INTELLIGENTLY AUTOMATING FP&A REPORTING

ARRIA

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RPA+BI+NLG USE CASE

Global financial institution seeking to transform BI dashboards and automate FP&A reports—dramatically improving decision-making

Industry
- Banking

Desired Outcome
- FP&A BI Dashboards
- FP&A Real-Time Reports

RPA Automation
- Assembling multiple complex data streams in preparation for analysis

NLG Automation
- Instantly producing expert natural language narratives explaining the entire BI dataset

This illustrates the benefits of combining Robotic Process Automation (RPA) with Business Intelligence (BI) and Natural Language Generation (NLG).

Together these two leading-edge technologies deliver efficiencies that are economically impossible to achieve via headcount—giving users a huge competitive edge by significantly accelerating their automation.

THE CHALLENGE

This international bank began its digital transformation with the Finance Department. Because the firm had grown through mergers and acquisitions over many years, Finance was burdened with disparate legacy systems that did not communicate with one another and,

THE POWER *of* LANGUAGE

FP&A REPORTING

therefore, could not be represented at once within the same BI dashboard.

As a result, FP&A reporting was a tedious, manual process, prone to human error and rarely completed in a timely manner.

THE THREE-STEP SOLUTION
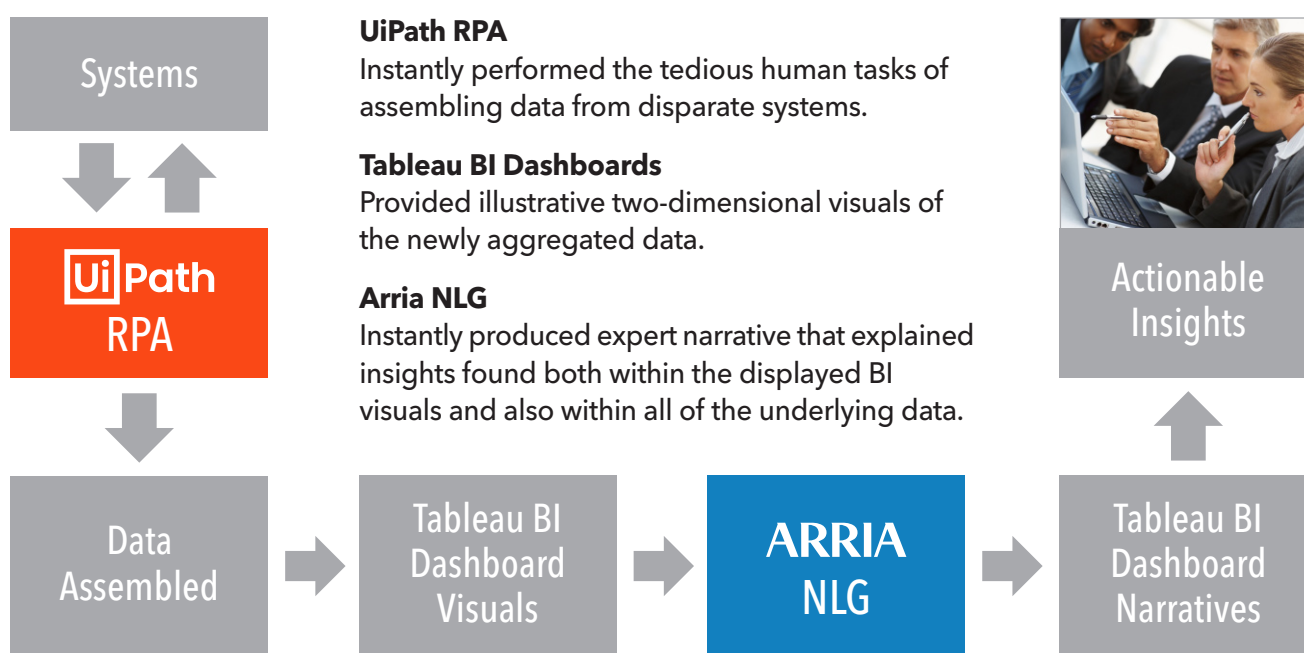**Step 1. Robotic Process Automation (RPA).** As a starting point, the bank turned to UiPath RPA to automatically aggregate data from its various legacy systems. RPA instantly performed the previously slow and error-prone human task of assembling data from the disparate systems and processes.
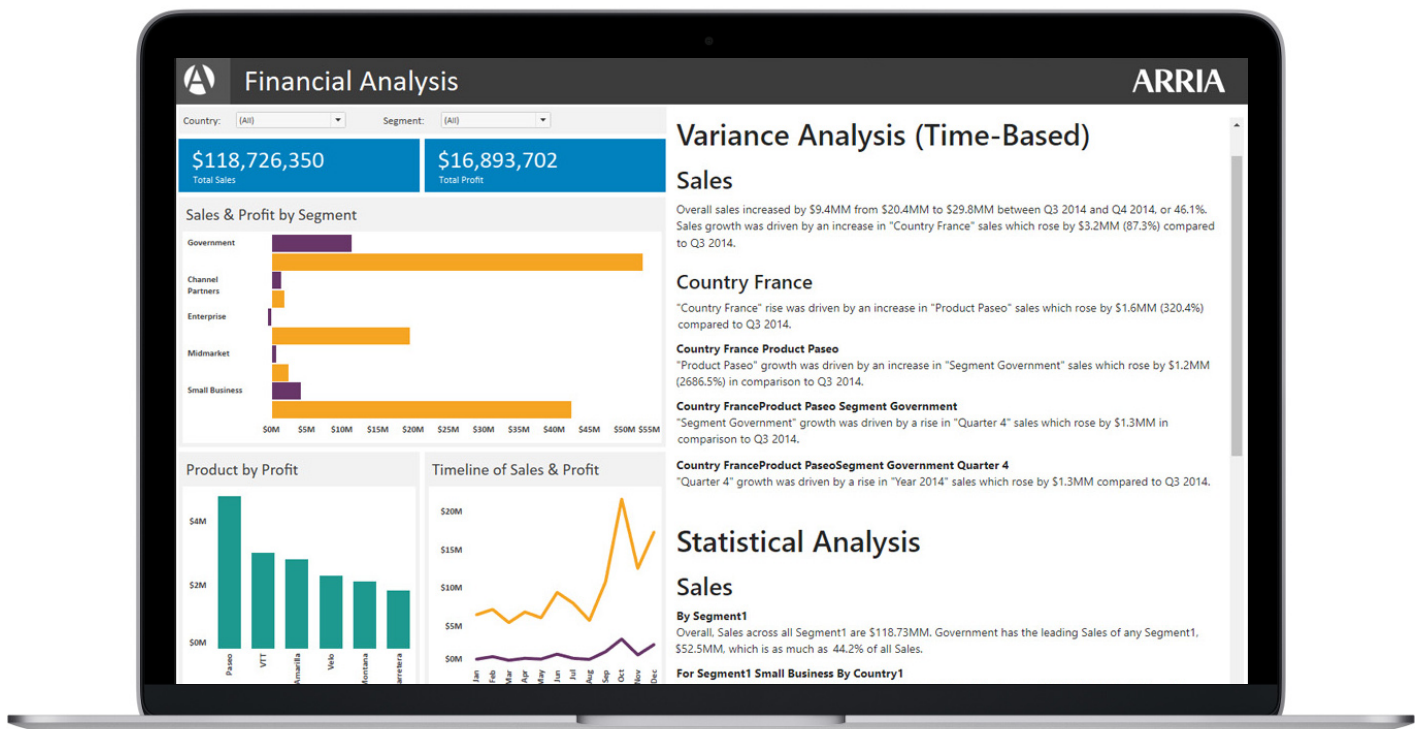
Step 2. Business Intelligence (BI) dashboards. Tableau, a leading BI dashboard provider, was then selected to provide powerful analytics and visual insights. This was a huge step in the right direction as UiPath's RPA fed the aggregated data into one centralized Tableau BI dashboard.

