TERRAFA

Continuum

Feature guide

VERSION v0.0.38 · 2026-09-27

CONTENTS

Core ideas

- Confidence in every number
- Transfer functions: a formula, defined once
- Facets: filters that show one face of the data

How to read the screenshots

1. Features that are not on screen
2. The screen frame
3. Accounts and sign-in
4. Operational shell
   - CONTROL CONSOLE
   - MAP
   - CSV EXPORT
   - Rewiring from the operational shell
5. Technical shell
   - 5.1 The instrument bench
   - 5.2 CONTROL CONSOLE
   - 5.3 MAP
   - 5.4 DATA
   - 5.5 DATA TREE
   - 5.6 NETWORK
   - 5.7 TRANSFER FUNCTION
   - 5.8 CAUSALITY
   - 5.9 COSTS
6. Guidance
7. SETTINGS

Core ideas

This guide lists the features of Continuum. Each feature on screen has a screenshot. Three ideas explain why many of the features are there. Read them first.

Confidence in every number

Every reading comes from an instrument, and every instrument has an error. A tank gauge is sharp in the middle of its range and less sure near its limits. A meter can be precise and still wrong. So in Continuum a reading is not a single number. It is a value with a spread, written `± σ`.

The spread comes from the data, or from a value that you declare, for example from a calibration certificate. When readings combine into a figure, Continuum calculates the spread of the figure from the spreads of its inputs.

When SHOW VARIANCE is on, the charts and the instrument faces show the value with its bounds, `value ± z·σ`. The confidence key sets how wide the bounds are: 1σ, 90%, 95% or 99%. A tile whose source has no known spread stays blank, so that it does not look certain.

Why this is in Continuum. A decision that rests on a number needs to know how far to trust that number. A stock figure of 14,203 bbl ± 118 supports a different decision from 14,203 bbl ± 2,000. SHOW VARIANCE, the confidence key, the bands on the charts and the blank tiles all come from this idea.

Transfer functions: a formula, defined once

A transfer function is the same idea as a formula in a spreadsheet such as Excel. It takes input readings and calculates a new value from them. It can add two tank levels, convert a unit, or apply a model.

There are three differences from a spreadsheet formula:

1. **You define it once.** The function goes into the function library under a name. NETWORK and the instrument bench use it by that name.
2. **You see what it does.** TRANSFER FUNCTION draws the function over the whole range of its input, so you see its shape before you use it.
3. **You see what it does to the spread.** The drawing shows the band round the output. A function that bends sharply can make a small input spread into a large output spread. The editor shows that, and says how it calculated the band.

Continuum also checks each function as you build it. It refuses a function that has no value on part of the input range, such as the log of a reading that can be 0. It then offers a correction.

Why this is in Continuum. In a spreadsheet, a formula is often copied into many cells, and the sheet does not show its effect on the spread of the answer. A transfer function has one definition, and the editor shows its effect on the value and on the spread.

Facets: filters that show one face of the data

Facets are filters. Think of a cut stone. It is one stone, but each face shows it from a different side. A facet is one side of your data: PHYSICAL, FISCAL or COMMERCIAL. A facet value, such as IN TANK or COMMITTED, marks a dataset as part of that side.

You set the facets of a dataset once, in TABLE FACETS. Then you select facets with the FACET key in the top bar. The screens then show only the data that matches. The data does not change. It only shows a different face.

Why this is in Continuum. An operations team, a finance team and a commercial team look at the same tanks and the same contracts. Each team needs its own view. Facets give each team a view of one set of data.

How to read the screenshots

Each screenshot shows the whole application window. A red box with a number marks an area of the screen, such as a panel, a bar or a menu. A blue tag marks each control that takes a press, a drag or typed text. The tag `3.4` is the fourth control in area 3. Controls with no panel round them have tags but no red box.

The table under each screenshot has a row for every tag. A row can name one tag (`3.4`), a range in one area (`3.4–3.9`), or a whole area (`3`).

The screenshots come from the application itself, with the demo data a signed-out visitor sees.

1. Features that are not on screen

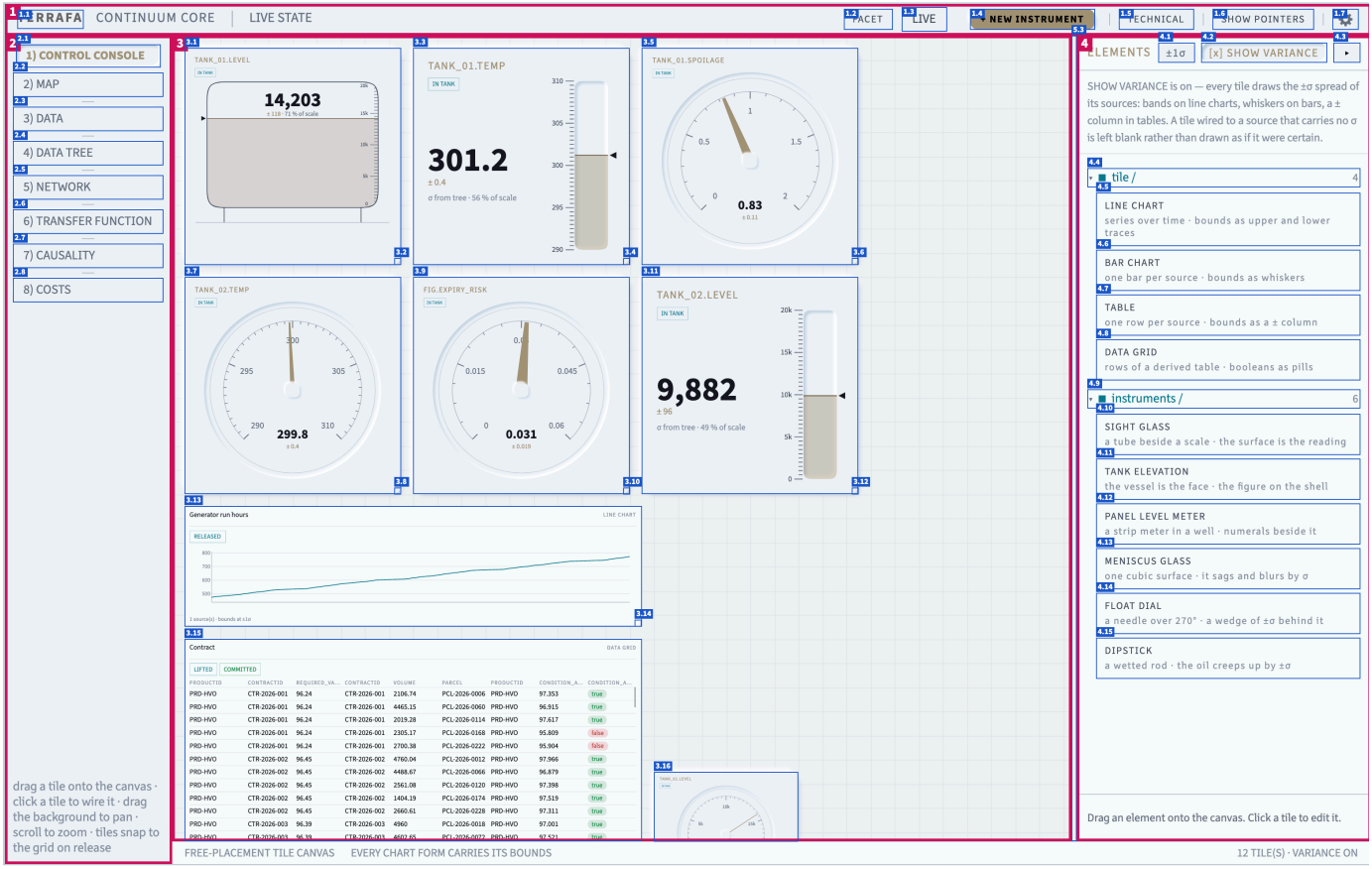
These features have no screenshot, because they are not part of the user interface.

Feature	What it does
Desktop app	Runs on macOS (Intel and Apple silicon), Windows and Linux.
Browser app	The same application, in a web browser. LOCAL DATA works in the desktop app only.
Sign-in session	You sign in with an email address and a password. The session renews itself before it expires. When a session ends, the app goes back to demo data.
Saved user state	The app saves the work of each account: settings, dashboard, functions, workspace, network, causality, costs and map. It restores them at the next sign-in.
Data loads when referenced	Every catalogued dataset is in the workspace from the start. Schemas load in the background. Rows load only for a leaf that a tile, a network card or a chain names.
Demo starter	A signed-out user, and a new account, open on a worked generator contract with a meter, a chain and two costs.

2. The screen frame

Every screen has the same top bar and tab strip. The top bar holds the keys that act on the whole application.

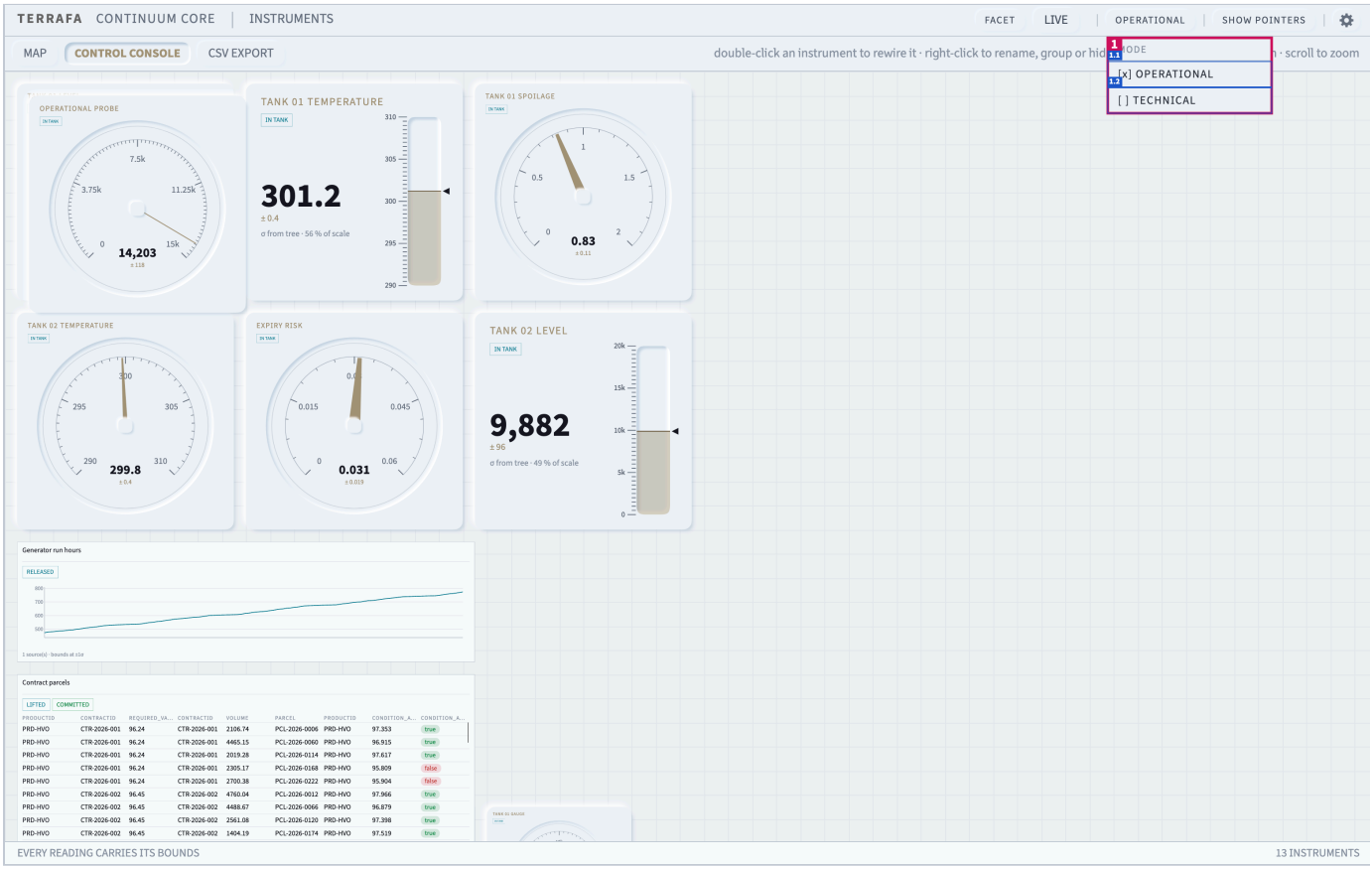
Figure 1. The top bar and the tab strip, technical shell



The technical CONTROL CONSOLE, with the top bar and the tab strip

Tag	Control	What it does
1.1	TERRAFA	Opens the contact card (Figure 4).
1.2	FACET	Opens the facet list (Figure 3). A selected facet filters the screens. The key shows how many facets are selected.
1.3	LIVE	Subscribes every live dataset that a tile, a network card or a chain names. Each new reading adds a row, and the network and the tiles update. The service closes a connection after two hours at most. The key then says why, and a press connects again.
1.4	+ NEW INSTRUMENT	Opens the instrument bench (section 5.1). The key shows on CONTROL CONSOLE and MAP only.
1.5	TECHNICAL	Opens the MODE list (Figure 2), which switches between the two shells.
1.6	SHOW POINTERS	Shows or hides the coach marks on the screen (Figure 68).
1.7	Gear	Opens SETTINGS (section 7).
2.1–2.8	Screen tabs	Open the eight technical screens. Drag a tab to change the order. The app saves the order.
3, 4, 5	CONTROL CONSOLE	Figure 20 describes the tile canvas, the ELEMENTS panel and the panel handle.

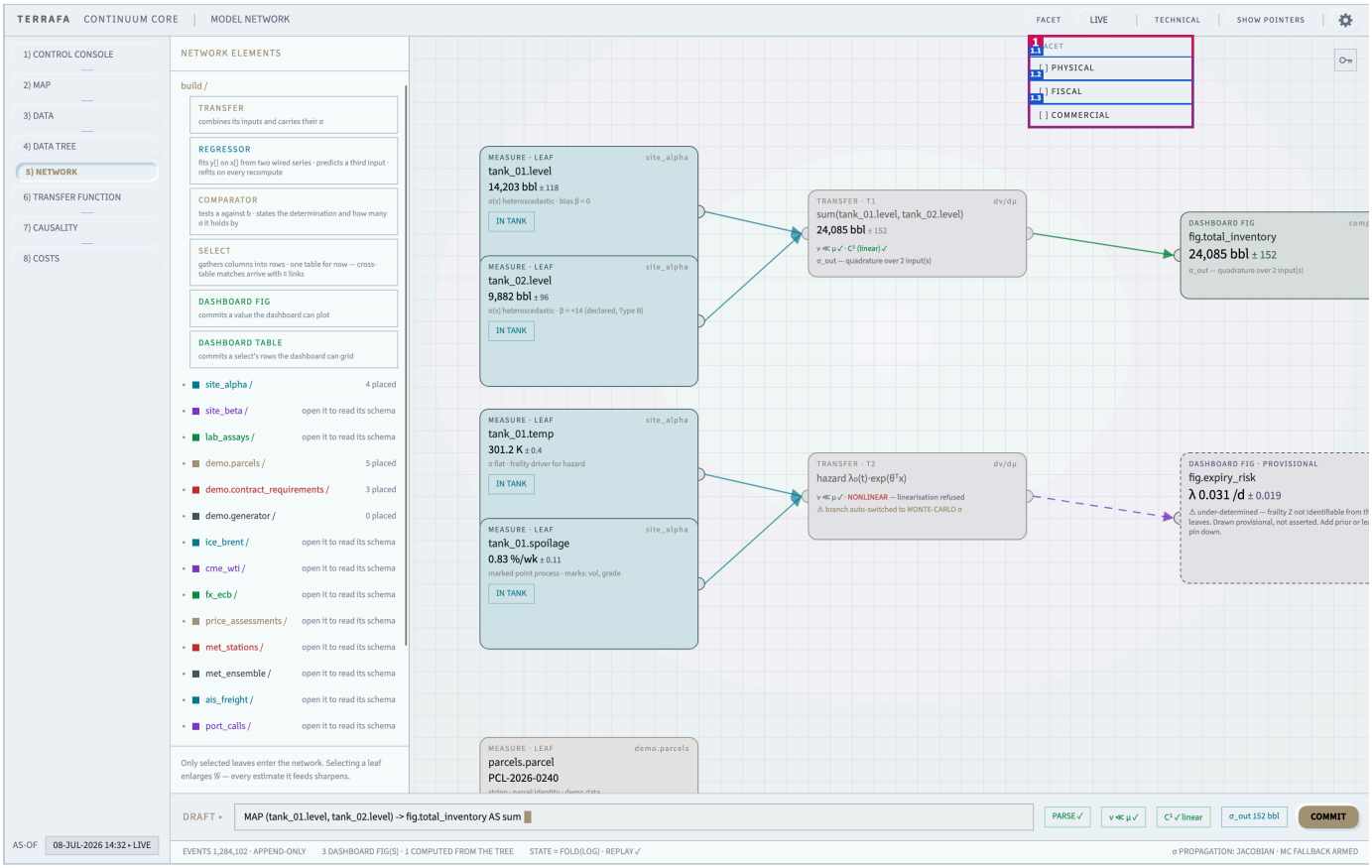
Figure 2. The MODE list



The MODE list open over the operational shell

Tag	Control	What it does
1.1	OPERATIONAL	Shows the operational shell: MAP, CONTROL CONSOLE and CSV EXPORT.
1.2	TECHNICAL	Shows the technical shell: the eight wiring screens.

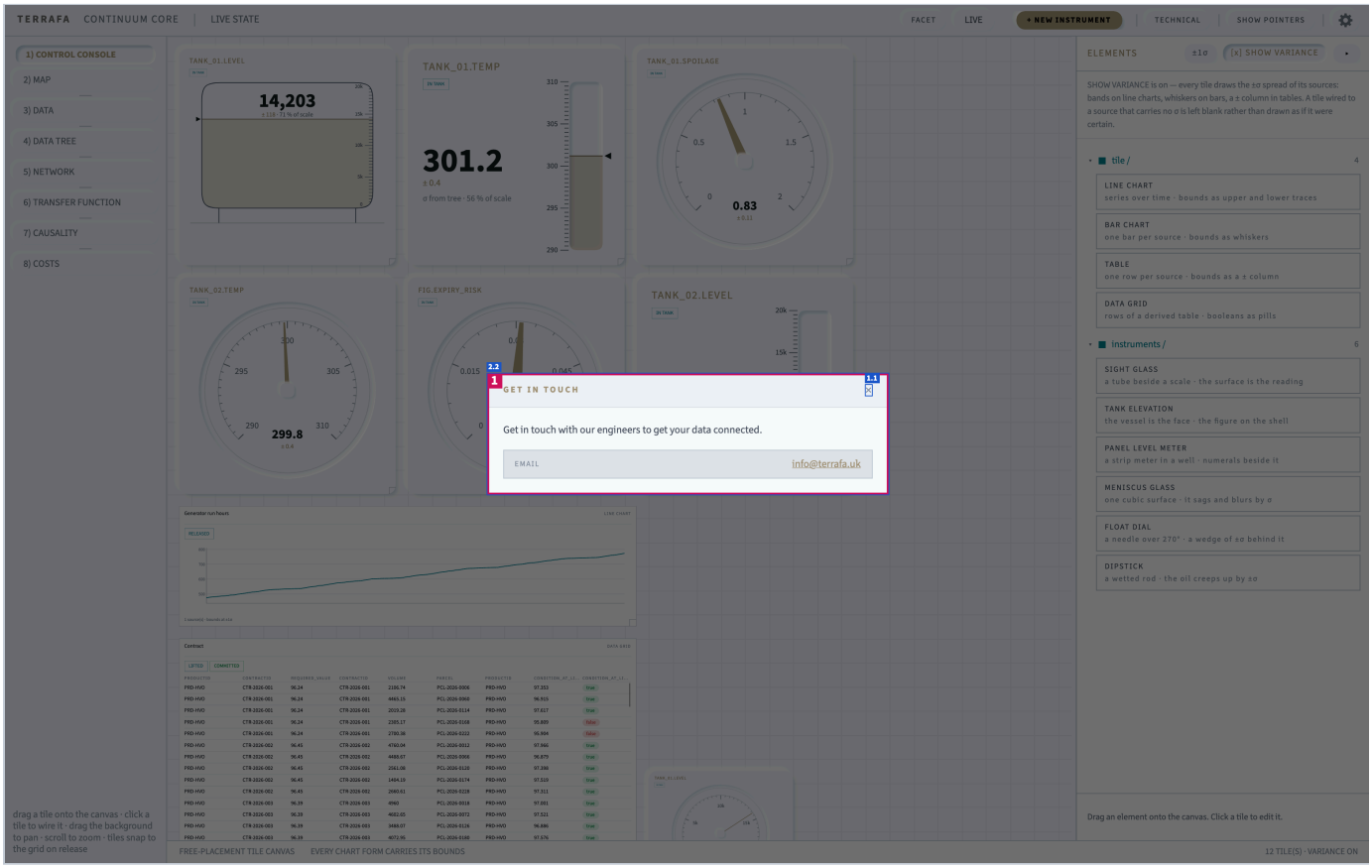
Figure 3. The FACET list



The FACET list open under the top bar

Tag	Control	What it does
1.1–1.3	PHYSICAL, FISCAL, COMMERCIAL	Select or clear a facet. A dataset carries facets. The screens show what matches the selected facets.

Figure 4. The contact card



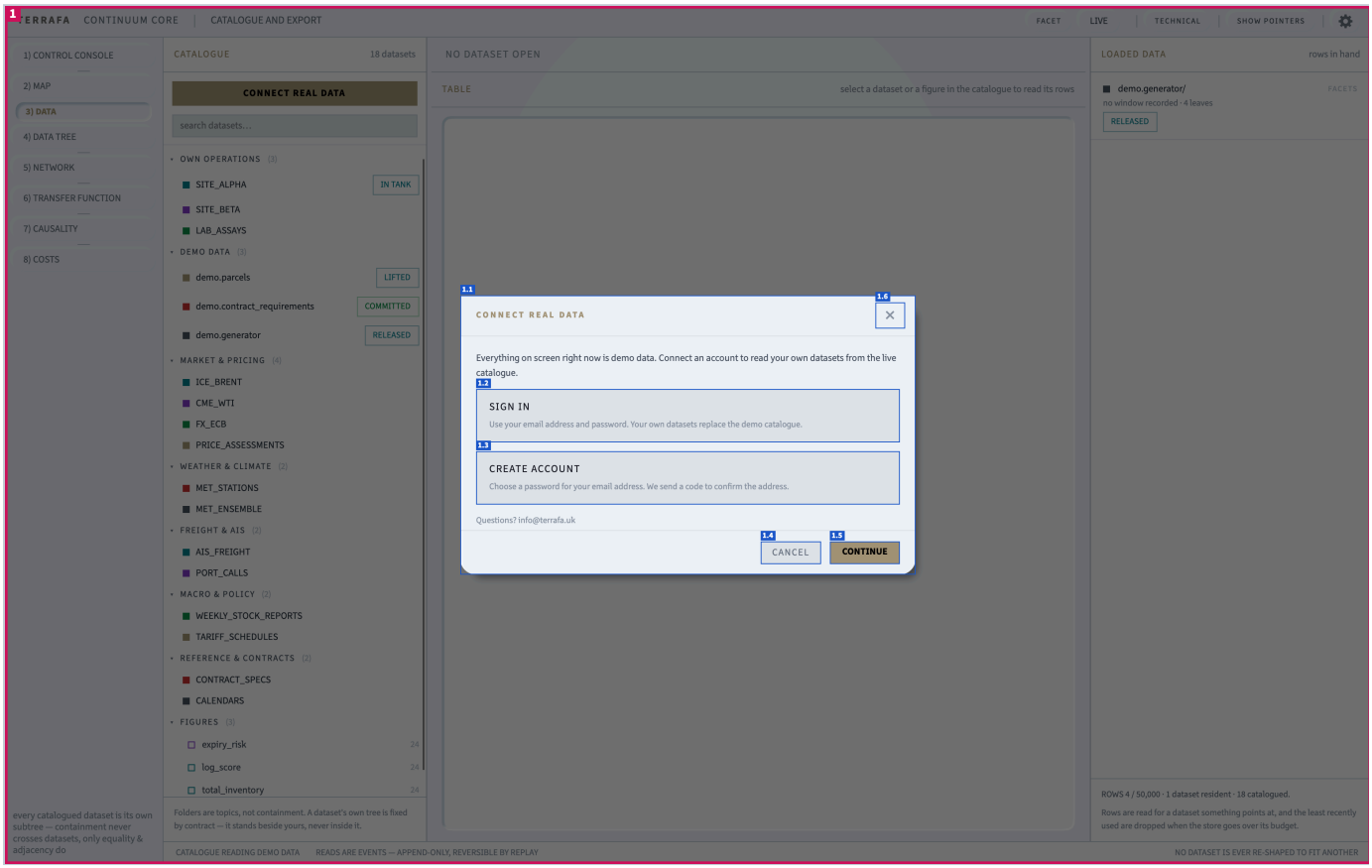
The GET IN TOUCH card, opened from TERRAFA

Tag	Control	What it does
1.1	×	Closes the card.
2.2	Card	The card holds the email address of the Terrafa engineers: info@terrafa.uk.

3. Accounts and sign-in

A user who is not signed in sees the built-in demo catalogue. The status bar on DATA then says `CATALOGUE READING DEMO DATA`. CONNECT REAL DATA on DATA (Figure 26) and SIGN IN in SETTINGS (Figure 69) open the sign-in dialog. Sign out empties the workspace and goes back to demo data.

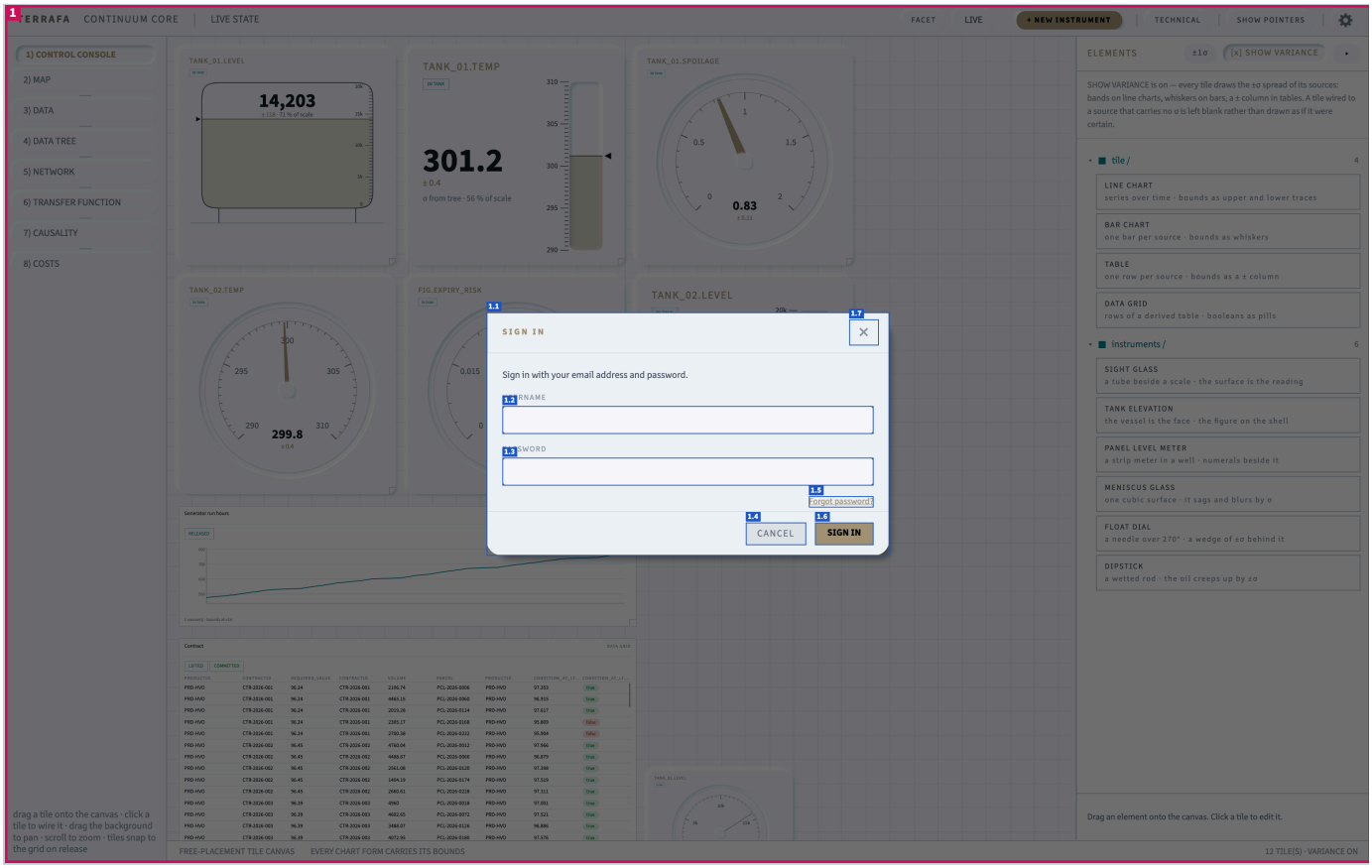
Figure 5. CONNECT REAL DATA



The first step of the sign-in dialog

Tag	Control	What it does
1.1	Dialog card	Holds the dialog. A press on the card or on the backdrop does not close it.
1.2	SIGN IN	Selects sign-in with an existing account.
1.3	CREATE ACCOUNT	Selects a new account.
1.4, 1.6	CANCEL, ✕	Close the dialog.
1.5	CONTINUE	Goes to the step for the selected route.

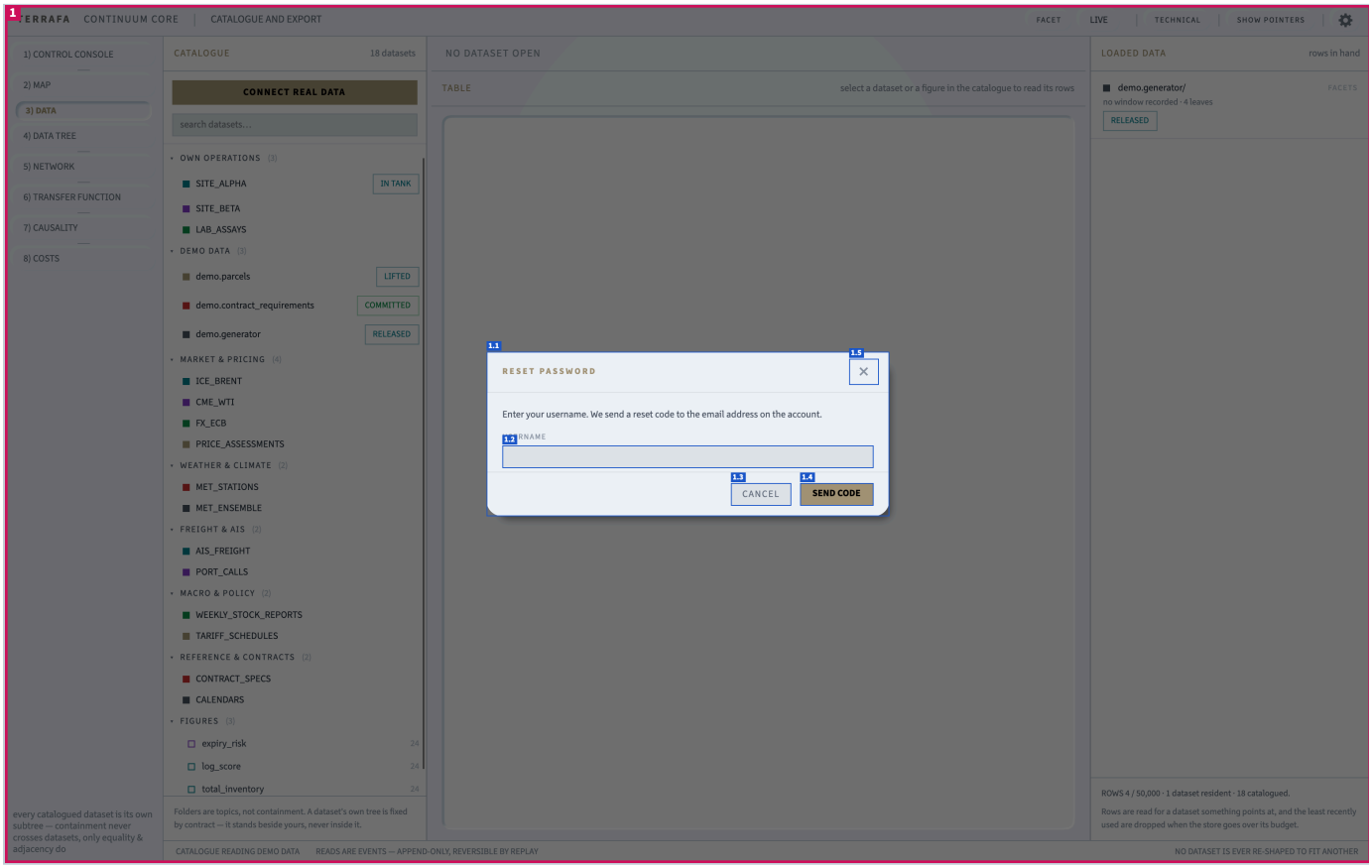
Figure 6. SIGN IN



The SIGN IN step

Tag	Control	What it does
1.1	Dialog card	Holds the dialog.
1.2	Username	The email address of the account.
1.3	Password	The password of the account.
1.4, 1.7	CANCEL, ✕	Close the dialog.
1.5	Forgot password?	Goes to RESET PASSWORD (Figure 7).
1.6	SIGN IN	Signs in. The catalogue of the account then replaces the demo catalogue.

