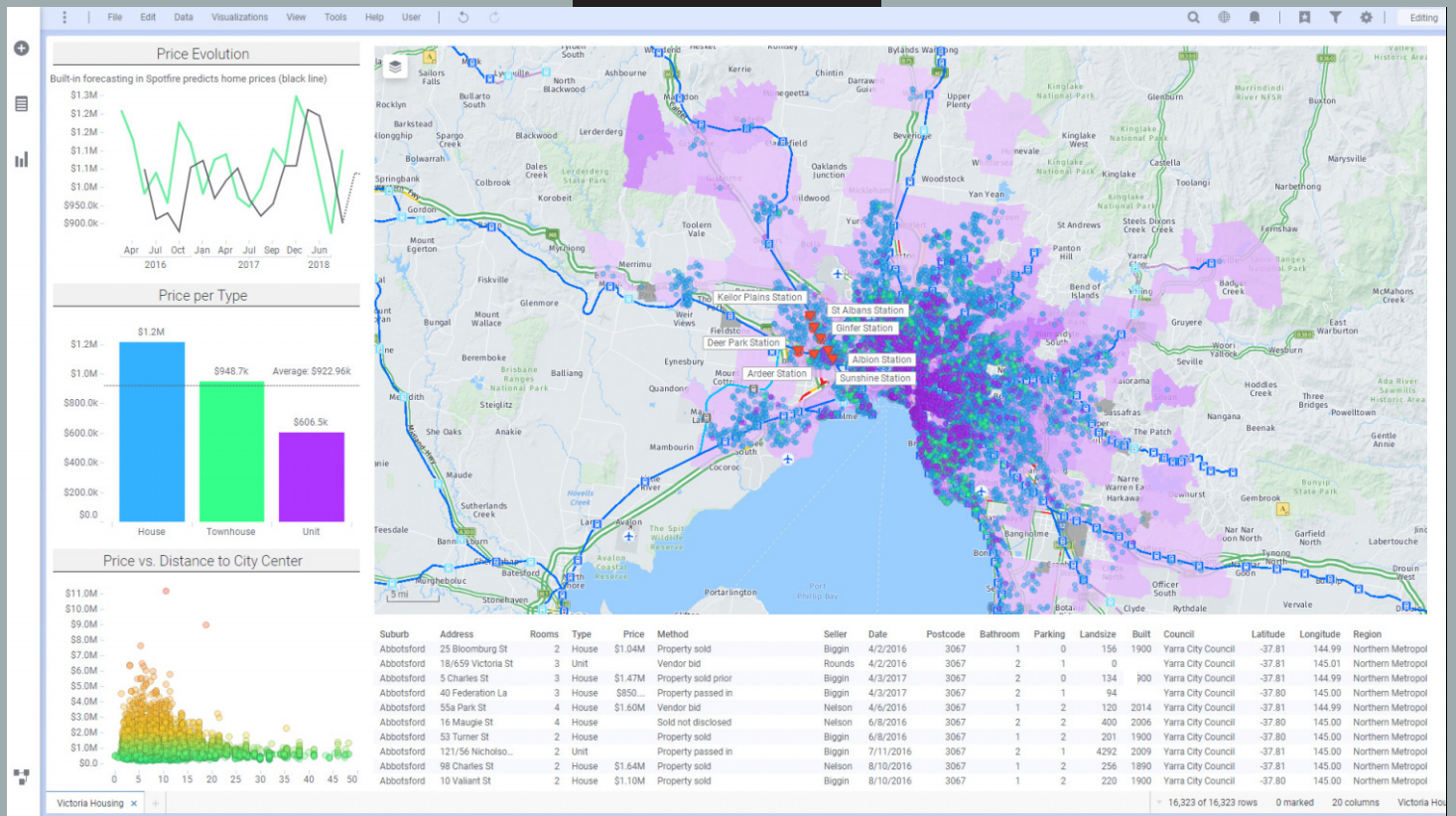
Customer Hosted Behind Your Firewall

Customer hosted solution – entire system hosted on customer-owned/managed infrastructure – behind the customer firewall, customer controls all data and user authentication

