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DASHBOARD MANUAL

UUM Living Campus 2030 Progress Tracker



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& Appraisal**



WHAT'S INSIDE?

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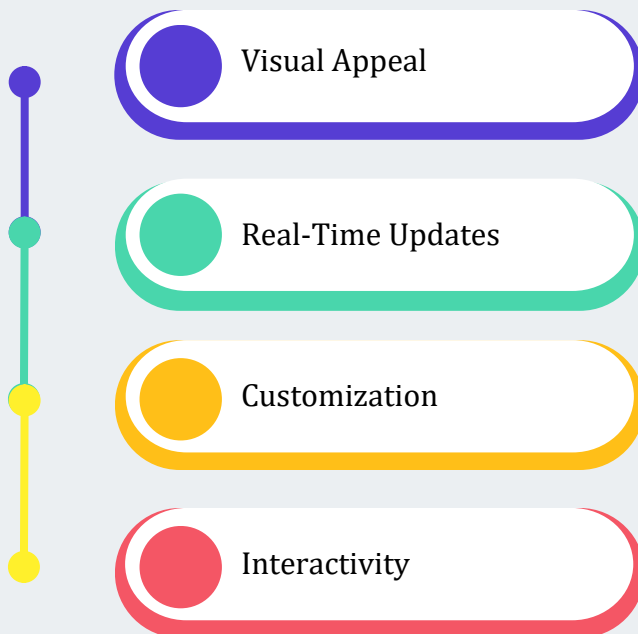
INTRODUCTION

Get to know dashboard

What is dashboard?

A dashboard is like a control center for your data. It's a single, interactive display that brings together various pieces of information from different sources, presenting them in a way that is easy to understand at a glance.

What's so special about dashboard?



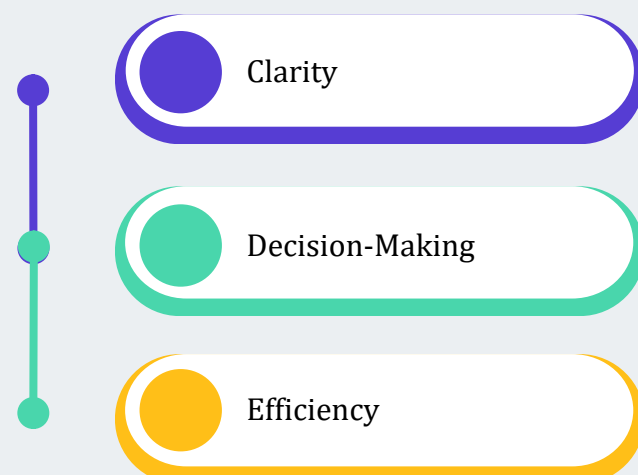
Dashboards use **charts, graphs**, and other **visual elements** to make data more engaging and accessible. Instead of drowning in spreadsheets, you get a **colorful and intuitive display**.

Just like your car's dashboard gives you real-time feedback, digital dashboards can pull in **live data**, ensuring that you're always working with the **latest information**.

Dashboards are like **digital canvases**. You can tailor them to your needs, **rearranging elements, adding widgets**, and selecting the data that matters most to you.

Unlike static reports, dashboards allow you to interact with your data. **Click on a chart** to see more **details** or adjust settings to **focus on specific aspects**.

Why should we use dashboard?



Dashboards **cut through the data noise**, presenting information in a way that's clear and understandable.

With a quick glance, you can **make informed decisions**. It's like having a GPS for your **business insights**.

Instead of sifting through endless reports, a dashboard streamlines your data analysis, **saving time and effort**.

INTRODUCTION

Google Looker Studio

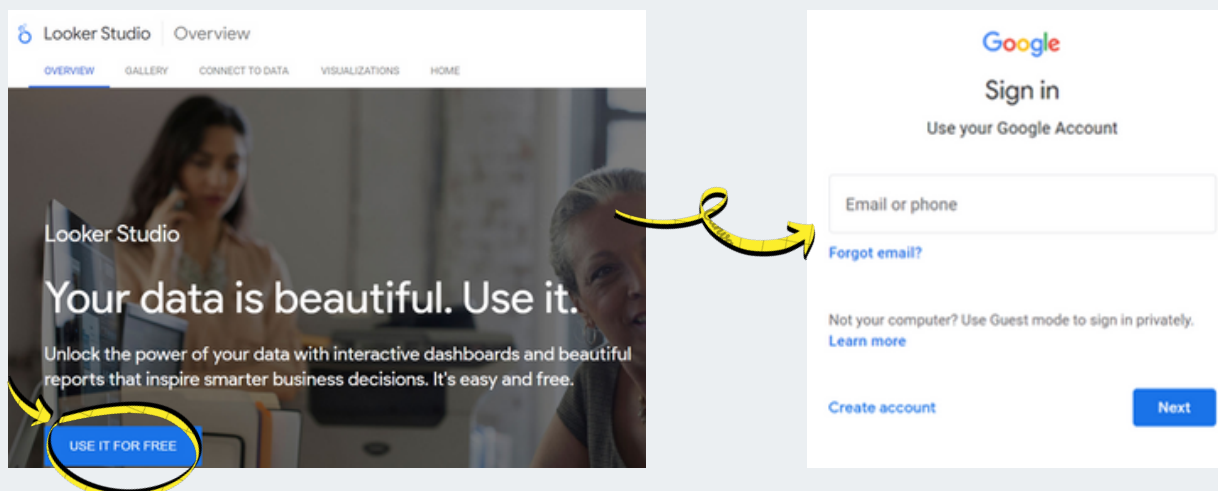
There are a many tools that can be used to develop dashboards such as Tableau, Microsoft Power BI, and Google Looker Studio. In our case, we use **Google Looker Studio** as it is **free**, **easily accessed**, and **user-friendly**.

What is Google Looker Studio?

Google Looker Studio stands as a business intelligence assistant, offering a range of tools for data exploration, analysis, and visualization. It empowers users to craft and personalize dashboards, reports, and various data visualizations.

How to access Google Looker Studio?

1. Open <https://lookerstudio.google.com>
2. Click **"USE IT FOR FREE"**.
3. **Sign in** by entering email address and password of your google account.



Now that you understand the basics, let's get started!