However, the dashboard presented some analytical challenges. Not every dashboard viewer was skilled at identifying and interpreting the most important visuals. Even the most insightful dashboard visuals provided only partial, two-dimensional

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RPA+BI+NLG **Systems-to-People** workflow for real-time actionable insights

Systems			

UiPath RPA
Instantly performed the tedious human tasks of assembling data from disparate systems.

Tableau BI Dashboards
Provided illustrative two-dimensional visuals of the newly aggregated data.

Arria NLG
Instantly produced expert narrative that explained insights found both within the displayed BI visuals and also within all of the underlying data.

Actionable Insights

Ui Path RPA

Data Assembled → Tableau BI Dashboard Visuals → **ARRIA NLG** → Tableau BI Dashboard Narratives

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Financial Analysis

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Country: [All]   Segment: [All]

$118,726,350
Total Sales

$16,893,702
Total Profit

Sales & Profit by Segment

Government

Channel
Partners

Enterprise

Midmarket

Small Business

$0M $5M $10M $15M $20M $25M $30M $35M $40M $45M $50M $55M

Product by Profit

$4M

$2M

$0M

Paseo VTT Amarilla Velo Montana Carretera

Timeline of Sales & Profit

$20M

$15M

$10M

$5M

$0M

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Variance Analysis (Time-Based)

Sales

Overall sales increased by $9.4MM from $20.4MM to $29.8MM between Q3 2014 and Q4 2014, or 46.1%. Sales growth was driven by an increase in "Country France" sales which rose by $3.2MM (87.3%) compared to Q3 2014.

Country France

"Country France" rise was driven by an increase in "Product Paseo" sales which rose by $1.6MM (320.4%) compared to Q3 2014.

Country France Product Paseo
"Product Paseo" growth was driven by an increase in "Segment Government" sales which rose by $1.2MM (2686.5%) in comparison to Q3 2014.

Country FranceProduct Paseo Segment Government
"Segment Government" growth was driven by a rise in "Quarter 4" sales which rose by $1.3MM in comparison to Q3 2014.

Country FranceProduct PaseoSegment Government Quarter 4
"Quarter 4" growth was driven by a rise in "Year 2014" sales which rose by $1.3MM compared to Q3 2014.

Statistical Analysis

Sales

By Segment1
Overall, Sales across all Segment1 are $118.73MM. Government has the leading Sales of any Segment1, $52.5MM, which is as much as 44.2% of all Sales.

For Segment1 Small Business By Country1

The Arria NLG Platform gave them the power to transform their data into insightful, meaningful, natural-language stories and reports. For the first time, the value contained within mountains of data could be communicated in written (or spoken) language everyone could understand.

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representations of the underlying data.

And, although the implementation of RPA and BI was an operational success, eliminating many hours of monotonous work, the dashboards were not as forthcoming with actionable insights as hoped. In fact, the sheer amount of data almost guaranteed that not all of it could be represented in the visuals, while the large number of visuals almost guaranteed that no human could effectively interpret all of them.

Also, BI dashboard literacy was not evenly distributed among the company's employees. Not all employees were comfortable interpreting the visuals, and interpretations tended to vary from employee to employee.

The process of two or more employees reaching consensus often required an additional step, external to the BI dashboard: analysts needed to write structurally similar, repetitive reports at regular intervals in order to explain what employees were seeing. This monotonous report writing was tedious, slow, and prone to human error.

"UiPath's automation platform combined with Arria's NLG platform helps bridge the communication gap between robots and humans. Customers can easily automate reports previously written by a human with the NLG activity for UiPath Studio."