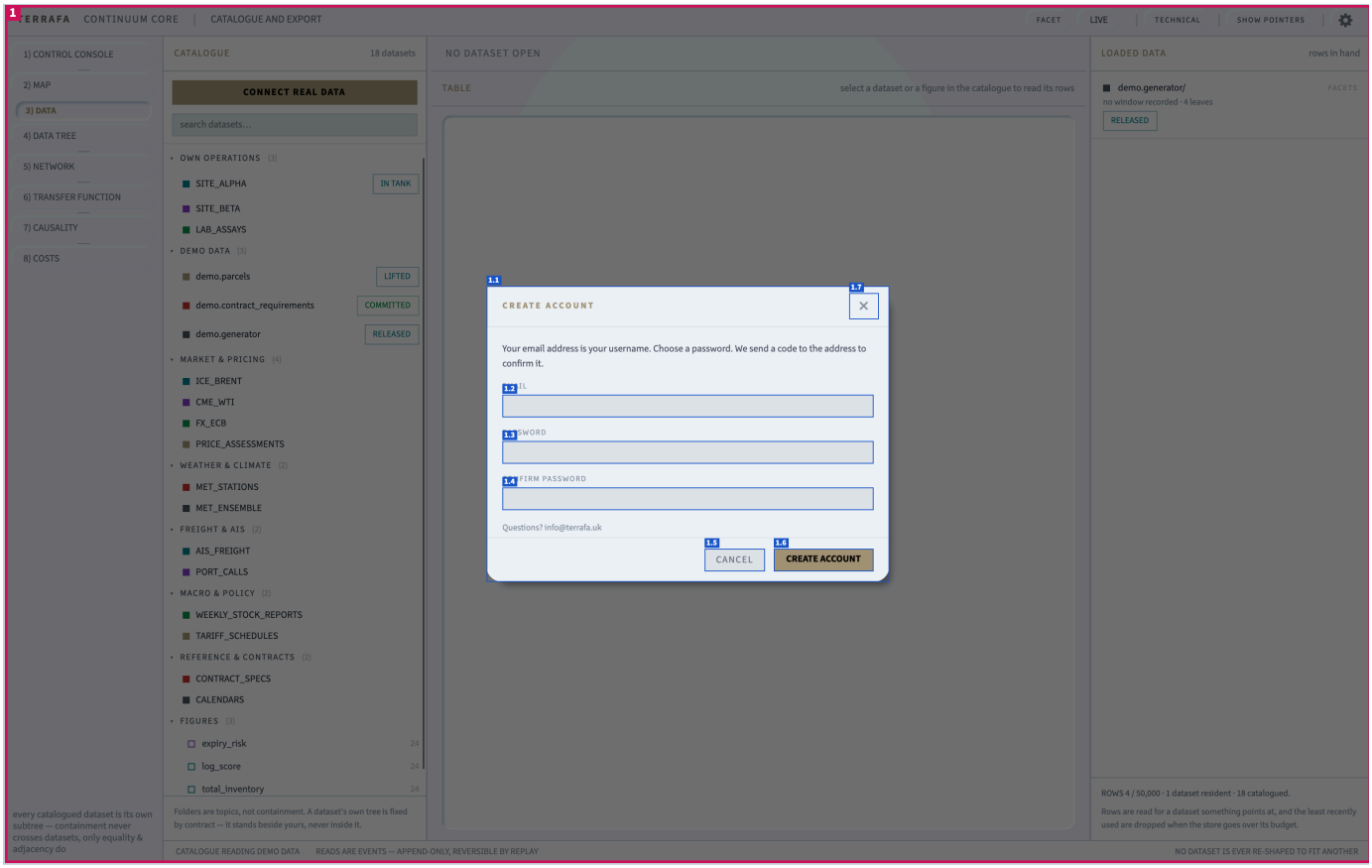
Figure 7. RESET PASSWORD



The RESET PASSWORD step

Tag	Control	What it does
1.1	Dialog card	Holds the dialog.
1.2	Username	The account to reset.
1.3, 1.5	CANCEL, ✕	Close the dialog.
1.4	SEND CODE	Sends a reset code to the verified email address. The next step takes the code and a new password.

Figure 8. CREATE ACCOUNT



The CREATE ACCOUNT step

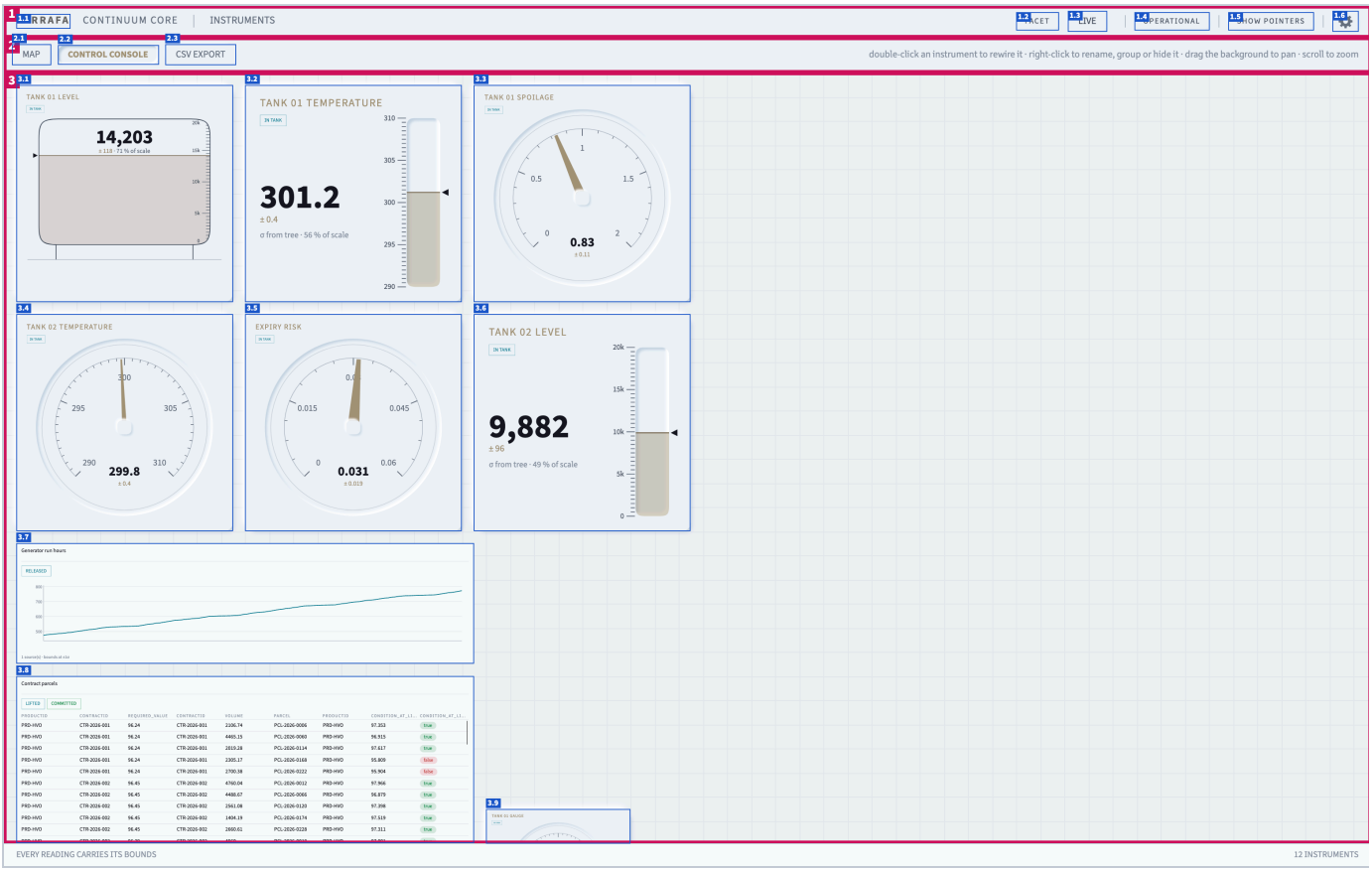
Tag	Control	What it does
1.1	Dialog card	Holds the dialog.
1.2	Email	The email address. It is also the username.
1.3, 1.4	Password, confirm password	The password the user chooses, typed two times.
1.5, 1.7	CANCEL, ✕	Close the dialog.
1.6	CREATE ACCOUNT	Makes the account. The pool emails a code. The next step takes the code and signs the user in.

4. Operational shell

The operational shell is for a reader of the instruments. It shows three surfaces over the same state as the technical shell.

CONTROL CONSOLE

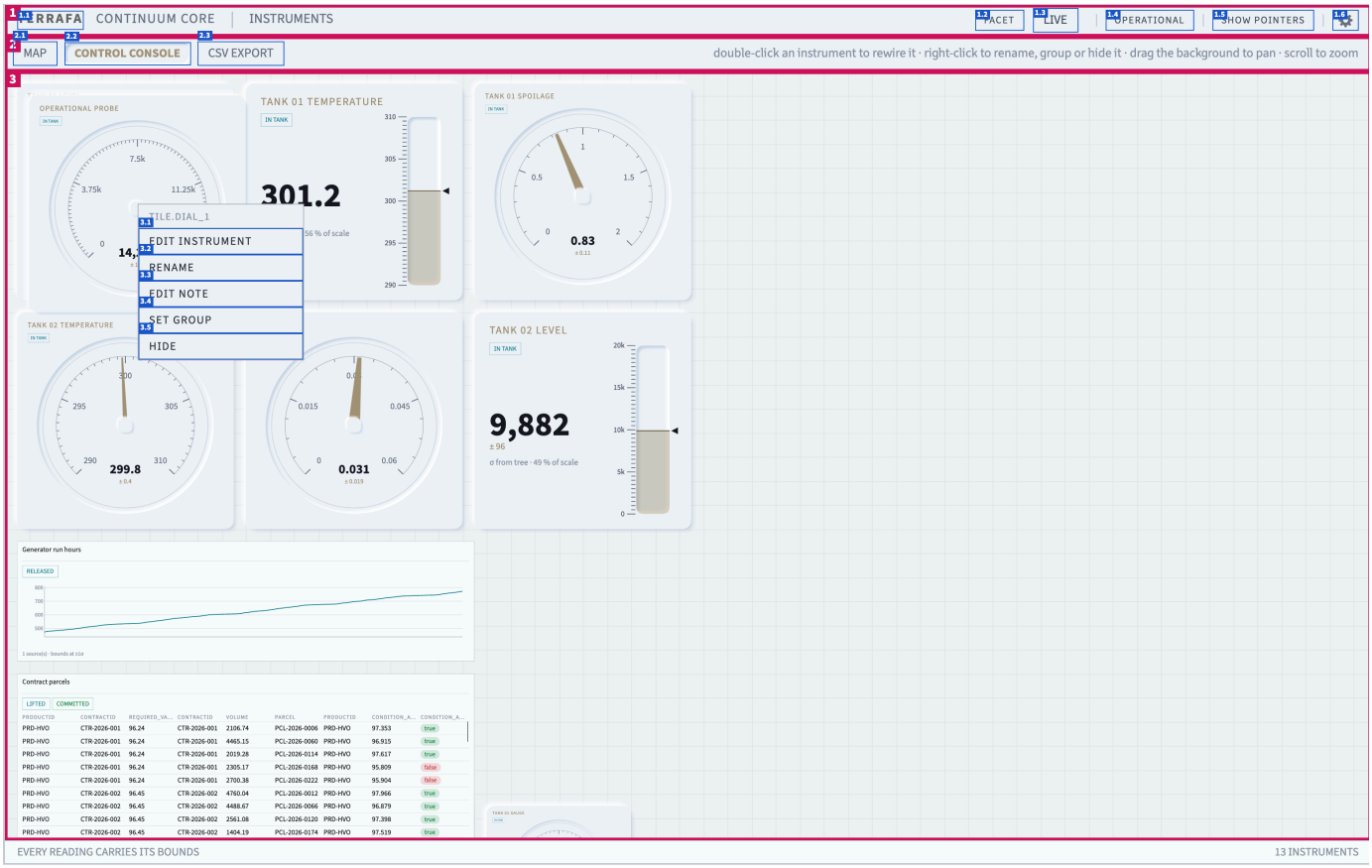
Figure 9. CONTROL CONSOLE, operational shell



The operational CONTROL CONSOLE

Tag	Control	What it does
1.1	TERRAFA	Opens the contact card (Figure 4).
1.2	FACET	Opens the facet list (Figure 3).
1.3	LIVE	Subscribes the live datasets in use. Figure 1 has the detail.
1.4	OPERATIONAL	Opens the MODE list (Figure 2).
1.5	SHOW POINTERS	Shows or hides the coach marks.
1.6	Gear	Opens SETTINGS (section 7).
2.1–2.3	MAP, CONTROL CONSOLE, CSV EXPORT	Open the three operational surfaces. The order is fixed.
3.1–3.9	Instruments	The technical dashboard, read-only. There is one layout, not two. A double-click opens the instrument bench on that instrument. A right-click opens the instrument menu (Figure 10). With variance on, each reading shows its bounds.
4	Canvas	Drag the background to pan. Scroll to zoom.

Figure 10. The instrument menu

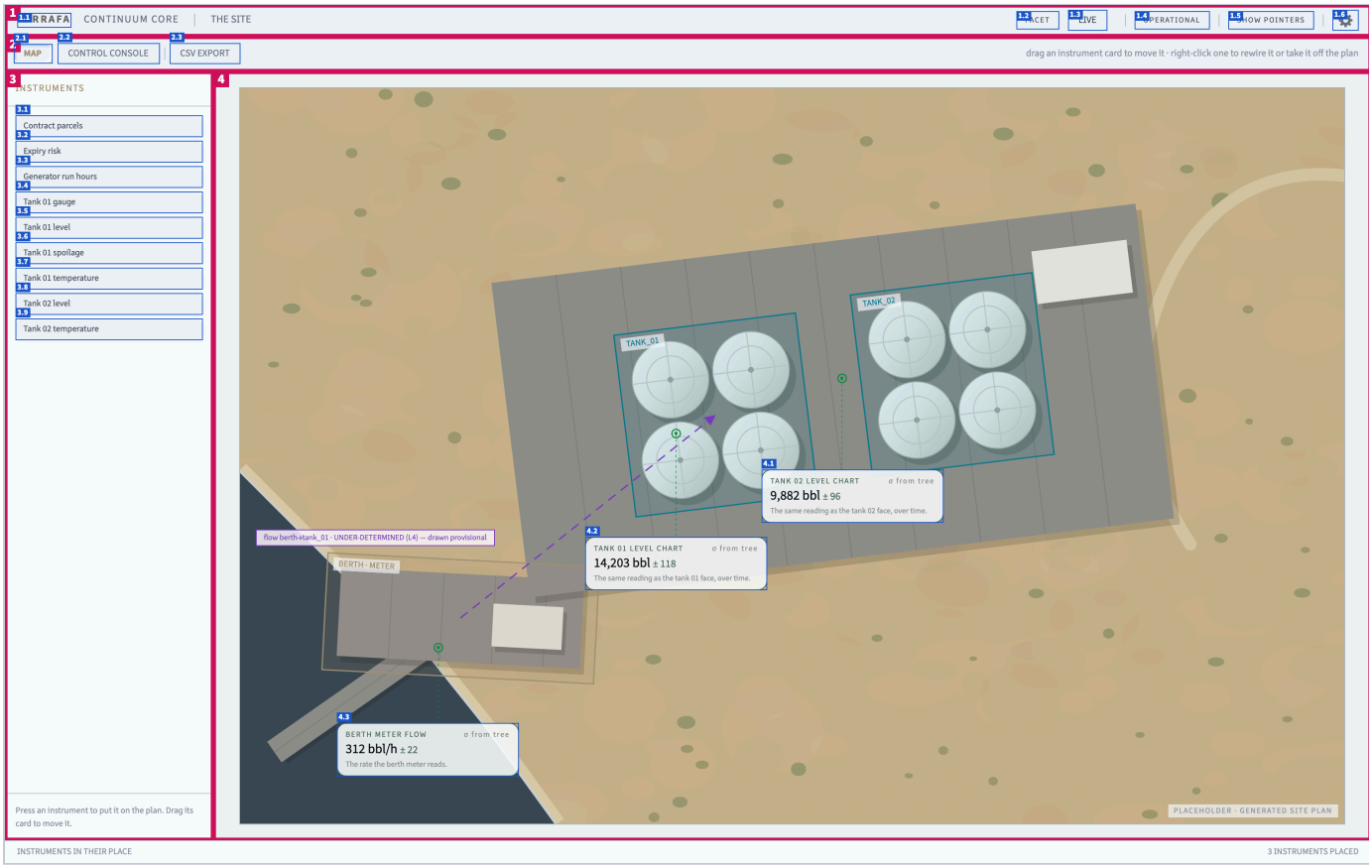


The instrument menu on the operational CONTROL CONSOLE

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 9.
3.1	EDIT INSTRUMENT	Opens the instrument bench on this instrument (Figure 14).
3.2	RENAME	Sets the name the reader sees.
3.3	EDIT NOTE	Sets a note about what the instrument is.
3.4	SET GROUP	Puts the instrument in a named group.
3.5	HIDE	Hides the instrument from the operational shell.
4	Backdrop	A press outside the menu closes it.

MAP

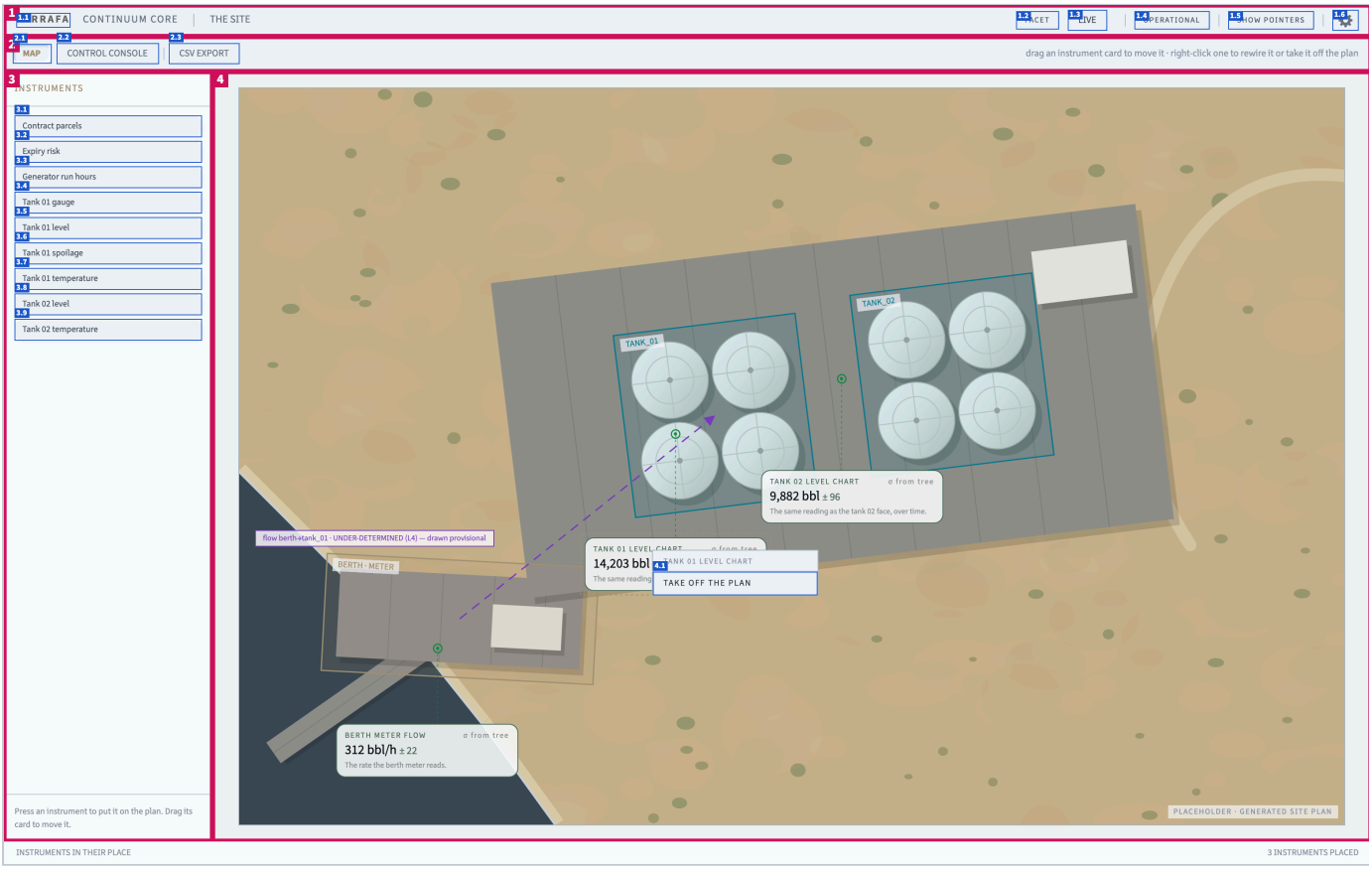
Figure 11. MAP, operational shell



The operational MAP

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 9.
3.1–3.9	INSTRUMENTS	Press an instrument to put it on the site plan.
4.1–4.3	Instrument cards	Each card shows the reading where the thing it measures stands. Drag a card to move it. A right-click opens the pin menu (Figure 12).
5	Site plan	The client's site image, with zones and flows drawn on it.

Figure 12. The pin menu

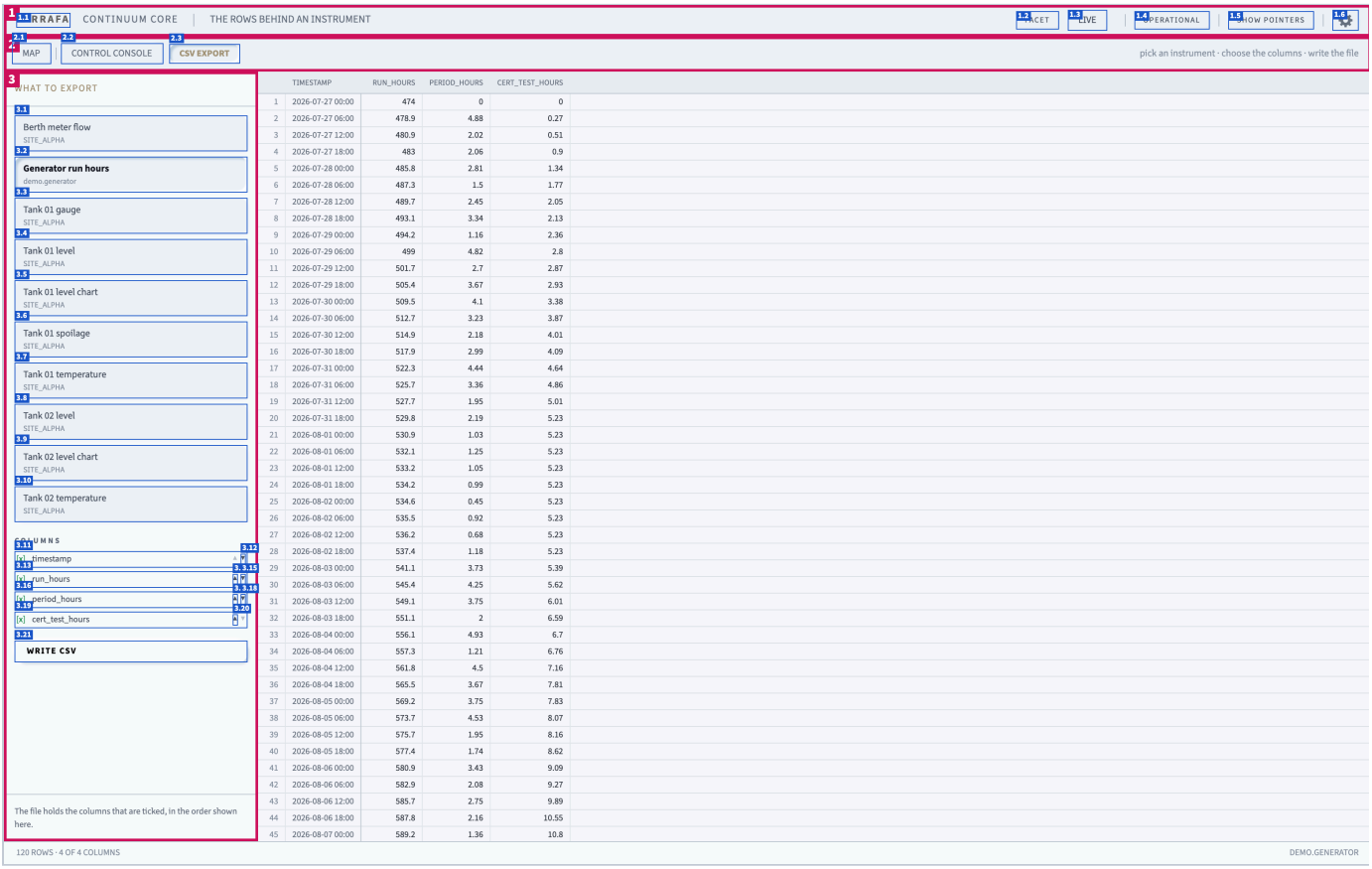


The pin menu on the operational MAP

Tag	Control	What it does
1, 2, 3	Top bar, tab strip, INSTRUMENTS	As in Figure 11.
4.1	TAKE OFF THE PLAN	Removes the pin from the plan. The instrument stays.
5	Backdrop	A press outside the menu closes it.

CSV EXPORT

Figure 13. CSV EXPORT

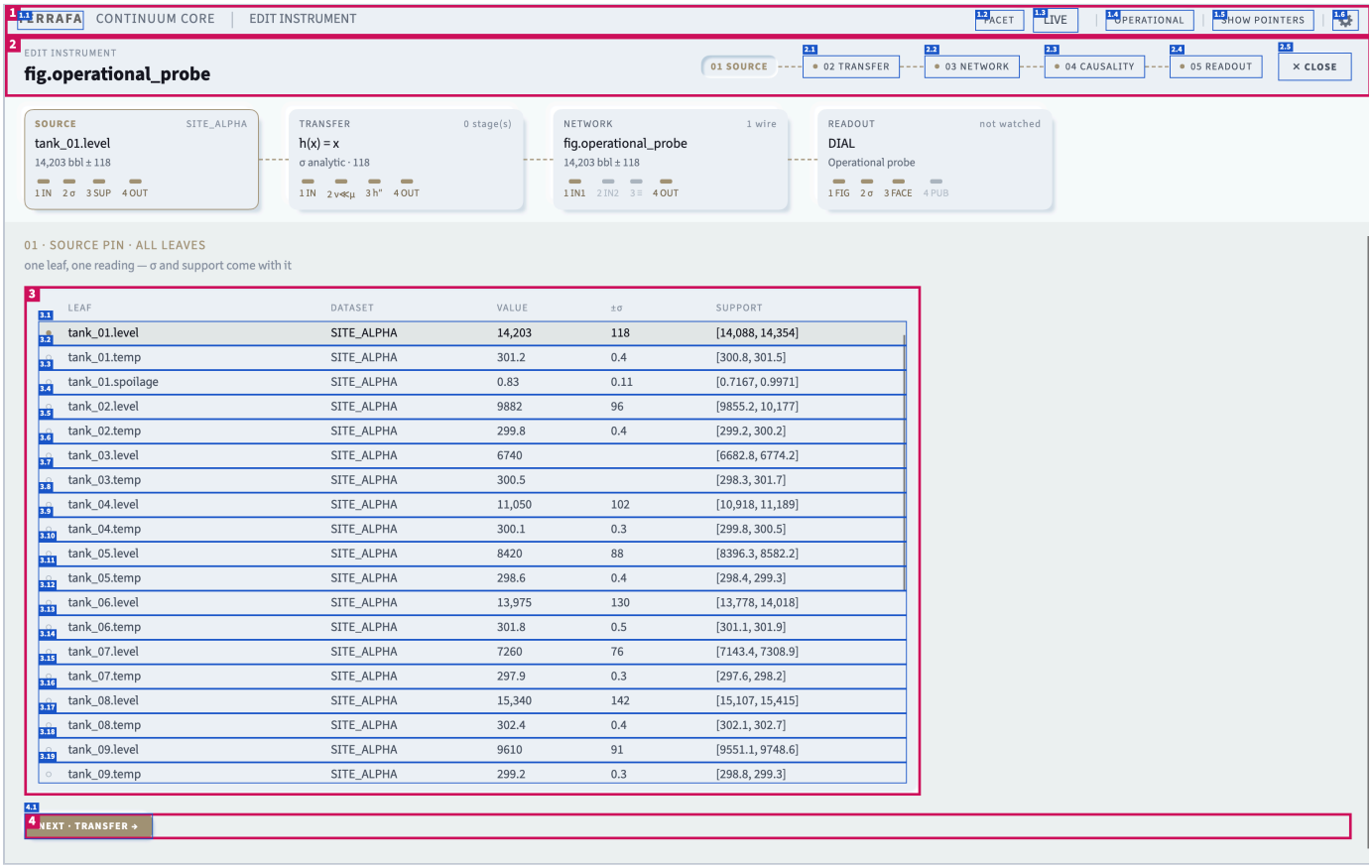


CSV EXPORT with Generator run hours picked

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 9.
3.1–3.10	WHAT TO EXPORT	Pick an instrument. The grid shows the rows behind it.
3.11, 3.13, 3.16, 3.19	COLUMNS	Include or leave out a column in the file.
3.12, 3.14, 3.15, 3.17, 3.18, 3.20	▲ ▼	Move a column earlier or later in the file.
3.21	WRITE CSV	Writes the ticked columns, in their order, to a csv file.
4	Grid	The rows the file will hold.

Rewiring from the operational shell

Figure 14. The instrument bench, opened from the operational shell



The instrument bench opened by EDIT INSTRUMENT

A reader can rewire one instrument. The bench opens on the instrument, with its stations filled in. Section 5.1 describes each station.

Tag	Control	What it does
1	Top bar	As in Figure 9.
2.1–2.4	Station rail	Go to a station the instrument already has.
2.5	✕ CLOSE	Closes the bench and drops the changes.
3.1–3.19	Leaves	Pick the source leaf.
4.1	NEXT · TRANSFER →	Goes to the next station.
5	Backdrop	The bench covers the shell.

5. Technical shell

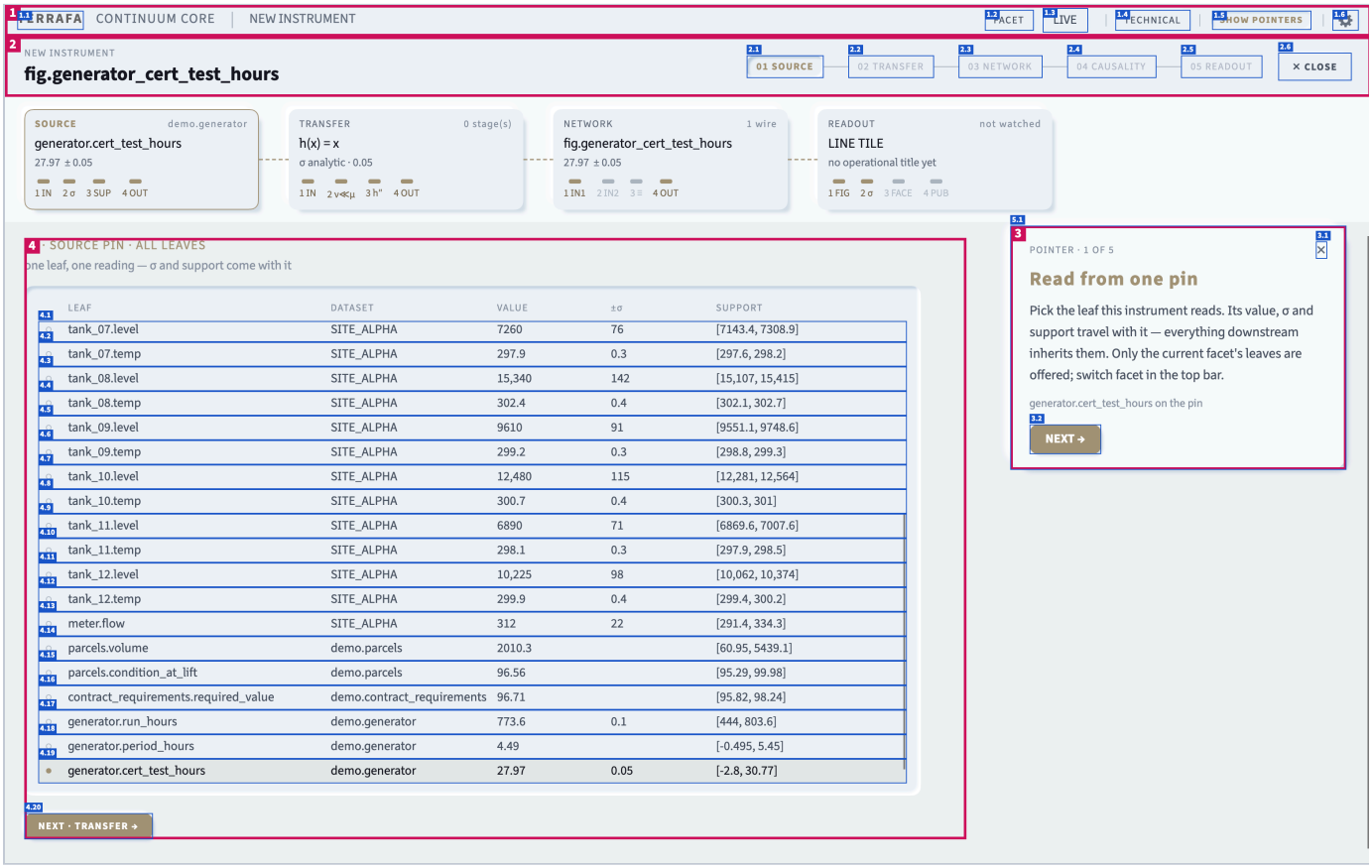
The technical shell is for the person who wires the instruments. It shows eight screens.

Several technical screens have a DRAFT bar at the foot. It shows the current draft as one line of text, with its checks beside it. The COMMIT key on the bar is a display only. It takes no press, so it has no tag.

5.1 The instrument bench

`+ NEW INSTRUMENT` on CONTROL CONSOLE or MAP opens a full-screen bench. The bench wires one reading from a source leaf to a readout in five stations. A strip of four circuit blocks above the stations shows the pinout of the instrument, live. A pin lights amber when that part is done. Red marks a refusal. When SHOW POINTERS is on, a coach card explains each station.

