

# ARRIA

## ARRIA NLG STUDIO FOR BI



Sophistication meets simplicity.  
BI visuals + expert narrative.  
No interpretation necessary.

THE POWER *of* LANGUAGE



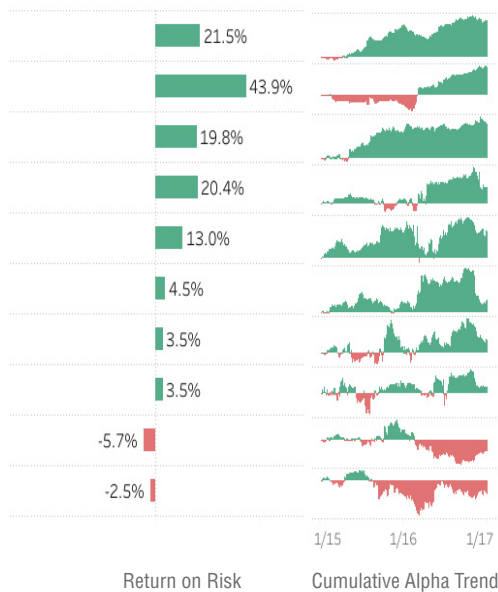
# ARRIA NLG STUDIO FOR BI



## Monthly Fund Commentary

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August 2019 — 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 October. As has been the case for the last few years, value stocks lagged growth stocks, with the Russell 1000 Value Index returning -2.94% and the Russell 1000 Growth Index returning -0.77%.

#### FUND POSITIONING HIGHLIGHTS

- In August, 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, investors sought safety in dividend-paying sectors like utilities, real estate, and consumer staples. The fund is underweight in these three sectors, which detracted. Conversely, as rates declined, financials lagged so the fund's overweight in the sector also detracted. The fund's overweight in healthcare was the top detractor as the sector lagged. No sector exposure was a notably positive contributor.

**The only NLG platform  
that narrates all your  
BI dashboard's  
underlying data.**

**And lets you customize  
your own projects.**

Arria NLG Studio For BI gives you the ability to create BI dashboards that are simpler and faster to interpret by instantly generating expert narrative to accompany the visuals on your BI 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.



**Arria's BI add-on tool is part of our 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.**



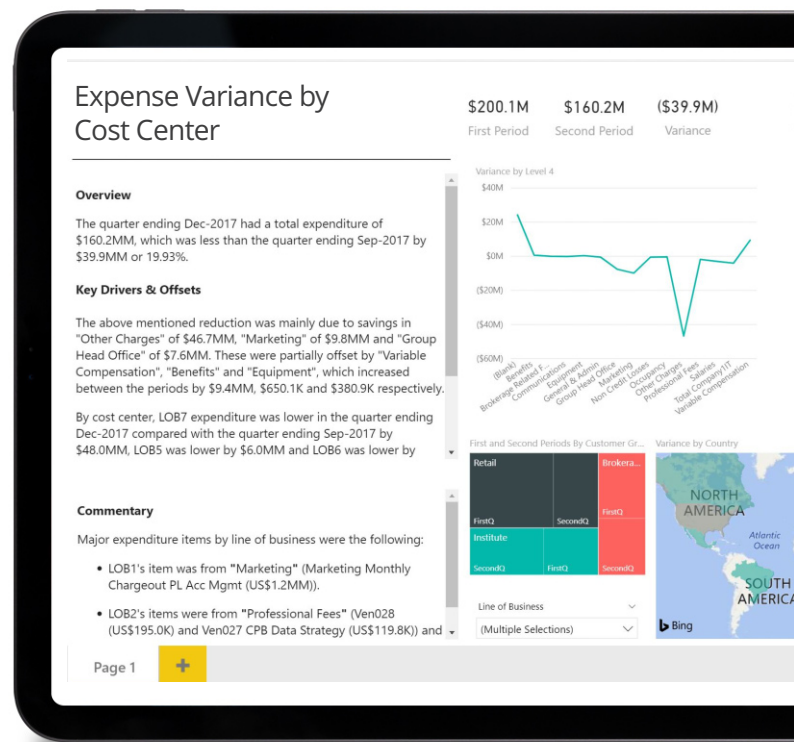
A blurred photograph of several business professionals walking through a modern office lobby. The lobby features large, multi-paned windows that look out onto a lush, green tropical landscape with palm trees. The people are in motion, creating a sense of a busy, dynamic environment. The floor is highly reflective, mirroring the people and the light from the windows.