STEP-BY-STEP GUIDE

Before creating a dashboard

Step 1: Define the purpose & objectives

- Determine what you **aim** to accomplish
- Identify essential key performance indicators (**KPIs**) and **metrics**
- Specify the necessary **data sources**



Step 2: Collect data

Data for the analysis can possibly be extracted from **various sources** like:

- Online
- Your existing data file
- **Google Forms survey**



Step 3: Prepare data

- Standardize the **format** e.g. dates, letters capitalization, numbering
- Make sure the KPIs and metrics to be displayed are **in columns**
- Remove unwanted **repetitive data**



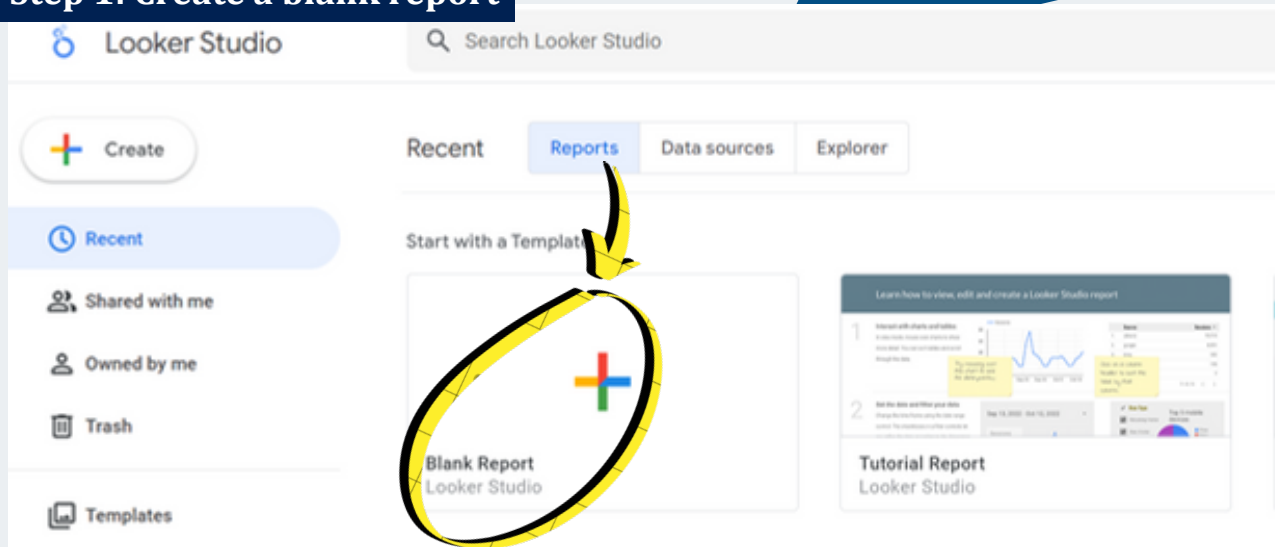
*** If you opt for **Google Forms** survey, the responses data can be converted into **Google Sheets** by clicking:



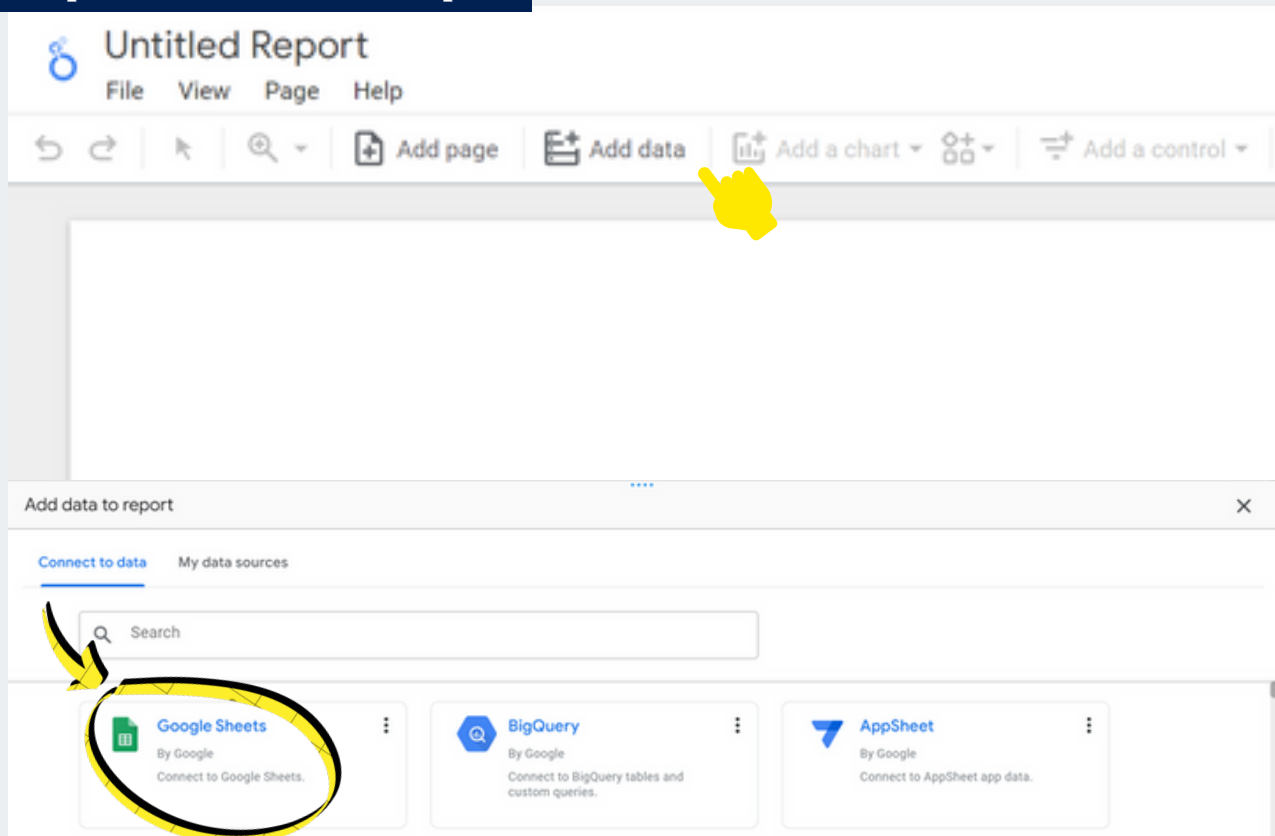
STEP-BY-STEP GUIDE

Start creating a dashboard

Step 1: Create a blank report



Step 2: Add data to the report



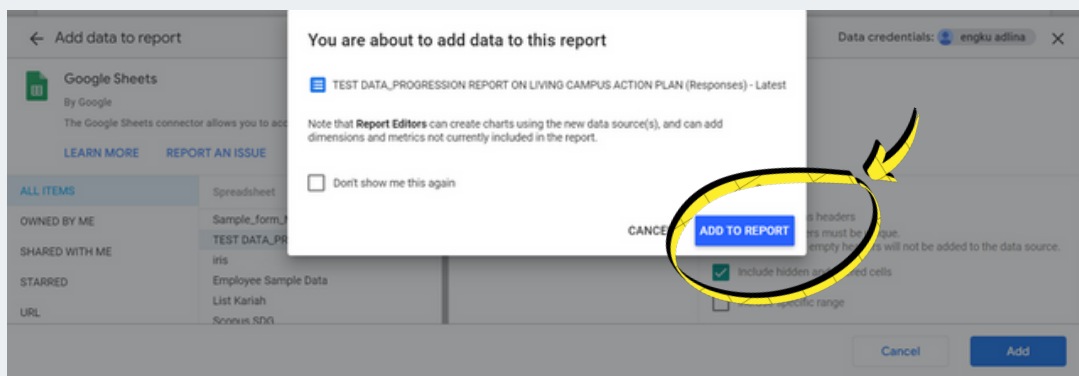
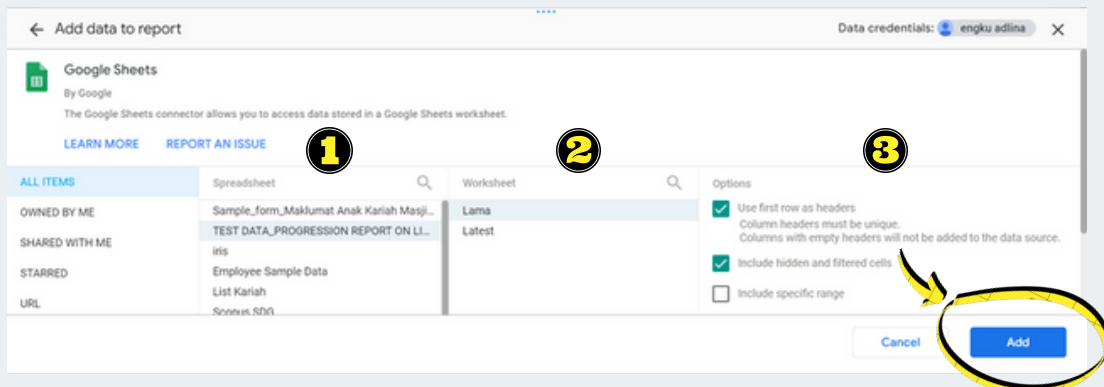
There are many other options of sheet/software that can be connected, but the simplest and the most convenient one is Google Sheets.

STEP-BY-STEP GUIDE

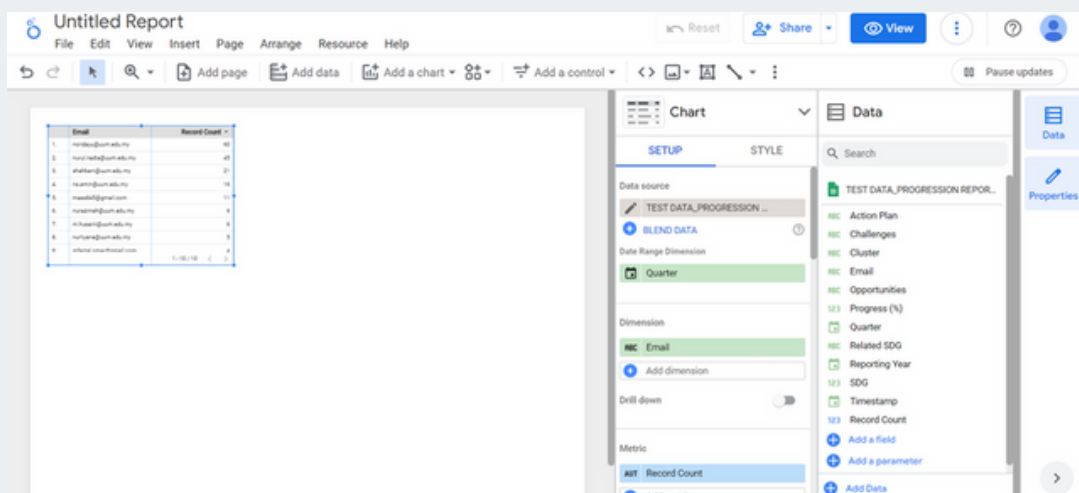
Start creating a dashboard

Step 3: Choose spreadsheet & worksheet

Pick the corresponding spreadsheet & worksheet where the data you would like to use is located. Follow the numberings and arrows below to add the data to report.



A blank report will be created as shown below. The following table is default table which is automatically generated. It can just be deleted if it is unnecessary for the report.

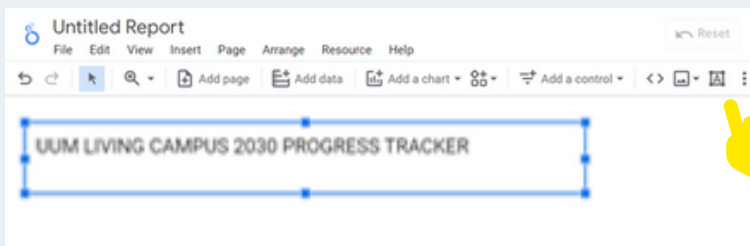


STEP-BY-STEP GUIDE

Labelling and naming

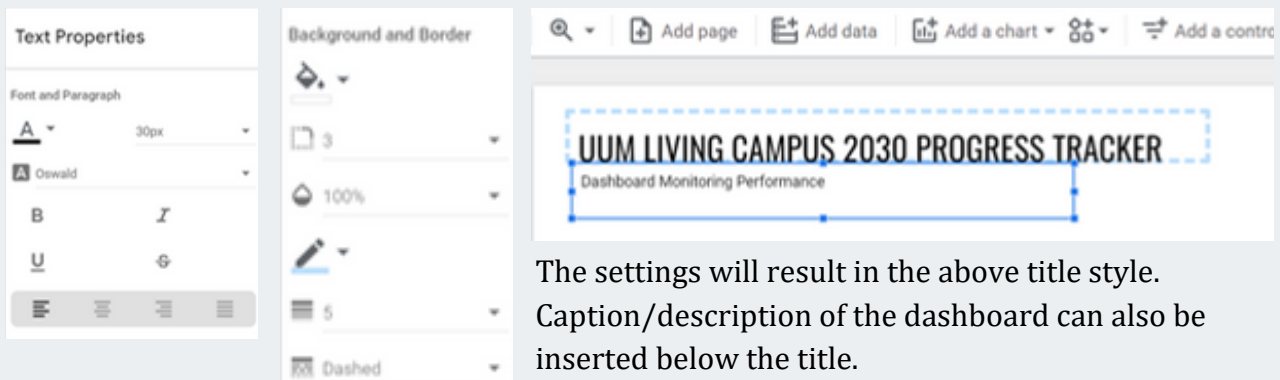
Step 1: Add dashboard name/title

Click the text icon to add text and place the text box at a your desired title spot.



