

SPACE IT UP!

Synergies Dashboard

User Manual

Version 1.0

1. Introduction

This manual explains how to use the SPACE IT UP! Synergies Dashboard. It is written as a step-by-step operational guide: each section describes what you see on screen, what you can click, and what happens after you click.

The dashboard quantifies and maps the synergies recorded across the nine project Spokes along four dimensions: Spokes, Themes, Work Packages and Tasks, Partners.

1.1 Glossary

Term	Definition
Spoke	One of the nine research areas of the project.
Intraspoke synergy	A synergy between activities within the same Spoke.
Interspoke synergy	A synergy between activities of different Spokes.
Theme	A thematic cluster used to classify project activities.
Cross-theme connection	A synergy that links two activities belonging to different themes.
Work Package (WP)	A structured block of project activities, coded Spoke.WP (e.g. 8.5).
Task	An operational unit within a Work Package, coded Spoke.WP.Task (e.g. 8.5.2).
KPI	Key Performance Indicator. The numeric summary cards at the top of each page.
Slicer	A filter control (Spoke Selection, Type of Synergy, Level of Synergy).

2. Dashboard Layout

The dashboard is organised in five pages, all sharing the same general layout.



Figure 1. General layout of a dashboard page (navigation panel, slicers, KPIs, charts, Reset button).

Every page contains four areas:

- **Navigation panel** on the left — links to the five pages.
- **Slicer bar** at the top — three filters always visible: Spoke Selection, Type of Synergy, Level of Synergy.
- **KPI cards** immediately below the slicers — four numeric summaries.
- **Charts area** in the central body of the page.
- **Reset button** at the top right of every page — clears all active filters.

2.1 The five pages

Page	What it answers
Overview	Project-level summary.
Spoke Analysis	Bilateral relationships between Spokes.
Partner Analysis	Institutions and their centrality in the network.
WP & Task Analysis	Operational level: Work Packages and Tasks.
Themes Analysis	Thematic dimension and cross-theme connections.

To switch page, click on its name in the navigation panel on the left.

3. Using the Filters

This section explains the three filters at the top of every page. Read it first, then move on to the page-by-page chapters.

3.1 Spoke Selection

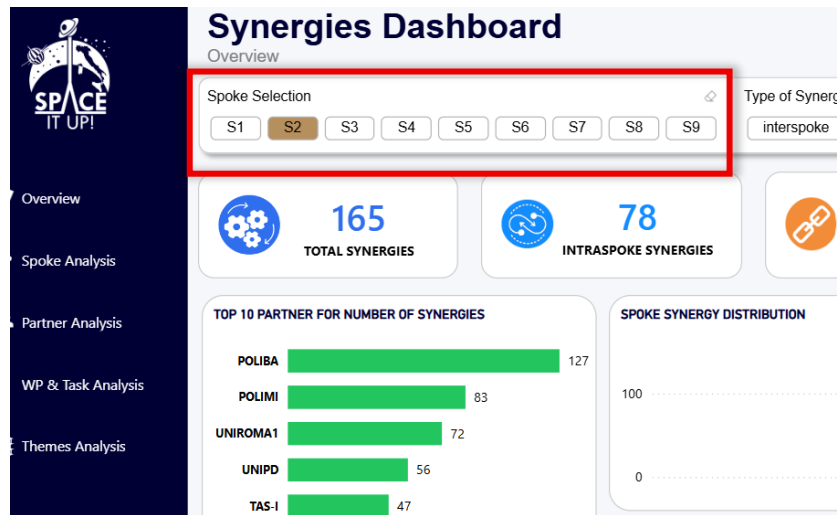


Figure 2. Spoke Selection slicer.

Filters the page on one or more Spokes.

1. **Click** on a Spoke (e.g. S8) to keep only its data on the page.
2. **Ctrl + click** on a second Spoke to add it to the selection.
3. **Click again** on a selected Spoke to remove it from the selection.
4. **Reset** the slicer by clicking the Reset button at the top right of the page.

Example — filtering by S8

On the Overview page, click **S8** in the Spoke Selection slicer. The KPI "Total synergies" updates to show only the synergies in which S8 is involved. The bar chart "Synergy Distribution by Spoke" now displays only the bar for S8, and the Type and Level distributions are recomputed on this subset.