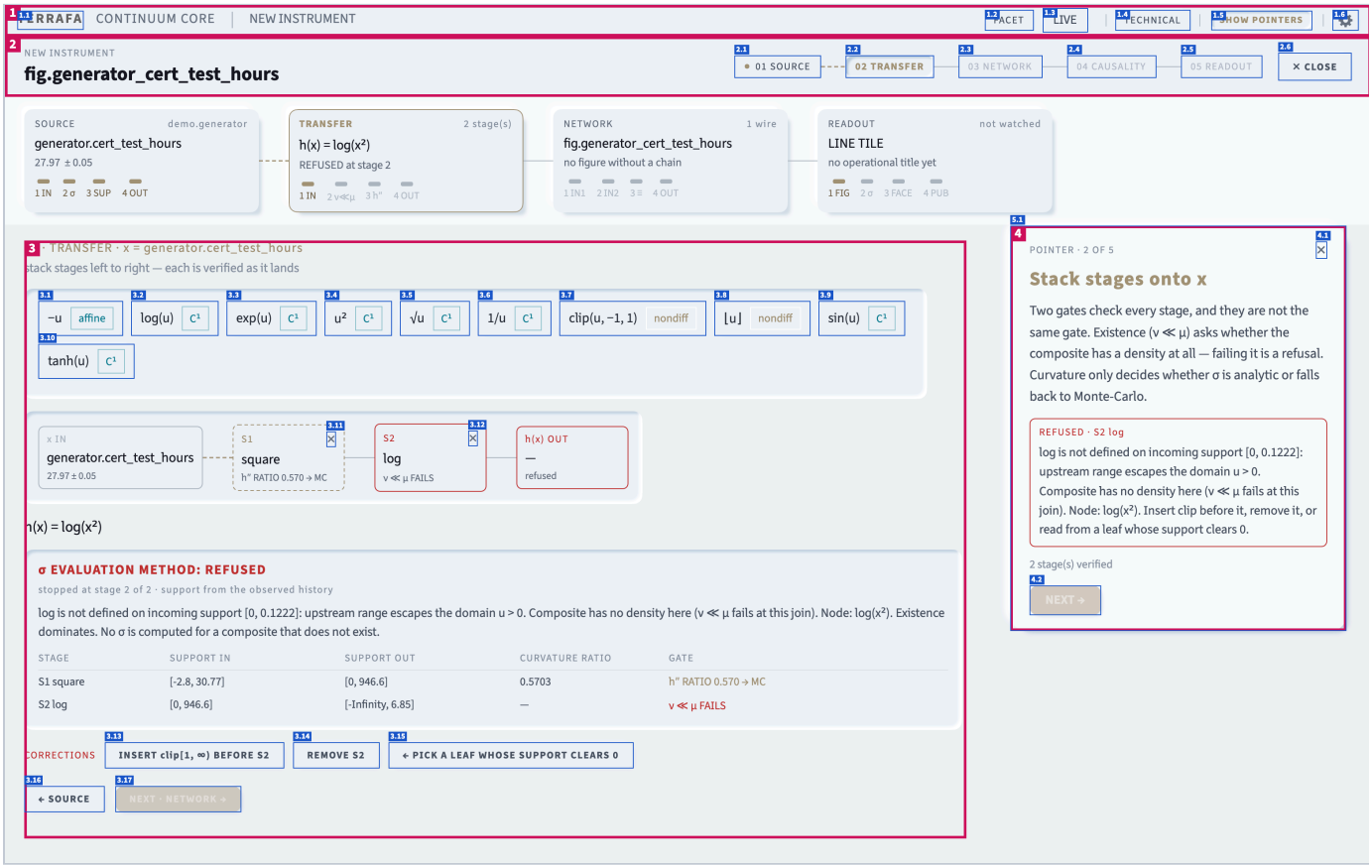
Figure 15. Station 01, SOURCE



Station 01 of the bench

Tag	Control	What it does
1	Top bar	As in Figure 1, without + NEW INSTRUMENT.
2.1–2.5	Station rail	Go to a station. A station opens after the one before it is done.
2.6	✕ CLOSE	Closes the bench and drops the draft.
3.1	✕	Closes the coach card.
3.2	NEXT →	Shows the coach card for the next station.
4.1–4.19	Leaves	Pick one leaf, under the current facet filter. Its value, σ and support come with it.
4.20	NEXT · TRANSFER →	Goes to station 02.
5.1	Coach card	Explains the station. Drag it to move it.

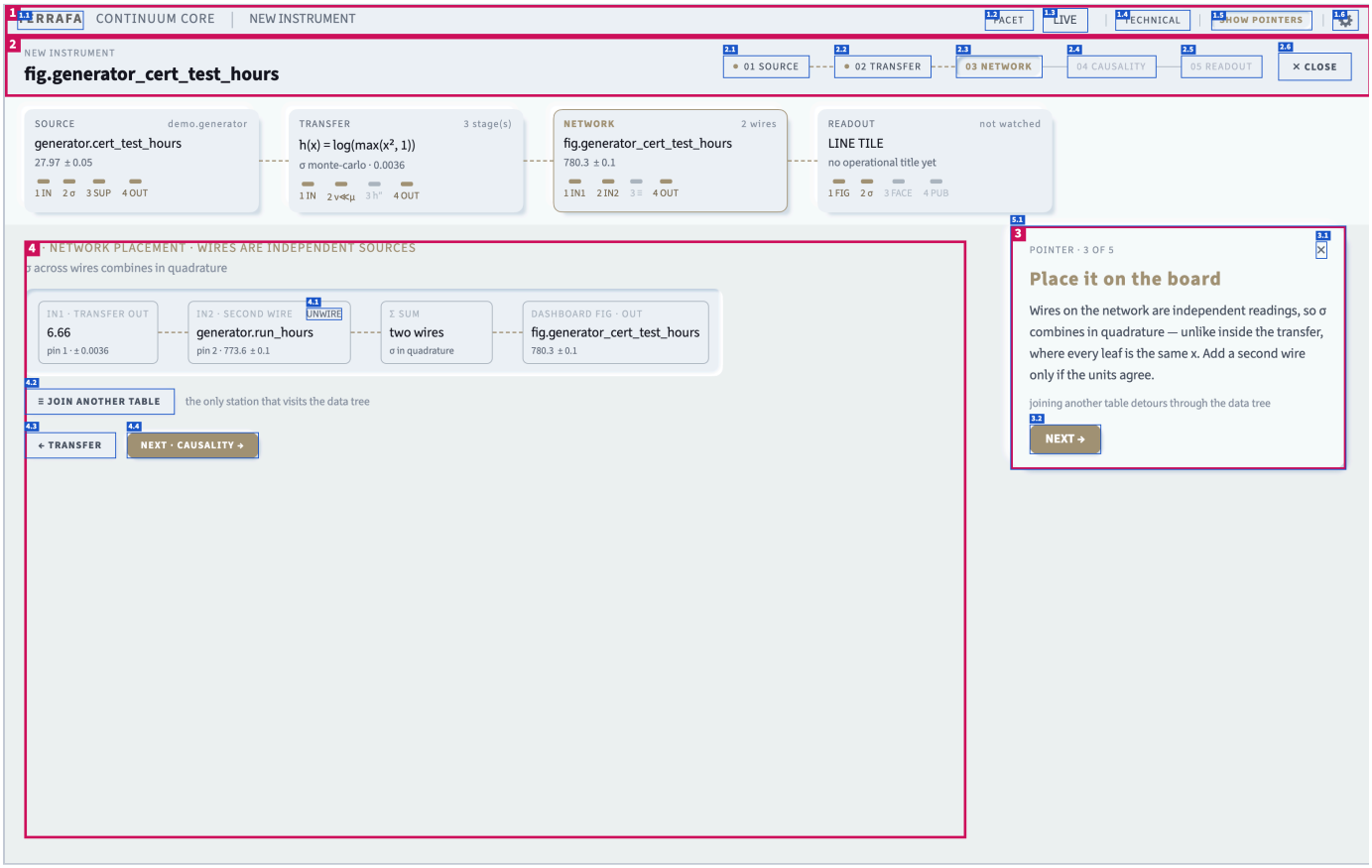
Figure 16. Station 02, TRANSFER, with a refusal



Station 02 refuses a chain that has no density on the support

Tag	Control	What it does
1, 2	Top bar and station rail	As in Figure 15.
3.1–3.10	Stages	Add a unary stage to the chain on x. Each stage is verified as it lands.
3.11, 3.12	×	Remove a stage from the chain.
3.13–3.15	CORRECTIONS	Show when the existence gate (v ≪ μ) refuses the chain. Insert `clip[1, ∞)` before the failing stage, remove the stage, or go back and pick a leaf whose support clears 0.
3.16	← SOURCE	Goes back to station 01.
3.17	NEXT · NETWORK →	Goes to station 03. It is off while the chain is refused.
4.1, 4.2	×, NEXT →	Close the coach card, or show the next one.
5.1	Coach card	Explains the station. The rule box is red when the station is refused.

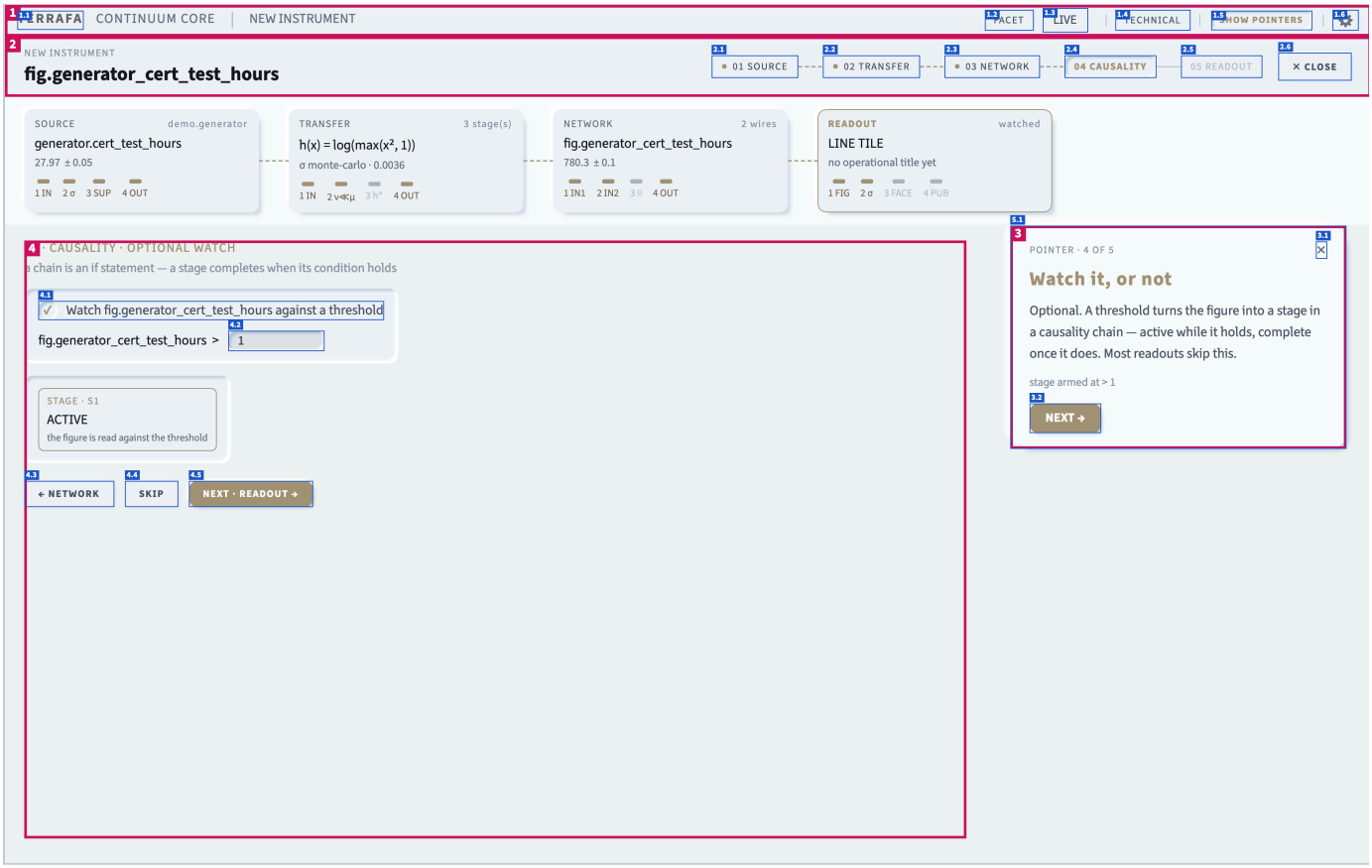
Figure 17. Station 03, NETWORK



Station 03 places the figure

Tag	Control	What it does
1, 2	Top bar and station rail	As in Figure 15.
3.1, 3.2	✕, NEXT →	Close the coach card, or show the next one.
4.1	UNWIRE	Removes the optional second wire.
4.2	≡ JOIN ANOTHER TABLE	Adds an equality link to a second table. The SELECT join stays on NETWORK.
4.3	← TRANSFER	Goes back to station 02.
4.4	NEXT · CAUSALITY →	Goes to station 04.
5.1	Coach card	Explains the station. Two wires combine σ in quadrature.

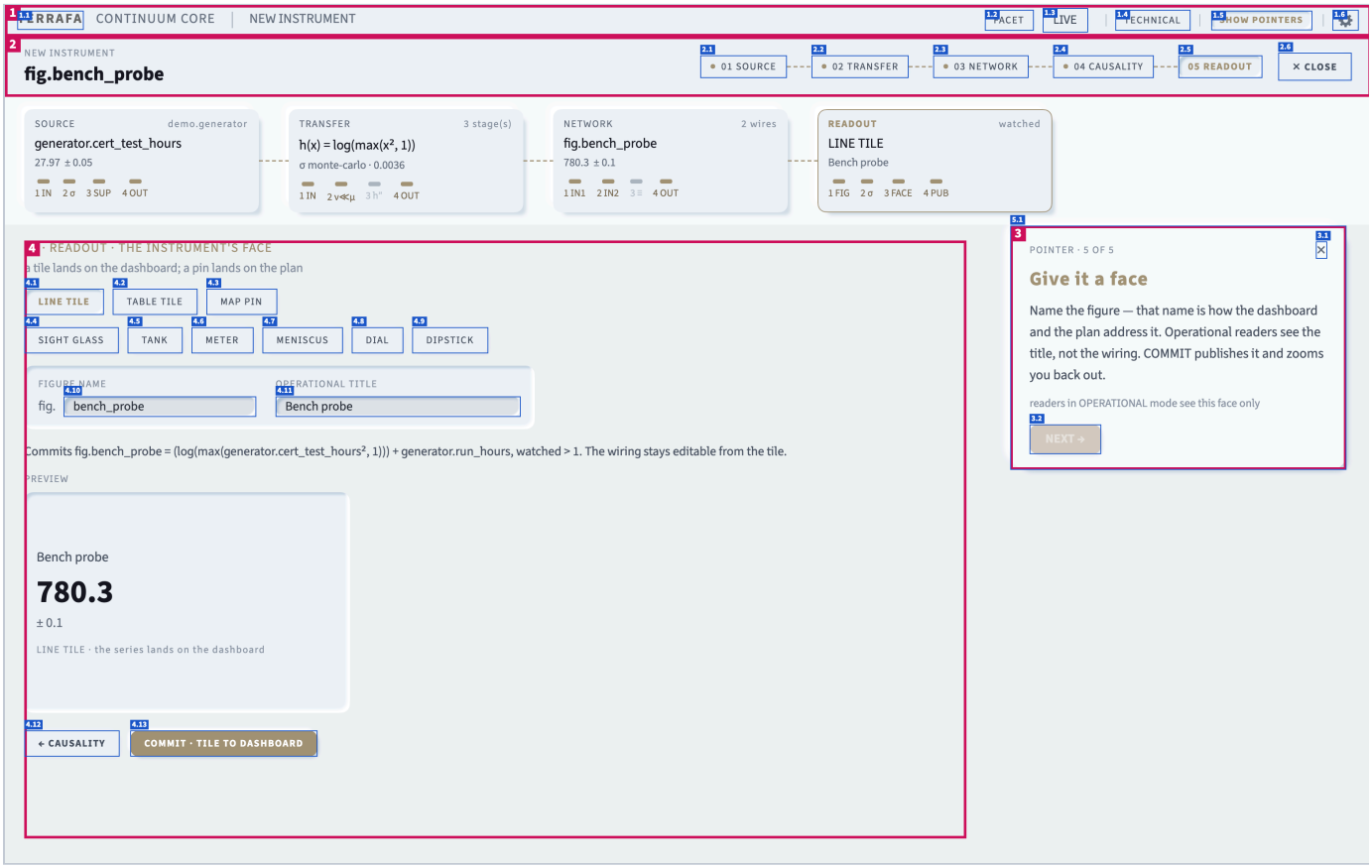
Figure 18. Station 04, CAUSALITY



Station 04 arms a threshold watch

Tag	Control	What it does
1, 2	Top bar and station rail	As in Figure 15.
3.1, 3.2	×, NEXT →	Close the coach card, or show the next one.
4.1	Watch	Arms a threshold watch on the figure.
4.2	Threshold	The value the watch compares against.
4.3	← NETWORK	Goes back to station 03.
4.4	SKIP	Goes on with no watch.
4.5	NEXT · READOUT →	Goes to station 05.
5.1	Coach card	Explains the station.

Figure 19. Station 05, READOUT

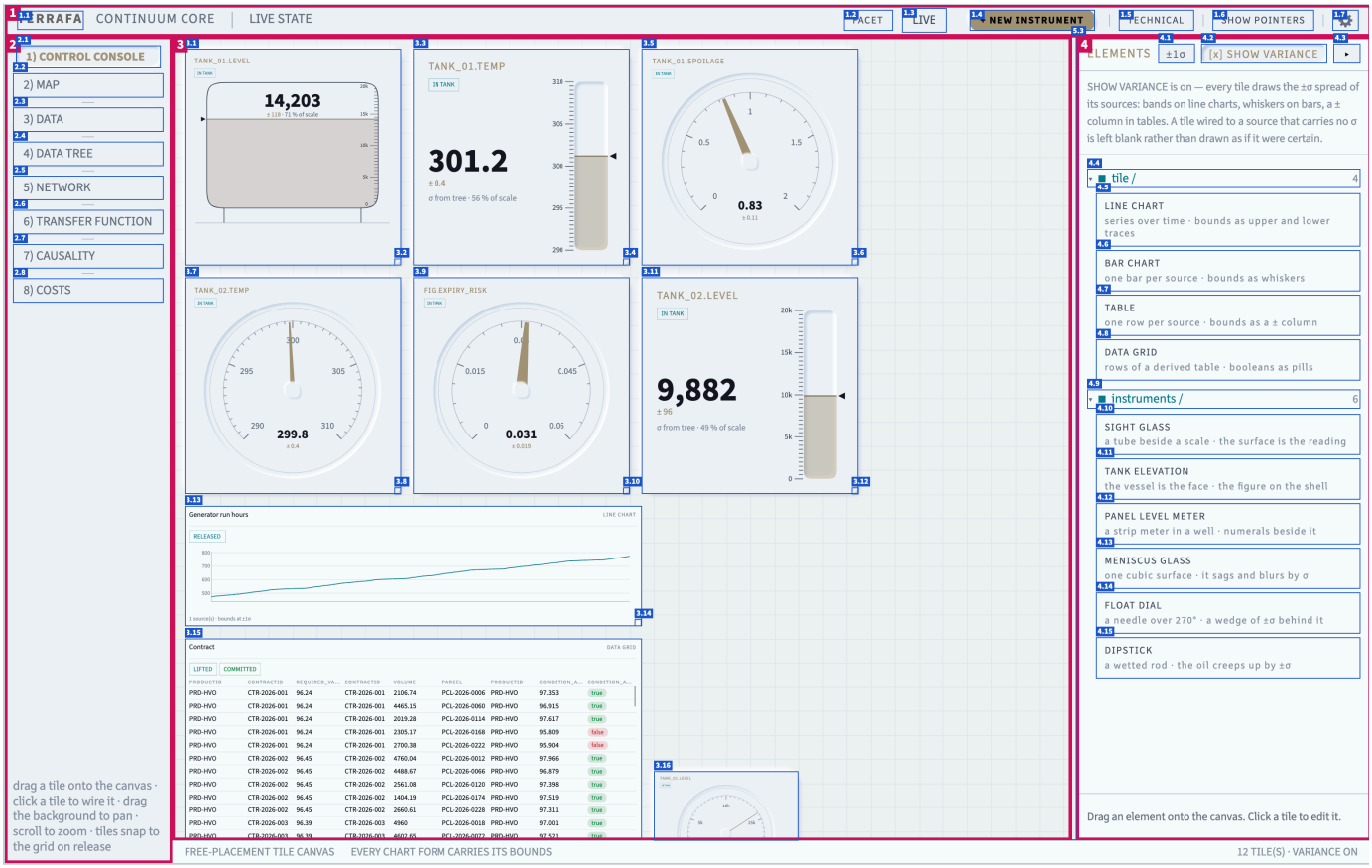


Station 05 picks a face and commits

Tag	Control	What it does
1, 2	Top bar and station rail	As in Figure 15.
3.1, 3.2	✕, NEXT →	Close the coach card, or show the next one.
4.1–4.3	LINE TILE, TABLE TILE, MAP PIN	Pick a chart tile, or a pin on the site plan.
4.4–4.9	SIGHT GLASS, TANK, METER, MENISCUS, DIAL, DIPSTICK	Pick one of the six instrument faces.
4.10	Figure name	The key of the figure the bench commits.
4.11	Operational title	The title an operational reader sees.
4.12	← CAUSALITY	Goes back to station 04.
4.13	COMMIT	Writes the instrument and closes the bench. The app then shows the dashboard for a tile, or the map for a pin. On an edit, the key reads UPDATE INSTRUMENT.
5.1	Coach card	Explains the station.

5.2 CONTROL CONSOLE

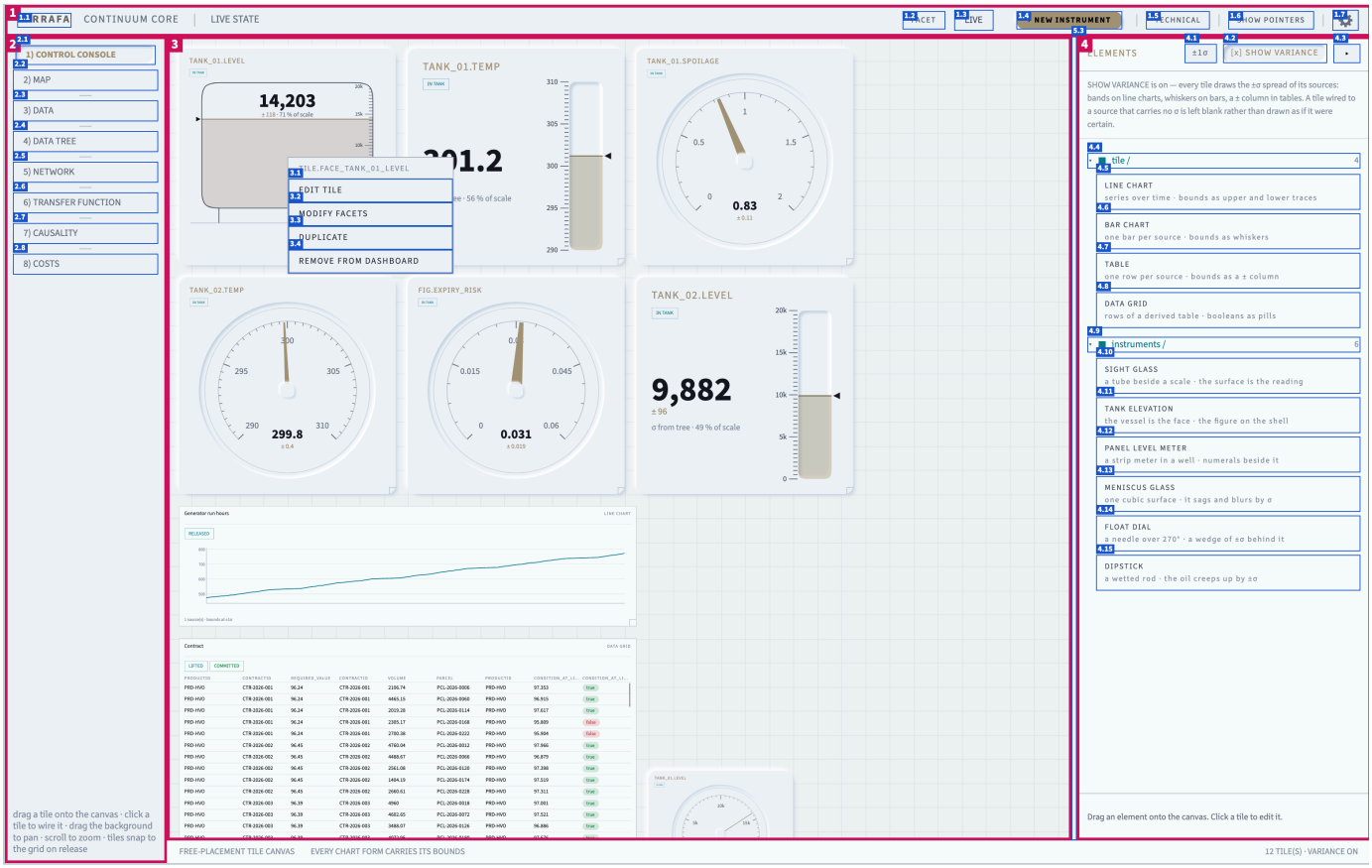
Figure 20. CONTROL CONSOLE, technical shell



The technical CONTROL CONSOLE

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1, 3.3, 3.5, 3.7, 3.9, 3.11, 3.16	Instrument tiles	Each tile draws one reading against a range. The width of the indicator and the pitch of the graduations show the bound `z·σ`. Click a tile to edit it (Figure 22). Drag a tile to move it. A right-click opens the tile menu (Figure 21).
3.13, 3.15	Chart tiles	A line chart and a data grid. With variance on, each chart shows its bounds.
3.2, 3.4, 3.6, 3.8, 3.10, 3.12, 3.14	Resize grips	Drag to resize a tile. A face tile keeps the shape of its face. Tiles snap to the grid on release.
4.1	±1σ	Sets the confidence level: 1σ, 90%, 95% or 99%. A band draws as `value ± z·σ`.
4.2	SHOW VARIANCE	Shows or hides σ bounds. A tile wired to a source with no σ stays blank when variance is on.
4.3	▸	Folds the panel to the side.
4.4, 4.9	tile /, instruments /	Open or close a group of elements.
4.5–4.8	LINE CHART, BAR CHART, TABLE, DATA GRID	Drag onto the canvas to add a chart tile.
4.10–4.15	SIGHT GLASS, TANK ELEVATION, PANEL LEVEL METER, MENISCUS GLASS, FLOAT DIAL, DIPSTICK	Drag onto the canvas to add an instrument face.
5.3	Panel handle	Drag to set the width of the panel.

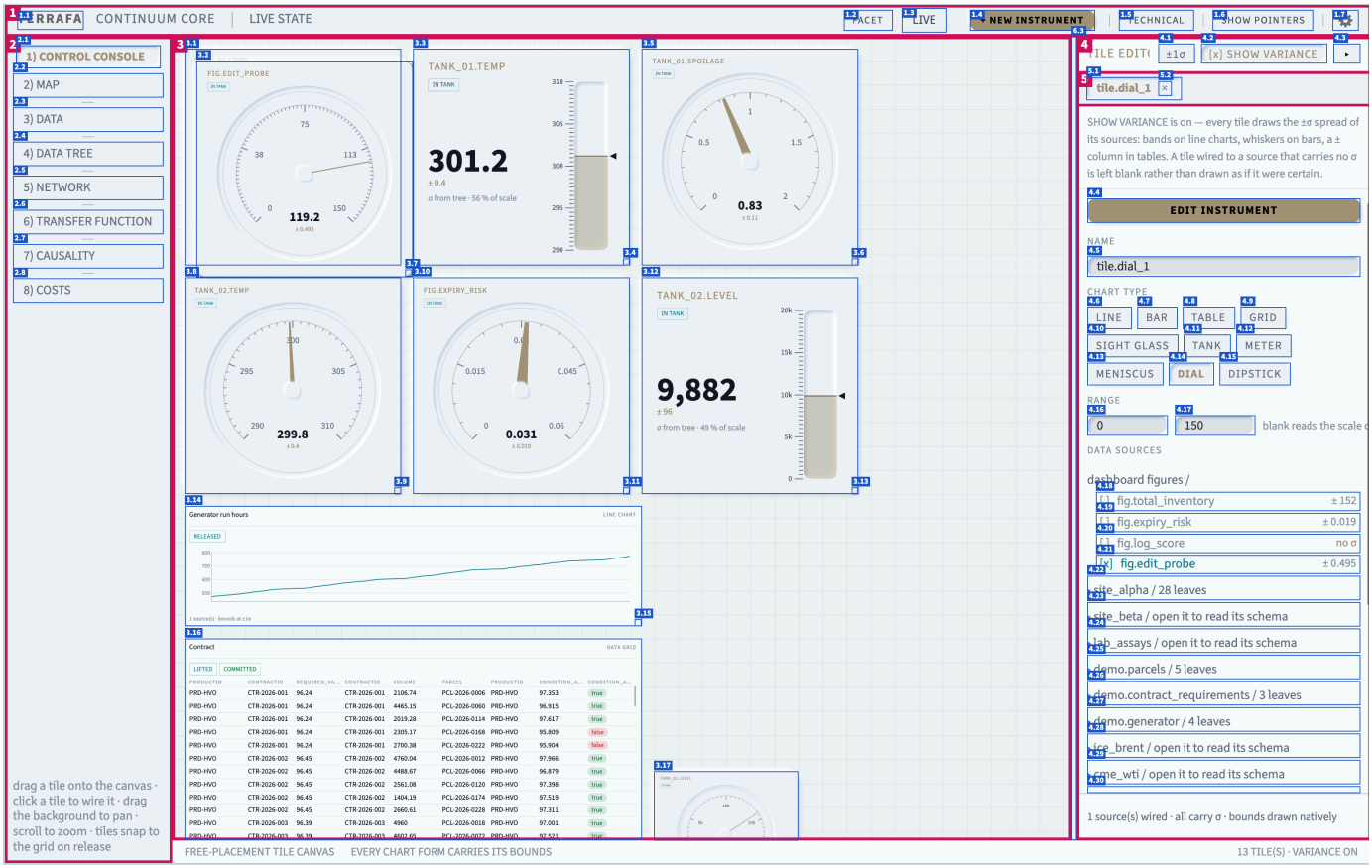
Figure 21. The tile menu



The tile menu on the technical CONTROL CONSOLE

Tag	Control	What it does
1, 2, 4	Top bar, tab strip, ELEMENTS	As in Figure 20.
3.1	EDIT TILE	Opens the TILE EDITOR (Figure 22).
3.2	MODIFY FACETS	Sets the facets of the tile.
3.3	DUPLICATE	Adds a copy of the tile.
3.4	REMOVE FROM DASHBOARD	Removes the tile.
5.3	Panel handle	As in Figure 20.

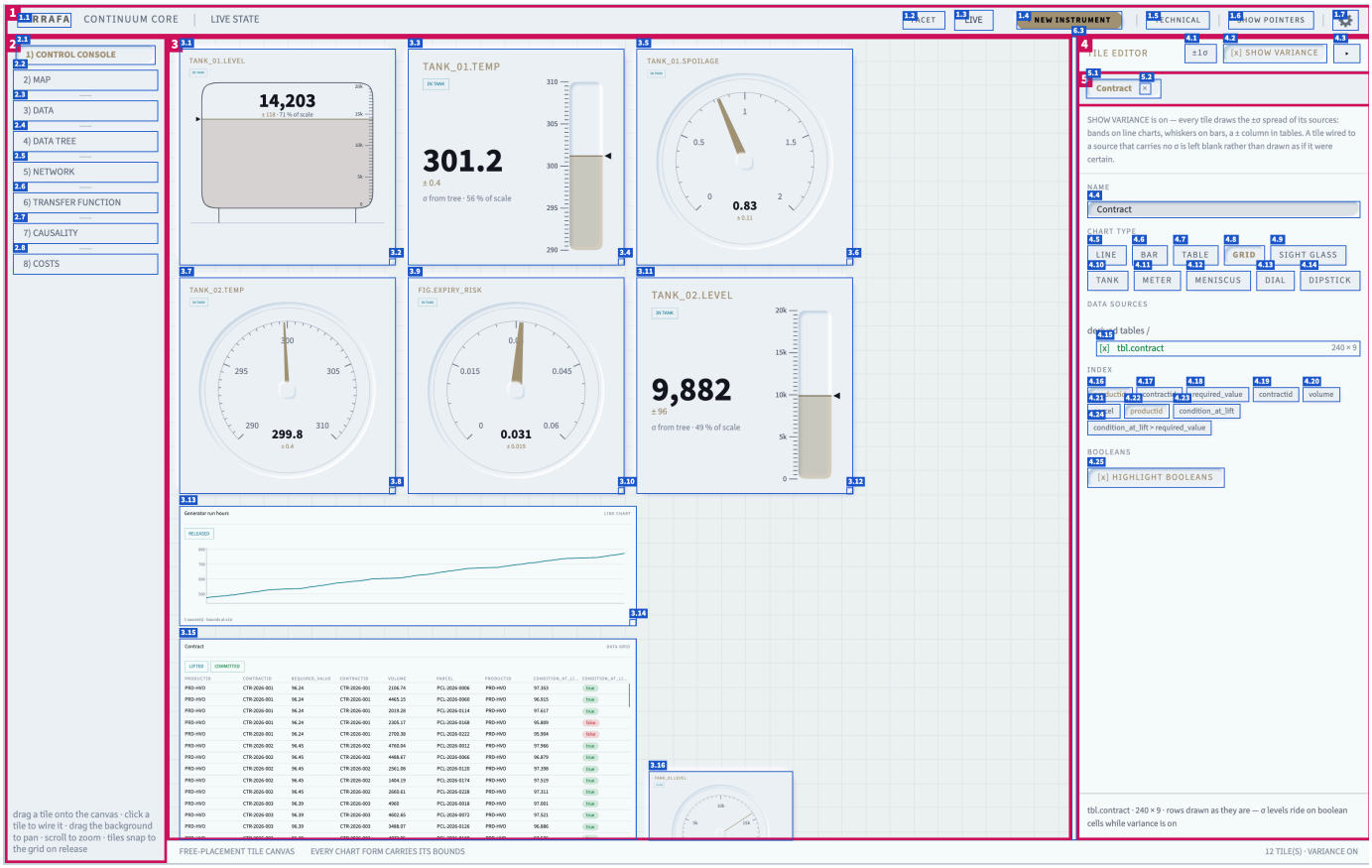
Figure 22. TILE EDITOR, instrument face



The TILE EDITOR for a dial tile that the bench wired

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1, 3.2, 3.3, 3.5, 3.8, 3.10, 3.12, 3.14, 3.16, 3.17	Tiles	As in Figure 20.
3.4, 3.6, 3.7, 3.9, 3.11, 3.13, 3.15	Resize grips	As in Figure 20.
4.1–4.3	±1σ, SHOW VARIANCE, ▸	As in Figure 20.
4.4	EDIT INSTRUMENT	Opens the bench on this tile, with its stations filled in. The key shows only for a tile the bench can read back.
4.5	Tile name	The name of the tile.
4.6–4.9	LINE, BAR, TABLE, GRID	Change the tile to a chart.
4.10–4.15	SIGHT GLASS, TANK, METER, MENISCUS, DIAL, DIPSTICK	Change the tile to an instrument face.
4.16, 4.17	min, max	The scale of an instrument face. A blank bound comes from the readings.
4.18–4.21	Figures	Wire a figure to the tile, or take it off.
4.22–4.30	Datasets	Open a dataset to wire one of its leaves to the tile.
5.1, 5.2	Editor tab, ×	Show the open tile. × closes the editor.
6.3	Panel handle	As in Figure 20.