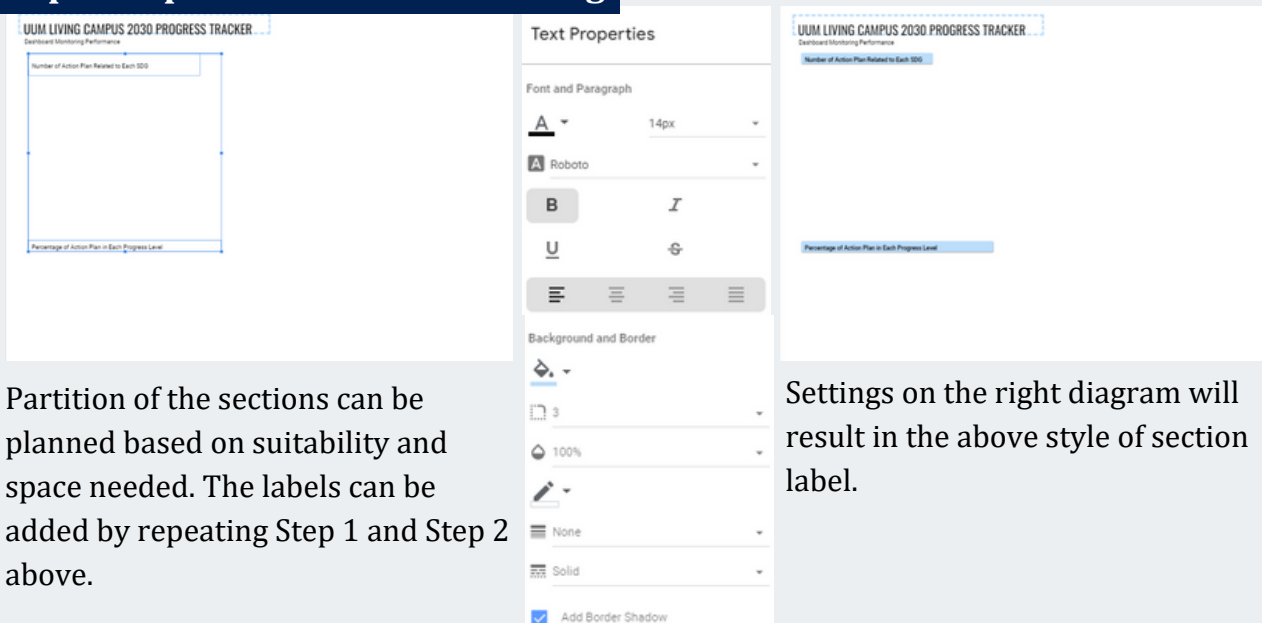
Step 2: Adjust the settings

To customize the text font and style, go to text properties and set them to your preferences.



The settings will result in the above title style. Caption/description of the dashboard can also be inserted below the title.

Step 3: Repeat for sections labelling



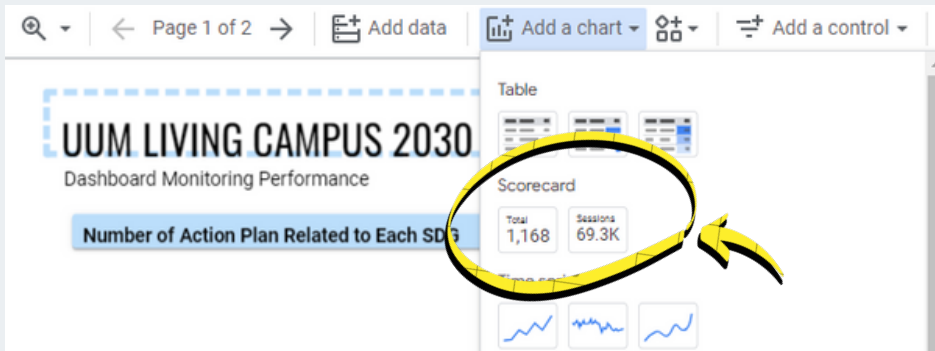
Partition of the sections can be planned based on suitability and space needed. The labels can be added by repeating Step 1 and Step 2 above.

Settings on the right diagram will result in the above style of section label.

STEP-BY-STEP GUIDE

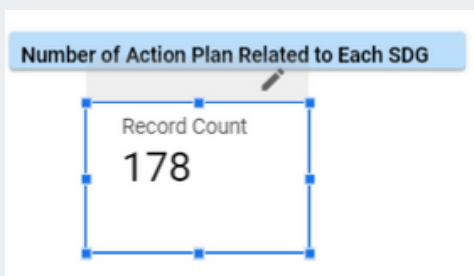
Adding scorecards (by SDG)

Step 1: Add a chart -> Scorecard



Scorecard can be used to display important numbers and can be inserted by picking it under chart category.

Step 2: Set the metrics



This diagram shows default scorecard style and label. To adjust the settings, click on the pencil. In this case, to obtain the number of action plans related to each SDG, choose "SDG" as the metric and change the type of data as "Count Distinct (CTD)". Follow the numberings below.

A composite screenshot illustrating the configuration steps for a scorecard metric. It is divided into three numbered sections:

- 1:** The 'SETUP' tab of the configuration panel. The 'Metric' dropdown is set to 'Record Count'. A yellow circle and arrow highlight this selection.
- 2:** The 'Date Range Dimension' dropdown menu. The 'SDG' option is selected. A yellow circle and arrow highlight this selection.
- 3:** The 'Metric' configuration panel. The 'Metric' dropdown is set to 'SDG'. A yellow hand icon points to the dropdown, and a red arrow points to the 'CTD' (Count Distinct) radio button, which is selected. The 'Optional metrics' toggle is turned off.

Let's try to obtain the number of action plans related to SDG 1 as an example.

STEP-BY-STEP GUIDE

Adding scorecards (by SDG)

Step 3: Add scorecard filter

Total 1,168 Chart

SETUP STYLE

Period

Show as progress

Default date range

Auto

Custom

Auto date range

Comparison date range

None

Filter

ADD A FILTER

In this case, we need to add a filter to only count the distinct action plans related to SDG 1. Therefore, at the bottom part of the setup sections, click “Add a Filter”.

Then, we will be brought to “Create Filter” tab.

1. Name the filter as “SDG 1”,
2. Include SDG equal to (=) 1.
3. Click “Save”.

Create Filter

Name: SDG 1

TEST DATA, PROGRESSION REPORT ON

Include 17 SDG Equal to (=) 1

AND

SAVE

Number of Action Plan Related to Each SDG

SDG 1	SDG 7	SDG 13
0	8	1
SDG 2	SDG 8	SDG 14
0	24	0
SDG 3	SDG 9	SDG 15
9	47	1
SDG 4	SDG 10	SDG 16
33	1	7
SDG 5	SDG 11	SDG 17
0	17	22
SDG 6	SDG 12	
4	4	

Repeat Steps 1 to 3 until the scorecard for SDG 17 is obtained. The diagram beside shows the plain scorecards arranged under the number of action plan related to each SDG section.