3.2 Type of Synergy

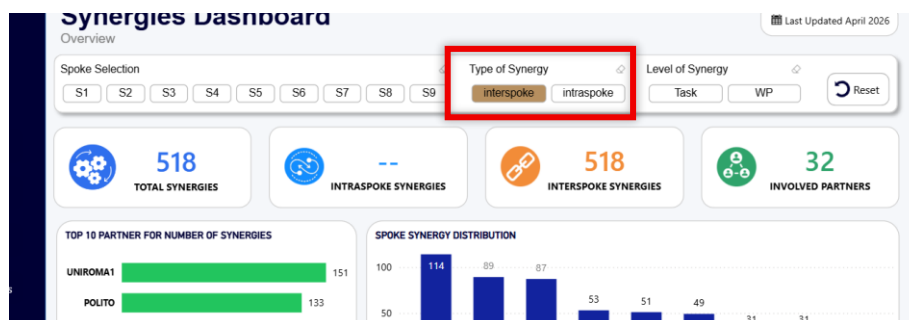


Figure 3. Type of Synergy slicer.

Restricts the view to one type of synergy.

- **interspoke** — shows only synergies between activities of different Spokes.
- **intraspoke** — shows only synergies internal to a single Spoke.

- Leave both selected to see all synergies.

Example — isolating interspoke synergies

Click **interspoke** in the Type of Synergy slicer. The Spoke × Spoke matrix on the Spoke Analysis page now shows zeros on the diagonal, because intraspoke values are filtered out. The KPI "Intraspoke synergies" goes to zero; "Interspoke synergies" stays unchanged.

3.3 Level of Synergy

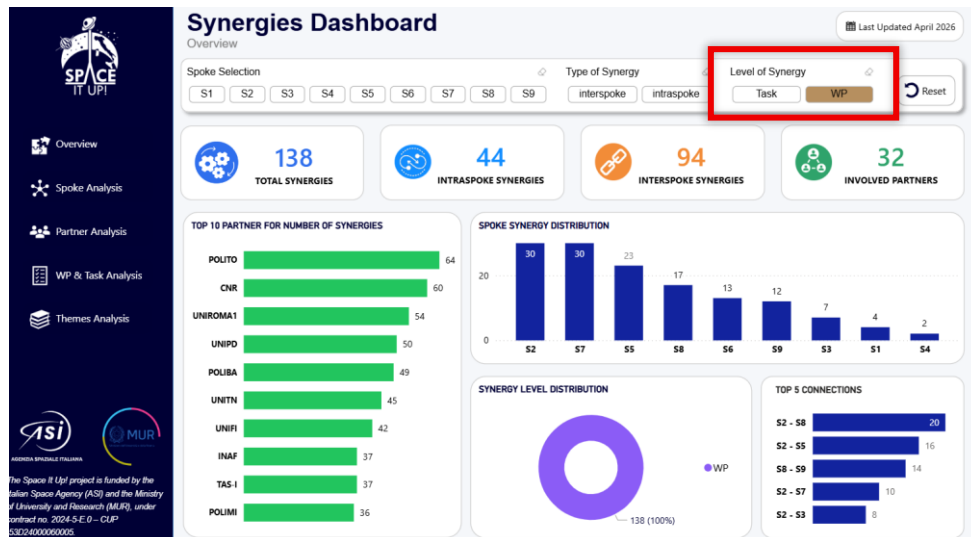


Figure 4. Level of Synergy slicer.

Restricts the view to one operational level.

- **WP** — shows only synergies recorded at Work Package level.
- **Task** — shows only synergies recorded at Task level.
- Leave both selected to see all synergies.

3.4 Combining filters

The three slicers work together. Selecting S8 and interspoke shows only the interspoke synergies of S8. Selecting S8, interspoke and WP shows only the WP-level interspoke synergies of S8.

3.5 Dynamic cross-filtering (clicks on charts)

In addition to the three slicers, every chart on the page is a filter. Clicking on a chart element filters the other charts on the same page.