Figure 23. TILE EDITOR, data grid

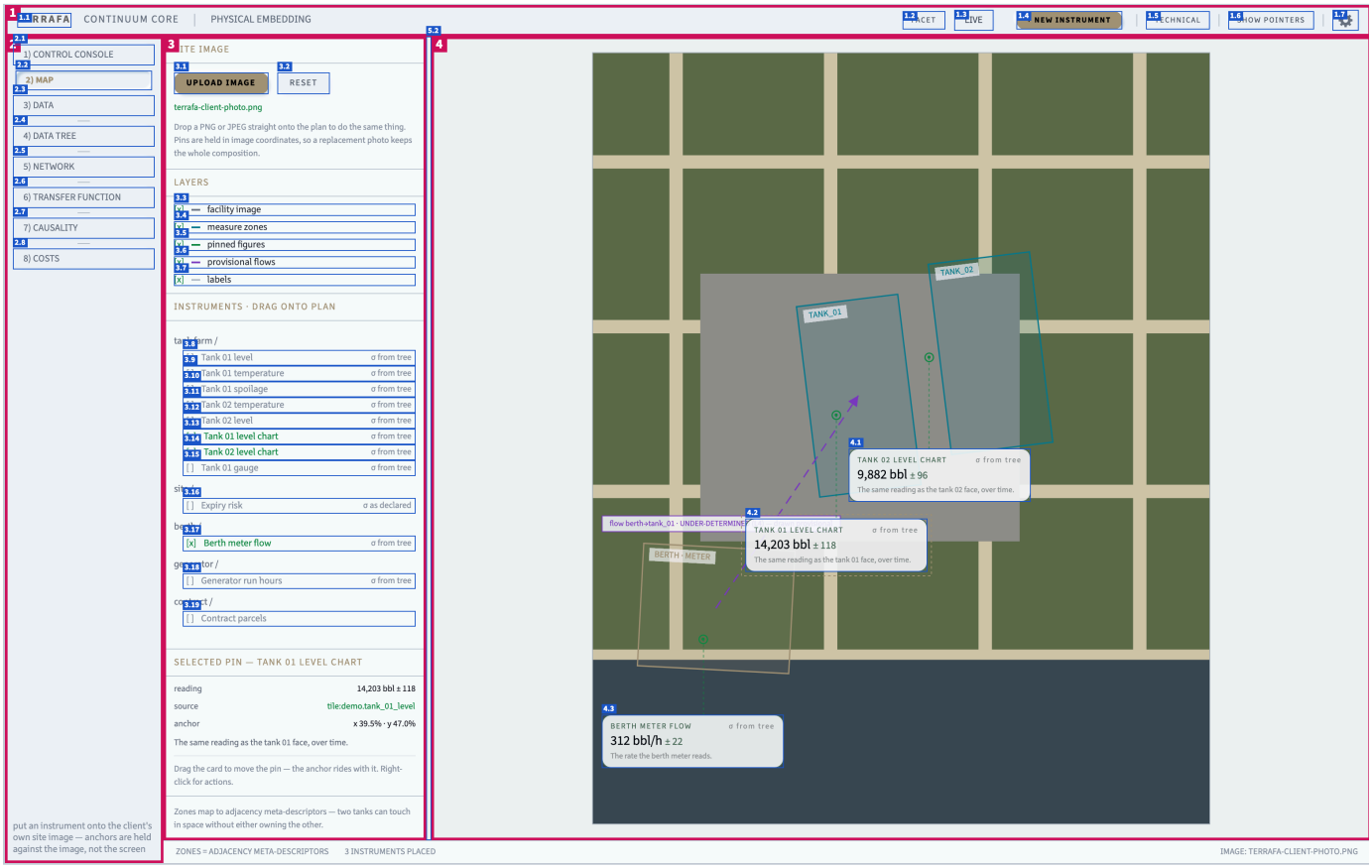


The TILE EDITOR for a data grid tile

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1, 3.3, 3.5, 3.7, 3.9, 3.11, 3.13, 3.15, 3.16	Tiles	As in Figure 20.
3.2, 3.4, 3.6, 3.8, 3.10, 3.12, 3.14	Resize grips	As in Figure 20.
4.1–4.14	Editor keys	As in Figure 22.
4.15	Table	Wires a committed table to the grid tile.
4.16–4.23	INDEX	Pick the column that indexes the rows. The grid sorts on it and shows it first.
4.24	Boolean column	A comparator column in the table.
4.25	HIGHLIGHT BOOLEANS	Draws true and false as green and red pills. With variance on, each pill also shows its σ level.
5.1, 5.2	Editor tab, ×	As in Figure 22.
6.3	Panel handle	As in Figure 20.

5.3 MAP

Figure 24. MAP, technical shell

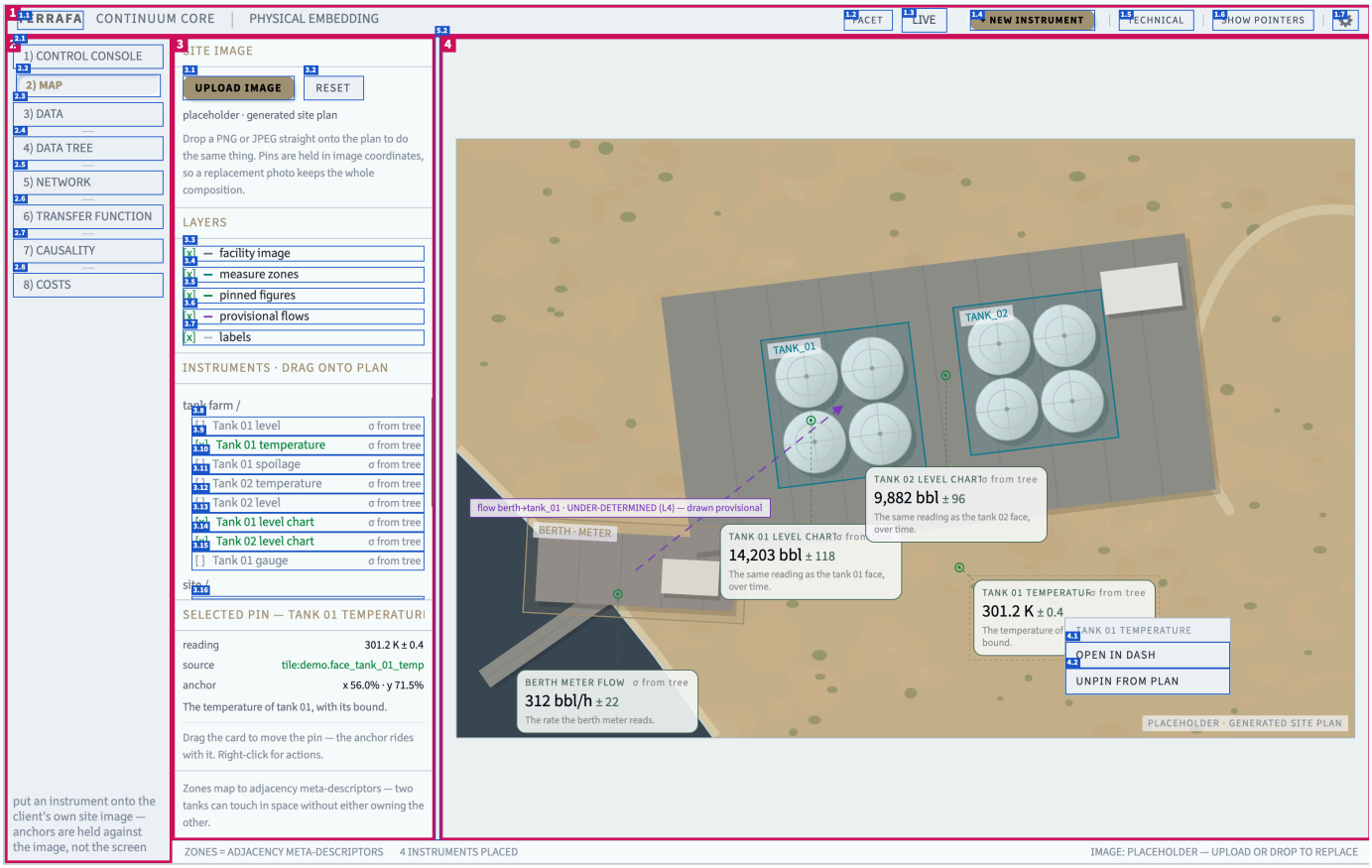


The technical MAP with a pin selected

Drag the site plan to pan it. Scroll to zoom.

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1	UPLOAD IMAGE	Sets the site image. A PNG or JPEG dropped on the plan does the same. Pins keep their place on a new image.
3.2	RESET	Goes back to the generated placeholder plan.
3.3–3.7	LAYERS	Show or hide the facility image, the measure zones, the pinned figures, the provisional flows and the labels.
3.8–3.19	INSTRUMENTS · DRAG ONTO PLAN	Drag an instrument onto the plan to pin it. The mark shows whether it is on the plan. SELECTED PIN, under the list, shows the reading, the source and the anchor of the selected pin.
4.1–4.3	Pin cards	Click a card to select it. Drag a card to move the pin. A right-click opens the pin menu (Figure 25).
5.2	Panel handle	Drag to set the width of the panel.

Figure 25. The pin menu, technical shell



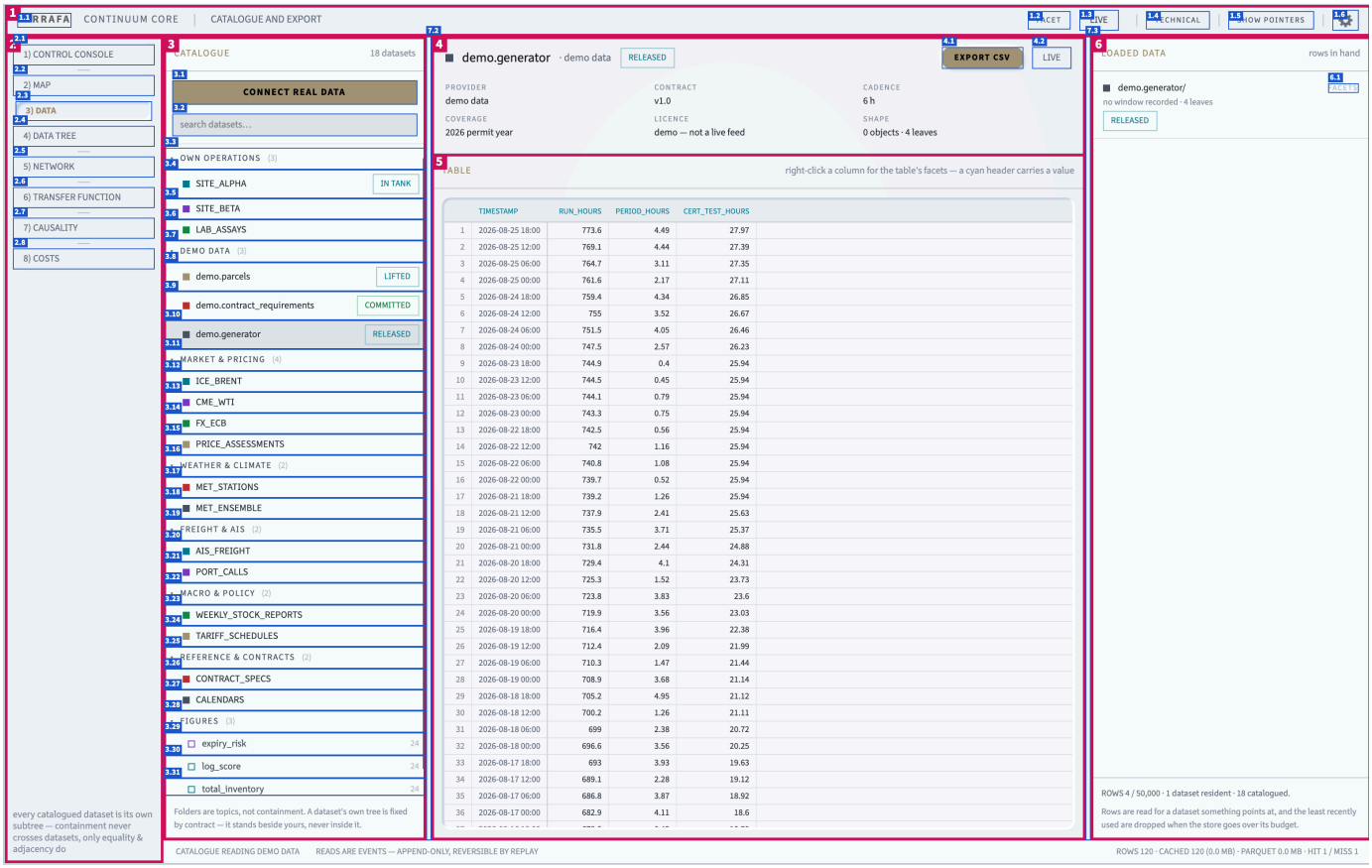
The pin menu on the technical MAP

Tag	Control	What it does
1, 2, 3	Top bar, tab strip, panel	As in Figure 24.
4.1	OPEN IN DASH	Opens CONTROL CONSOLE on the tile behind the pin.
4.2	UNPIN FROM PLAN	Takes the pin off the plan. The tile stays.
5.2	Panel handle	As in Figure 24.

5.4 DATA

In the technical shell, DATA is where you read a table and write a csv. It writes what its grid holds.

Figure 26. DATA with a dataset open

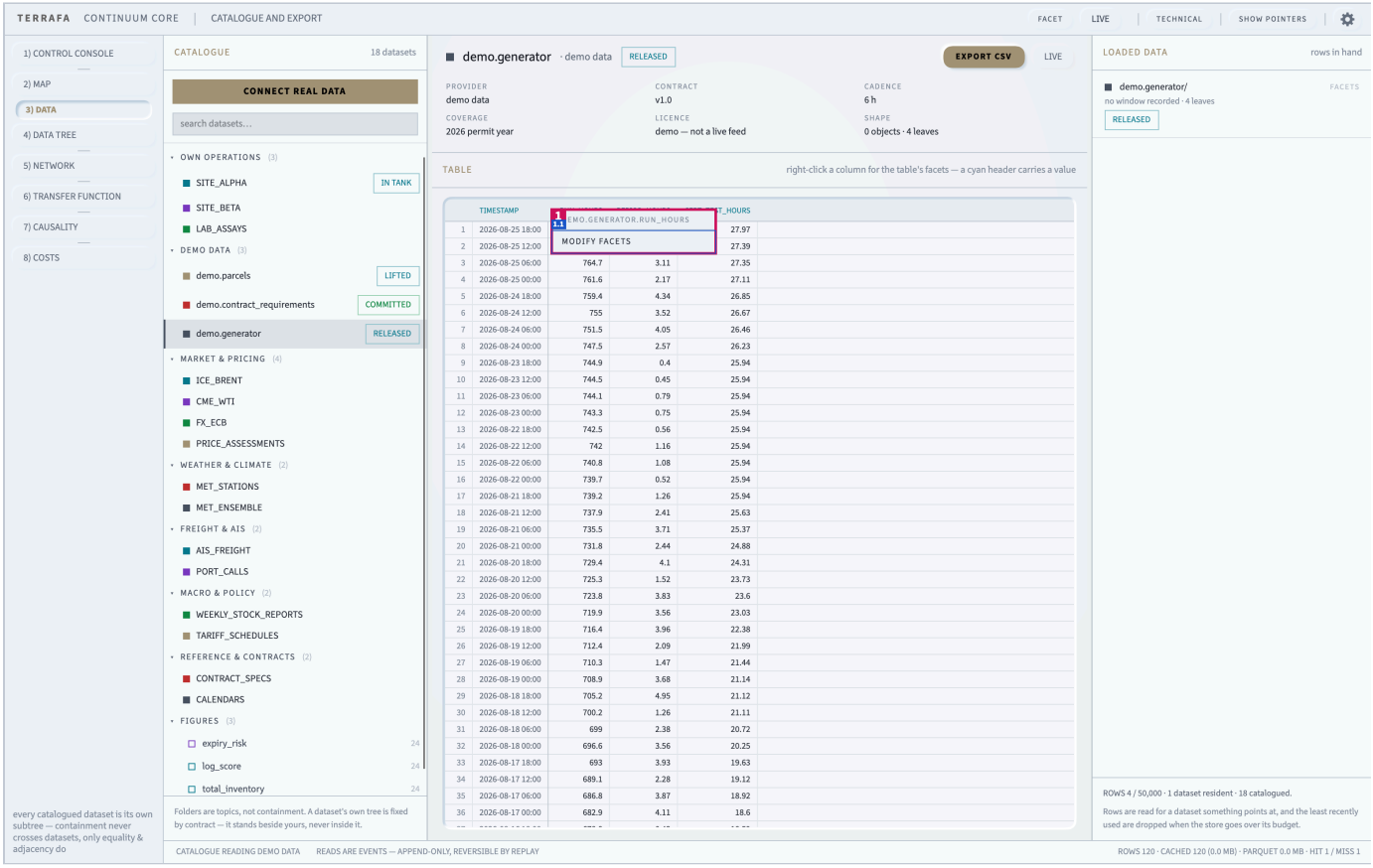


DATA with demo.generator open

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1	CONNECT REAL DATA	Opens the sign-in dialog (Figure 5).
3.2	Search	Finds datasets by name, with a fuzzy match.
3.3, 3.7, 3.11, 3.16, 3.19, 3.22, 3.25	Topics	Open or close a topic of the catalogue.
3.4–3.6, 3.8–3.10, 3.12–3.15, 3.17, 3.18, 3.20, 3.21, 3.23, 3.24, 3.26, 3.27	Datasets	Open a dataset. The header then shows the provider, contract, cadence, coverage, licence and shape.
3.28	FIGURES	Opens or closes the list of figures.
3.29–3.31	Figures	Open the history of a figure (Figure 28).
4.1	EXPORT CSV	Writes what the grid holds to a csv file.
4.2	LIVE	Follows the open table on the live feed. It is independent of LIVE in the top bar.
5	TABLE	The rows of the open dataset. A table indexed on time reads newest first. A right-click on a column opens the column menu (Figure 27).
6.1	FACETS	Sets the facets of a loaded dataset. LOADED DATA lists the datasets whose rows the store holds now.

Tag	Control	What it does
7.2, 7.3	Panel handles	Drag to set the width of the CATALOGUE and LOADED DATA panels.

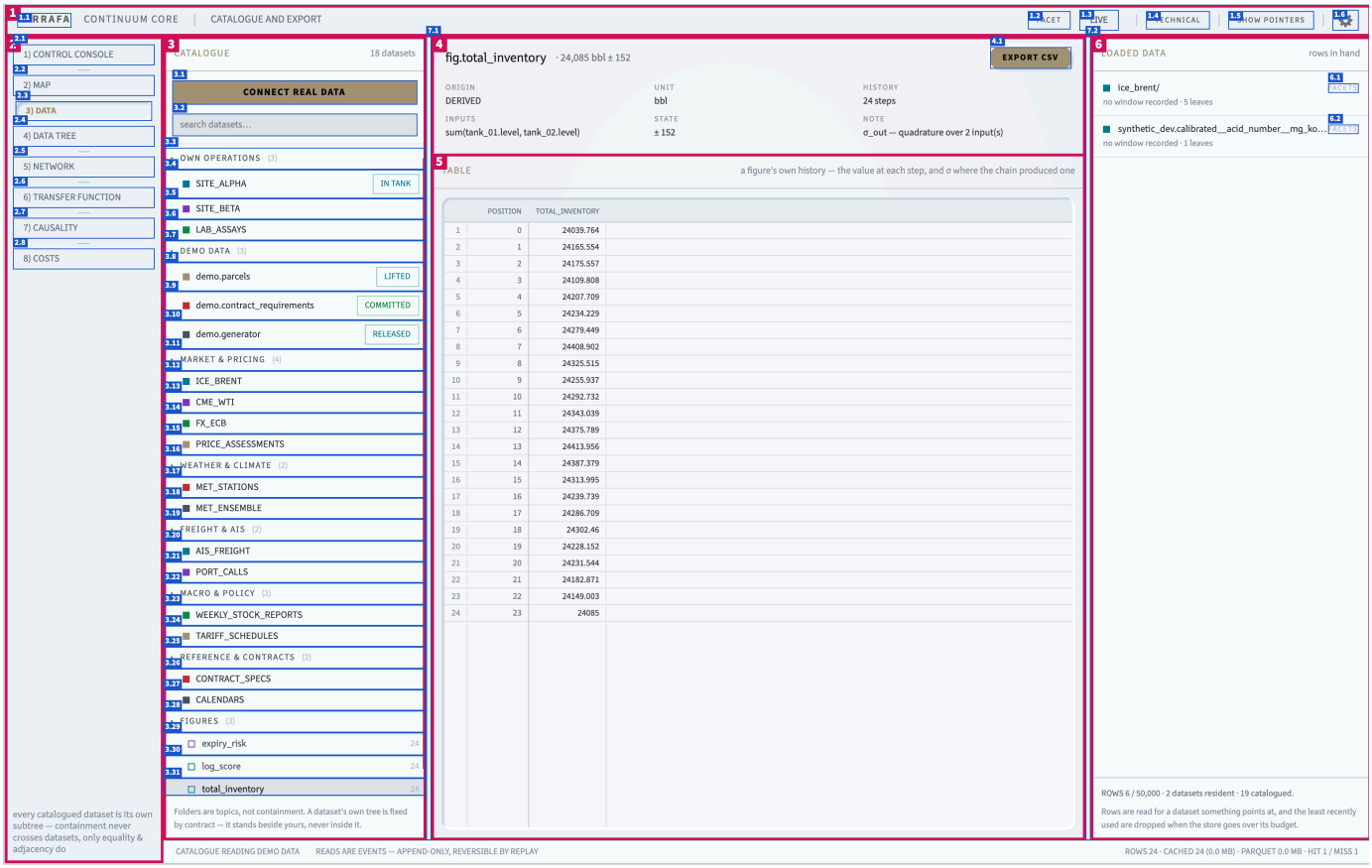
Figure 27. The column menu



The column menu on the DATA grid

Tag	Control	What it does
1.1	MODIFY FACETS	Sets the facets of the table. A cyan column header carries a facet value.
2	Backdrop	A press outside the menu closes it.

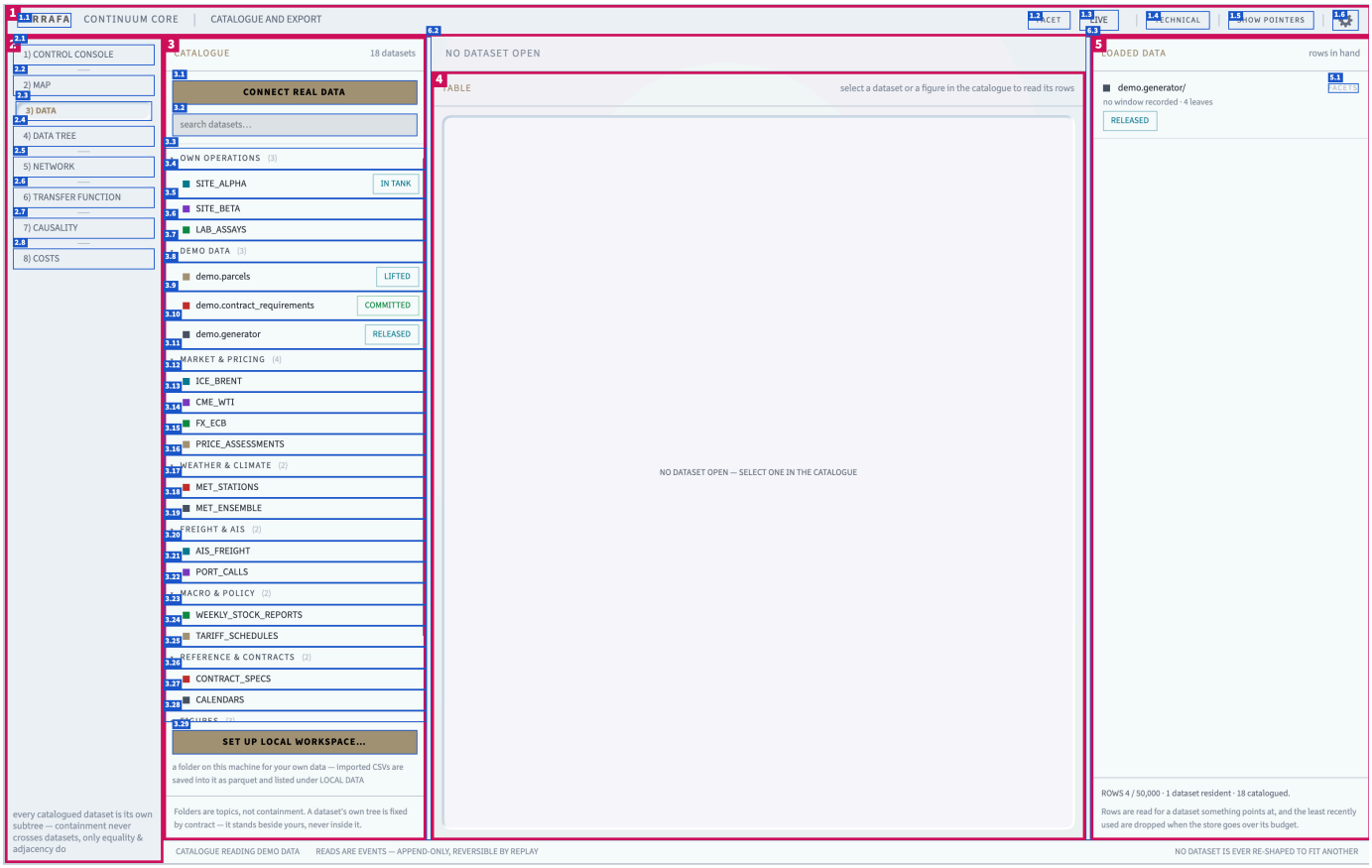
Figure 28. DATA with a figure open



DATA with the history of a figure open

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1–3.27	Catalogue	As in Figure 26.
3.28	FIGURES	Opens or closes the list of figures.
3.29–3.31	Figures	Open the history of a figure. The table holds the position in the history, the value and σ.
4.1	EXPORT CSV	Writes the figure history to a csv file.
5	TABLE	As in Figure 26.
6.1, 6.2	FACETS	As in Figure 26.
7.1, 7.2	Panel handles	As in Figure 26.

Figure 29. LOCAL DATA, before set-up

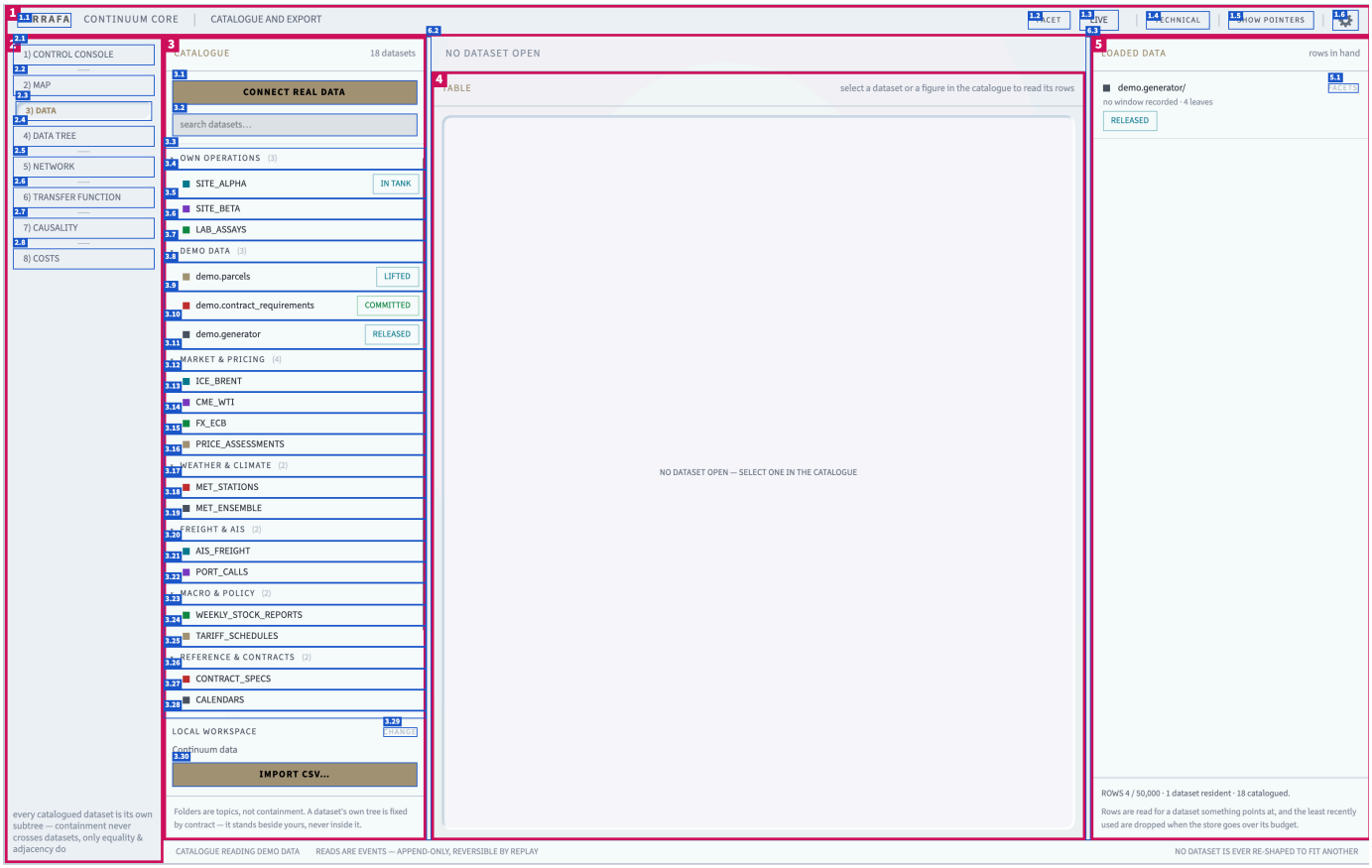


The LOCAL DATA invite at the foot of the catalogue

LOCAL DATA works in the desktop app only. The browser app shows GET THE DESKTOP APP in its place.

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1–3.28	Catalogue	As in Figure 26.
3.29	SET UP LOCAL WORKSPACE…	Picks a folder on this computer for the user's own data.
4	TABLE	As in Figure 26.
5.1	FACETS	As in Figure 26.
6.2, 6.3	Panel handles	As in Figure 26.

Figure 30. LOCAL DATA, after set-up

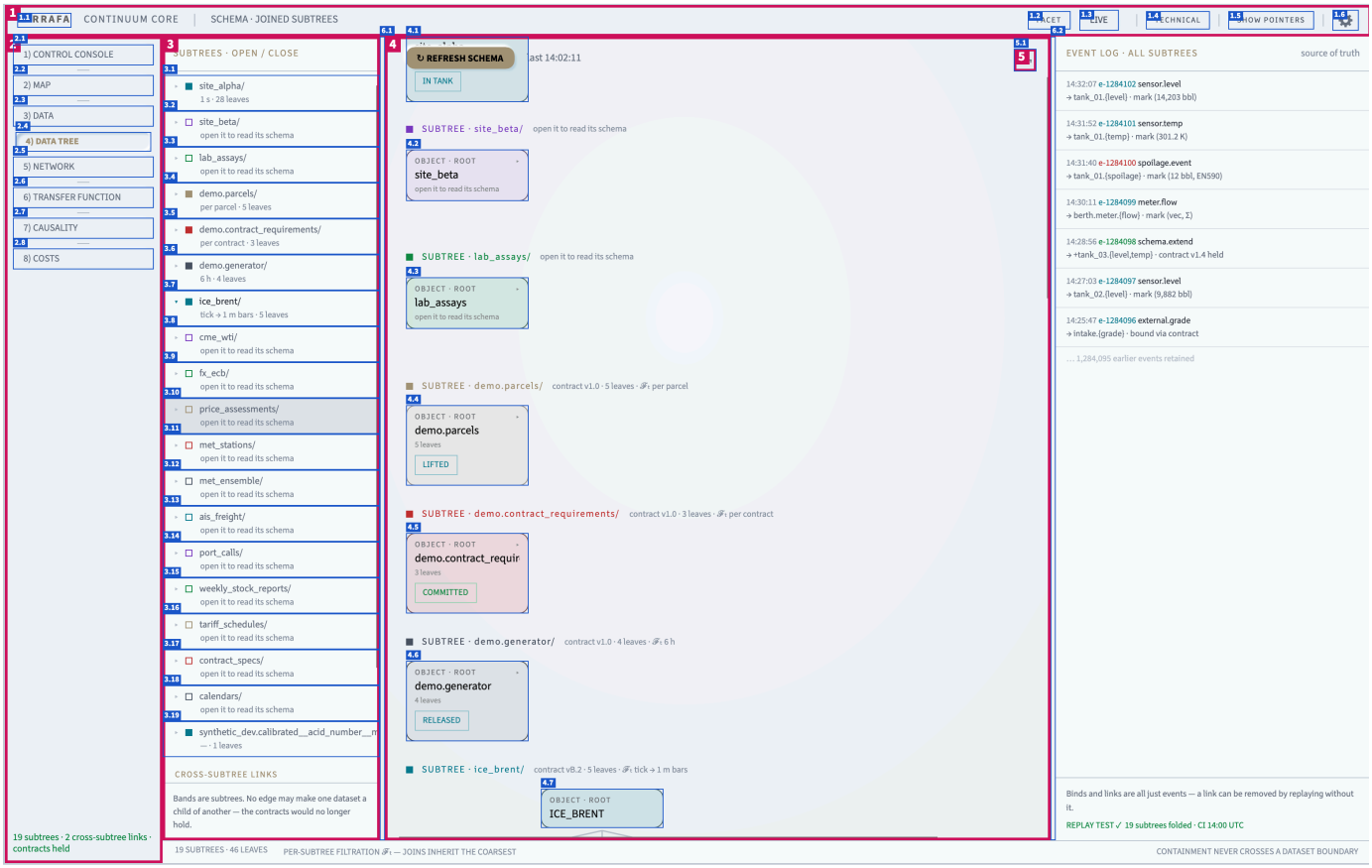


The LOCAL WORKSPACE bar at the foot of the catalogue

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1–3.28	Catalogue	As in Figure 26.
3.29	CHANGE	Picks another folder.
3.30	IMPORT CSV…	Reads a csv file and saves it into the folder as parquet. The catalogue lists it under LOCAL DATA.
4	TABLE	As in Figure 26.
5.1	FACETS	As in Figure 26.
6.2, 6.3	Panel handles	As in Figure 26.