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# ADVANCED BI INTEGRATIONS

# Breakthrough integrations allow you to narrate your entire dataset (not just the visuals)



Arria's latest BI integrations aggregate and narrate all the underlying data available within your dashboards (not just the visuals), going well beyond two-dimensional visuals which are open to interpretation and do not typically tell the whole story.

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

Available for all major BI applications

 Power BI

 + a b l e a u

 Qlik

 MicroStrategy

 TIBCO Spotfire



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## Sales Opportunity Analysis

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### Sales Opp Analysis - 2019 Q3

#### Overview

The quarter ending Sep-2019 had a total expenditure of \$160.2MM, which was less than the quarter ending Jun-2019 of \$169.9MM or 19.93%.

#### Key Drivers & Offsets

The above mentioned reduction was mainly due to saving "Other Charges" of \$46.7MM, "Marketing" of \$9.8MM, "Group Head Office" of \$7.6MM. These were partially offset by "Variable Compensation", "Benefits" and "Equipment", which increased between the periods by \$9.4MM, \$650.1K and \$380.9K respectively.

By cost center, LOB7 expenditure was lower in the quarter ending Sep-2019 compared with the quarter ending Sep-2018 by \$48.0MM, LOB5 was lower by \$6.0MM and LOB6 was lower by \$7.2MM.

#### Commentary

Major expenditure items by line of business were the following:

- LOB1's item was from "Marketing" (Marketing Management Chargeout PL Acc Mgmt (US\$1.2MM)).
- LOB2's items were from "Professional Fees" (US\$195.0K) and Ven027 CPB Data Strategy (US\$119.8K) and "Variable Compensation" (Monthly EIP Charges (US\$130.6K)).

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# SOPHISTICATED ANALYTICS

# Turbocharge your dashboard with powerful analytical 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 narrates multiple data sources, Excel with multiple sheets, JSON data, nested data, data coming from SQL, and so much more.



**"Arria NLG Studio's BI analytical and linguistic capabilities provide us with the technology to 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*



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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 users can easily customize themselves, as needed, in minutes. Additionally, Arria NLG Studio gives users complete control to create and build their own insightful narratives integrated and displayed directly inside their BI tool of choice—all without a developer or costly Professional Services.

With flexible pricing that mirrors BI tools, users can instantly derive value from NLG integrations.



**"We have utilized Arria's NLG Studio to develop narratives on massive amounts of data to be able to instantly and clearly articulate the marketing value we are bringing to our clients. Their platform has dramatically reduced the amount of time and effort to uncover insights."**

**– Adam Heitzman**  
*Managing Partner,*  
HigherVisibility



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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—cloud, dedicated cloud, or on-premise—to accommodate your permissions and data security requirements.



## **Public Cloud**

Multiple users, non-HIPAA/PCI data use cases, lowest price per user, fastest adoption and setup



## **Dedicated Private Cloud**

Arria deployed and maintained single customer dedicated environment, optional integration with customer authentication