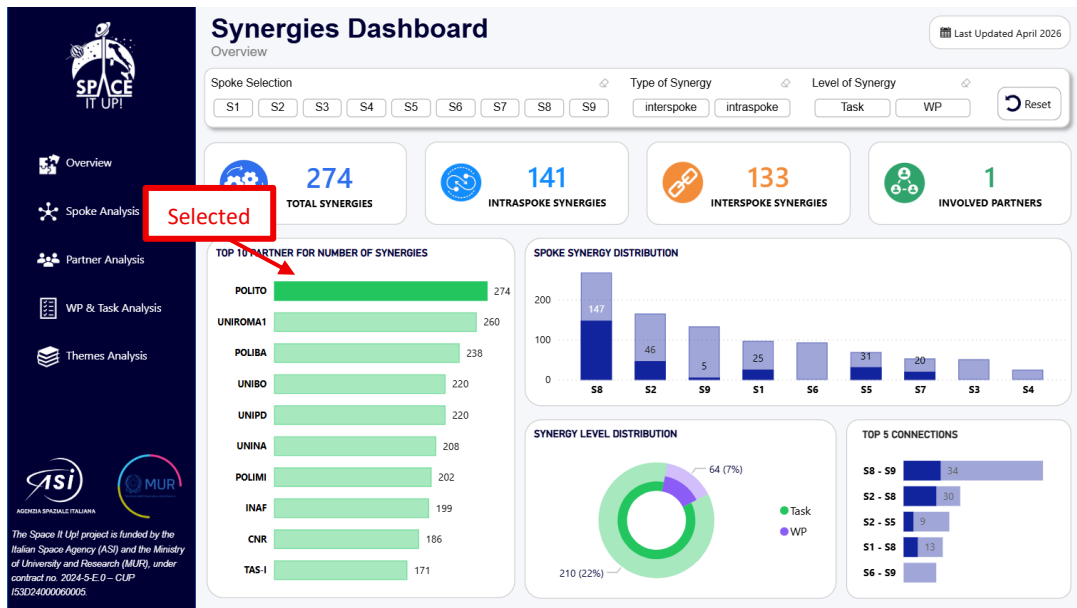


Figure 5. Cross-filtering: clicking a bar filters the other charts on the page.

5. **Single click** on a chart element (a bar, a matrix cell, a Sankey band, a donut segment) filters the other charts to that element.
6. **Ctrl + click** adds further elements to the filter (multi-selection).
7. **Click again** on the same element to remove it from the filter.
8. **Click on empty space** inside the chart to clear that chart's cross-filter.

3.6 Tooltips

Hover the mouse over any chart element to display a tooltip with the underlying numbers. On the Theme x Spoke matrix, the tooltip also shows the dominant theme of the cell and its percentage share.

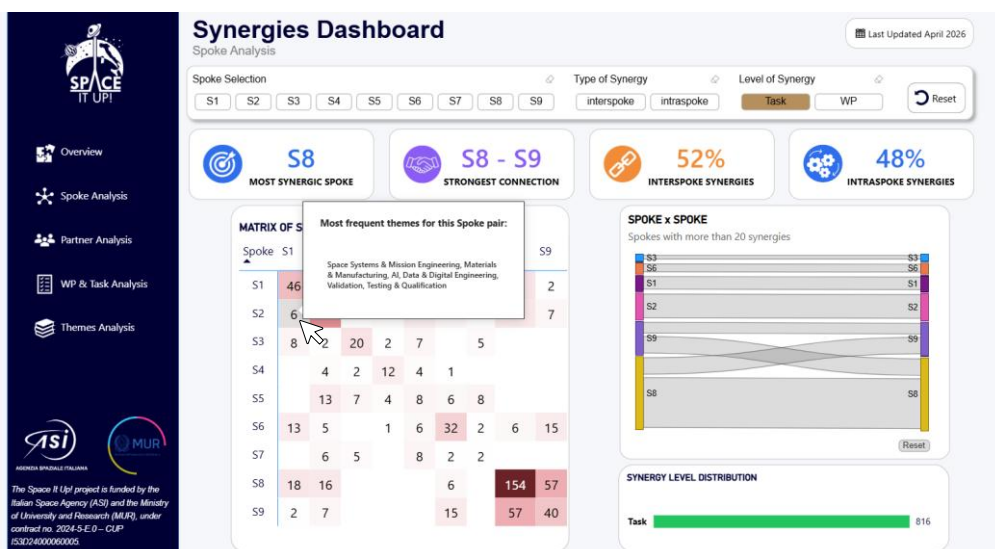


Figure 6. Example of tooltip on the Theme x Spoke matrix.