5.5 DATA TREE

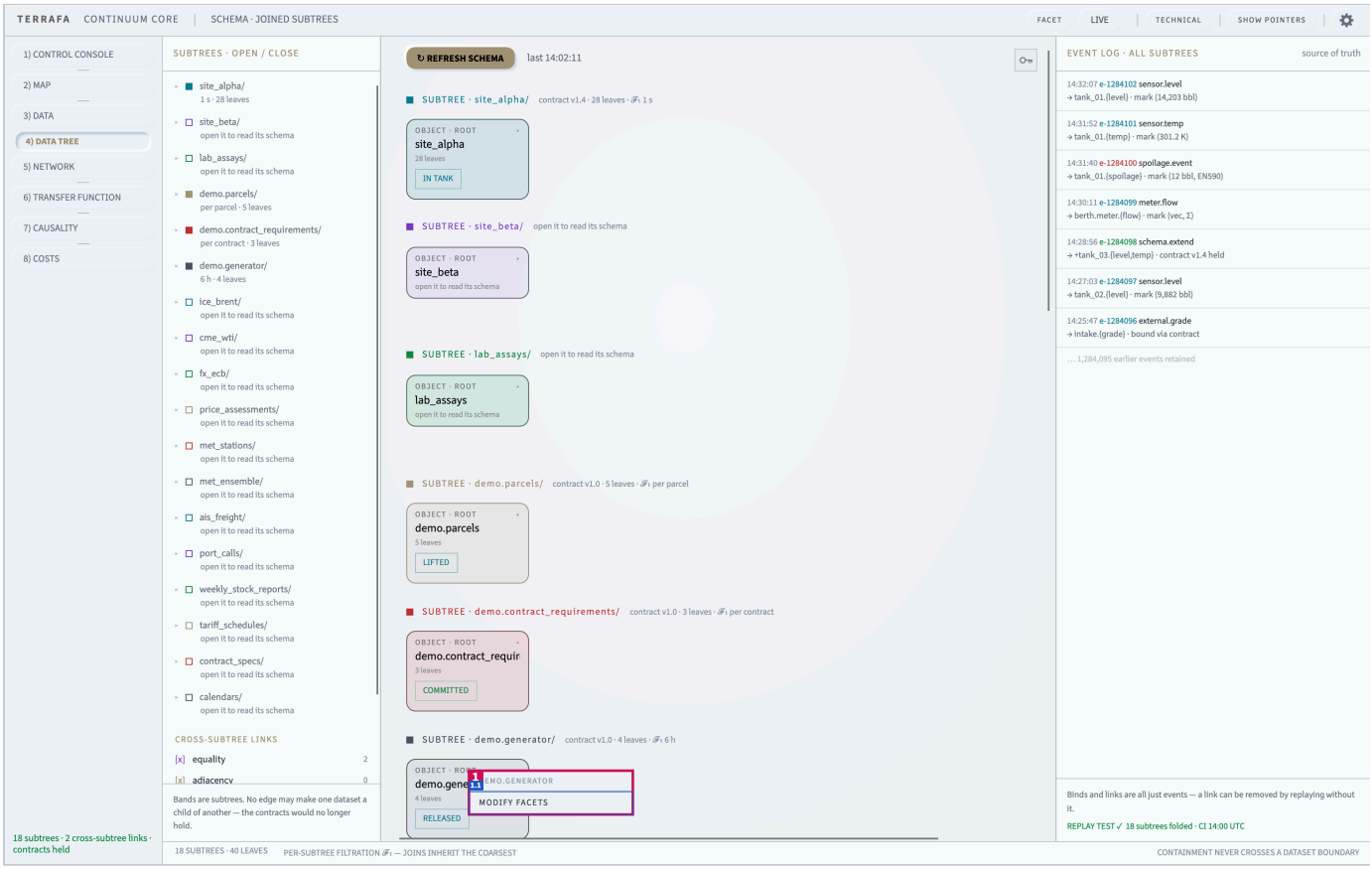
Figure 31. DATA TREE



DATA TREE with ice_brent open

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1–3.19	SUBTREES · OPEN / CLOSE	Open or close the subtree of a dataset. The schema loads when the subtree opens.
4.1–4.6	Closed root cards	Click to open the subtree. A right-click opens the root menu (Figure 32).
4.7	Open root card	The root of an open subtree. Its objects and leaves hang under it. A right-click on a leaf opens the leaf menu (Figure 34).
5.1	Legend key	Opens or closes the legend of card and link styles.
6.1, 6.2	Panel handles	Drag to set the size of the SUBTREES and EVENT LOG panels. EVENT LOG shows the readings across the subtrees.

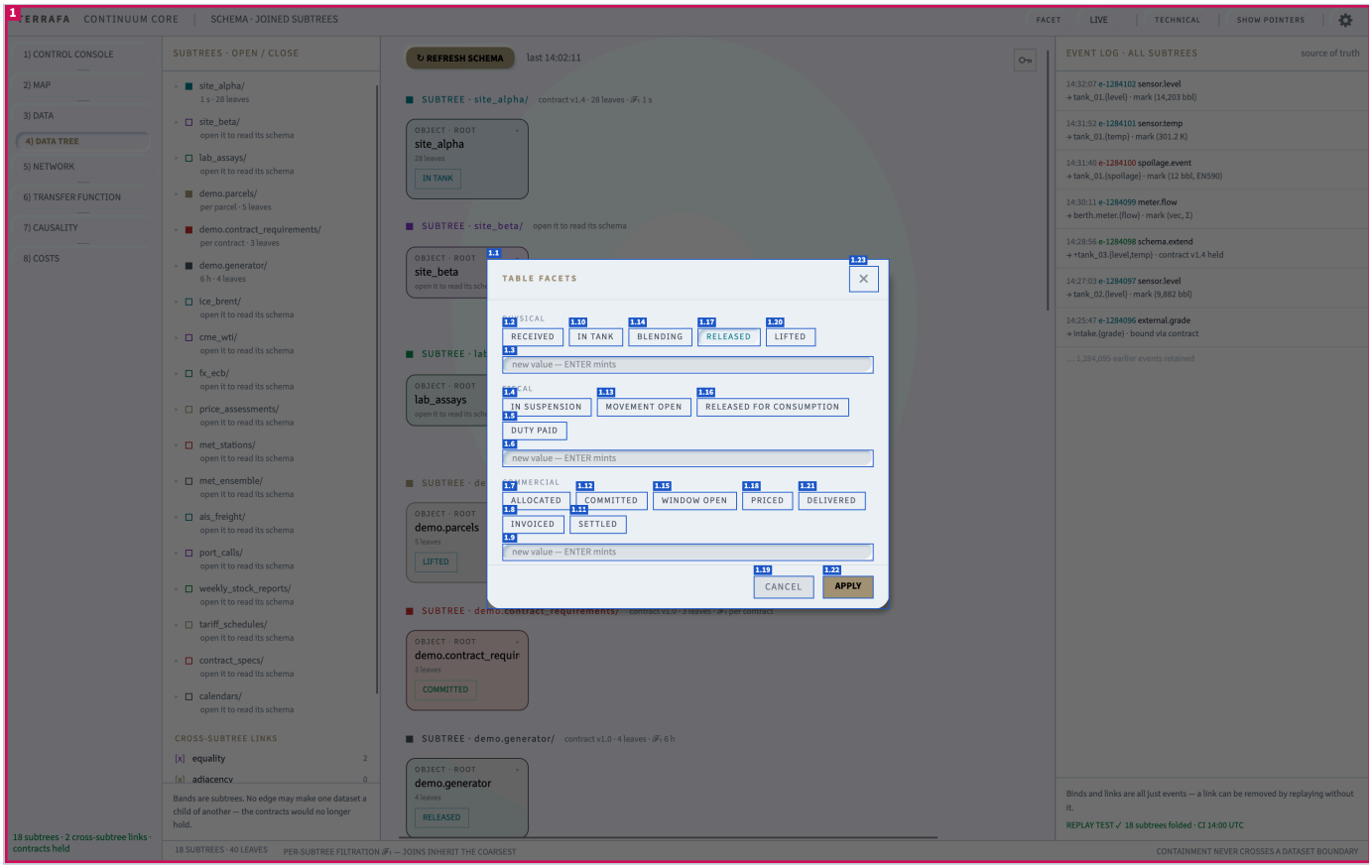
Figure 32. The root menu



The root menu on DATA TREE

Tag	Control	What it does
1.1	MODIFY FACETS	Opens TABLE FACETS (Figure 33).
2	Backdrop	A press outside the menu closes it.

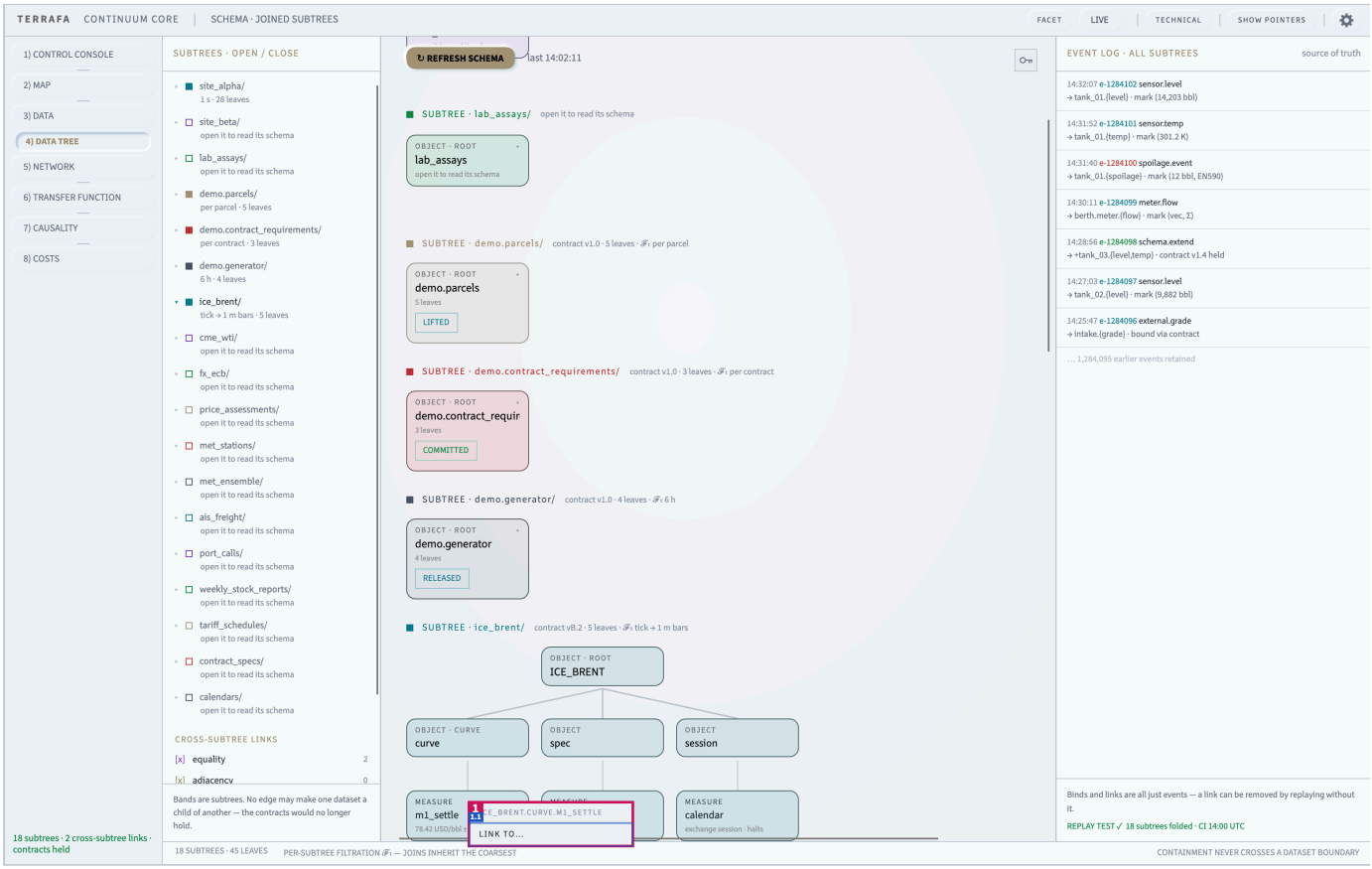
Figure 33. TABLE FACETS



The TABLE FACETS dialog

Tag	Control	What it does
1.1	Dialog card	Holds the dialog.
1.2, 1.4, 1.5, 1.7, 1.8, 1.10–1.18, 1.20, 1.21	Facet values	Select or clear a facet value for the dataset.
1.3, 1.6, 1.9	New value	Type a new value and press ENTER to add it to its facet.
1.19, 1.23	CANCEL, ✕	Close the dialog with no change.
1.22	APPLY	Saves the facets. The screens read the facets from here.

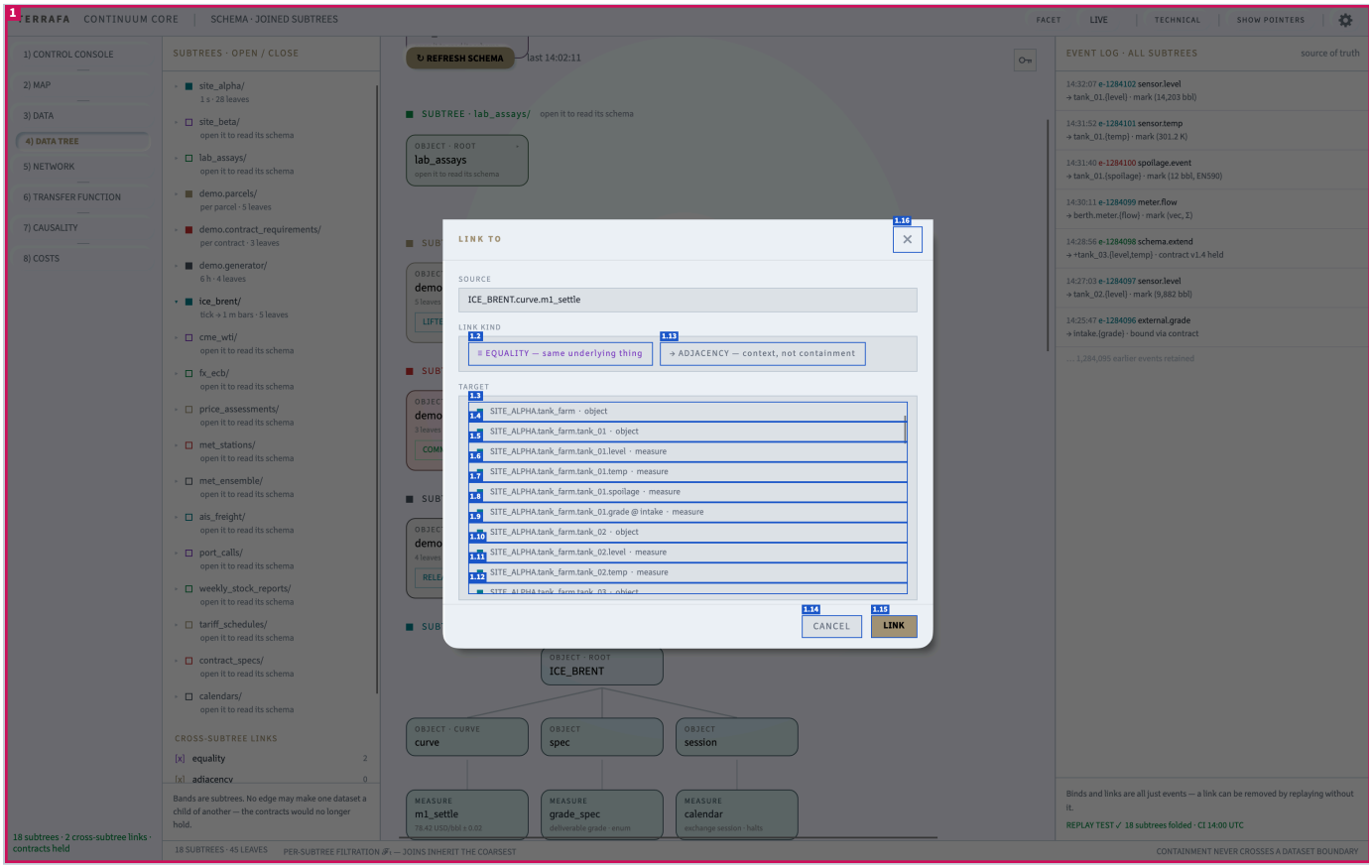
Figure 34. The leaf menu



The leaf menu on DATA TREE

Tag	Control	What it does
1.1	LINK TO…	Opens LINK TO (Figure 35).
2	Backdrop	A press outside the menu closes it.

Figure 35. LINK TO



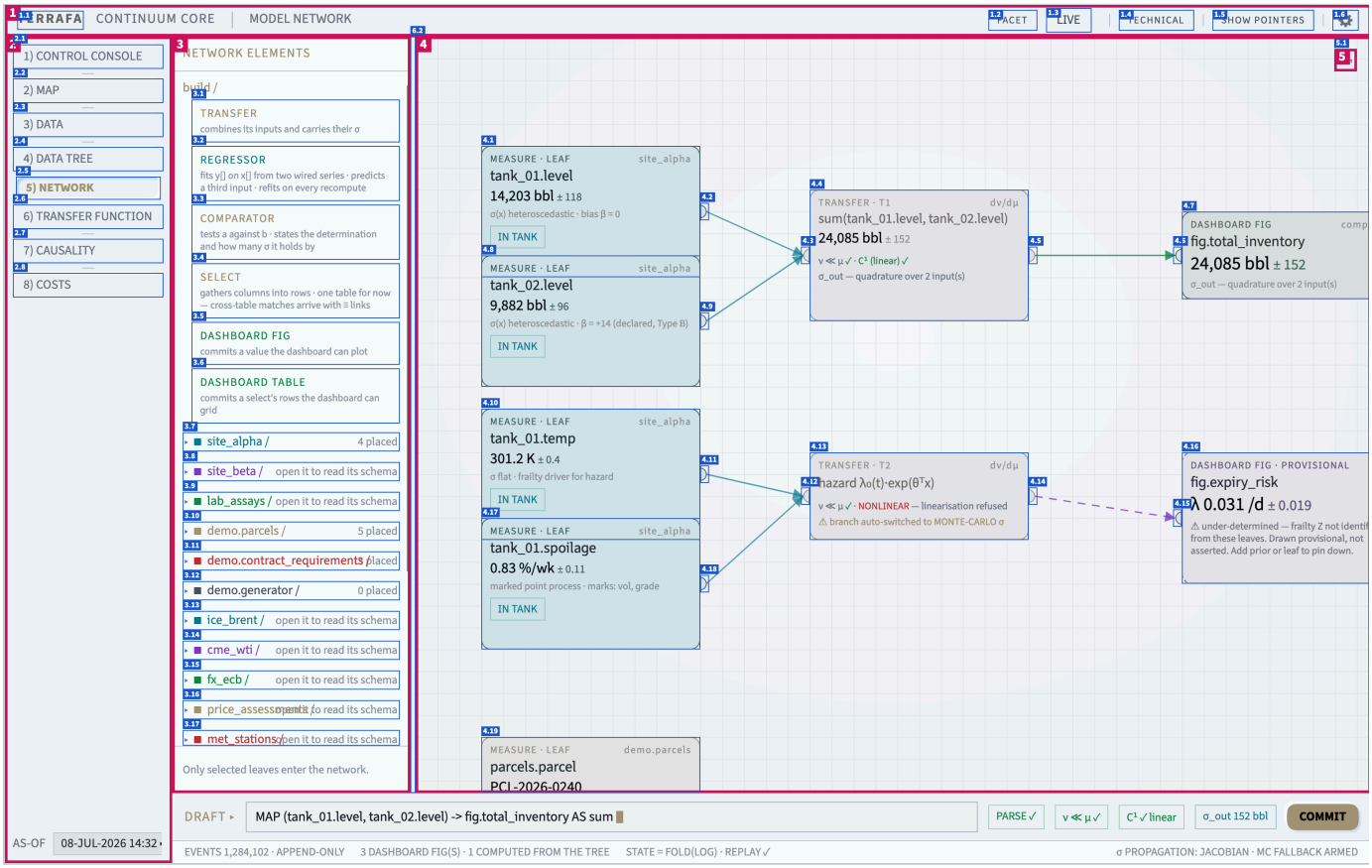
The LINK TO dialog

Tag	Control	What it does
1.2	≡ EQUALITY	Makes the link a join key: the same thing in two datasets. SELECT joins on these links.
1.3–1.12	Targets	Pick the other end of the link.
1.13	→ ADJACENCY	Makes the link context only. SELECT does not join on it.
1.14, 1.16	CANCEL, ✕	Close the dialog with no change.
1.15	LINK	Adds the link.

5.6 NETWORK

NETWORK wires readings into figures on a diagram canvas. σ propagates through the whole network. The network checker marks errors on a card: a text leaf in a numeric node, an unlinked SELECT, a node that spans datasets, and a unit mismatch.

Figure 36. NETWORK



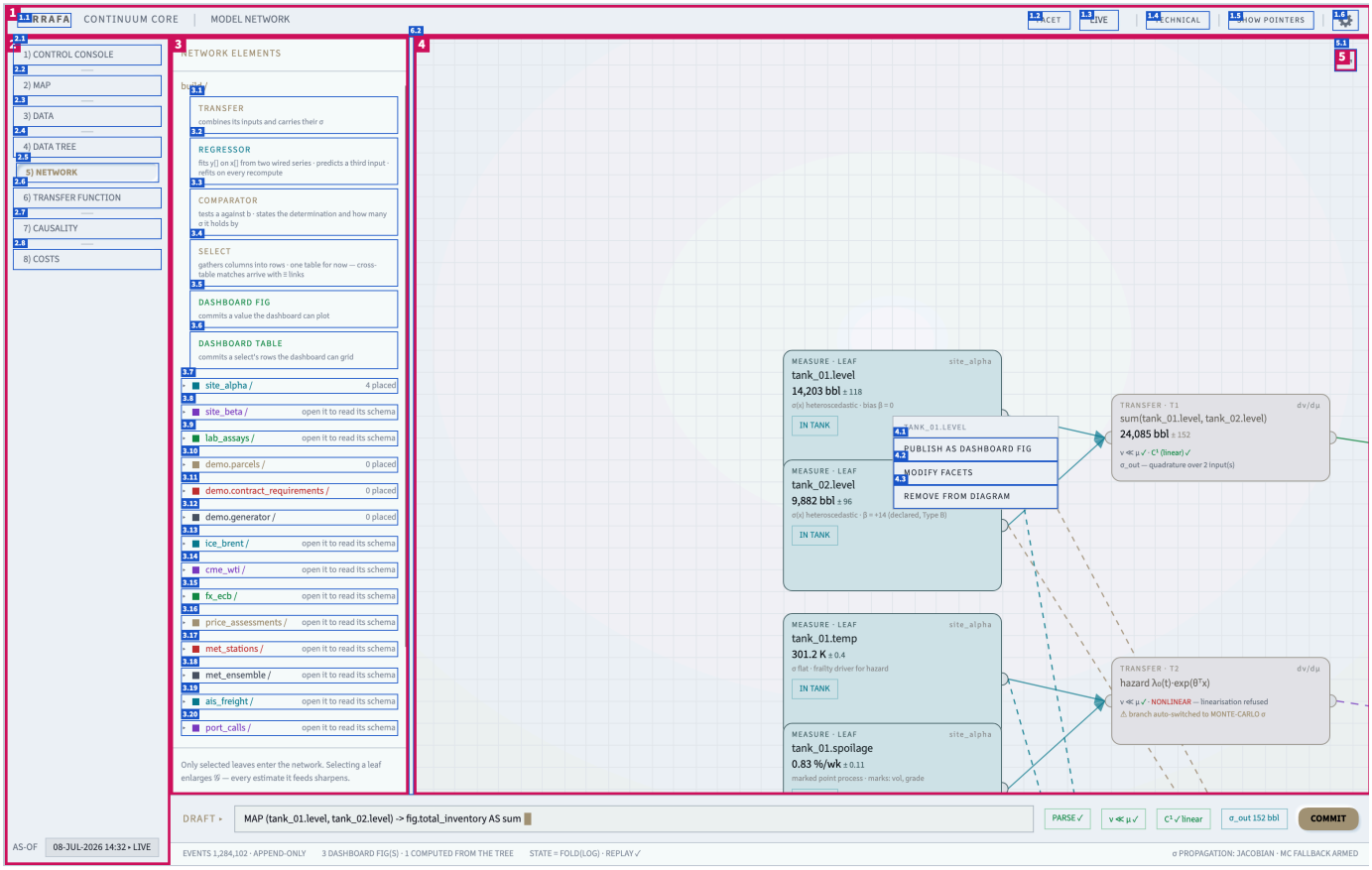
The model network

Drag the background of the canvas to pan. Scroll to zoom. The AS-OF stamp shows the time of the state.

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1	TRANSFER	Drag onto the canvas. Applies a library function to its inputs and carries their σ.
3.2	REGRESSOR	Drag onto the canvas. Fits y on x from two wired series, and predicts a third input.
3.3	COMPARATOR	Drag onto the canvas. Tests a against b. It gives the answer and how many σ it holds by.
3.4	SELECT	Drag onto the canvas. Joins columns into rows on the equality links. It gives a table.
3.5	DASHBOARD FIG	Drag onto the canvas. Publishes a value that a tile can plot.
3.6	DASHBOARD TABLE	Drag onto the canvas. Publishes the rows of a SELECT that a grid tile can show.
3.7–3.17	Datasets	Open a dataset. Drag a leaf onto the canvas to place it as a SOURCE.
4.1, 4.8, 4.10, 4.17, 4.19	Measure cards	Leaves on the canvas, with value and σ. A right-click opens the measure menu (Figure 37).
4.4, 4.13	Transfer cards	A right-click opens the transfer menu (Figure 38).
4.7, 4.16	Figure cards	A right-click opens the figure menu (Figure 42). A provisional figure carries a warning.

Tag	Control	What it does
4.2, 4.3, 4.5, 4.6, 4.9, 4.11, 4.12, 4.14, 4.15, 4.18	Ports	Drag from a port to a port to wire two cards.
5.1	Legend key	Opens or closes the legend.
6.2	Panel handle	Drag to set the width of the panel.

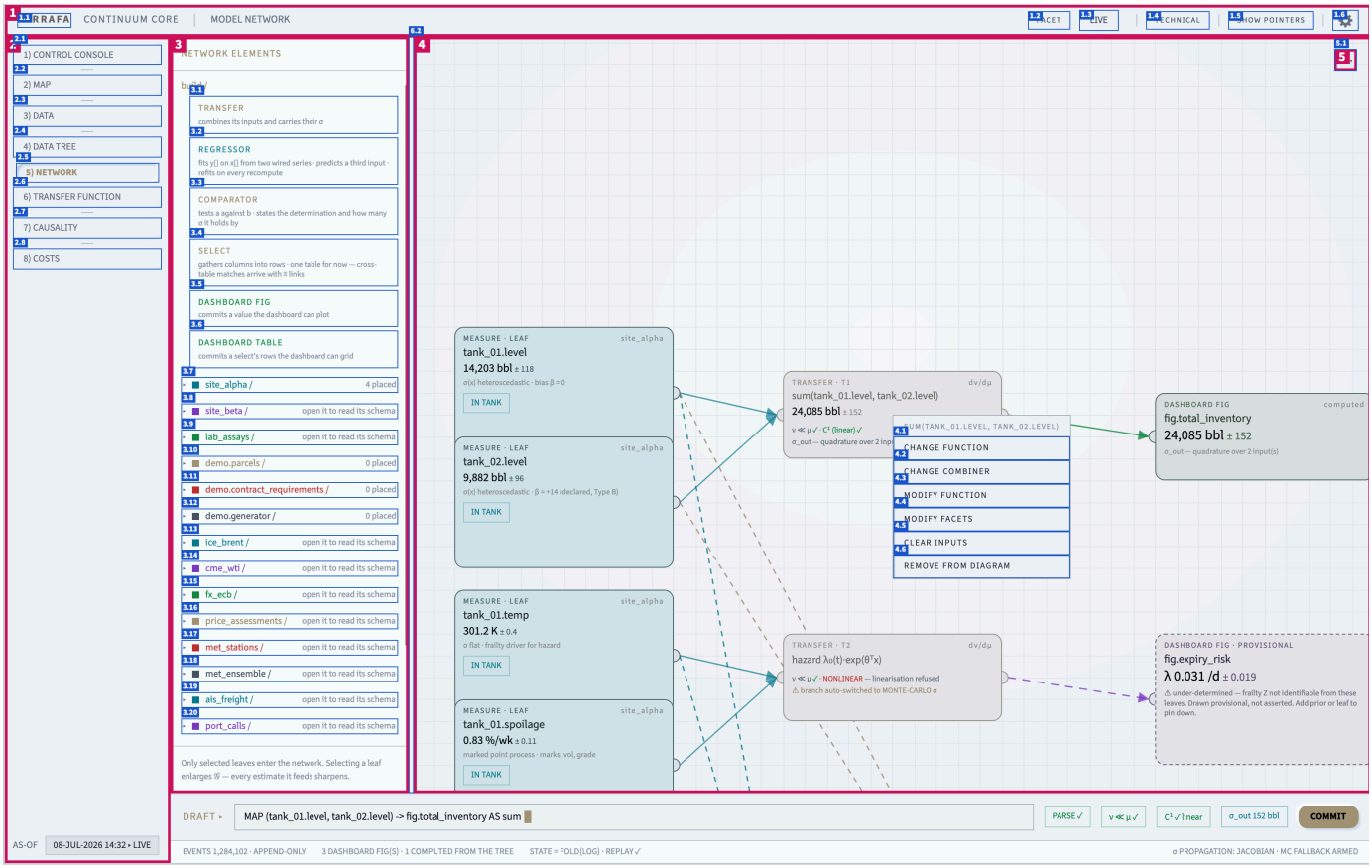
Figure 37. The measure menu



The menu on a measure card

Tag	Control	What it does
1, 2, 3, 5	Top bar, tab strip, elements, legend	As in Figure 36.
4.1	PUBLISH AS DASHBOARD FIG	Adds a figure wired to this leaf.
4.2	MODIFY FACETS	Sets the facets of the card.
4.3	REMOVE FROM DIAGRAM	Takes the card off the canvas.
6.2	Panel handle	As in Figure 36.

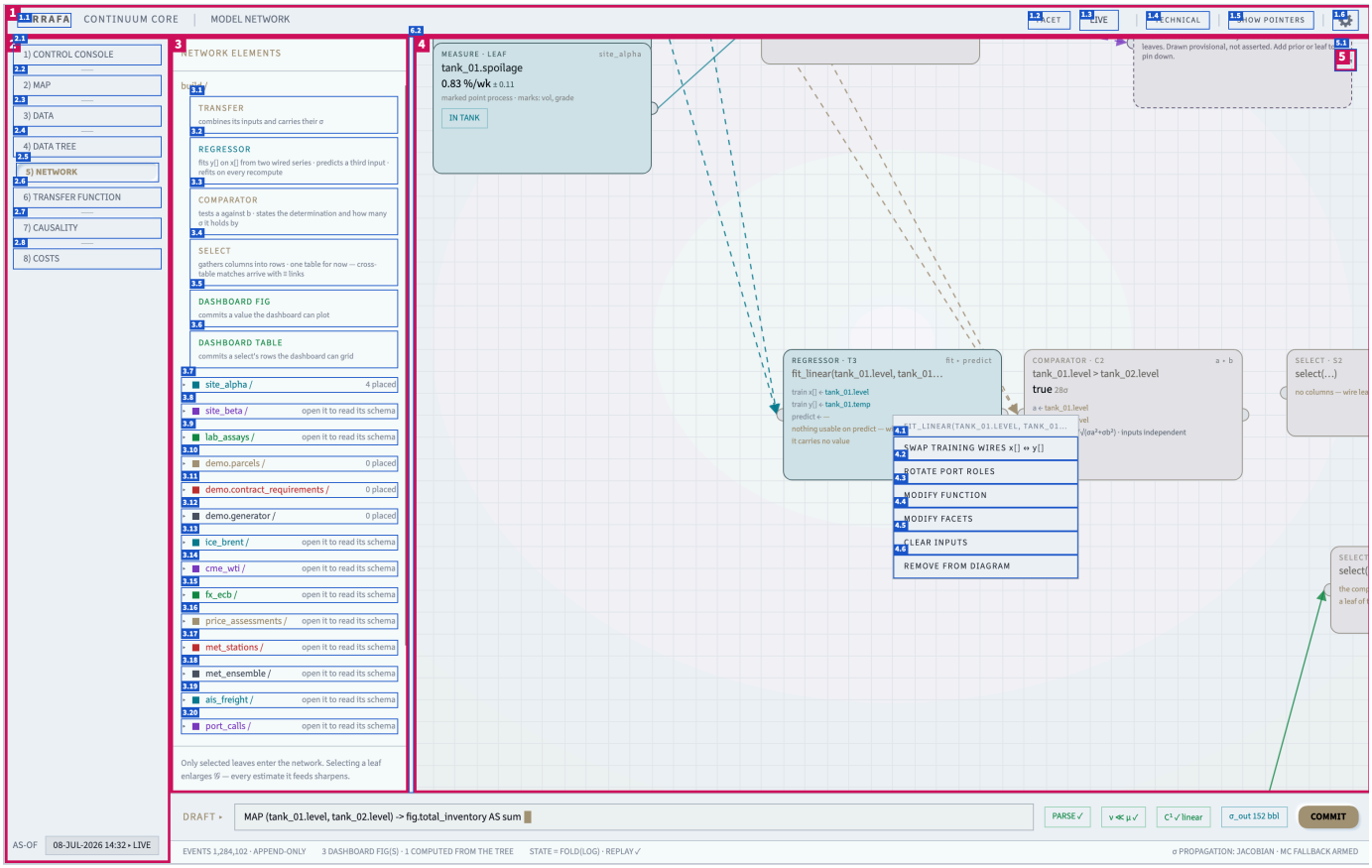
Figure 38. The transfer menu



The menu on a transfer card

Tag	Control	What it does
1, 2, 3, 5	Top bar, tab strip, elements, legend	As in Figure 36.
4.1	CHANGE FUNCTION	Picks another function from the library.
4.2	CHANGE COMBINER	Picks how the inputs combine.
4.3	MODIFY FUNCTION	Opens the function on TRANSFER FUNCTION.
4.4	MODIFY FACETS	Sets the facets of the card.
4.5	CLEAR INPUTS	Removes the wires into the card.
4.6	REMOVE FROM DIAGRAM	Takes the card off the canvas.
6.2	Panel handle	As in Figure 36.

