

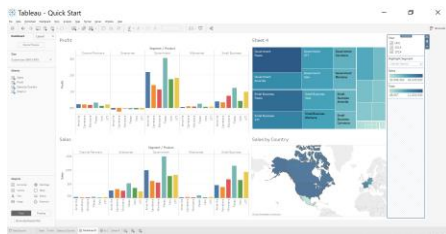
## Lab - NLG in Business Intelligence

Business Intelligence dashboards typically consist of a collection of visuals (charts and KPIs). Usually, users of these dashboards must interpret these charts and figure out what's going on in their organisations. However, more and more organisations are now moving into adding Natural Language Narratives to their dashboards. This provides users with insights that are not obvious in visuals avoiding misinterpretation and improving consistency.

These natural language narratives heavily rely on well-established dimensional modelling and dimensional analysis methodologies in BI.

### A. Tableau Dashboard and Data

1. Download the sample Tableau file - <https://s3-eu-west-1.amazonaws.com/pubs3.studio.arria.com/BI+Integration/Tableau/NLG+in+BI+-+Sales+Sample.twbx>
2. Explore the dashboard, data, and the relationships
  - a. Dashboard view - The dashboard shows typical sales data of a manufacturing company.



- b. Data Source – You can see a single table.



Date	Region	Product Line	Sales
2017-01-01	North America	Electronics	1000
2017-01-01	Europe	Electronics	800
2017-01-01	Asia	Electronics	600
2017-01-01	South America	Electronics	400
2017-01-01	Africa	Electronics	200
2017-01-01	Oceania	Electronics	100
2017-01-01	North America	Software	1200
2017-01-01	Europe	Software	900
2017-01-01	Asia	Software	700
2017-01-01	South America	Software	500
2017-01-01	Africa	Software	300
2017-01-01	Oceania	Software	150

### Discuss

- Can you think of a narrative that describes the given dashboard?
- What do we know about data in general?

## B. Using Arria BI Add-In

This is a custom *extension* developed by Arria NLG to generate narratives for Tableau dashboards. (Using Tableau APIs, developers can create their own extensions). You can use this add-in to generate narratives that describe BI data in seconds automatically. You can also use Arria NLG Studio to generate custom narratives with your own business logic embedded.

1. Download the add-in - <https://s3-eu-west-1.amazonaws.com/pubs3.studio.arria.com/BI+Integration/Tableau/ArriaForTableau3.0.0.tre>  
[x](#)

2. Out-of-the-Box narratives (NLG Apps)

The Out-of-the-Box narratives delivered by Arria's add-in are determined by the fields you select in the Tableau project – the measures and dimensions. You configure your narrative by telling the add-in what you want. This happens in three steps:

Step 1. You select the data source and choose dimensions and measures you want to cover in the narrative.

Step 2. You select the kind of narrative you want to perform (e.g. descriptive statistics, trends, variance).

Step 3. You configure your narrative with different parameters and preview the narrative.

Try out the following tutorial:

<https://docs.integrations.arria.com/BI/Tableau/en/nlg-apps-tutorial.html>

**Exercise 1** – Create a Time-based variance narrative.

3. Custom narratives – This option provides you with complete flexibility in creating your own narrative using the power of Arria NLG Studio.

Using Arria's custom visual, you'll add an Arria add-in to the dashboard. Then, using NLG Studio, you will create a very simple NLG project, which you will publish as a REST endpoint. Then, you'll link the published Studio project to the add-in to bring the narrative into the report.

Try out the following tutorial:

<https://docs.app.studio.arria.com/Integrations/BI/Tableau/en/creating-custom-narratives-json.html>

**Note:** You will have to log in using your Studio credentials to access this documentation.

**Exercise 2** – Update the narrative script to generate the following sentence:

The Government segment reported the most profit: US\$11.39MM.

**Discuss**

- What do you think about the Out-of-the-Box narrative generation experience?
- How do you rate the overall experience of working with Tableau and NLG Studio?

**References:**

Arria Documentation: <https://docs.integrations.arria.com/BI/Tableau/en/index-en.html>

Tableau API: <https://www.tableau.com/developer/extensions>