3.7 Reset button

The **Reset button** at the top right of every page clears all active filters in one click: slicer selections, cross-filters from chart clicks, and any propagated filter from previous pages. Use it whenever the page looks empty or unexpectedly filtered.

4. Page-by-page Guide

4.1 Overview

Entry page. Use it to read the project at a glance before drilling down.



Figure 7. Overview page.

KPI cards

- Total synergies — overall count across all Spokes.
- Intraspoke synergies — count and share of synergies internal to a single Spoke.
- Interspoke synergies — count and share of synergies linking different Spokes.
- Partners involved — total number of institutions contributing to at least one synergy.

Charts and what you can do

Synergy Distribution by Spoke (horizontal bar chart).

- **Click a bar** to filter the page on that Spoke. The KPIs and the other charts update immediately.
- **Ctrl + click** more bars to filter on multiple Spokes.

Synergy Level Distribution (Task vs WP).

- **Click a segment** to filter the page on that level. Equivalent to using the Level of Synergy slicer.

Type of Synergy split (interspoke vs intraspoke).

- **Click a segment** to filter the page on that type. Equivalent to using the Type of Synergy slicer.

Example — how active is Spoke 8 at WP level?

1. Click the bar **S8** in Synergy Distribution by Spoke. 2. In the Level slicer, click **WP**. The KPI "Total synergies" now shows only S8 synergies at WP level. The Type split tells you immediately whether they are mostly internal to S8 or shared with other Spokes.

4.2 Spoke Analysis

Bilateral relationships between Spokes. Use it to answer: who collaborates with whom, and how much?