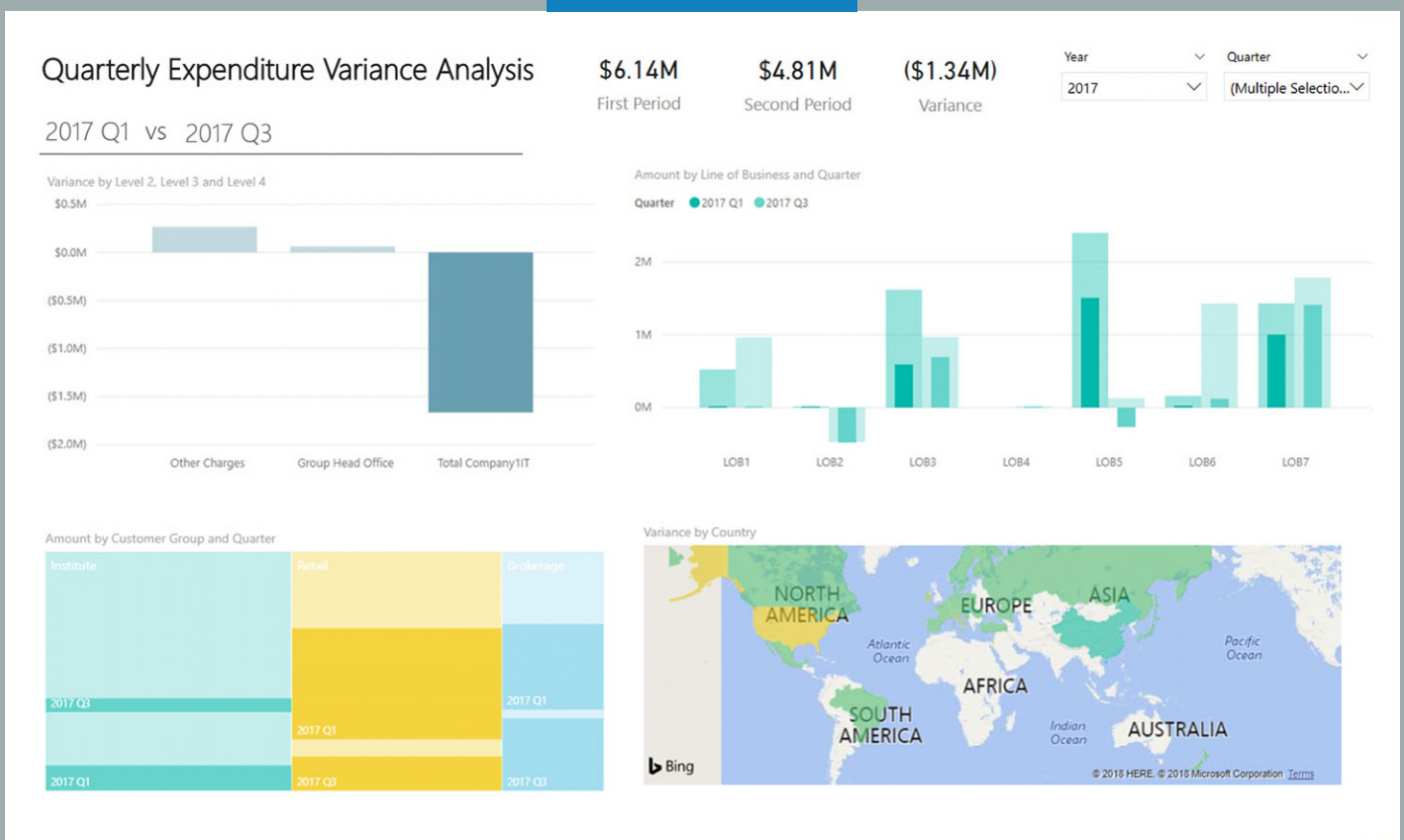
## **On-Premise**

Entire system behind customer firewall, customer controls all data and user authentication

# THE ARRIA DIFFERENCE

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

## BEFORE



## BEFORE: 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 BI 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

### Quarterly Expenditure Variance Analysis

51.25M \$20.78M (\$30.47M)

Year: 2017  
Quarter: (Multiple Selection...)

#### Overview of Variance Analysis

The quarter ending Sep-2017 had a total expenditure of \$20.8MM, which was lower than the quarter ending Jun-2017 by \$30.5MM or 59.46%.

The above-mentioned reduction was mainly due to savings in "Expenses before Allocations" of \$19.6MM and "Channel Costs" of \$10.9MM.

By cost center, LOB3 expenditure was lower in the quarter ending Sep-2017 compared with the quarter ending Jun-2017 by \$13.0MM, LOB7 was lower by \$12.2MM and LOB5 was lower by \$8.0MM. In contrast, expenditures of LOB6 and LOB1 were higher by \$3.2MM and \$643.9K, respectively. The savings of LOB3 were predominantly due to "Channel Costs" being lower than the previously reported period by \$9.6MM.

#### Line of Business Commentary

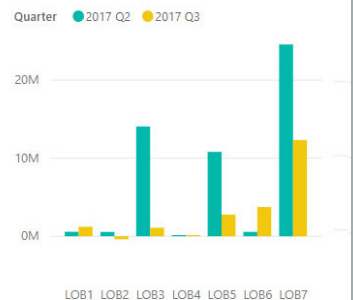
Major expenditure items by line of business were the following:

- LOB6's items are from "Expenses before Allocations" (Other General excl G-W & Inta (\$1.0MM) and ETS ONLY: Int Initiatives (\$109.5K)).