STEP-BY-STEP GUIDE

Adding scorecards (by progress)

Step 1: Add a chart -> Scorecard

UUM LIVING CAMPUS 2030
Dashboard Monitoring Performance

Number of Action Plan Related to Each SDG

Scorecard

Total	Sessions
1,168	69.3K

Next, we are going to add scorecards to display number of action plans based on their progress level.

Step 2: Set the metrics

UUM LIVING CAMPUS 2030 PROGRESS TRACKER
Dashboard Monitoring Performance

Number of Action Plan Related to Each SDG

SDG 1	SDG 7	SDG 13	Record Count
0	8	1	178
SDG 2	SDG 8	SDG 14	
0	24	0	
SDG 3	SDG 9	SDG 15	
9	47	1	
SDG 4	SDG 10	SDG 16	
33	1	7	

Place beside the previous section or anywhere suitable based on your planned arrangement.

Total 1,168 Chart

CTD Total Action Plan

Name: Total Action Plan
Source field: Action Plan

Number

Aggregation: Count Count Distinct

Comparison calculation: None

Running calculation: None

Background and Border

3

100%

None

Solid

Add Border Shadow

The name of the scorecard can be changed as shown above and the style can be adjusted as shown in the diagram on the left hand side.

STEP-BY-STEP GUIDE

Adding scorecards (by progress)

Step 3: Add scorecard filter

CTD 20-40%

Name
20-40%

Source field: Action Plan

Data Type
Number

Aggregation
 Count
 Count Distinct

Comparison calculation
None

Running calculation
None

Since we need the scorecards to categorize the action plans by progress levels, again, filters are needed.

As an example, the third scorecard (after total action plans and 10-20%) can be named as 20-40%, the data type should be set as number and the aggregation is count distinct.

Edit Filter

Name
20-40%

TEST DATA_PROGRESSION REPORT ON

Include 123 Progress (%) Equal to (=) 40

Total 1,168 Chart

SETUP STYLE

Background and Border

3

100%

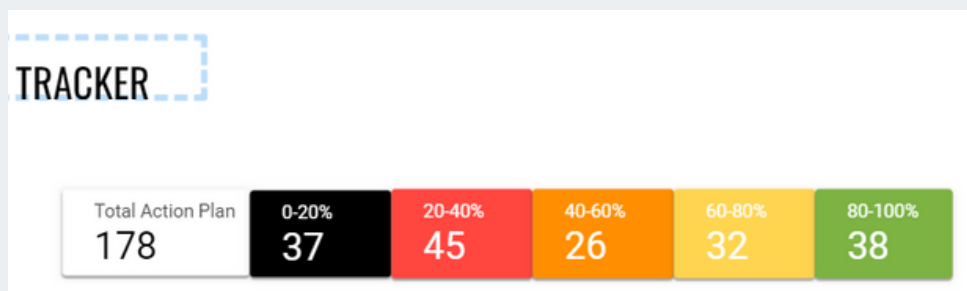
None

Solid

Add Border Shadow

Then, repeat the steps to add a filter as shown before. The difference is we **include progress (%) equal to 40**. Then, click **save**.

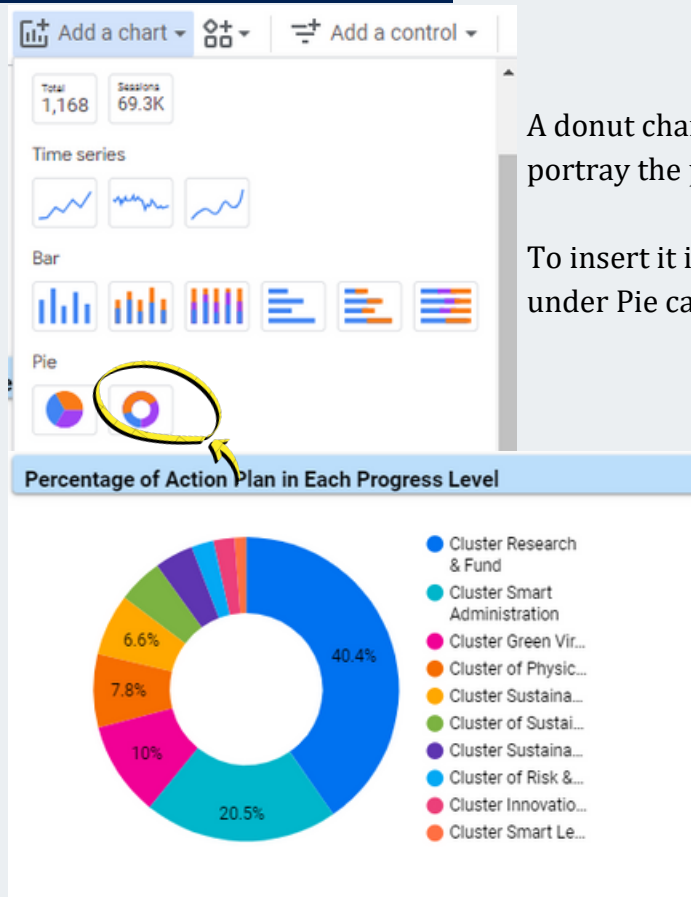
By settings the style as shown in the left-hand side diagram, the scorecards will be displayed like the diagram below. Repeat the steps for each progress level by adding their respective filters.



STEP-BY-STEP GUIDE

Adding a donut chart

Step 1: Add a donut chart



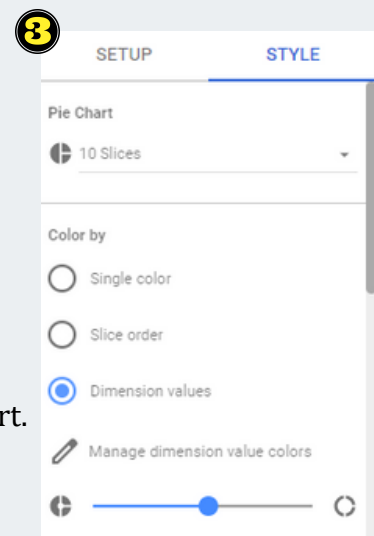
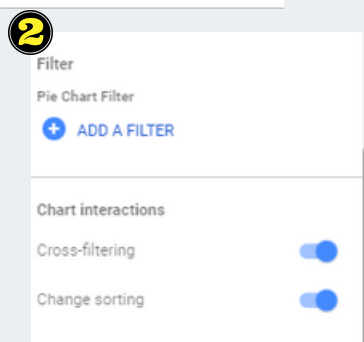
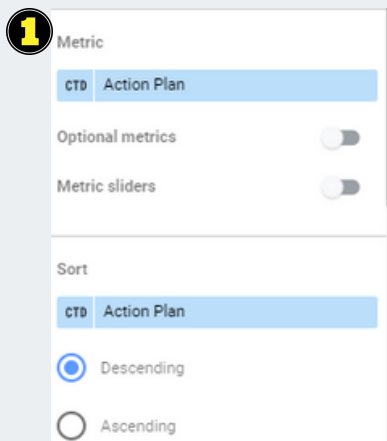
A donut chart is another version of pie chart that can portray the portion of different groups from total.