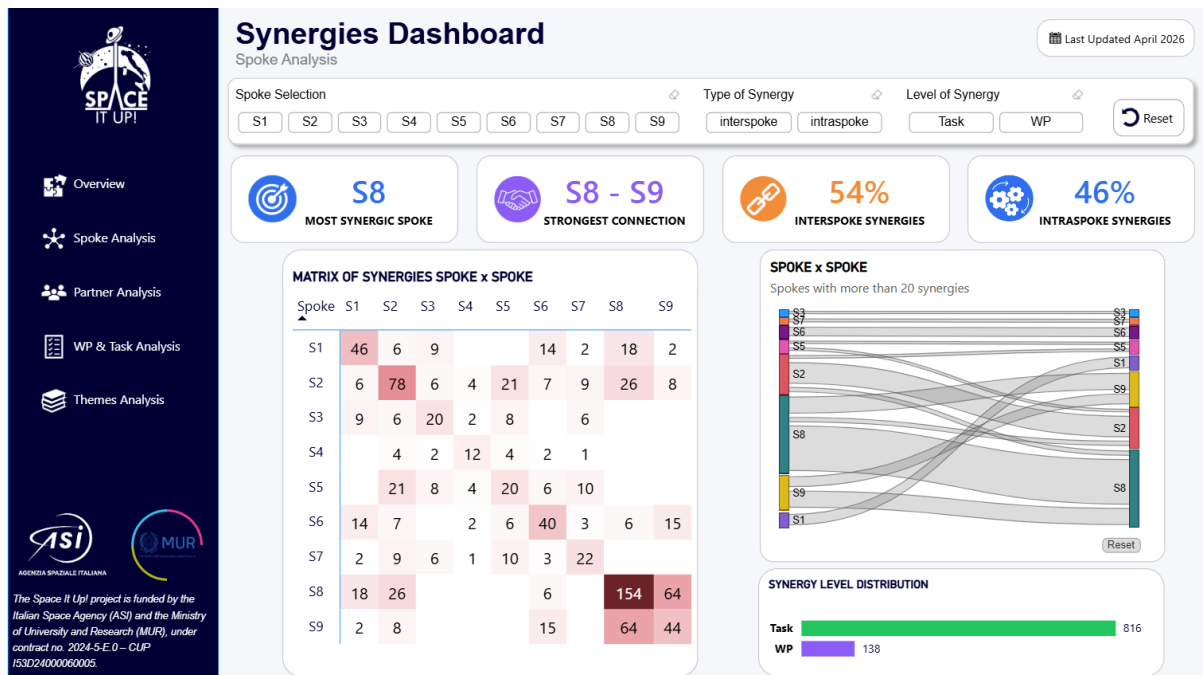


Figure 8. Spoke Analysis page.

KPI cards

- Most synergic Spoke — the Spoke with the highest total number of synergies.
- Strongest connection — the Spoke pair with the largest number of synergies between them.
- Interspoke synergies — count of cross-Spoke synergies.
- Intraspoke synergies — count of within-Spoke synergies.

Charts and what you can do

Spoke x Spoke Matrix — core visual.

- Each cell reports the number of synergies between two Spokes. The **diagonal** shows intraspoke synergies; off-diagonal cells show interspoke ones. Colour intensity highlights the most collaborative pairs.
- **Click a cell** to filter the page on that Spoke pair. The Sankey diagram and the level distribution update accordingly.
- **Click a diagonal cell** (e.g. S8-S8) to isolate the intraspoke synergies of that Spoke.
- **Hover** a cell to see the exact count and the themes related to those synergies.

Sankey Diagram — flows between Spokes.

- Each band connects two Spokes; thickness is proportional to the number of synergies between them.

- Click a **band** to filter on that Spoke pair (same effect as clicking the corresponding matrix cell).
- Click a **Spoke node** on the side of the Sankey to filter on all flows entering or exiting that Spoke.

Synergy Level Distribution — recomputed on the current selection.

Example — inspecting the strongest Spoke pair

1. Read the KPI "Strongest connection" (e.g. S8-S9, 135 synergies). 2. Find the cell **S8-S9** in the matrix. 3. Click the cell. The Sankey now highlights only the S8-S9 band, and the level distribution tells you whether the 135 synergies are mostly at WP or Task level. 4. Click **Reset** to return to the full project view.

4.3 Partner Analysis

Same data, different lens: the unit of analysis is now the partner institution.