– **Dhruv Asher**, *SVP, Head of Business Development and Tech Alliances, UiPath*

Meanwhile, as employees and analysts attempted to make sense of the dashboards, much of the data underlying the surface visuals was going completely unexamined.

Step 3. Natural Language Generation (NLG). When considering how to help viewers better understand the surface visuals, and how best to discover and communicate insights from within the broader data set, the bank began investigating Natural Language Generation (NLG).

Their research found that RPA, BI, and NLG are perfectly complementary technologies.

While **RPA** instantly assembles data from disparate systems and processes, and **BI** provides illustrative two-dimensional visuals of the newly aggregated data, **NLG** could instantly explain insights found both within the surface BI visuals and—critically— also within the underlying data.

In combination, these three technologies could generate faster, actionable insights, leading to better decisions throughout the organization. The challenge, though, was finding an NLG vendor that could meet their four specific requirements, which were:

- **Openness.** Considering how the bank had grown, it was important that the system be API-based, so that it could receive data from any source and deliver it to any presentation layer.

- **Security.** As a major financial institution, their top priority was data security. The winning NLG system needed to be deployable entirely on-premises, with no calls to outside servers.

- **Customizability.** The bank had a distinct corporate culture, with its own lexical style, vocabulary, and analytical preferences. So the NLG system had

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to be completely controllable by the their subject matter experts, analysts, and developers.

- **Intelligence.** The bank maintains high standards for communications, both internal and external. Therefore, the winning NLG system needed to think like a human, both linguistically and mathematically.

After evaluating the industry's top NLG vendors, they concluded there was only one that met all four criteria: **Arria NLG.**

Therefore, they installed the Arria NLG Platform entirely on premises. And, because the Arria Platform is customizable, the bank's subject matter experts, analysts, and stakeholders were able to teach it to reflect their sensibility and vocabulary when it came to the discovery and expression of insights, both within the surface visuals and within the underlying data that often was not represented on the dashboard itself.

And, thanks to the platform's combination of advanced analytics and advanced linguistics, the resulting output was indistinguishable from that of their trained experts, except for the tremendous volume and speed with which it was now produced.

THE RESULTS

The company's BI charts and graphs are now explained in natural human language, meaning that all of the organization's employees—not just the data scientists—can understand the BI dashboard on their own.

In addition, FP&A and operational reporting, which was once manual, tedious, and often late, is now created automatically and in real time, saving thousands of analyst hours per year—and resulting in better decision-making across the bank's many divisions. The bank also benefits from re-purposing many of their analysts for higher level tasks.

THE ARRIA DIFFERENCE

1. Arria NLG Platform
Simple to use, yet powerful—the Arria platform lets you use 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.

3. Deployment Options
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.

5. Advanced Integrations
Arria easily integrates with all major BI dashboards, RPA systems, virtual assistants and chatbots—it's the only BI integration that can 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
Arria's consumption-based pricing gives you the ability to scale as needed to align with your budget and usage.

ARRIA

INTELLIGENT AUTOMATION

Arria, UiPath and Tableau work together to further advance intelligent automation. By combining the power of RPA+BI+NLG, enterprise clients are accelerating their digital transformation and automation initiatives.

Arria NLG is the recognized 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—as if written or spoken by a human subject matter expert.

UiPath is one of the fastest growing and highest-valued AI enterprise software companies worldwide— enabling software robots to perform the tedious human tasks.

Tableau is a powerful, popular data visualization tool used in the Business Intelligence industry to turn data into understandable dashboards.

Gartner

"Arria is a world leader in NLG"

FORRESTER

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

BNY MELLON | EAGLE INVESTMENT SYSTEMS

"Arria's industry leading NLG capabilities significantly reduces the time our clients spend writing personalized client summaries and reports"

AstraZeneca

"Dramatically improved the speed and efficiency of reporting"

EY

"Fundamentally changing the services we offer to our clients"

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

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