To insert it in the report, choose the donut chart under Pie category.

Default donut chart will look like the diagram beside, representing the portion percentage of each cluster.

We have to make changes as we would like to display the percentage of action plan in each progress level.

Step 2: Adjust settings

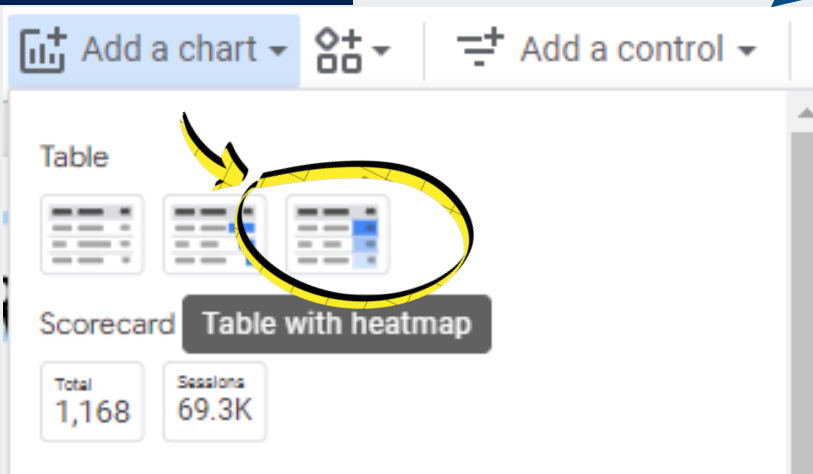


1. Set "Progress" as the dimension, "Action Plan" as the metric and sort.
2. Enable cross-filtering and change sorting for interactive purpose.
3. Choose dimension values (progress level) to color the donut chart.

STEP-BY-STEP GUIDE

Adding a table

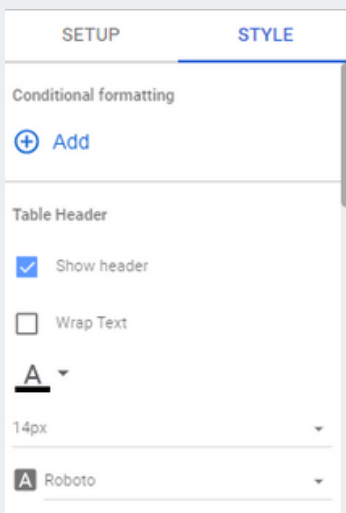
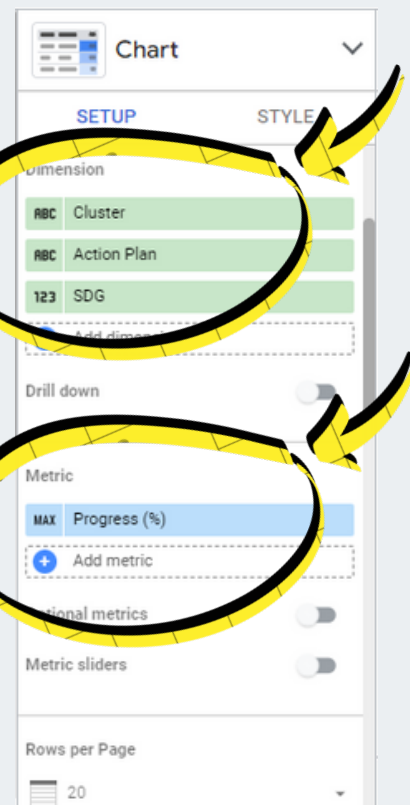
Step 1: Add a table



For detailed observation and progress tracking, we would like to display the action plans with their respective cluster, SDG, and progress level. Therefore, it is suitable to use table under chart category. Heatmap can be utilised for the progress level.

Step 2: Adjust settings

Total Action Plan	0-20%	20-40%	40-60%	60-80%	80-100%
178	37	45	26	32	38
Cluster	Action Plan				
1. Cluster Research & Fund	60				
2. Cluster Smart Administration	45				
3. Cluster Green Virtual Development	21				
4. Cluster of Physical Development	1				
5. Cluster Sustainable Young Talents	11				
6. Cluster Sustainable Security	6				
7. Cluster of Sustainable Community	6				
8. Cluster Smart Learning	5				
9. Cluster Innovation & Commercialization	4				
10. Cluster of Risk & Disaster Management	4				



Add Cluster, Action Plan and SDG as the dimensions and choose Progress (%) for the metric.

The right-hand side diagram shows the style used.

STEP-BY-STEP GUIDE

Adding a table

Step 3: Create rules for the heatmap colors

For the heatmap, we need to create our own rules so that the color is based on progress levels instead of default tone. Follow the diagrams below for the correct settings.

The 'Create rules' dialog box is shown with the following configuration:

- 1. Color type:** Single color (selected), Color scale.
- 2. Format rules:** Progress (%) LESS THAN OR EQUAL TO 20.
- 3. Color and style:** Progress (%) Text style (black).

The final set of rules is listed below:

Rule ID	Color type	Condition	Color	Text style
1.	Single color	Progress (%) less than or equal to 20	Black	Text
2.	Single color	Progress (%) greater than 20 +1	Red	Text
3.	Single color	Progress (%) greater than 40 +1	Orange	Text
4.	Single color	Progress (%) greater than 60 +1	Yellow	Text
5.	Single color	Progress (%) greater than 80 +1	Green	Text

The final set of rules should be listed as shown in the above diagram.

The table settings panel is shown with the following configuration:

- Table Body:** Row numbers (checked), Wrap Text (unchecked), Heatmap text contrast (100%), Horizontal Scrolling (unchecked).
- Table Footer:** Show pagination (checked), Compact pagination (unchecked).
- Background and Border:** Background color (white), Border width (2), Border color (black), Border style (Solid), Add Border Shadow (checked).

The settings for the table is done as shown in the right-hand side diagrams for convenient table display.

STEP-BY-STEP GUIDE

Adding a table

Step 4: Check the color

The table will look like the diagram below if the settings are followed exactly similar.