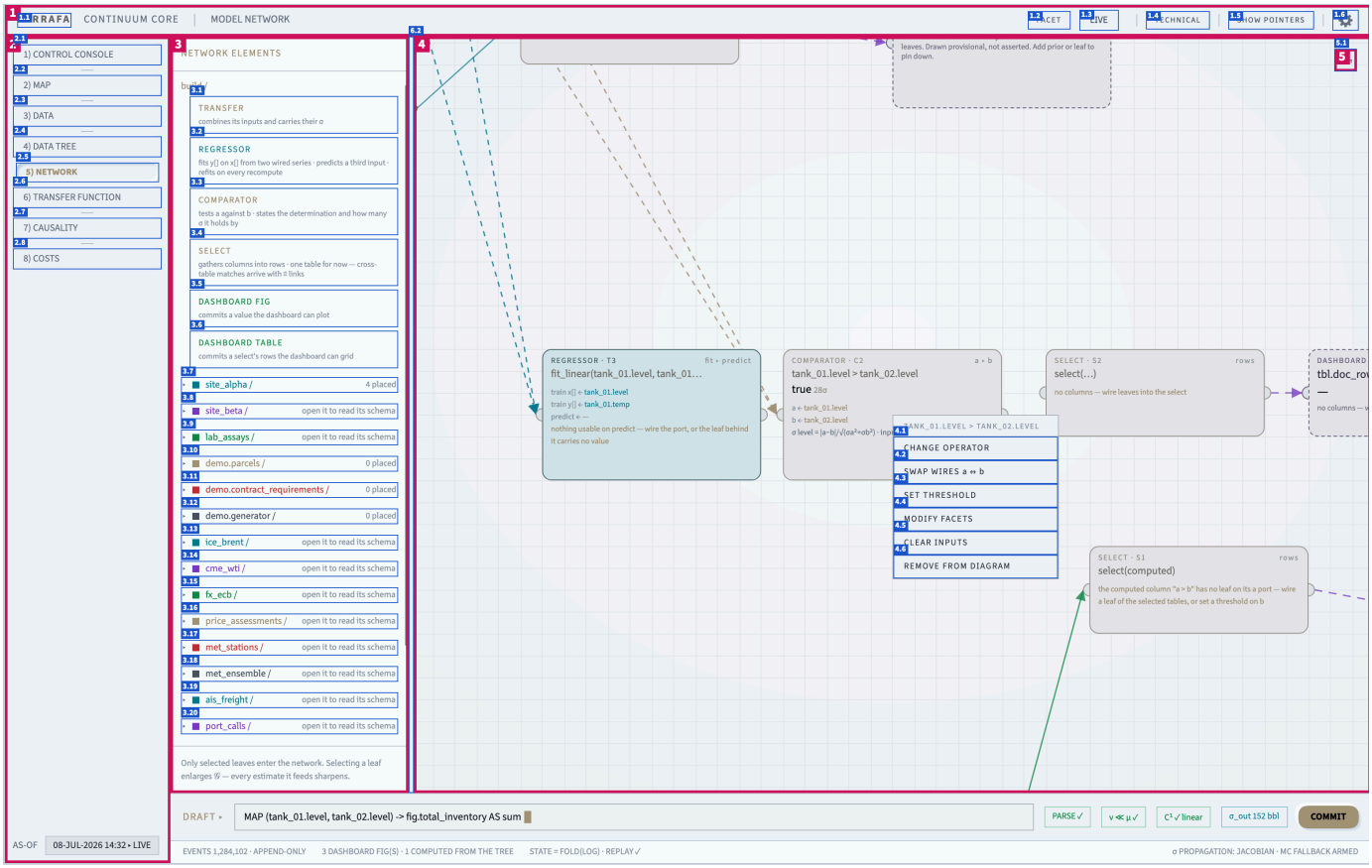
Figure 39. The regressor menu



The menu on a regressor card

Tag	Control	What it does
1, 2, 3, 5	Top bar, tab strip, elements, legend	As in Figure 36.
4.1	SWAP TRAINING WIRES	Swaps the x and y training series.
4.2	ROTATE PORT ROLES	Moves the roles x, y and predict round the three inputs.
4.3	MODIFY FUNCTION	Opens the estimator on TRANSFER FUNCTION.
4.4–4.6	MODIFY FACETS, CLEAR INPUTS, REMOVE FROM DIAGRAM	As in Figure 38.
6.2	Panel handle	As in Figure 36.

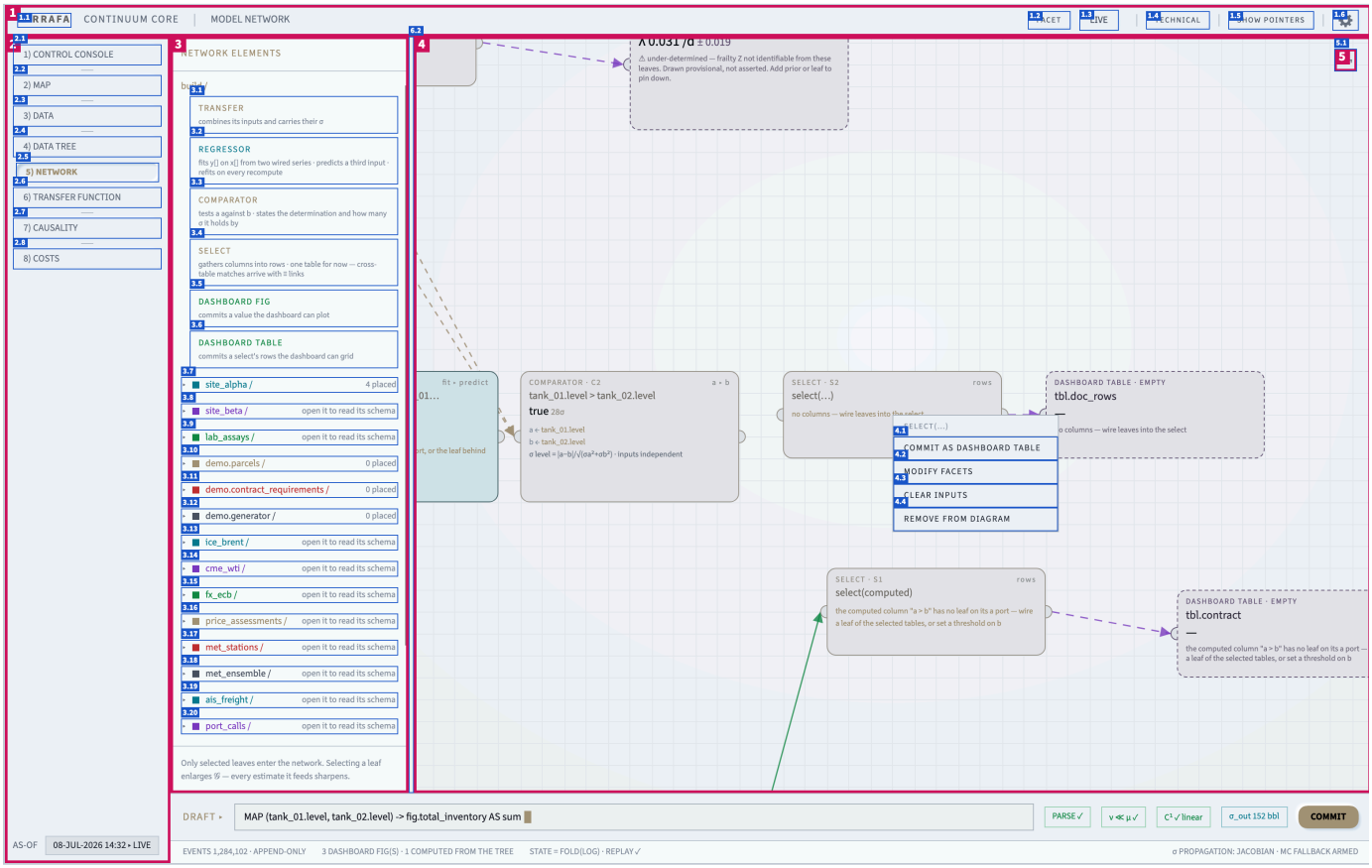
Figure 40. The comparator menu



The menu on a comparator card

Tag	Control	What it does
1, 2, 3, 5	Top bar, tab strip, elements, legend	As in Figure 36.
4.1	CHANGE OPERATOR	Cycles the operator: `>`, `≥`, `<`, `≤`.
4.2	SWAP WIRES	Swaps a and b.
4.3	SET THRESHOLD	Compares a against a fixed value in place of b.
4.4–4.6	MODIFY FACETS, CLEAR INPUTS, REMOVE FROM DIAGRAM	As in Figure 38.
6.2	Panel handle	As in Figure 36.

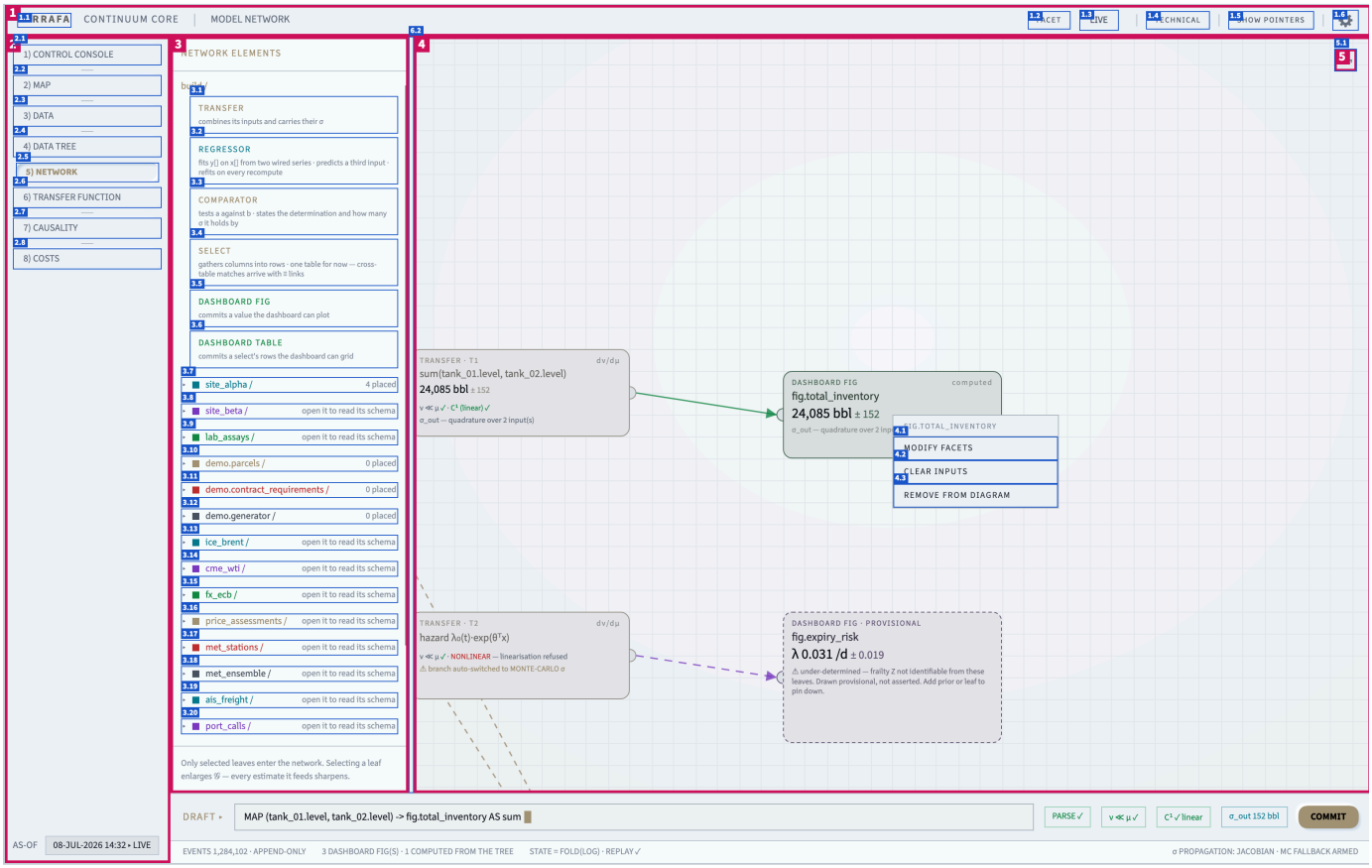
Figure 41. The SELECT menu



The menu on a SELECT card

Tag	Control	What it does
1, 2, 3, 5	Top bar, tab strip, elements, legend	As in Figure 36.
4.1	COMMIT AS DASHBOARD TABLE	Publishes the joined rows as a table for a grid tile.
4.2–4.4	MODIFY FACETS, CLEAR INPUTS, REMOVE FROM DIAGRAM	As in Figure 38.
6.2	Panel handle	As in Figure 36.

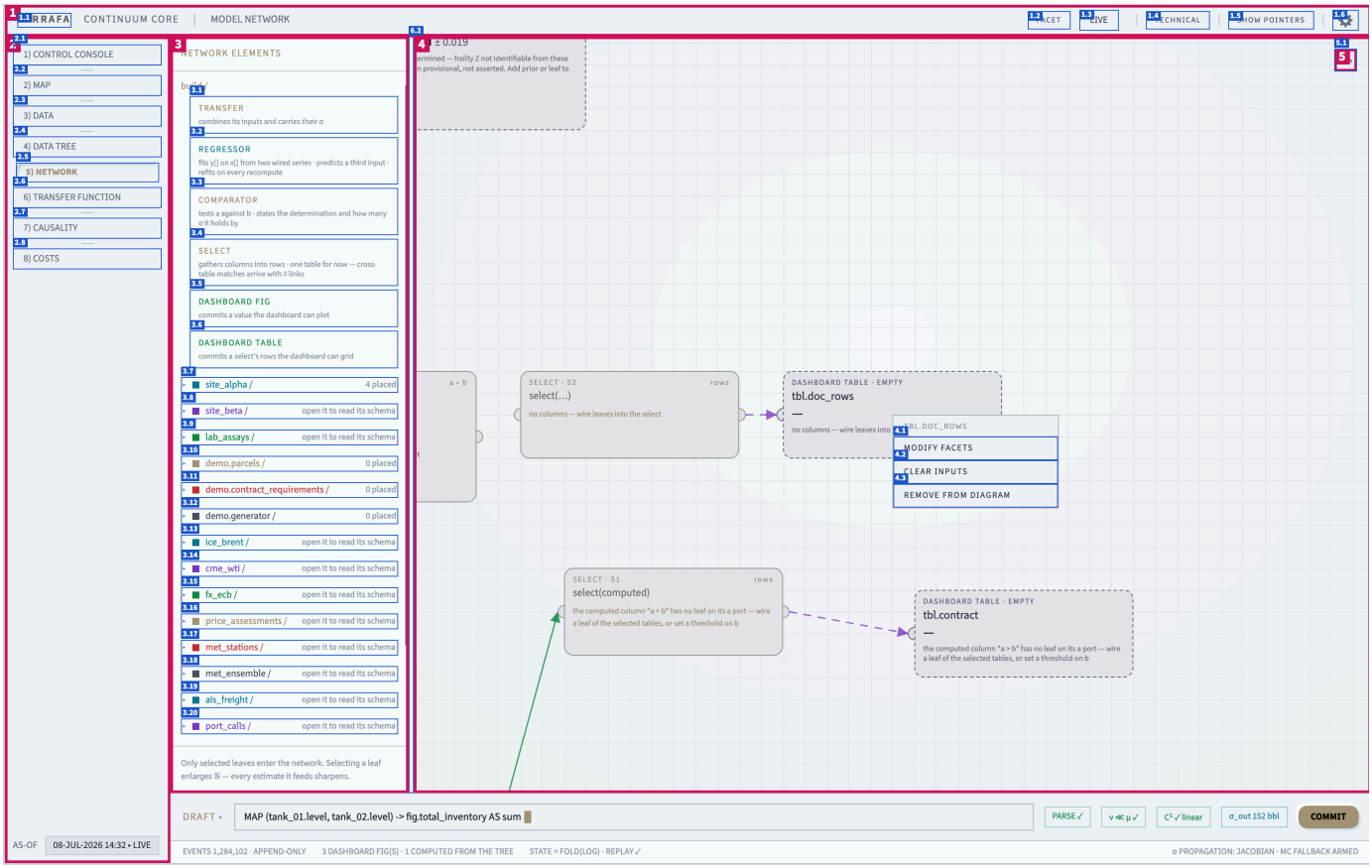
Figure 42. The figure menu



The menu on a DASHBOARD FIG card

Tag	Control	What it does
1, 2, 3, 5	Top bar, tab strip, elements, legend	As in Figure 36.
4.1–4.3	MODIFY FACETS, CLEAR INPUTS, REMOVE FROM DIAGRAM	As in Figure 38. A figure with no input is withdrawn from the dashboard.
6.2	Panel handle	As in Figure 36.

Figure 43. The table menu



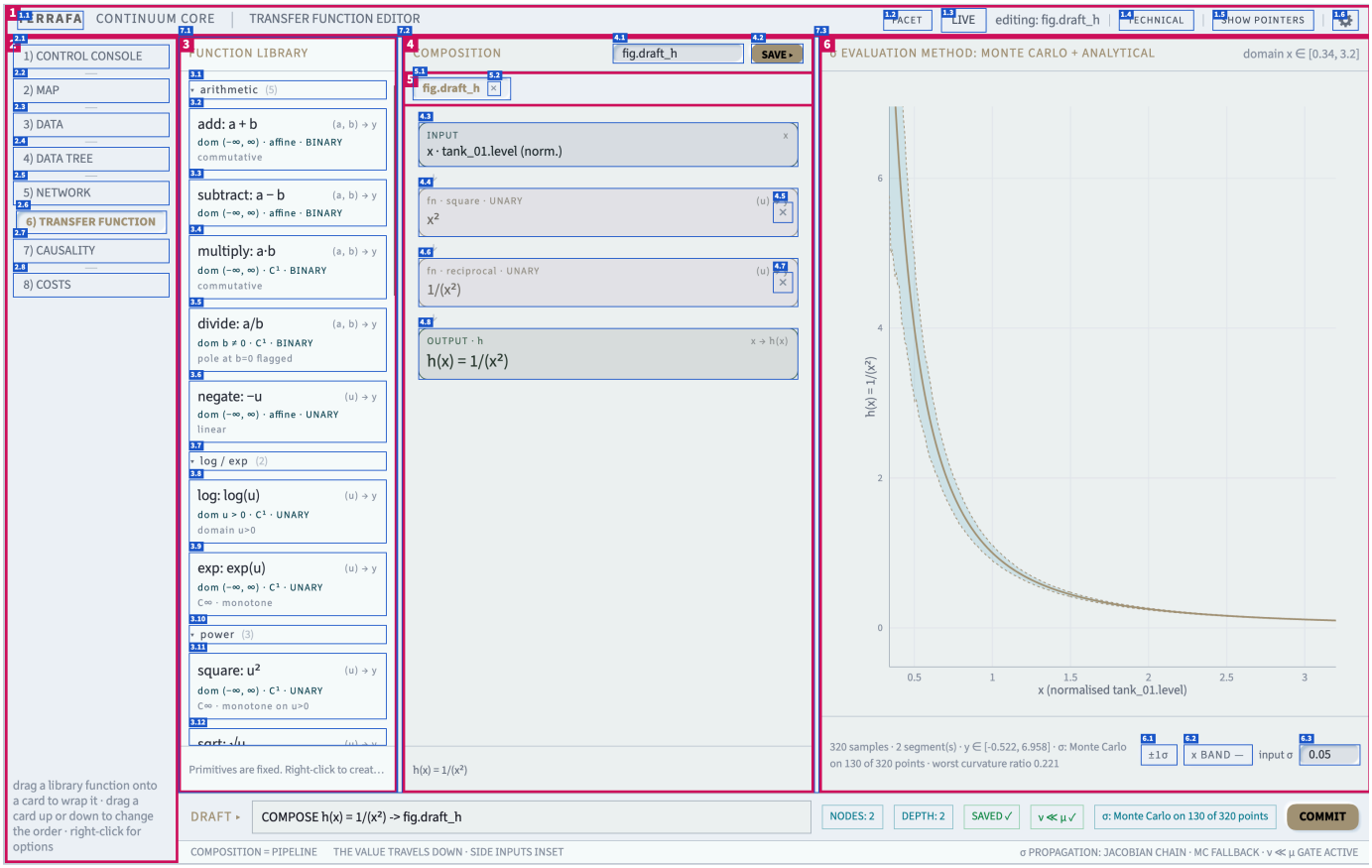
The menu on a DASHBOARD TABLE card

Tag	Control	What it does
1, 2, 3, 5	Top bar, tab strip, elements, legend	As in Figure 36.
4.1–4.3	MODIFY FACETS, CLEAR INPUTS, REMOVE FROM DIAGRAM	As in Figure 38.
6.2	Panel handle	As in Figure 36.

5.7 TRANSFER FUNCTION

TRANSFER FUNCTION builds a function as a pipeline of stages, and shows the result with its σ band. Each change runs composition verification. The existence gate ($v \ll \mu$) refuses a composite with no density on the support. The curvature gate picks an analytic σ or a Monte-Carlo σ. It does not refuse.

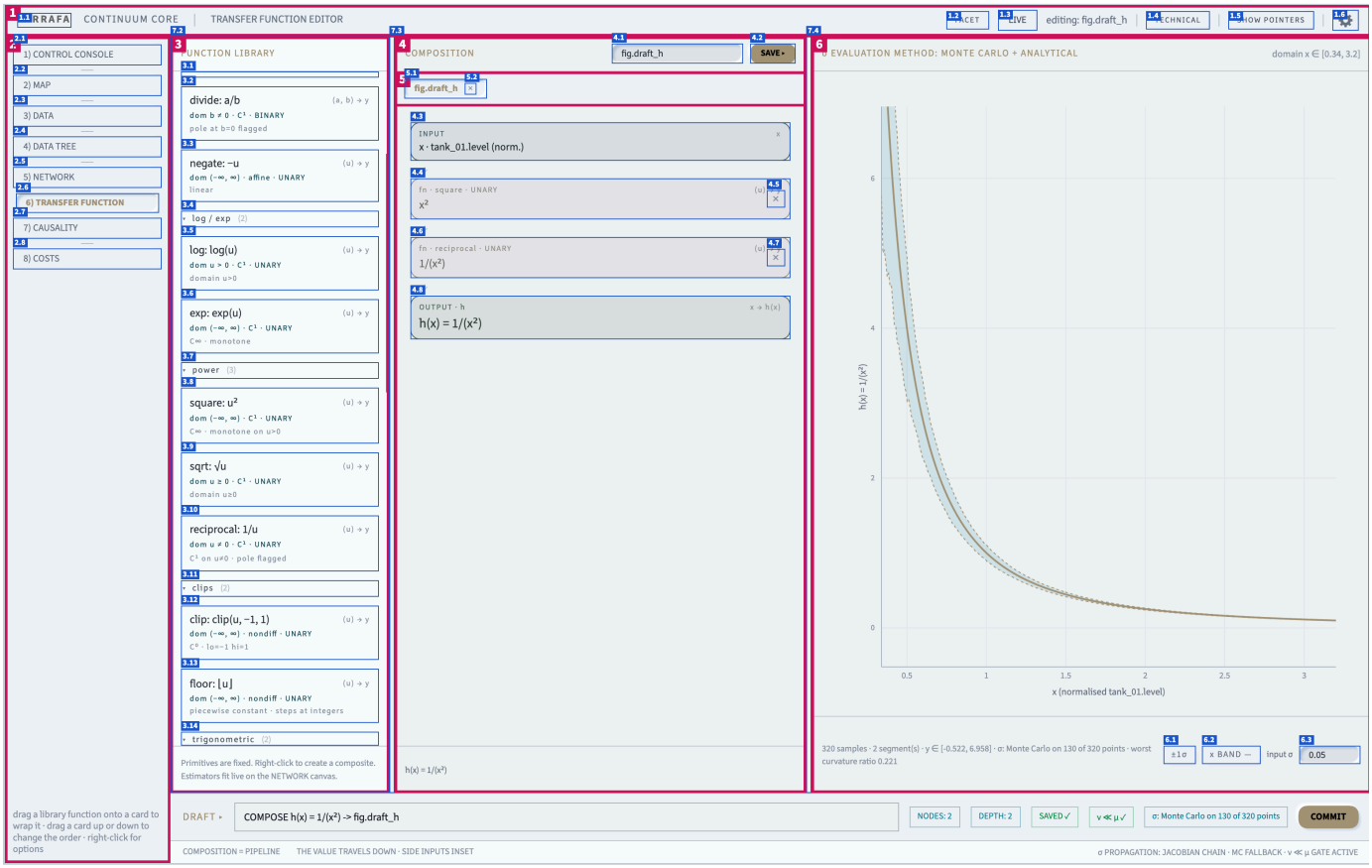
Figure 44. TRANSFER FUNCTION



The transfer function editor

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1, 3.7, 3.10	Groups	Open or close a group of the library: arithmetic, log and exp, power.
3.2–3.6, 3.8, 3.9, 3.11, 3.12	Primitives	Drag a function onto a card to wrap it. A right-click opens the library menu (Figure 47).
4.1	Function name	The name the composite saves under.
4.2	SAVE ▸	Saves the composite to the library. A name in use asks first (Figure 51).
4.3	INPUT	The input x.
4.4, 4.6	Stages	Drag a stage up or down to change the order. A right-click opens the stage menu (Figure 48).
4.5, 4.7	×	Remove a stage.
4.8	OUTPUT	The output h(x). A right-click opens the output menu (Figure 49).
5.1, 5.2	Draft tab, ×	Show an open draft. × closes it.
6.1	±1σ	Sets the confidence level, as in Figure 20.
6.2	x BAND	Sets the band on the input: none, ±0.05 or ±0.10. The input σ comes from the band and the confidence level.
6.3	Input σ	The absolute σ on x.
7.1	Library panel	A right-click on the panel offers CREATE FUNCTION.
7.2, 7.3	Panel handles	Drag to set the width of the library and composition columns.

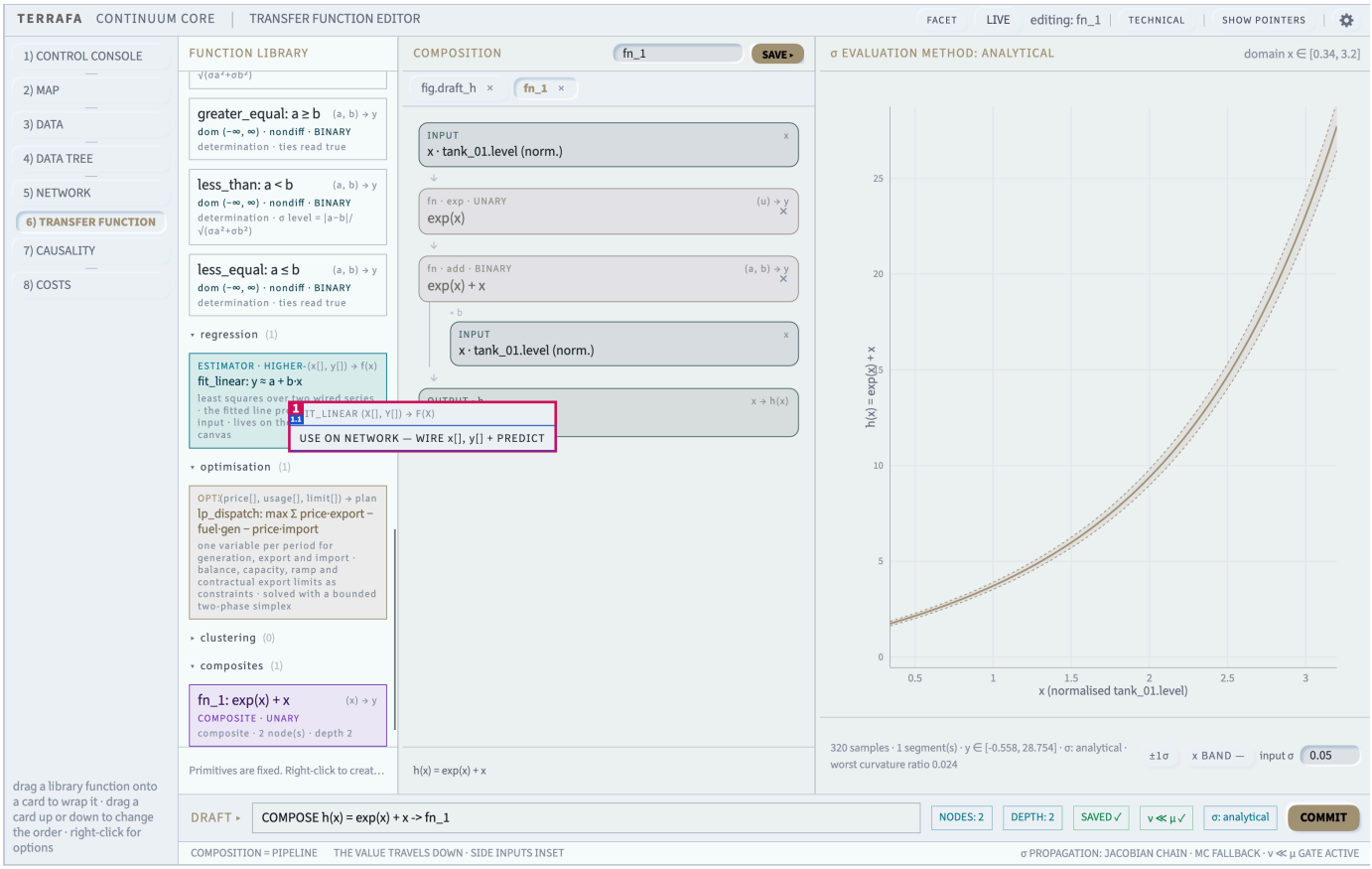
Figure 45. The function library, middle groups



The function library scrolled to clips and trigonometric

Tag	Control	What it does
1, 2, 4, 5, 6	Top bar, tab strip, composition, draft tabs, result	As in Figure 44.
3.4, 3.7, 3.11, 3.14	Groups	Open or close a group: log and exp, power, clips, trigonometric.
3.1–3.3, 3.5, 3.6, 3.8–3.10, 3.12, 3.13	Primitives	As in Figure 44. The clips group holds clip and floor.
7.2	Library panel	As in Figure 44.
7.3, 7.4	Panel handles	As in Figure 44.

Figure 46. The function library, last groups

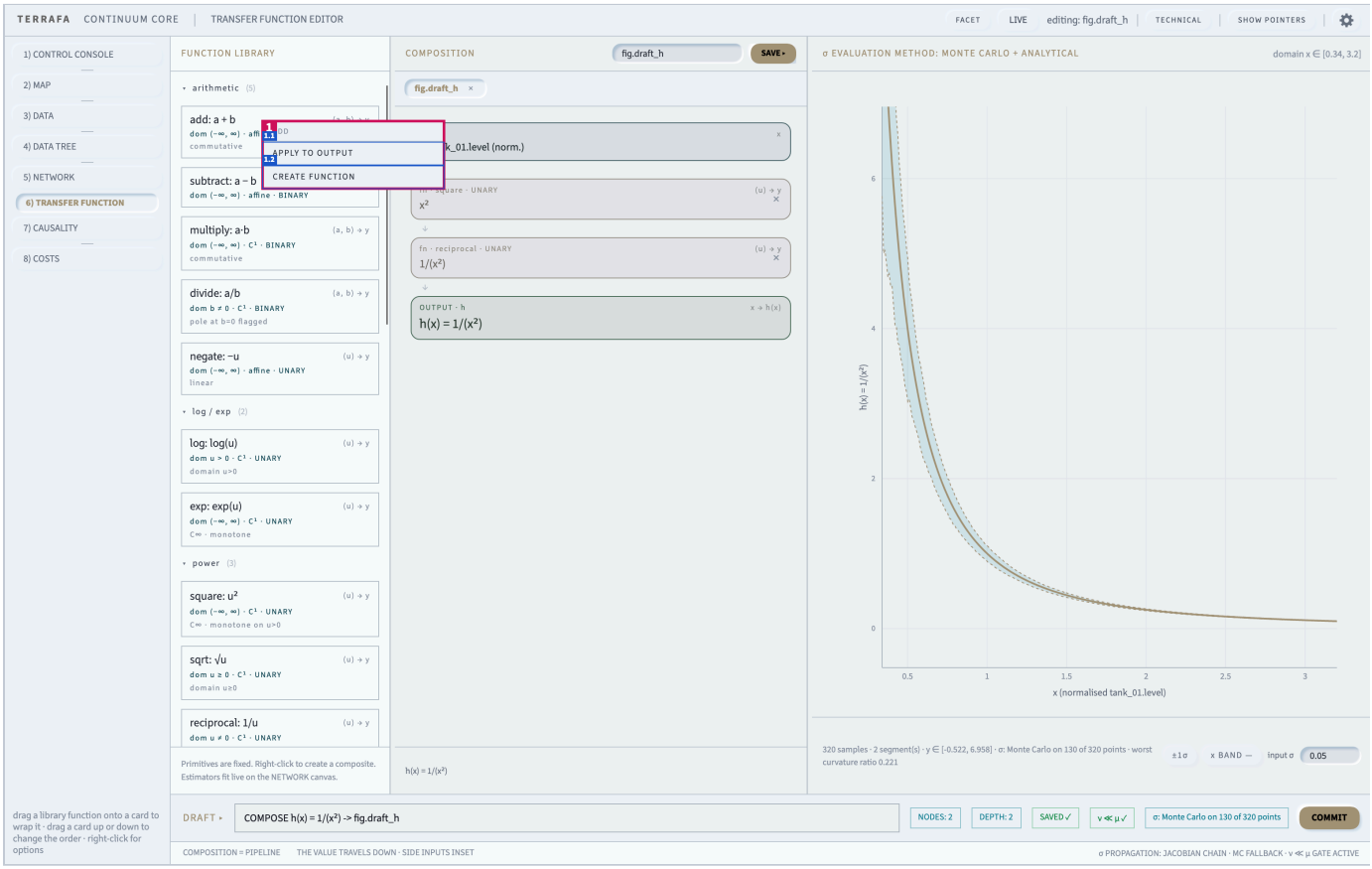


The function library scrolled to its end, with the estimator menu open

The library ends with the boolean group (`>` , `≥` , `<` , `≤`), the regression group (`fit_linear`), the optimisation group (`lp_dispatch`), the clustering group (planned, empty) and the saved composites. A click on `lp_dispatch` opens the dispatch optimiser (Figure 52).

Tag	Control	What it does
1.1	USE ON NETWORK	The estimator menu. Estimators live on the NETWORK canvas as a REGRESSOR.
2	Backdrop	A press outside the menu closes it.