Variance by Level 4



Amount by Line of Business and Quarter



Amount by Customer Group and Quarter



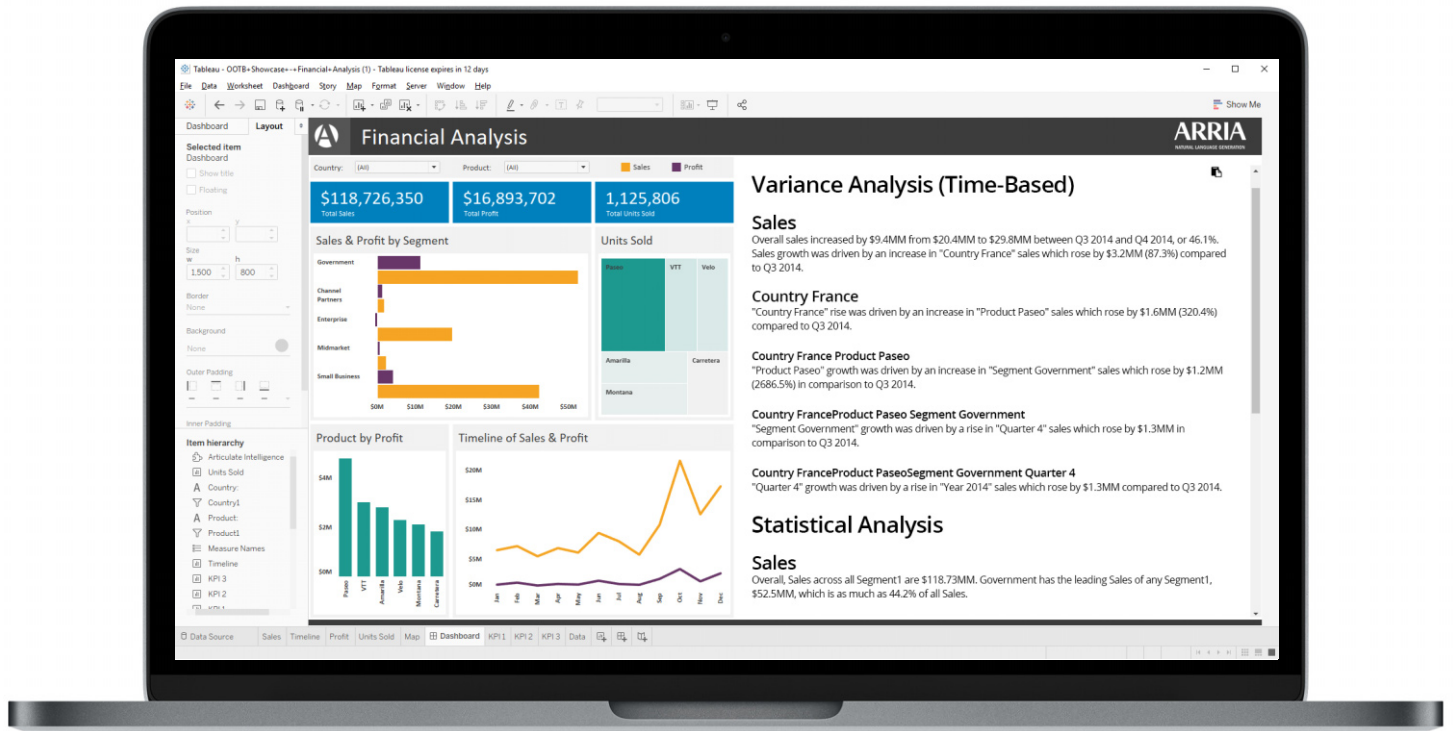
Variance by Country



## AFTER: VISUALS + NARRATIVE

With Arria NLG Studio for BI, **descriptive narratives accompany your visuals** in the form of an Overview (what happened), Key Drivers & Offsets (why it happened), and Data Commentary (what potential actions should be taken)—**based on the entire dataset.**