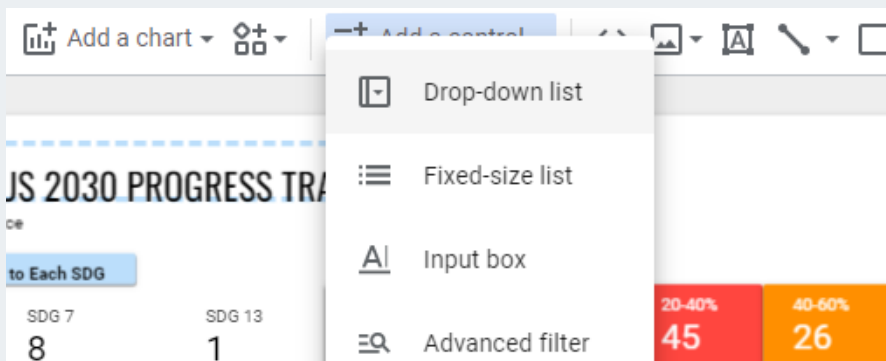
Total Action Plan	0-20%	20-40%	40-60%	60-80%	80-100%
178	37	45	26	32	38
Cluster	Action Plan	SDG	Progress (%)		
1.	Cluster of Sustainable C... Number of non-research activities with industry partne...	17	100		
2.	Cluster of Sustainable C... Number of university social responsibility (USR) event	11	40		
3.	Cluster of Sustainable C... Offering Social Innovation Grants (SIGS)	11	80		
4.	Cluster of Sustainable C... Collaborating with number of industrial partners rangi...	17	40		
5.	Cluster of Sustainable C... Number of practitioners from community/industry wh...	17	80		
6.	Cluster of Sustainable C... Number of ad-hoc educational outreach activities (e.g....	4	100		
7.	Cluster of Risk & Disaste... Emergency Simulation Programme including Fire Drill.	11	40		
8.	Cluster of Risk & Disaste... Disaster Early Warning System (Flood and Hail)	13	20		
9.	Cluster of Risk & Disaste... Development of UUM Natural Hazard Risk Register	3	100		
10.	Cluster of Risk & Disaste... On-campus disaster management plan. (Collating eme...	11	60		
11.	Cluster of Physical Devel... Retrofit Existing and New Installations Light Fitting to ...	7	80		
12.	Cluster of Physical Devel... Scheduled The Centralized Air Condition System Oper...	7	100		
13.	Cluster of Physical Devel... Install Control System Using Devices	7	80		
14.	Cluster of Physical Devel... Promote Usage of Big Fan (HVLS Fan) at Suitable Areas	7	100		
15.	Cluster of Physical Devel... Smart Pre-Valued Energy Meter	7	80		
16.	Cluster of Physical Devel... Save Water/Electricity Campaign Every Month	6	100		
17.	Cluster of Physical Devel... Non-Renewable Water (NRW) Program	6	100		
18.	Cluster of Physical Devel... Variable Speed Drive Chiller (VSD) Installation	9	100		
19.	Cluster of Physical Devel... SCADA System for monitoring electrical energy usage	7	100		
20.	Cluster of Physical Devel... BAS System to Control Air Condition (Smart Monitoring)	11	100		

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STEP-BY-STEP GUIDE

Adding controls/filters

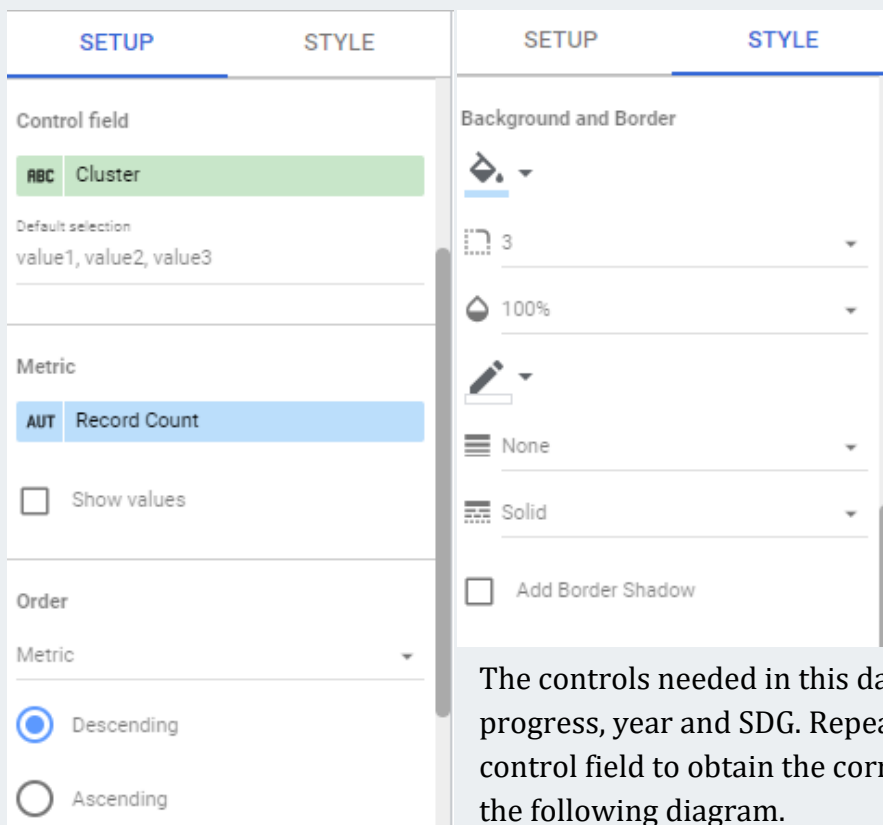
Step 1: Add a drop-down list



We need to add control(s) to filter and observe data based on certain condition. For example, to observe only data from year 2023, we need a “Year” control, to allow year(s) inclusion/exclusion.

Step 2: Adjust settings

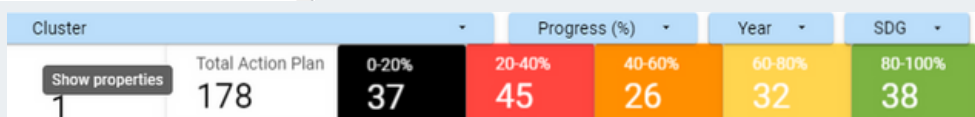
In this case, we use drop-down list as the number of options for the filter are still reasonably small (only less than or equal to 10 options each)



Let’s say for the first control, we would like to filter the data by cluster. Therefore, Cluster should be set as the control field while Record Count should be set as the metric.

The customized style for the control is as shown in the diagram beside.

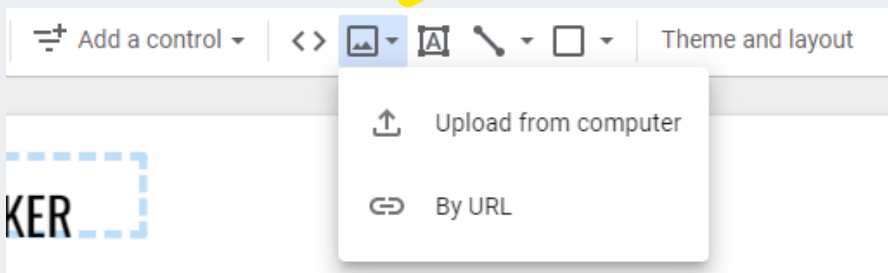
The controls needed in this dashboard are for cluster, progress, year and SDG. Repeat Step 1 and 2, toggling the control field to obtain the correct controls as shown in the following diagram.