THE ARRIA DIFFERENCE

Automatically add true natural language narratives alongside your TIBCO visuals—so your readers never have to try and figure out the story your charts or graphs are hoping to communicate.
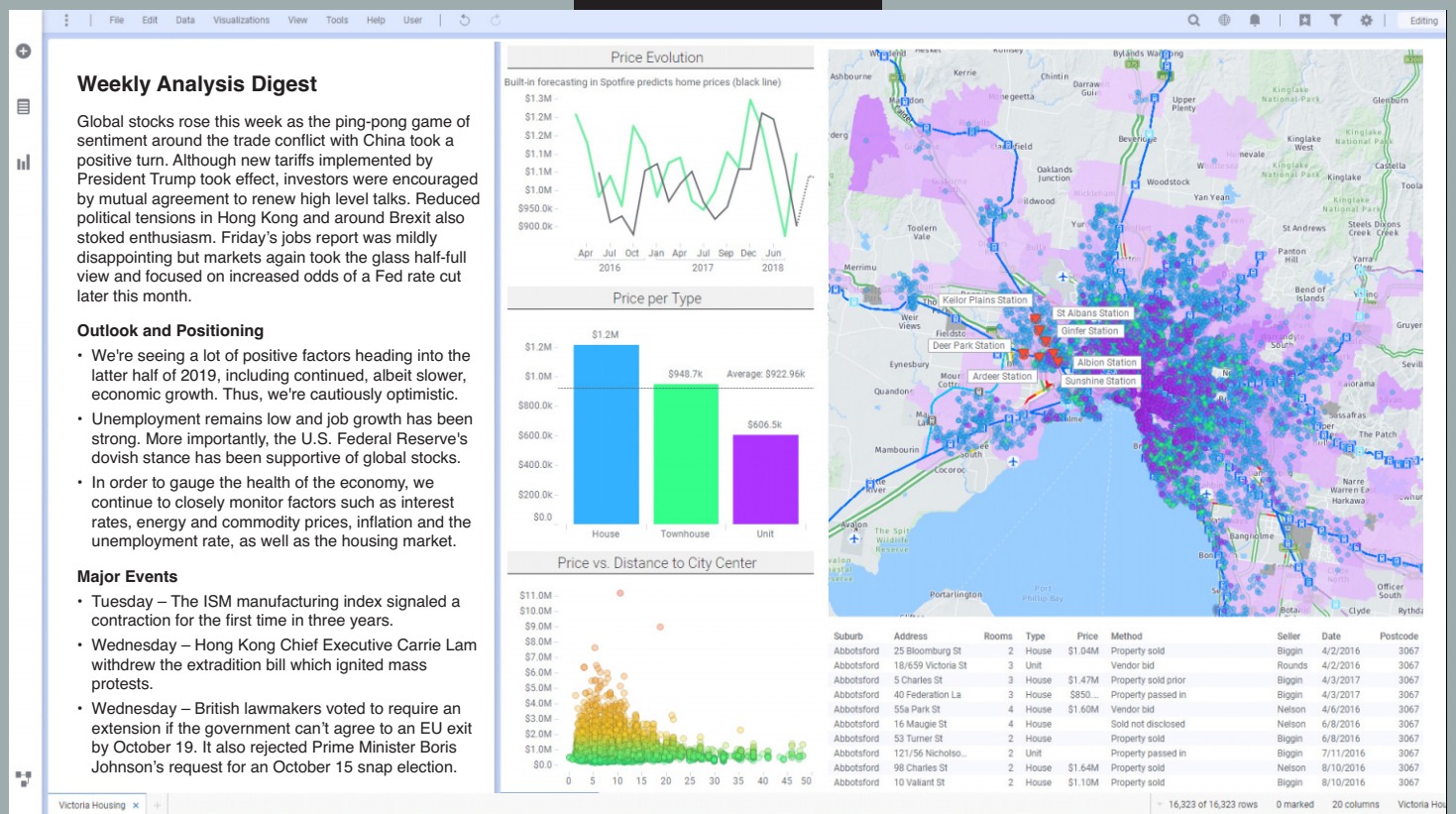

BEFORE: TIBCO VISUALS ONLY

All of your data is displayed in the form of charts, graphs, and other visuals. But, **you still have to interpret what it all means**—which takes time and is often inconsistent and/or incomplete. **Does not tell you the full story, or give you the full picture.**