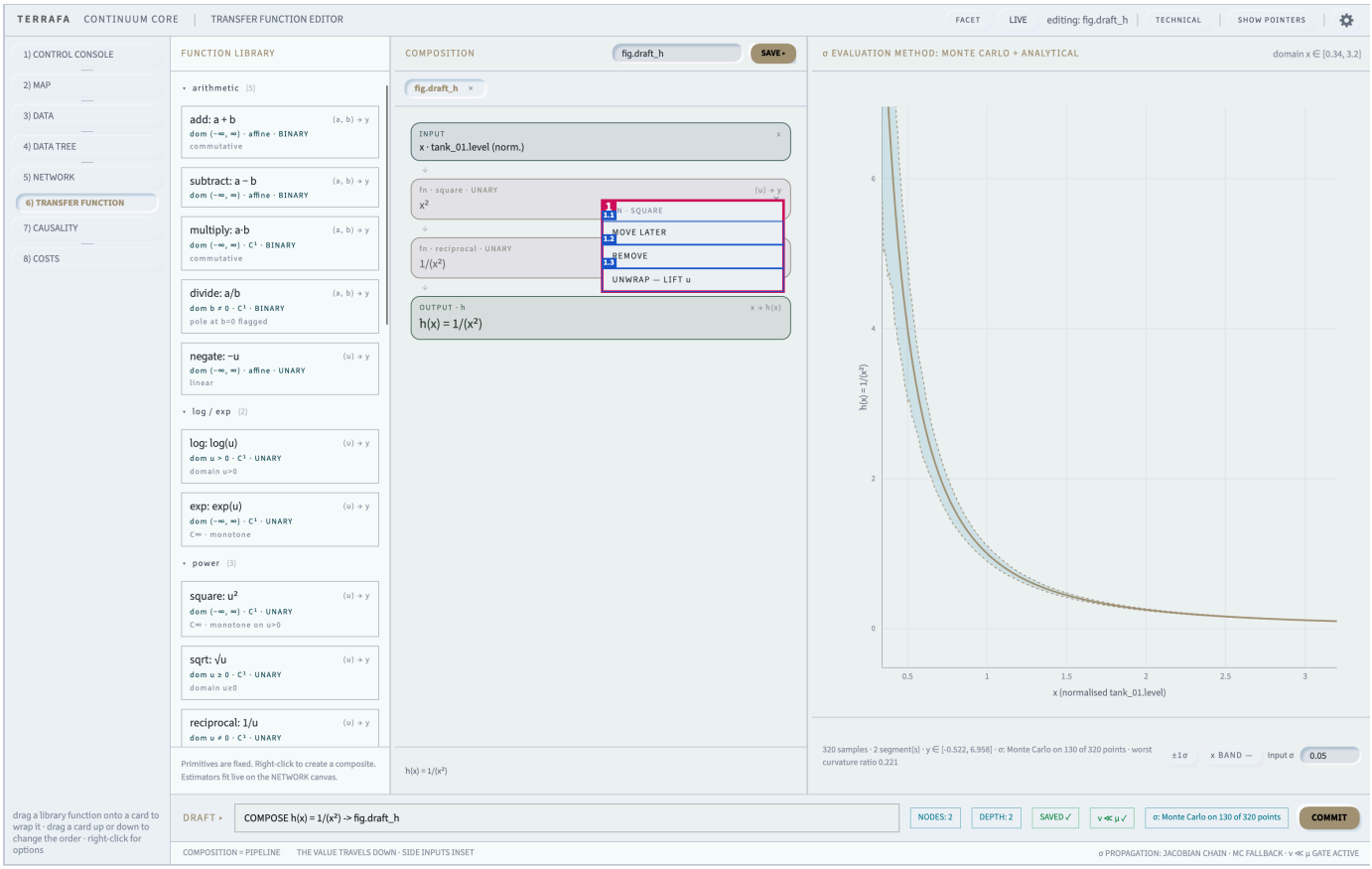
Figure 47. The library menu



The menu on a library function

Tag	Control	What it does
1.1	APPLY TO OUTPUT	Wraps the whole pipeline in this function.
1.2	CREATE FUNCTION	Starts a new composite in a new draft tab.
2	Backdrop	A press outside the menu closes it.

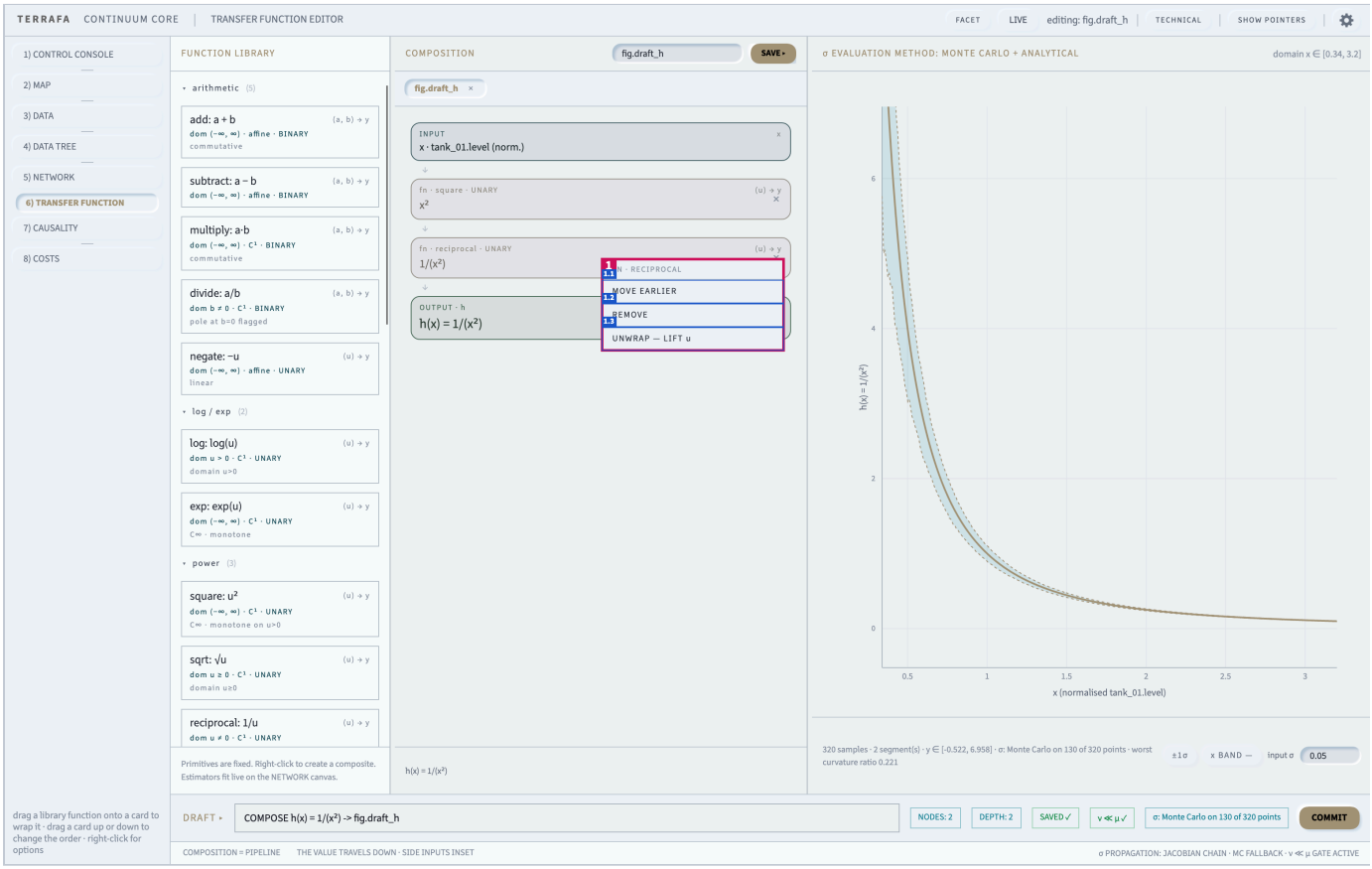
Figure 48. The stage menu



The menu on a stage card

Tag	Control	What it does
1.1	MOVE LATER	Moves the stage one step down the pipeline. MOVE EARLIER shows when a stage can move up.
1.2	REMOVE	Removes the stage.
1.3	UNWRAP — LIFT u	Removes the stage and keeps what it wrapped.
2	Backdrop	A press outside the menu closes it.

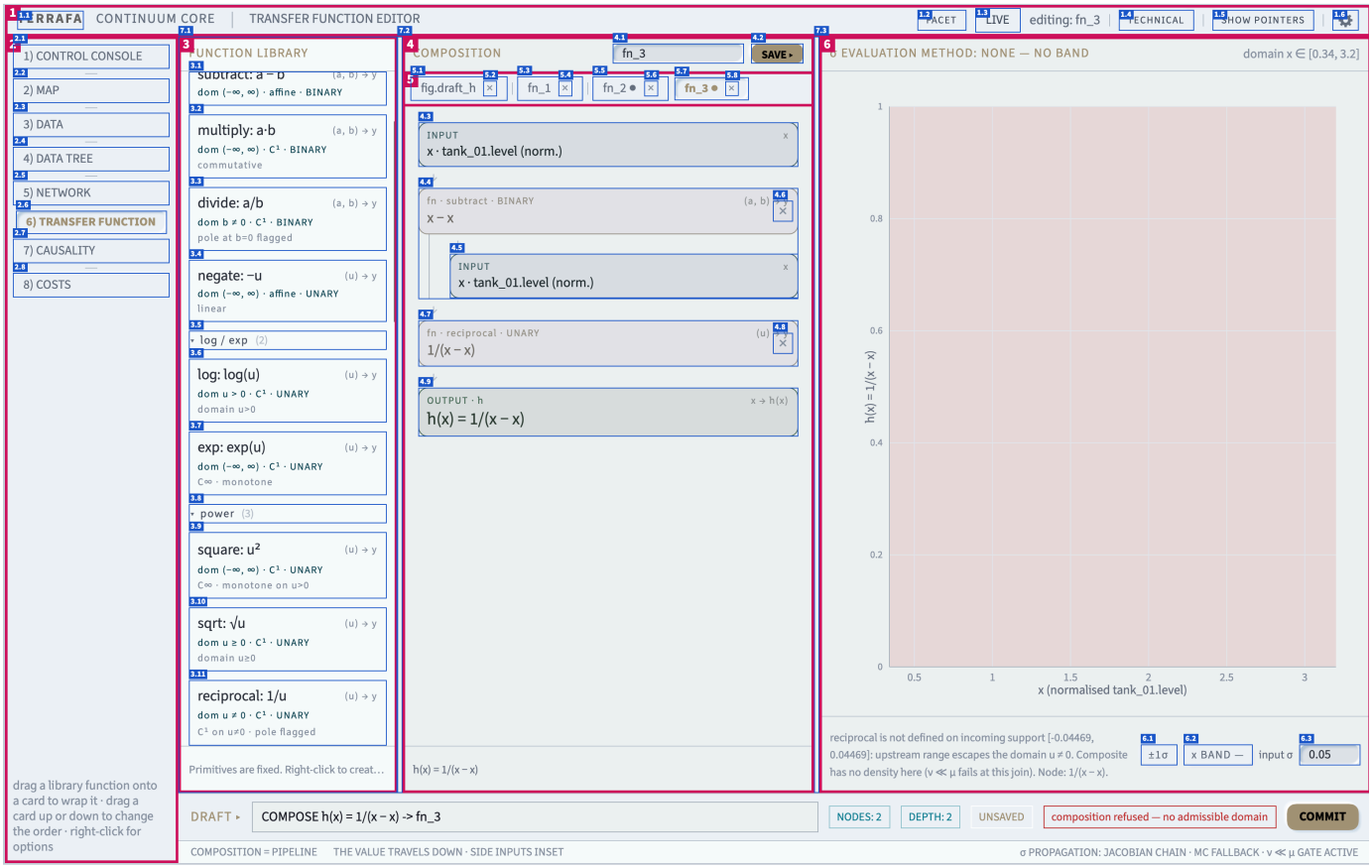
Figure 49. The output menu



The menu on the output card

Tag	Control	What it does
1.1	MOVE EARLIER	Moves the last stage one step up the pipeline.
1.2	REMOVE	Removes the last stage.
1.3	UNWRAP — LIFT u	Removes the last stage and keeps what it wrapped.
2	Backdrop	A press outside the menu closes it.

Figure 50. A refused composition

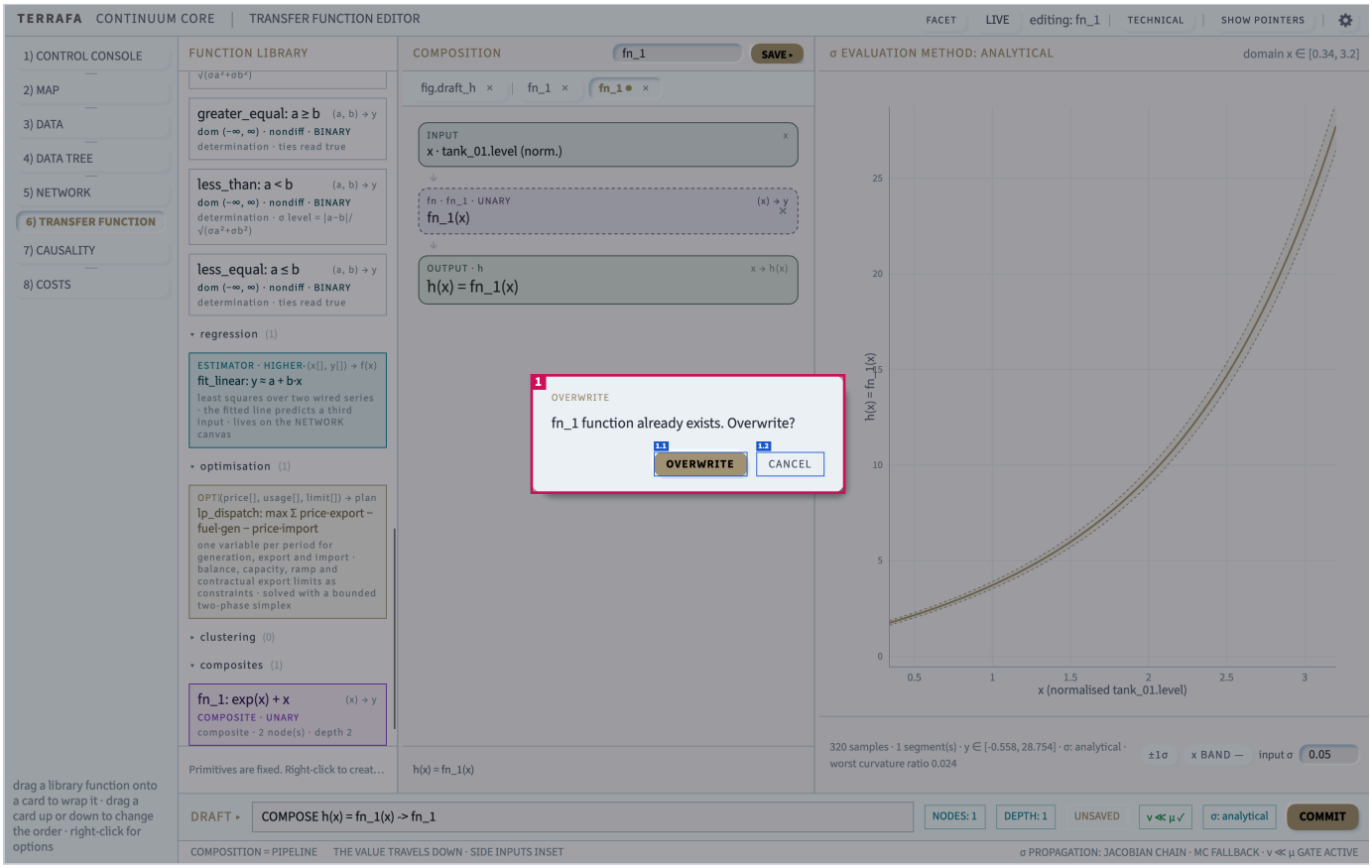


A composition that the existence gate refuses

`1/(x − x)` has no value anywhere on the support, so the existence gate refuses it. The result shows no band, the draft bar says `composition refused — no admissible domain`, and SAVE is off.

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.5, 3.8	Groups	As in Figure 44.
3.1–3.4, 3.6, 3.7, 3.9–3.11	Primitives	As in Figure 44.
4.1, 4.2	Function name, SAVE ▸	As in Figure 44.
4.3, 4.5	INPUT	The input x. A binary stage takes a second input as a side card.
4.4, 4.7	Stages	As in Figure 44.
4.6, 4.8	×	Remove a stage.
4.9	OUTPUT	As in Figure 44.
5.1–5.8	Draft tabs, ×	Show an open draft. A dot marks a draft with unsaved changes. × closes it.
6	Result	As in Figure 44.
7.1–7.3	Library panel, panel handles	As in Figure 44.

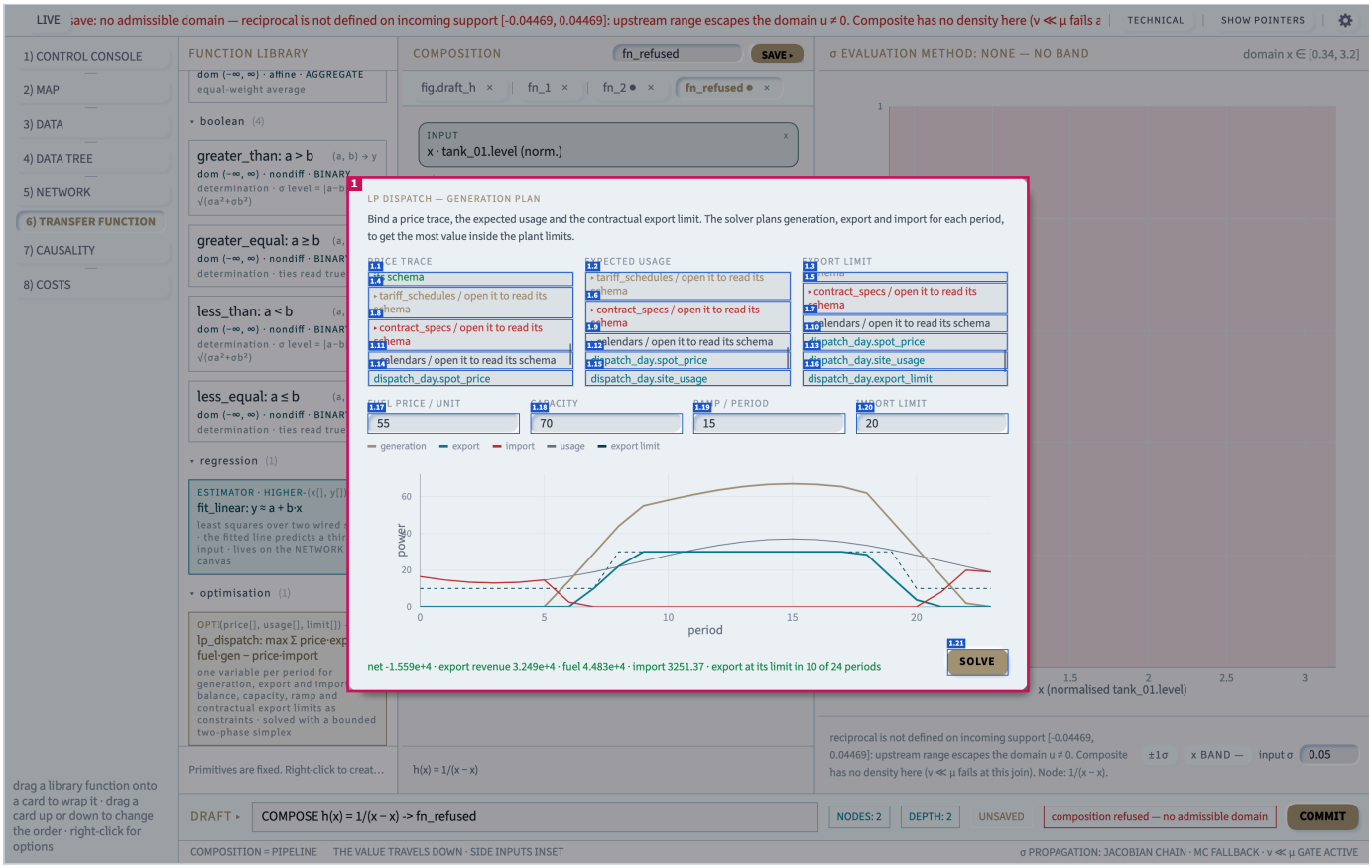
Figure 51. OVERWRITE



The OVERWRITE dialog

Tag	Control	What it does
1.1	OVERWRITE	Saves over the function of the same name.
1.2	CANCEL	Closes the dialog with no change.
2	Backdrop	The dialog covers the screen.

Figure 52. LP DISPATCH — GENERATION PLAN



The dispatch optimiser with a solved plan

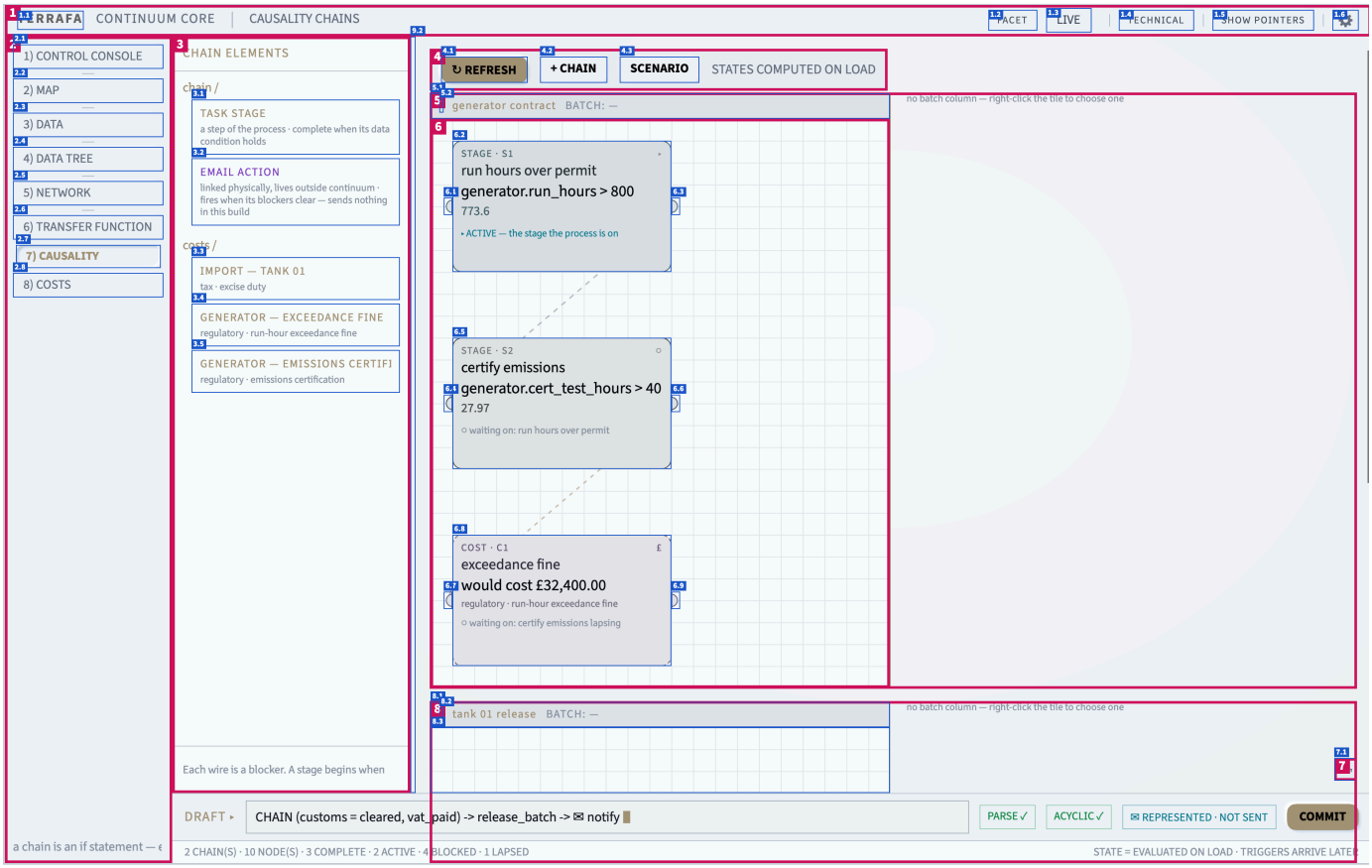
The optimiser plans generation, export and import for each period to get the most value inside the plant limits. It is a linear programme, solved with a bounded two-phase simplex.

Tag	Control	What it does
1.1–1.16	PRICE TRACE, EXPECTED USAGE, EXPORT LIMIT	Pick the leaf for each trace. Each list holds every dataset.
1.17	FUEL PRICE / UNIT	The cost of one unit of generation, one figure for the day.
1.18	CAPACITY	The upper bound on generation.
1.19	RAMP / PERIOD	The largest step between two periods. Blank means no limit.
1.20	IMPORT LIMIT	The cap on import. 0 means an island site.
1.21	SOLVE	Solves the plan and draws generation, export, import, usage and the export limit.
2	Backdrop	The dialog covers the screen.

5.8 CAUSALITY

A chain is a set of stages. Each stage watches a threshold on a leaf, and can have a due date and a time window. The blockers form a directed acyclic graph. The states come from the rows when the screen loads.

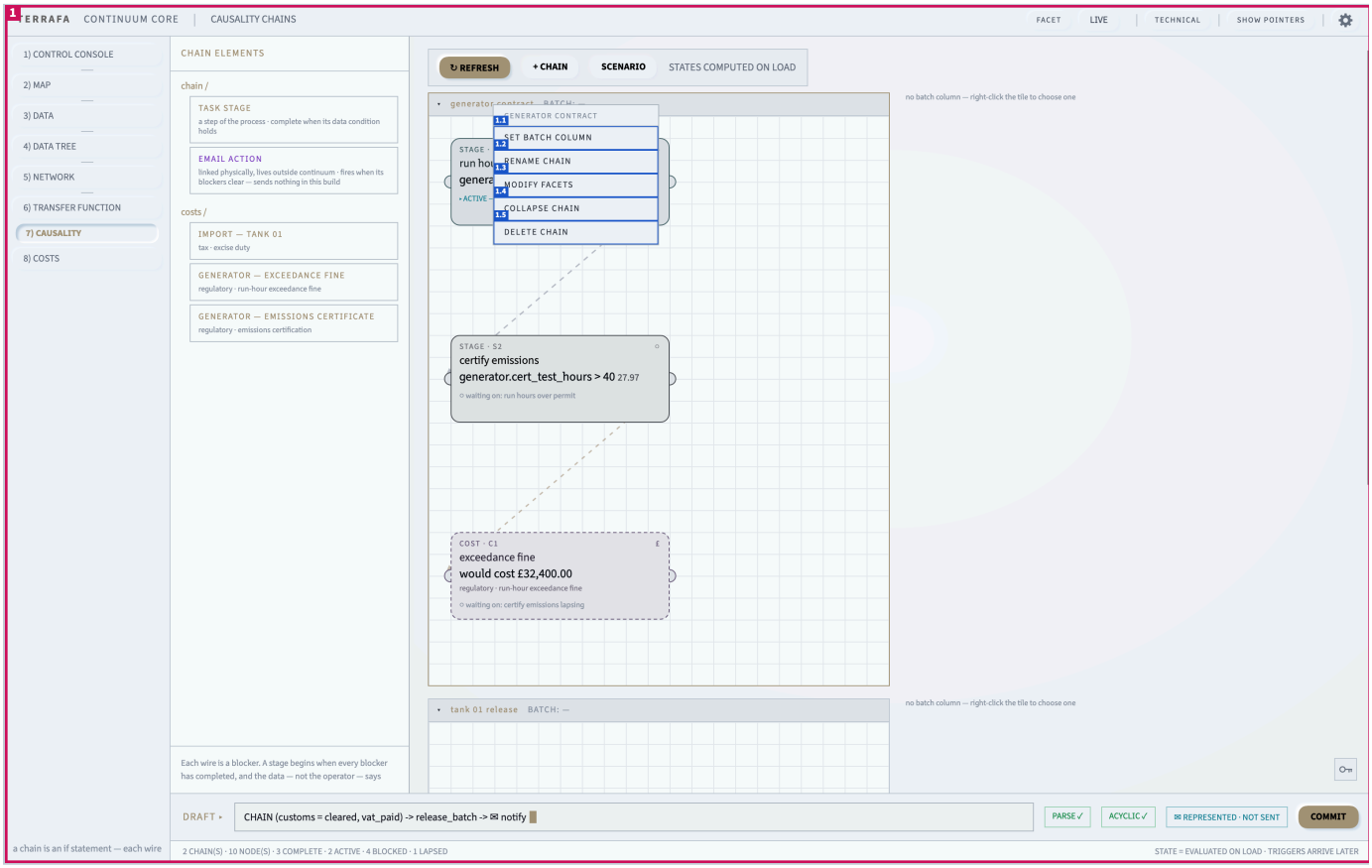
Figure 53. CAUSALITY



The causality chains

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1	TASK STAGE	Drag onto a chain. A step that completes when its data condition holds.
3.2	EMAIL ACTION	Drag onto a chain. Sends an email when its blockers clear.
3.3–3.5	Costs	Drag a cost from COSTS onto a chain. The chain charges it when a stage completes or lapses.
4.1	↻ REFRESH	Reads the rows again and recomputes the states.
4.2	+ CHAIN	Adds an empty chain.
4.3	SCENARIO	Opens the scenario bar (Figure 60).
5.1, 8.1	Chain headers	Select a chain. A right-click opens the chain menu (Figure 54).
5.2, 8.2	▾	Collapse or expand a chain.
8.3	Chain preview	A collapsed chain shows a small preview. Press it to select the chain.
6.2, 6.5	Stage cards	A right-click opens the stage menu (Figure 55).
6.8	Cost card	A right-click opens the cost menu (Figure 57).
6.1, 6.3, 6.4, 6.6, 6.7, 6.9	Ports	Drag from a port to a port to wire a blocker.
7.1	Legend key	Opens or closes the legend.
9.2	Panel handle	Drag to set the width of the panel.

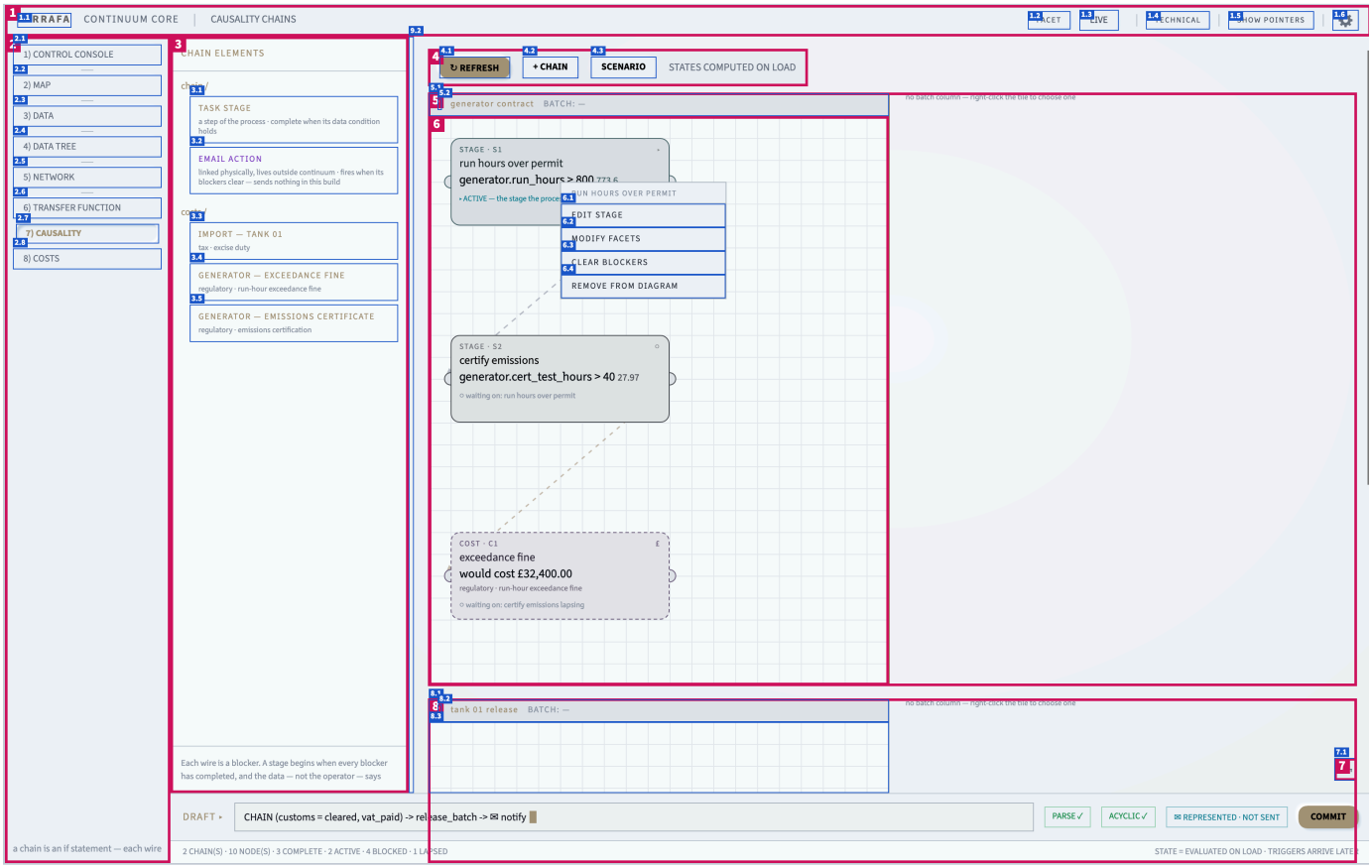
Figure 54. The chain menu



The chain menu

Tag	Control	What it does
1.1	SET BATCH COLUMN	Splits the chain into one row for each value of a column (Figure 61).
1.2	RENAME CHAIN	Sets the name of the chain.
1.3	MODIFY FACETS	Sets the facets of the chain.
1.4	COLLAPSE CHAIN	Folds the chain to its header.
1.5	DELETE CHAIN	Removes the chain.
2	Backdrop	A press outside the menu closes it.