STEP-BY-STEP GUIDE

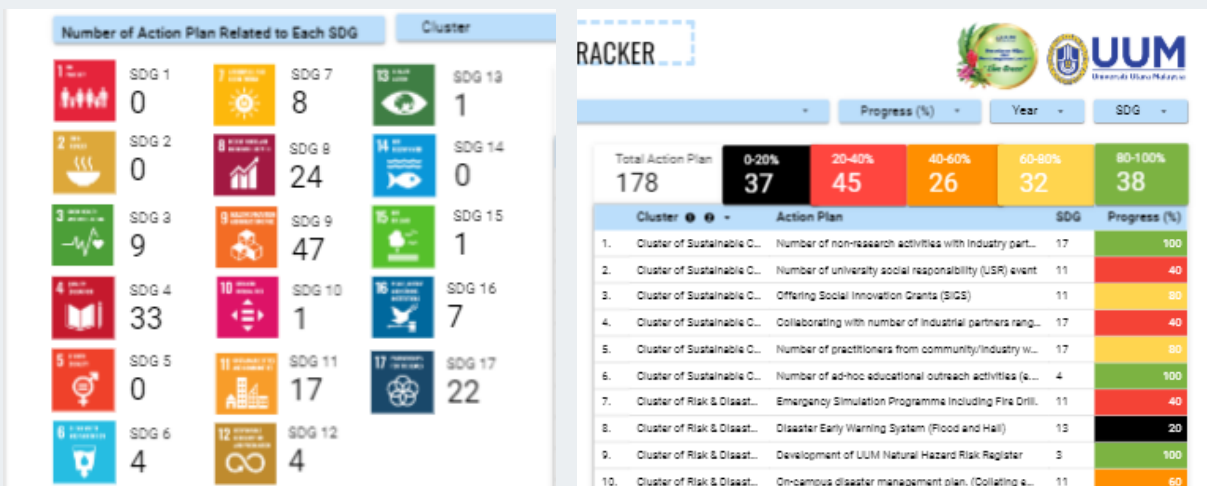
Inserting Images

Step 1: Add an image



Google Looker Studio only allow images to be uploaded from computer, inserted by URL or copied from previous Looker Studio's reports. Therefore, we need to download/copy the URL of the images needed from Google or other sources beforehand.

Step 2: Arrange the images accordingly

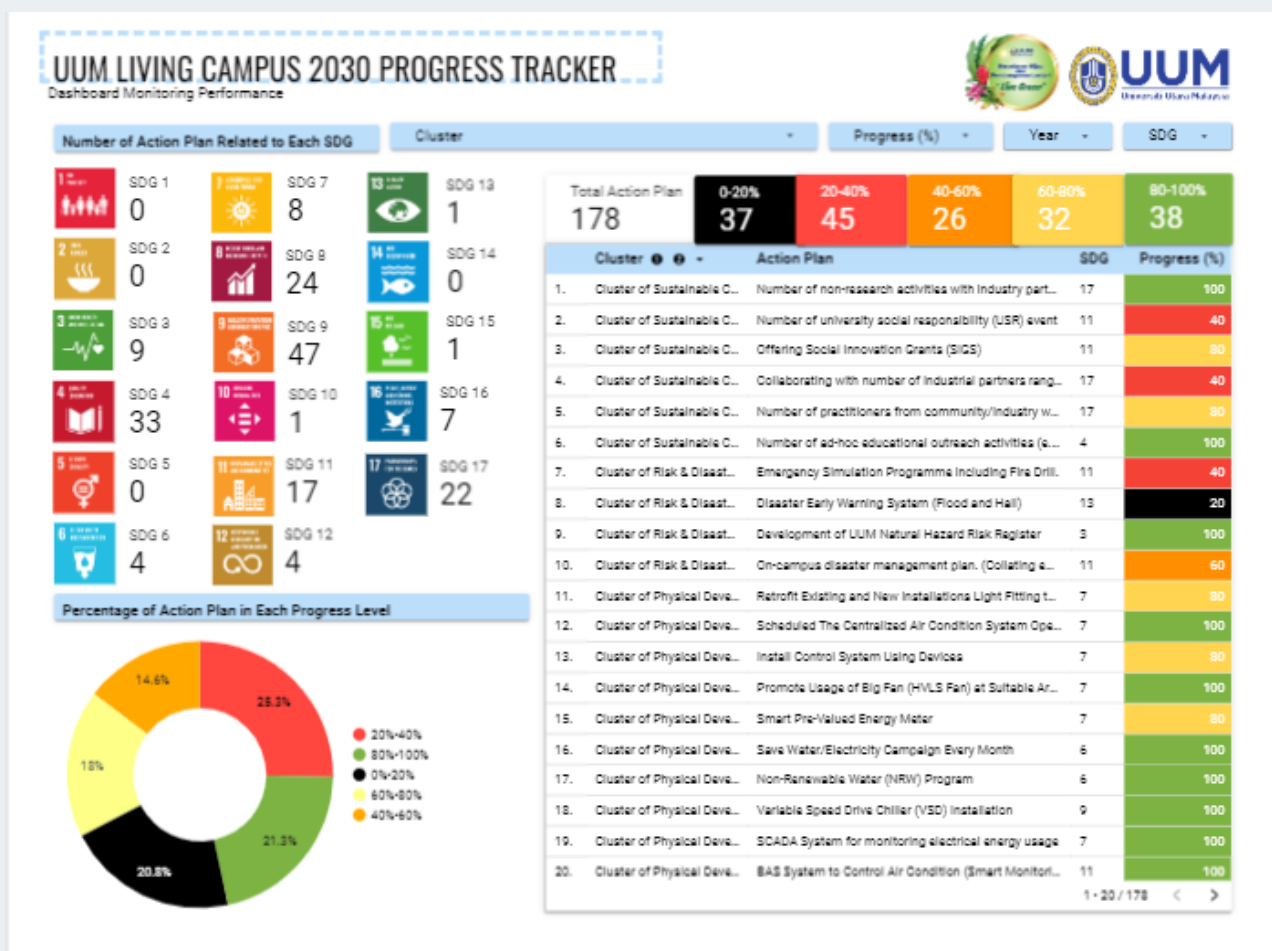


For this dashboard, the required images are logo for each SDG, living campus, and UUM. They are arranged properly as shown in the above diagrams.

STEP-BY-STEP GUIDE

Final Check!

If the controls are functioning well and the information is correctly displayed from the original data source, the dashboard can be considered as successfully created.





CONTACTS

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