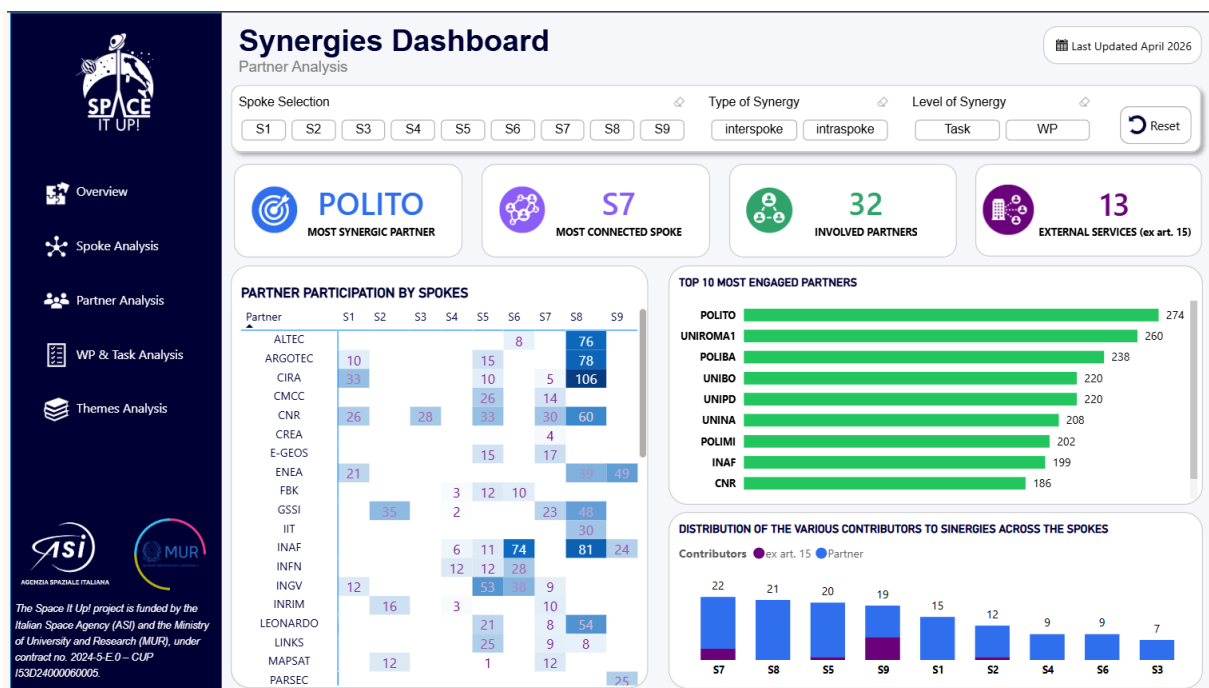


Figure 9. Partner Analysis page.

KPI cards

- Most synergic partner — partner with the highest number of synergies.
- Most connected spoke — the spoke with the highest number of partners involved in synergies.
- Involved partner — total partners involved in the project.
- External services — total number of entities, different than partners, involved in the project as external services (ex art. 15).

Charts and what you can do

Top partners ranking (horizontal bar chart).

- Click a **partner bar** to filter the page on that partner. The Partner × Spoke distribution updates to show only that partner's Spokes.
- **Ctrl + click** more partners to compare them side by side.

Partner × Spoke distribution.

- Shows how the activity of each top partner distributes across the nine Spokes.
- **Click a Spoke** in this chart to filter the partner ranking on that Spoke (which partners contribute most to Spoke X?).

Example — finding the most central partner of S8

1. In the Spoke Selection slicer, click **S8**. 2. Read the top of the partner ranking: the first bar is the partner with the most synergies in S8. 3. Click that bar. The Partner × Spoke distribution now shows whether this partner is concentrated on S8 alone or active across multiple Spokes.

4.4 WP & Task Analysis

Operational level. Use it to identify which Work Packages and Tasks generate the most collaboration.



Figure 10. WP & Task Analysis page.

KPI cards

- Total synergies — overall count across all Spokes.
- Intraspoke synergies — count and share of synergies internal to a single Spoke.
- Interspoke synergies — count and share of synergies linking different Spokes.
- Partners involved — total number of institutions contributing to at least one synergy.

Charts and what you can do

WP Synergy Distribution — bar chart, top WPs by number of synergies.

- WP codes follow the convention Spoke . WP (e.g. 8.5 = Spoke 8, WP 5).
- **Click a WP bar** to filter the page on that WP.
- **Hover** a bar to see the exact count and the themes associated with that WP (multi-theme WPs show all assigned themes in the tooltip).

Task Synergy Distribution — same logic at Task granularity.

- Task codes follow the convention Spoke . WP . Task (e.g. 8.5.2).
- **Click a Task bar** to filter the page on that Task.

Example — which WP of S8 generates the most synergies?

1. Click **S8** in the Spoke Selection slicer. The WP Synergy Distribution now ranks only the WPs of S8.
2. The top bar (e.g. 8.5) is the most synergic WP of Spoke 8. 3. Hover on it to see which themes it spans.

4.5 Themes Analysis

Thematic dimension. Use it to assess the partnership's interdisciplinarity.



Figure 11. Themes Analysis page.

KPI cards

- Top cross-theme — the theme pair with the highest number of synergies between them.
- Cross-theme synergies — total synergies linking two different themes.
- Most synergic theme — theme involved in the largest number of synergies.
- Total themes — total count of themes in the project.

Charts and what you can do

Cross-theme vs same-theme donut .

- Shows the share of cross-theme synergies vs synergies that stay within the same theme.
- **Click a segment** to filter the page on cross-theme or same-theme synergies only.

Top 5 cross-theme connections (bar chart).

- Each bar is a theme-to-theme pair; bar length is the number of synergies between the two themes.
- **Click a bar** to filter the page on that theme pair.

Theme × Spoke Matrix (heatmap).