Arria's TIBCO add-in instantly generates a descriptive narrative based on your dashboard's entire underlying data, providing an expert overview for faster comprehension and better decision-making. You get out-of-the-box functionality, with the flexibility to customize it.
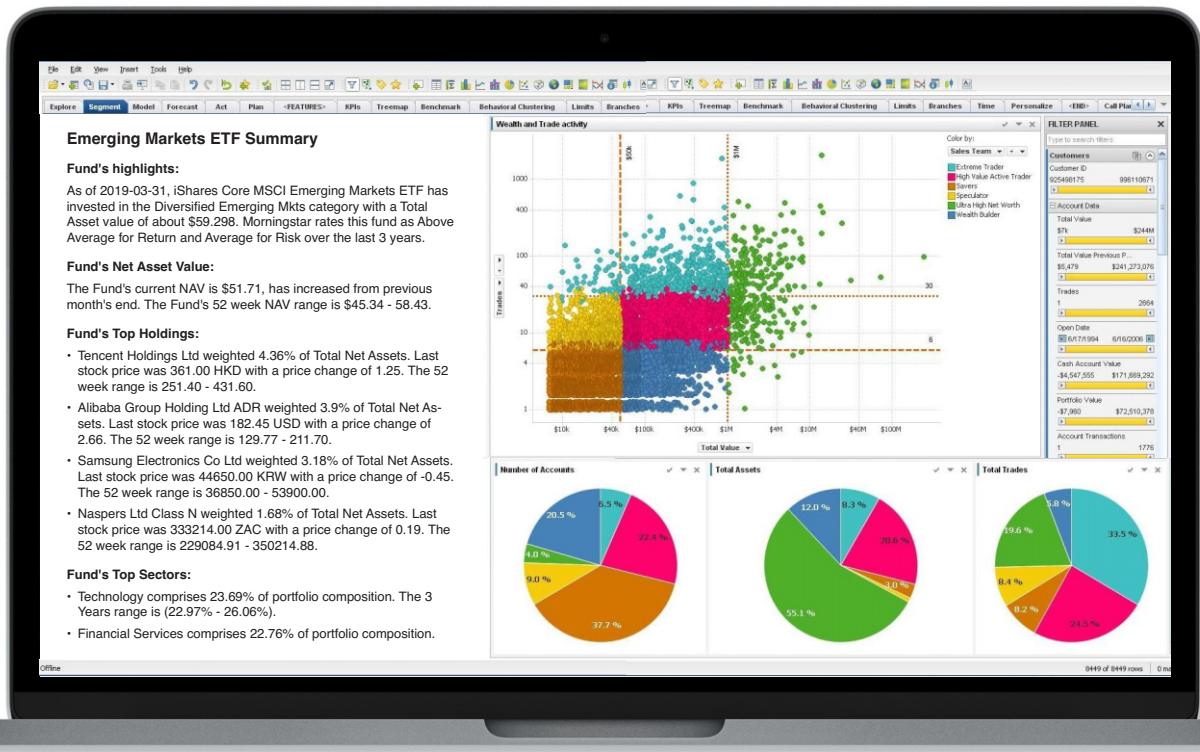

AFTER

AFTER: TIBCO VISUALS **+** ARRIA NARRATIVE

By adding Arria NLG Studio for TIBCO, **expert text narratives are instantly created to accompany your visuals** giving you an overview of what exactly is going on, and what potential actions should be taken—**based on your *entire* dataset, not just the visuals.**

KEY BENEFITS

Narrate your dashboard across an unlimited number of dimensions

Arria NLG Studio for TIBCO

Report on data that isn't even visualized on the dashboard— if it's in your dataset, you can bring a discussion of it into your report.

Ensure critical facts and insights that otherwise would be missed are now shown.

Tell a fully contextualized story, in natural language, going well beyond visualizations alone.

Easily create on-demand, consistent, data-driven stories for improved data literacy.

Accelerate better informed decision-making across the organization.

Enjoy the full flexibility of telling the overall story, or pointing out specific highlights.

Explain YOUR insights in YOUR words, not the words chosen for you by an NLG engineer outside your company's domain.

Export your Articulate Intelligence to other dashboards, Word docs, PowerPoints, PDFs, or website posts.

"Beyond Out-of-the-Box"

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YOU EMPOWERED

THE ARRIA DIFFERENCE

1. Arria NLG Studio—#1 Platform
Simple to use, yet sophisticated in power—the Arria platform gives you the ability to take advantage of pre-built out-of-the-box projects or you can create and customize your own projects.

2. Combined Technology Power
Arria is the only solution to combine advanced analytics and advanced linguistics within one tool. This gives you the ability to generate true data-driven narratives.

3. Deployment Options
Keeping data in one place and under your control is key to supporting best-practice data security. Therefore, Arria offers three deployment options: on premises, private cloud or public cloud.

4. Flexible Architecture
Arria's flexible RESTful API architecture allows seamless integration with a variety of systems that use various data formats. Call Arria services from any system without installing additional software, with any data format (via conversion to JSON).

5. Advanced Integrations
Arria easily integrates with your TIBCO business intelligence (BI) dashboards, Robotic Process Automation (RPA) systems, virtual assistants and chatbots —it's the only BI integration that has the ability to narrate your dashboard's entire underlying dataset.