# KEY BENEFITS



Narrate your dashboard  
across an unlimited number  
of dimensions

Arria NLG Studio for BI



**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"

## ARRIA DELIVERS

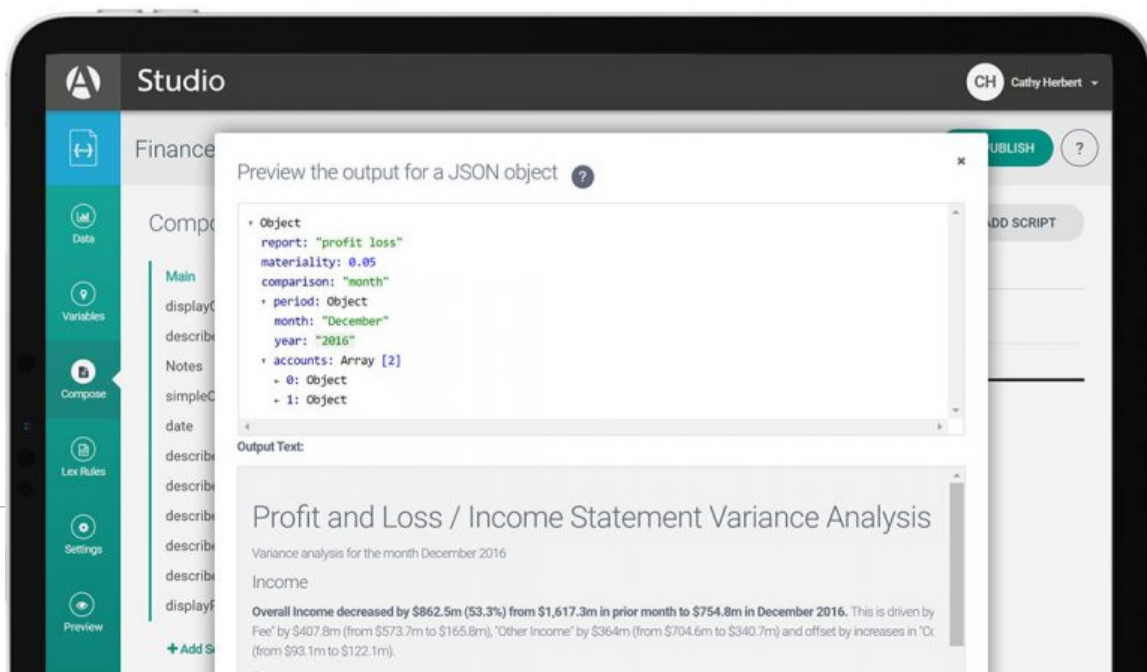
**A programmable interface** for BI platforms, with no restrictions on what the developer can do.

**A tightly integrated workflow** between your BI platform and the creation of narratives in NLG Studio - Articulate Intelligence fits neatly into your BI development process.

**Out-of-the-box solutions** for typical use cases. Just put your data in the format we specify, and everything works. This includes ready-made narratives for all the most common visualization types. And, support for multiple dimensions and multiple measures.

**Starter projects** for selected domains: Sales, Finance, Pharma, Media, and so on. With these samples, we give you the skeleton, then you flesh it out.

**The ability to scale, advance, and grow.** Start simple, then advance limitlessly. With Arria's Studio For BI, the sky's the limit!





## POPULAR USE CASES



### Enterprise Report Automation

- P&L
- Balance Sheet
- Cash Flow
- Revenue / Sales
- Expense Variance
- HR Performance
- Trend Analysis
- Marketing Campaigns
- Credit and Risk
- And more...



### Investment Report Automation

- AML - Fraud Detection
- Attribution Commentary
- Fund Commentary
- Market Update
- Portfolio Performance
- Risk Analysis
- Stress Testing
- Trade Activity
- Wealth Management
- And more...



### Clinical Safety Report Automation

- Adverse Events
- Clinical Trial
- Clinical Safety
- Decision Support
- EMR Reporting
- Nurse Shift Handover
- Patient Report
- Regulatory Reporting
- Risk Management
- And more...

**These are just a few  
of our most popular NLG use cases.  
Visit our [Arria.com](https://www.aria.com) to see many more.**

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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 all major 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 25 NLG patents) supported by founding NLG scientists who are globally recognized as industry leaders.

## 7. Raving Fan Client Support

Your success is our 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. Flexible Pricing

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



## ARRIA REVIEWS

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### Gartner

**"Arria is a world leader in NLG"**

"Arria is a world leader in NLG, with 23 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"*

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**"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*

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**"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 (Ernest 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

**EAGLE**  
INVESTMENT SYSTEMS

**"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, Eagle Investment Services*

*For more reviews, visit [arria.com](http://arria.com)*



## ABOUT ARRIA

Arria NLG is the global leader in the field of Natural Language Generation (NLG), a form of artificial intelligence specializing in extracting insights from complex data sources and communicating that information in natural language (i.e. as if written or spoken by a human subject matter expert). The company owns, develops and licenses its technology through its Arria NLG Studio Platform—and has a patent portfolio of 21 core NLG patents, with more pending.

Arria NLG Studio empowers writers and subject matter experts to create an effectively unlimited number of sophisticated narratives based on structured data sets. Arria's simple web-based interface contains a set of easy-to-understand functions that correspond to the array of analytical, linguistic and stylistic decisions a human writer makes when composing thoughtful narrative.

**We invite you to [REQUEST A DEMO](#) to experience for yourself this amazing NLG technology...and how it can instantly transform your BI dashboards and improve the decision-making across your organization.** Please contact, Lyndsee Manna, SVP Business Development, +1 973 534 9478 or via email [lyndsee.manna@arria.com](mailto:lyndsee.manna@arria.com)

[ARRIA.COM](https://arria.com)

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**The Arria NLG Research Centre** is located at Scotland's University of Aberdeen. The university's Computer Science Department was the first to develop and commercialize Natural Language Generation technology.