- Each cell reports the number of synergies between a theme and a Spoke. Color intensity highlights concentration.
- **Click a cell** to filter the page on that theme-Spoke combination.

- **Click a row header** (theme) to filter on that theme across all Spokes.
- **Click a column header** (Spoke) to filter on that Spoke across all themes.

Example — are S8's synergies concentrated on one theme?

1. In the Theme × Spoke matrix, click the column header **S8**. The page filters on S8. 2. The Top 5 cross-theme bars now show only the cross-theme connections that involve S8. 3. The donut shows the share of S8 synergies that are cross-theme vs same-theme. A high cross-theme share means S8 is interdisciplinary; a low share means it is specialised on a few themes.

5. Worked Scenarios

Three end-to-end usage scenarios. Each shows a sequence of clicks and what to read on screen.

5.1 Scenario A — "Where is the strongest cross-Spoke collaboration?"

9. Open the dashboard on the **Overview** page.
10. Switch to **Spoke Analysis**.
11. Read the KPI **Strongest connection**: it names the dominant Spoke pair (e.g. S8-S9).
12. Locate the corresponding cell in the **Spoke × Spoke matrix** and click it.
13. Read the **Synergy Level Distribution** to see whether the dominant pair operates at WP or Task level.
14. Switch to **WP & Task Analysis**. The top WPs and Tasks in the bar chart are the ones that drive the dominant connection.
15. Click **Reset** before moving on.

5.2 Scenario B — "Which partners are the most central in the network?"

16. Open the **Partner Analysis** page.
17. Read the KPI **Most synergic partner**: the institution with the highest number of synergies.
18. Look at the **Top partners ranking** to see the top 5-10 institutions and the gap between them.
19. Click the top bar. The **Partner × Spoke distribution** updates to show how this partner spreads across Spokes.
20. If the distribution is concentrated on one or two Spokes, the partner is a vertical specialist; if it is spread across many Spokes, the partner is a cross-cutting hub.
21. Repeat with the second and third partner to compare profiles.

5.3 Scenario C — "Is Spoke 8 interdisciplinary?"

22. Open the **Themes Analysis** page.
23. In the Spoke Selection slicer, click **S8**.
24. Read the **Cross-theme vs same-theme donut**. A cross-theme share above ~40% indicates strong interdisciplinarity (project average for reference).
25. Read the **Top 5 cross-theme connections** — these are the themes most often bridged in S8.
26. Look at the **Theme × Spoke matrix** column for S8. The number of non-zero cells indicates how many themes S8 covers, and colour intensity shows which ones dominate.
27. Click **Reset** to return to the full project view.

6. Quick Reference

6.1 Mouse and keyboard

Action	Effect
Single click on an element	Filter the page on that element.
Ctrl + click	Add the element to the current selection (multi-select).
Click again on the same element	Remove it from the selection.
Click on empty space inside a chart	Clear that chart's cross-filter.
Hover	Show the tooltip with exact values and extra info.
Reset button	Clear all active filters on the page.

6.2 Common tasks

Goal	Action
Filter by one Spoke	Click the Spoke in the Spoke Selection slicer.
Filter by multiple Spokes	Hold Ctrl and click each Spoke.
Remove a filter	Click again on the active element, or use the Reset button.
See only interspoke synergies	Click 'interspoke' in the Type of Synergy slicer.
See only WP-level synergies	Click 'WP' in the Level of Synergy slicer.
Inspect a Spoke pair	Click the corresponding cell in the Spoke × Spoke matrix.
Inspect a single WP	Go to WP & Task Analysis and click the corresponding bar.
Identify the most central partner	Read the top bar of the Partner ranking.
Read the dominant thematic bridges	Read the Top 5 cross-theme bars on the Themes page.
Return to the full project view	Click the Reset button.

6.3 Troubleshooting

- **A chart looks empty.** Active filters may exclude all data. Click the Reset button.
- **The Spoke matrix looks asymmetric.** Expected behaviour. The matrix records source and target separately; the symmetric cell completes the picture.
- **Cross-filtering disappears when I change page.** Cross-filters from chart clicks are page-local by design.
- **The tooltip on a WP bar shows multiple themes.** Expected. A WP can be tagged with more than one theme.