6. Unparalleled NLG Expertise
Arria has a high concentration of NLG expertise (and 28 NLG patents) supported by founding NLG scientists who are globally recognized as industry leaders.

7. Raving Fan Client Support
Your success is Arria's success! Arria has put great effort into developing its best-practice methodologies along with a library of online training to help bring you and your team up to speed quickly. And, of course, we're always here to help!

8. Tiered Seat Pricing
Why pay for more than you need? Arria and TIBCO's seat-based pricing gives you the ability to scale as needed to align with your budget and usage.

★ ★ ★ ★ ★

ARRIA REVIEWS

Gartner

"Arria is a world leader in NLG"

"Arria is a world leader in NLG, with 28 core NLG patents. Its Arria NLG Studio product is an enterprise-level, self-service NLG design tool with advanced analytics and linguistic functions that enables users to easily create, edit and publish NLG narratives. Arria solutions are deployed globally."

— **Gartner**, *"Market Guide for Natural Language Generation Platforms"*

AstraZeneca

"Dramatically improve the speed and efficiency of reporting"

"Arria NLG Studio's BI analytical and linguistic capabilities...dramatically improve the speed and efficiency of our reporting. A key benefit for us is that we can use this powerful platform to create our own NLG applications within our department."

— **Brian O'Connor**, *Lead Director, Advanced Analytics Global Business Services, AstraZeneca*

EY

"Fundamentally changing the services we offer to our clients"

"Arria helped take the fear out of AI by giving us the control and flexibility to replicate in software what we normally do, only in a much simpler, more productive manner and with accuracy and consistency of the language."

— **Rob Moody**, *Chief Innovation Officer, EY UK&I (Ernst Young)*

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ARRIA REVIEWS

FORRESTER

"Arria is a Leader with robust writing automation and analytics"

"Arria is a Leader with robust writing automation and analytics capabilities. We found Arria's writing automation capabilities to be the most comprehensive among all participants. Its founders have written definitive books on NLG and hold more than a dozen patents on the technology… Arria is best for companies that need a "space shuttle" for writing automation. If your writing automation and NLG for analytics call for the top-of-the-line capabilities with a comprehensive IDE, and a myriad of rules and templates, Arria is a perfect fit for you.

— **Forrester** *"New Wave Report" on Natural Language Generation*

BNY MELLON

"Arria's industry leading NLG capabilities"

"We're excited to offer our clients access to Arria's industry leading NLG capabilities to help our clients utilize and analyze their data stored within the Eagle platform. We're working with Arria to build a set of capabilities in portfolio management, portfolio analysis and performance measurement that will help our clients significantly reduce the amount of time they spend writing personalized client summaries and reports and allow them to spend more time interacting with their clients."

— **Joel Kornblum**, *Global Head of Strategic Alliances, BNY Mellon*

For more reviews, visit arria.com

ARRIA + TIBCO

Arria NLG Studio For TIBCO lets you create dashboards that are simpler and faster to interpret by instantly generating expert narrative to accompany the visuals on your TIBCO dashboards. By analyzing and narrating all the underlying data it ensures you have the full picture—with no hidden surprises. TIBCO dashboards with Arria expert narratives. No interpretation necessary.

ARRIA

Arria NLG is the recognized global leader in the field of Natural Language Generation (NLG), a form of artificial intelligence that extracts insights from complex data sources and communicates that information in natural language—i.e., as if written or spoken by a human subject matter expert.

Arria transforms structured data into natural language. Through algorithms and modeling, Arria software replicates the human process of expertly analyzing and communicating data insights—dynamically turning data into written or spoken narrative—*at machine speed and massive scale.*

Arria NLG Studio platform. Arria's NLG technology is available through its Arria NLG Studio platform—the world's most advanced configurable self-use NLG authoring platform. It gives users (from novice to expert) the ability to automatically generate, from complex data sources, superbly written, natural-language reports.

TIBCO

TIBCO is a global leader in enterprise data, empowers its customers to connect, unify, and confidently predict business outcomes, solving the world's most complex data-driven challenges.

TIBCO unlocks the potential of real-time data for making faster, smarter decisions. Their Connected Intelligence platform seamlessly connects any application or data source; intelligently unifies data for greater access, trust, and control; and confidently predicts outcomes in real time and at scale.

TIBCO's Spotfire platform delivers self-service analytics for everyone and works with all kinds of data: data at rest and in motion (including real-time streaming data). Its completely reimagined user experience helps people get faster and better insights from more data — and data as it's generated in real time. Learn how solutions to their customers' most critical business challenges are made possible by TIBCO at www.tibco.com.

For more information, including a demo tailored to your specific use-case, please contact sales@arria.com
arria.com

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