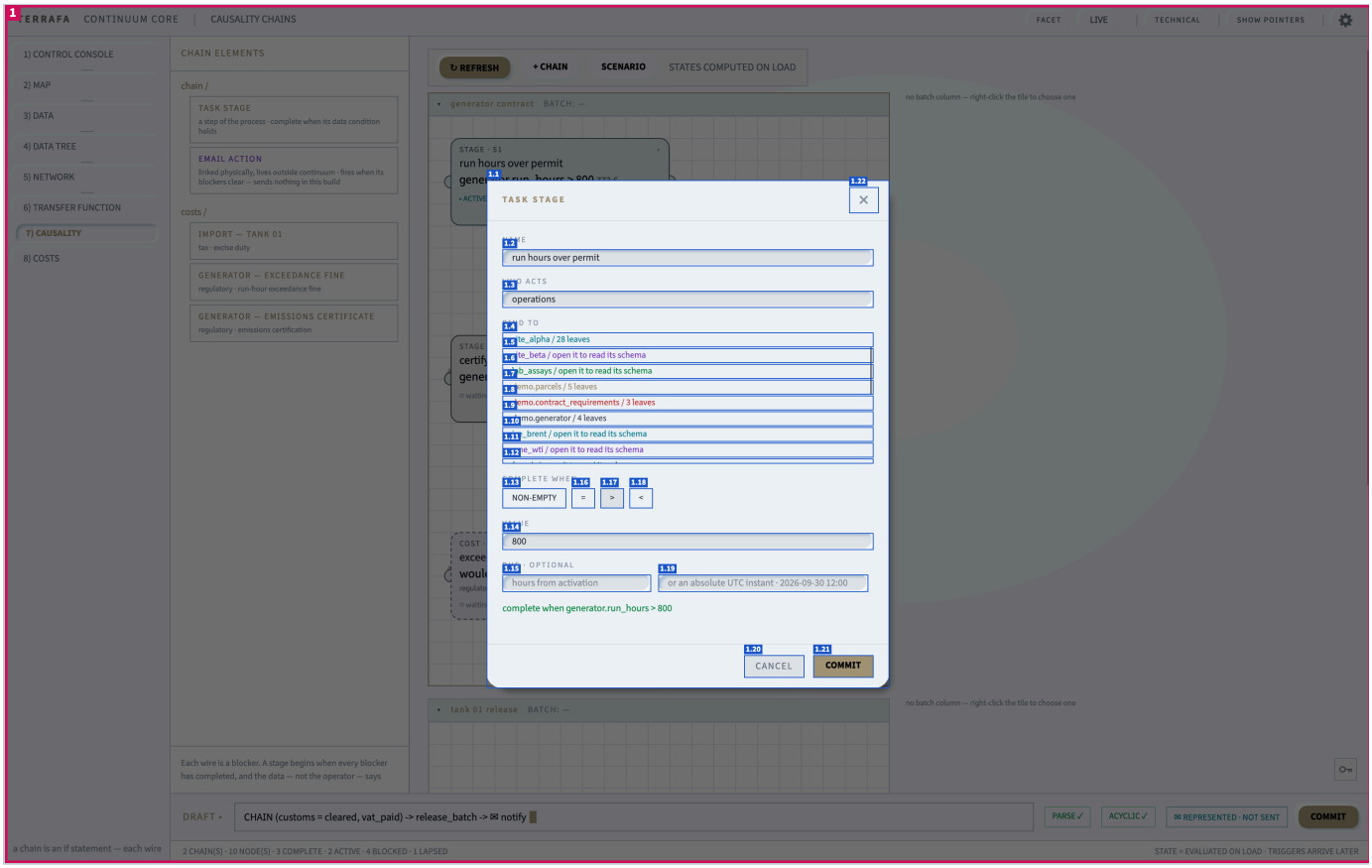
Figure 55. The stage menu



The menu on a stage card

Tag	Control	What it does
1, 2, 3, 4, 5, 7, 8	Screen	As in Figure 53.
6.1	EDIT STAGE	Opens TASK STAGE (Figure 56).
6.2	MODIFY FACETS	Sets the facets of the stage.
6.3	CLEAR BLOCKERS	Removes the wires into the stage.
6.4	REMOVE FROM DIAGRAM	Takes the stage off the chain.
9.2	Panel handle	As in Figure 53.

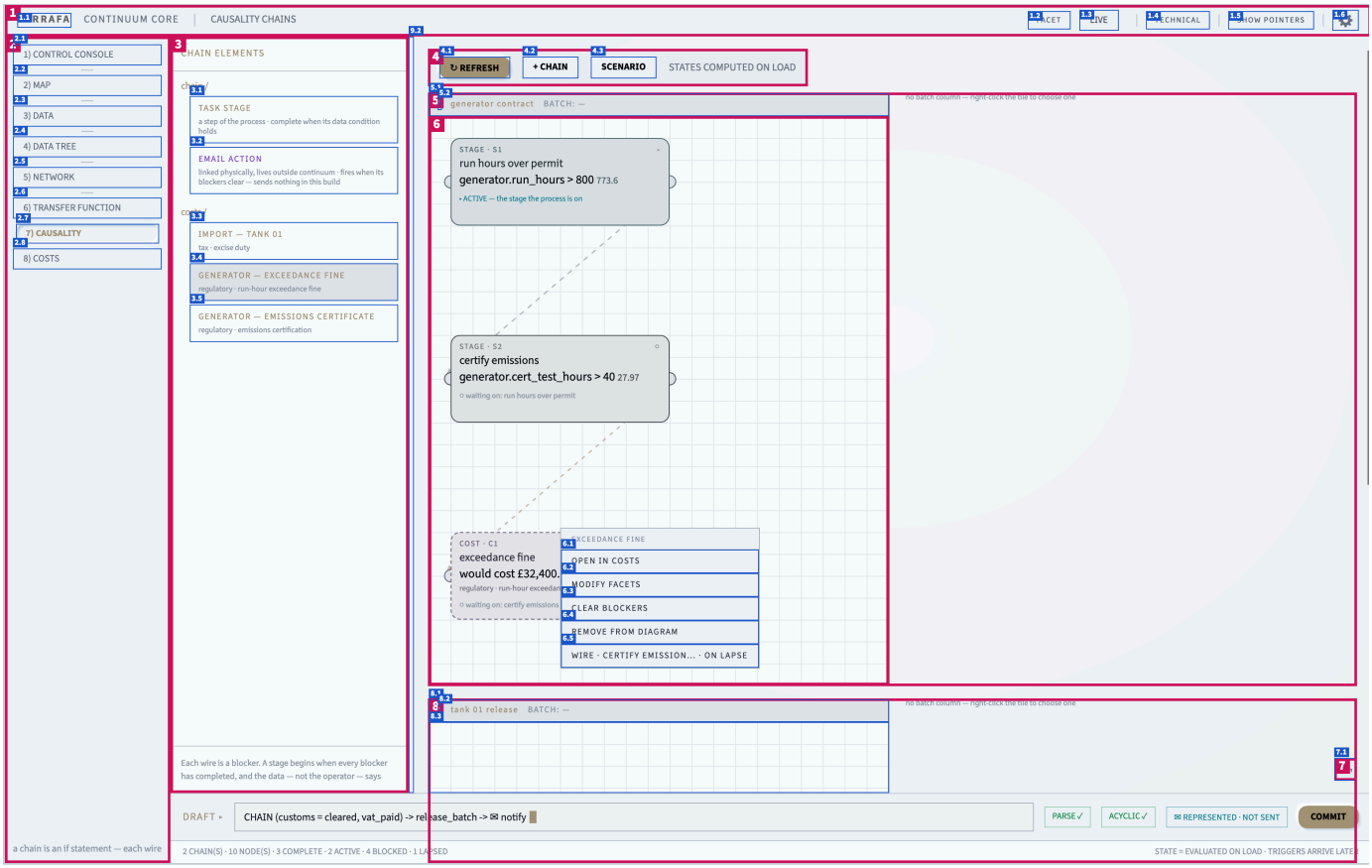
Figure 56. TASK STAGE



The TASK STAGE dialog

Tag	Control	What it does
1.1	Dialog card	Holds the dialog.
1.2	Stage name	The name of the stage.
1.3	Role phrase	Who acts, as the sentence on the card needs it.
1.4–1.12	Datasets	Open a dataset and bind the leaf the stage watches.
1.13	NON-EMPTY	Completes the stage when the leaf has any value.
1.16–1.18	`=` , `>` , `<`	Completes the stage when the leaf compares true against the value.
1.14	Value	The value for the comparison.
1.15	Hours from activation	The time window of the stage. The window starts when the blockers clear.
1.19	Absolute due time	A fixed UTC due time, in place of the window.
1.20, 1.22	CANCEL, ✕	Close the dialog with no change.
1.21	COMMIT	Saves the stage.

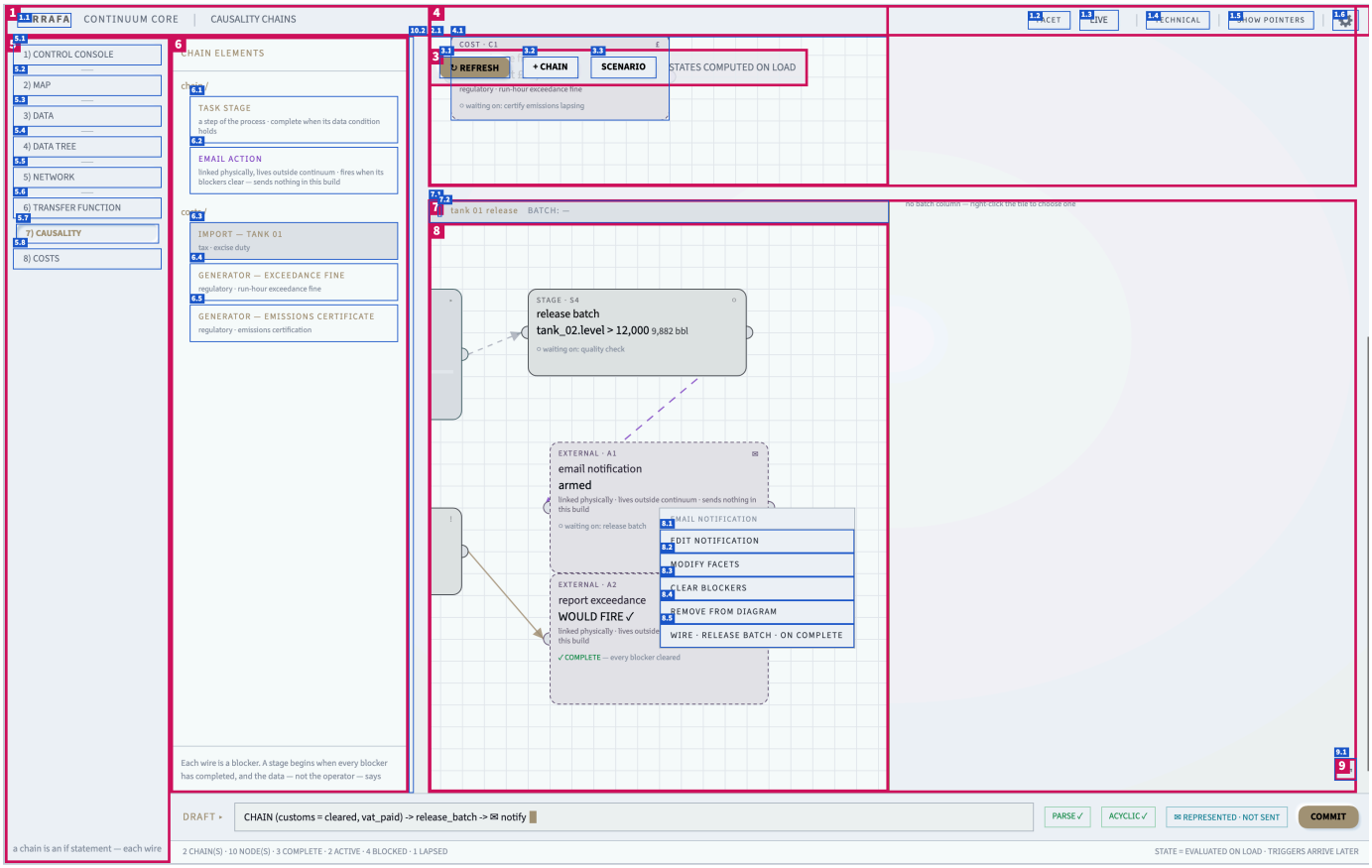
Figure 57. The cost menu



The menu on a cost card in a chain

Tag	Control	What it does
1, 2, 3, 4, 5, 7, 8	Screen	As in Figure 53.
6.1	OPEN IN COSTS	Opens the calculation on COSTS.
6.2–6.4	MODIFY FACETS, CLEAR BLOCKERS, REMOVE FROM DIAGRAM	As in Figure 55.
6.5	WIRE · ON LAPSE	Sets whether the wire charges the cost when the stage completes or when it lapses.
9.2	Panel handle	As in Figure 53.

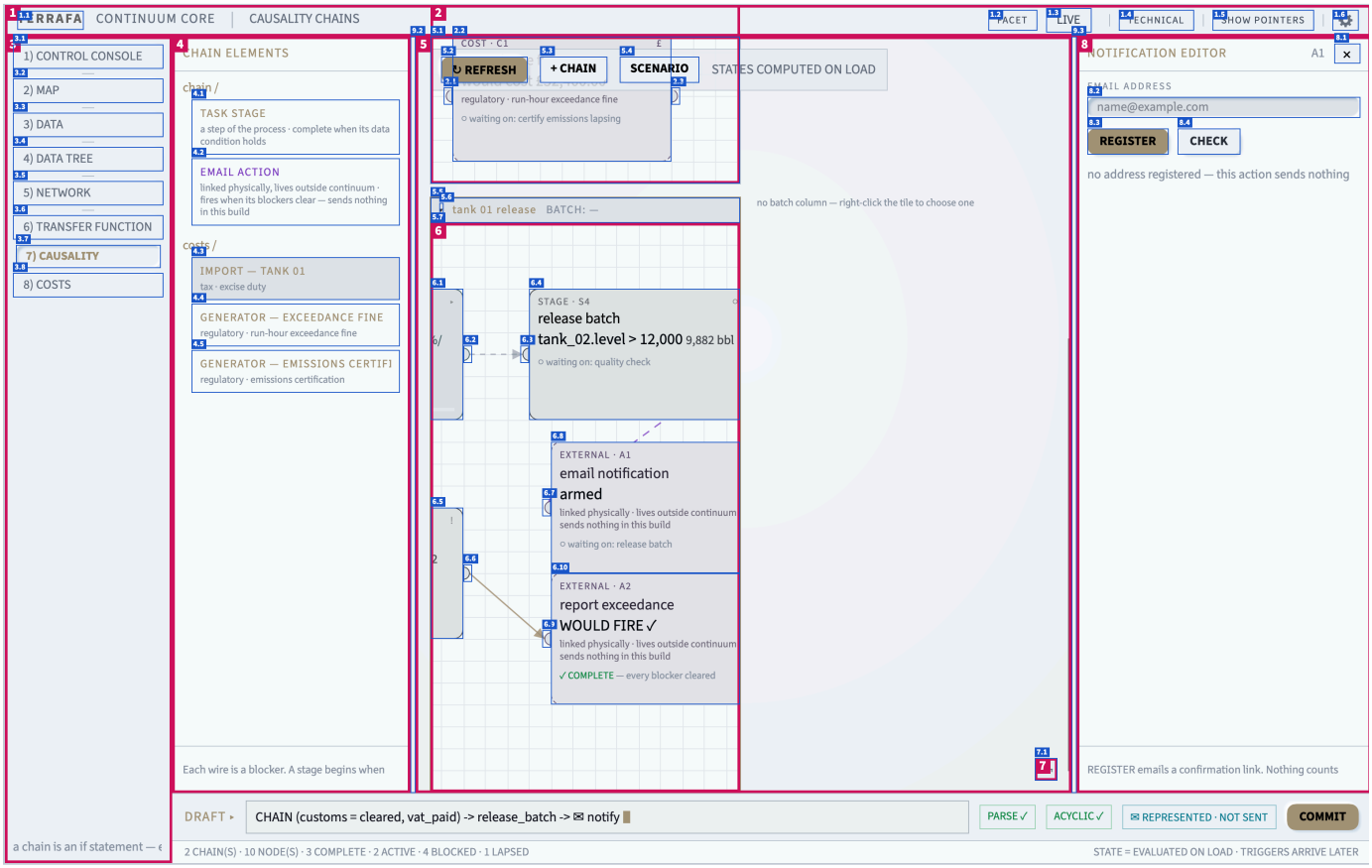
Figure 58. The email action menu



The menu on an email action card

Tag	Control	What it does
1, 3, 5, 6, 9	Top bar, keys, tab strip, elements, legend	As in Figure 53.
2.1, 4.1, 7.1, 7.2	Chains and cards	As in Figure 53.
8.1	EDIT NOTIFICATION	Opens the NOTIFICATION EDITOR (Figure 59).
8.2–8.4	MODIFY FACETS, CLEAR BLOCKERS, REMOVE FROM DIAGRAM	As in Figure 55.
8.5	WIRE · ON COMPLETE	Sets whether the wire fires the action on completion or on lapse.
10.2	Panel handle	As in Figure 53.

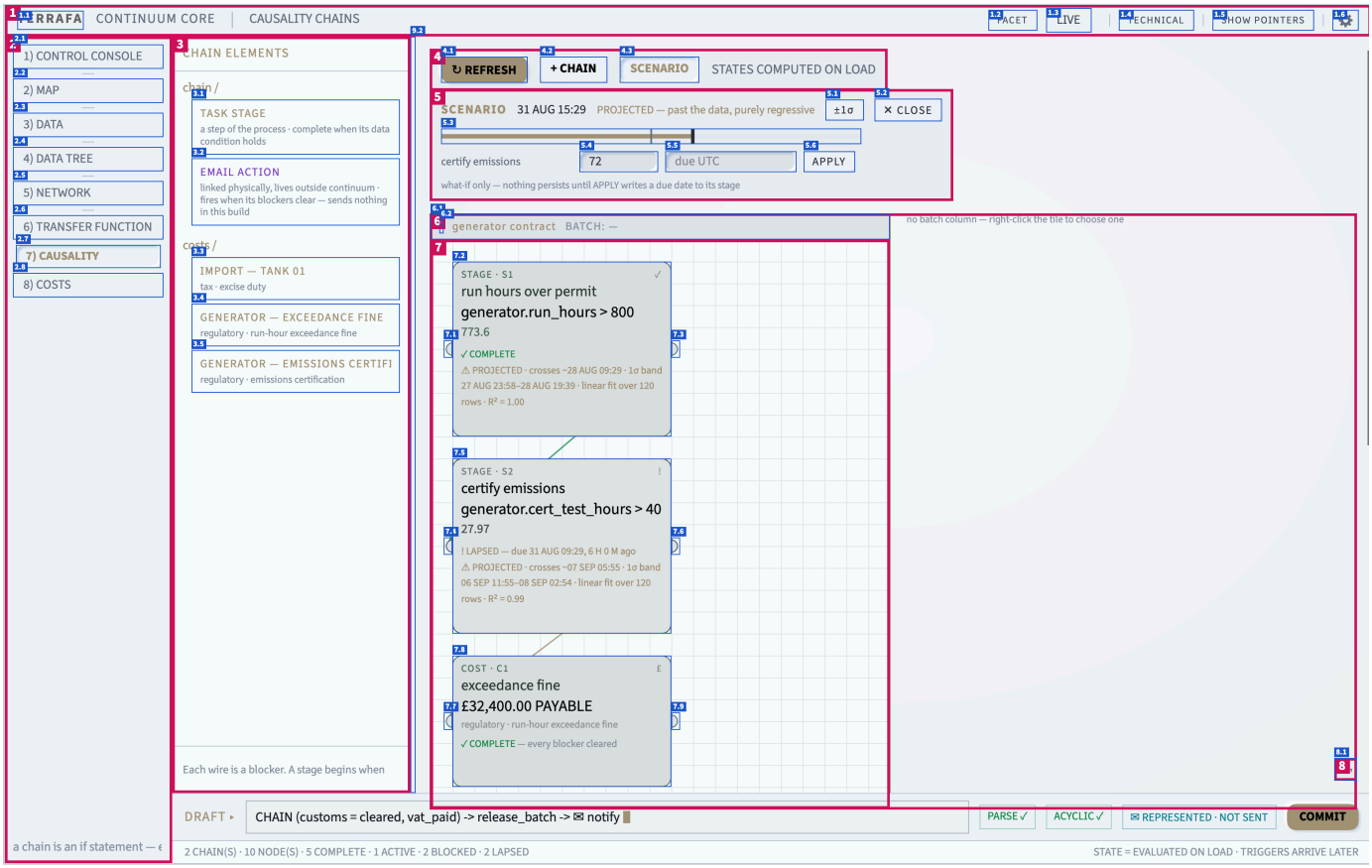
Figure 59. NOTIFICATION EDITOR



The NOTIFICATION EDITOR beside the chain

Tag	Control	What it does
1, 3, 4, 7	Top bar, tab strip, elements, legend	As in Figure 53.
2.2, 6.1, 6.4, 6.5, 6.8, 6.10	Cards	Stage, action and cost cards. A right-click opens their menus.
2.1, 2.3, 6.2, 6.3, 6.6, 6.7, 6.9	Ports	Drag from a port to a port to wire a blocker.
5.1, 5.7	Chain canvases	As in Figure 53.
5.2–5.4	↻ REFRESH, + CHAIN, SCENARIO	As in Figure 53.
5.5, 5.6	Chain header, ▾	As in Figure 53.
8.1	×	Closes the editor.
8.2	Email address	The address that gets the notification.
8.3	REGISTER	Subscribes the address. The service emails a confirmation link.
8.4	CHECK	Shows whether the address has confirmed.
9.2, 9.3	Panel handles	Drag to set the width of the elements panel and the editor.

Figure 60. SCENARIO

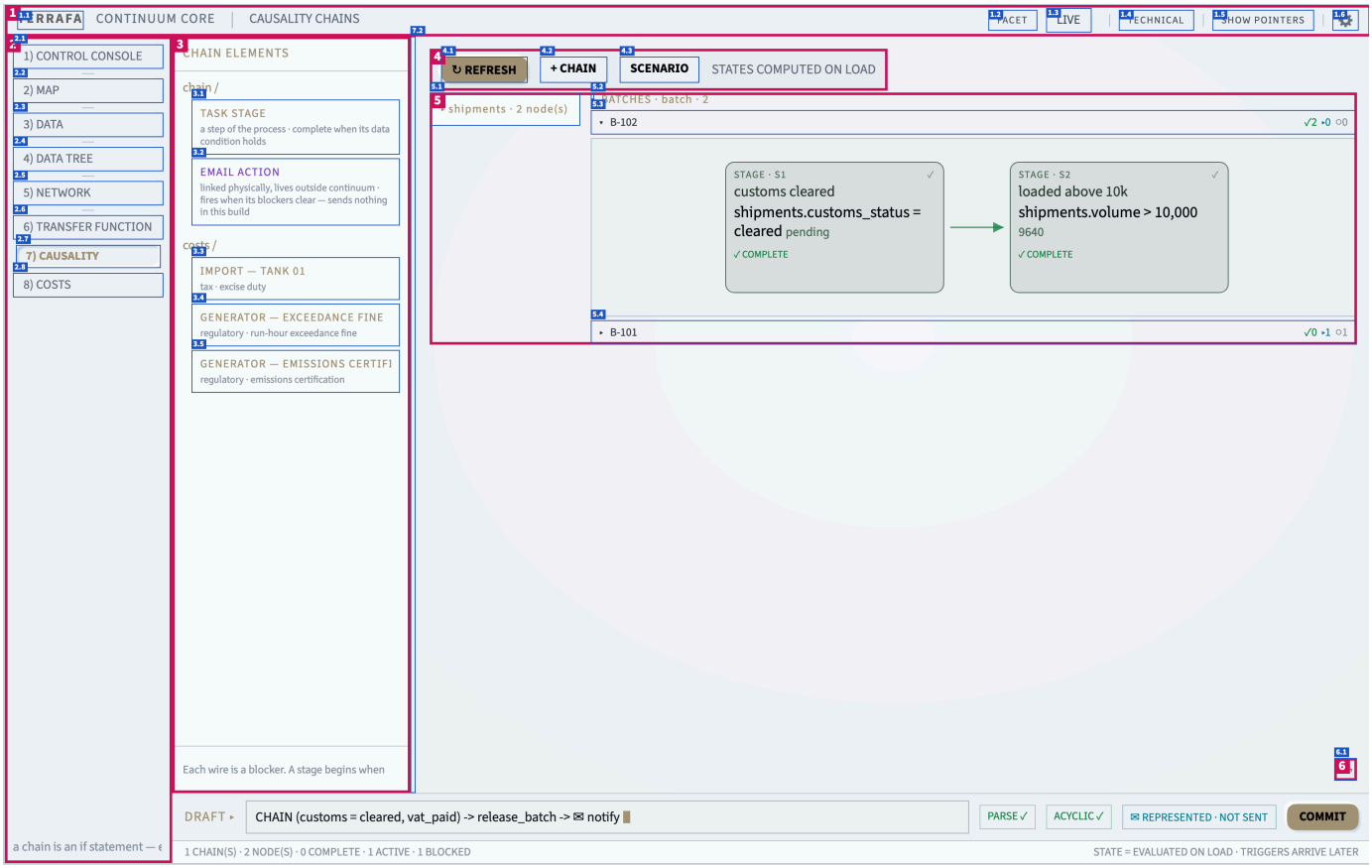


The scenario bar with the dial past the permit crossing

SCENARIO projects each crossing forward with the regression fit of the watched leaf, and draws the band. Drag the dial past a crossing, and the stages and costs show the state at that time.

Tag	Control	What it does
1, 2, 3, 4, 8	Top bar, tab strip, elements, keys, legend	As in Figure 53.
5.1	±1σ	Sets the confidence level of the projected bands.
5.2	✕ CLOSE	Closes the scenario and goes back to the live state.
5.3	Dial	Drag to move the scenario time.
5.4	Hours	Overrides the time window of a stage, for this scenario only.
5.5	Due UTC	Overrides the due time of a stage, for this scenario only.
5.6	APPLY	Applies the overrides.
6.1, 6.2	Chain header, ▾	As in Figure 53.
7.2, 7.5, 7.8	Cards	As in Figure 53.
7.1, 7.3, 7.4, 7.6, 7.7, 7.9	Ports	As in Figure 53.
9.2	Panel handle	As in Figure 53.

Figure 61. A batched chain



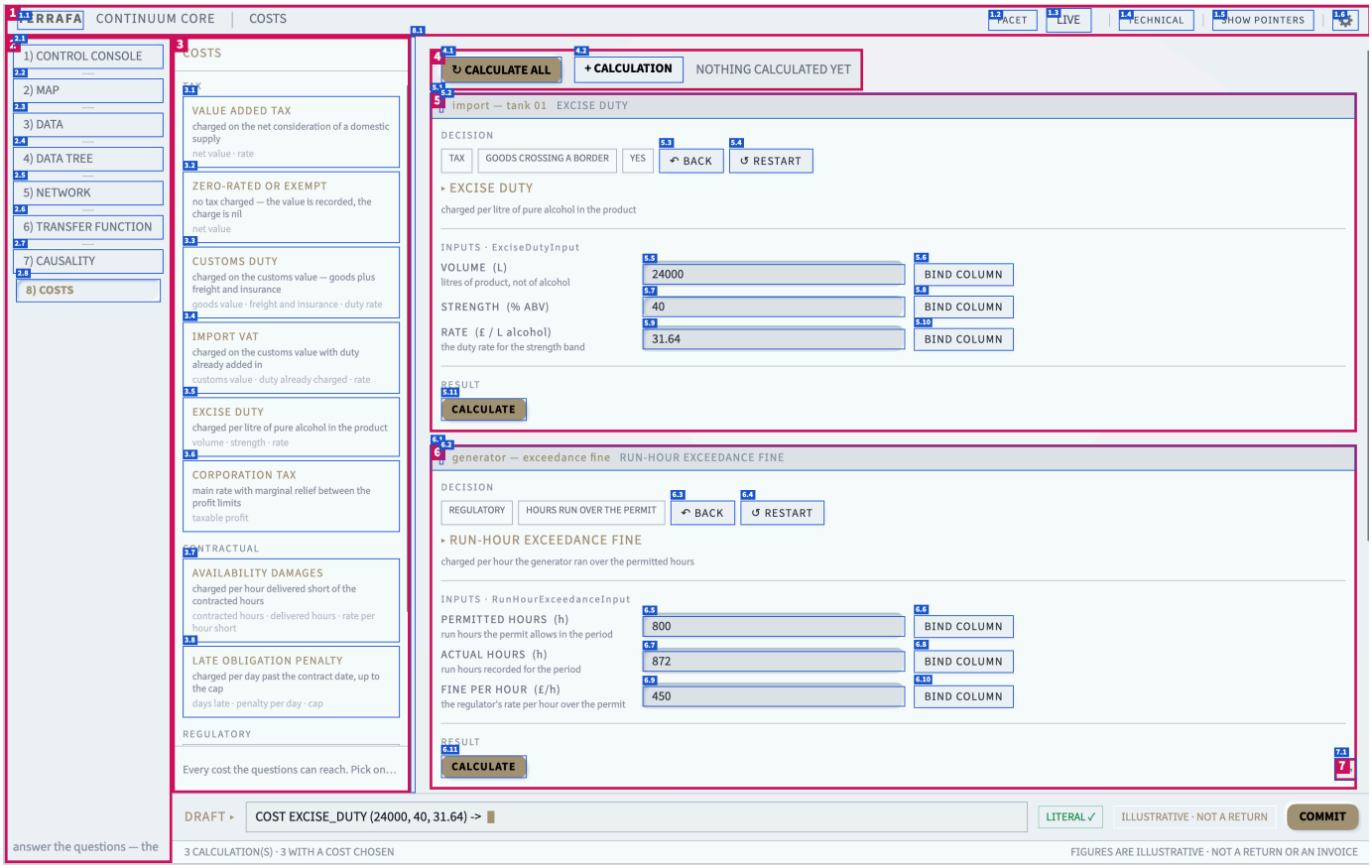
A chain split by a batch column

Tag	Control	What it does
1, 2, 3, 4, 6	Top bar, tab strip, elements, keys, legend	As in Figure 53.
5.1	Chain header	Shows the batch column and the node count. A right-click opens the chain menu.
5.2	▾	Collapse or expand the chain.
5.3, 5.4	B-102, B-101	One row for each batch. Open a row to see the stages for that batch.
7.2	Panel handle	As in Figure 53.

5.9 COSTS

COSTS calculates taxes, contract charges and regulatory charges. A field can take a typed value or a column from a dataset. Tax figures are illustrative, not a tax return.

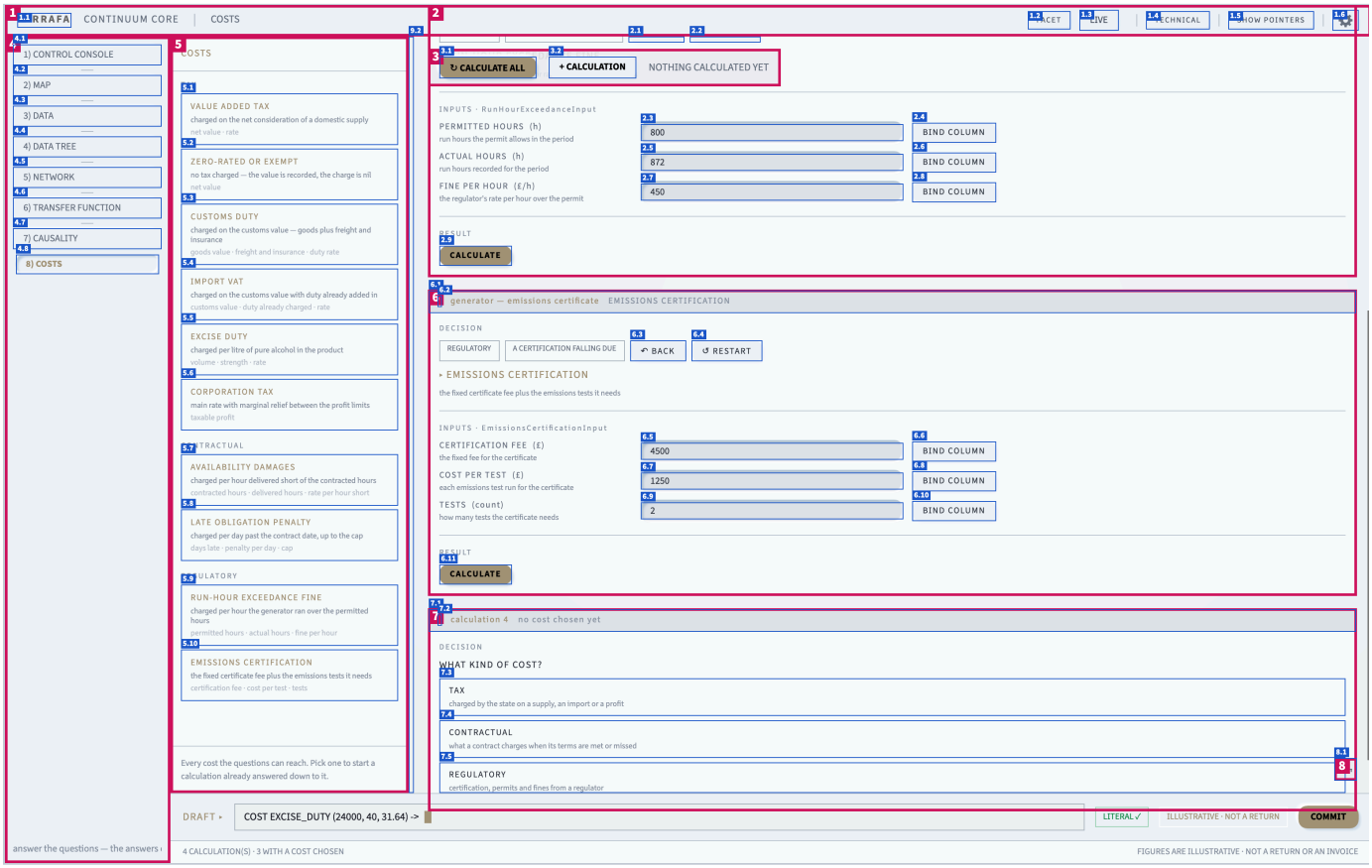
Figure 62. COSTS



The COSTS screen

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1–3.6	Tax	Value added tax, zero-rated or exempt, customs duty, import VAT, excise duty and corporation tax. Drag one onto a calculation or onto a chain.
3.7, 3.8	Contractual	Availability damages and late obligation penalty. The regulatory costs, run-hour exceedance fine and emissions certification, are further down the list.
4.1	↻ CALCULATE ALL	Calculates every card.
4.2	+ CALCULATION	Adds a card that starts at “WHAT KIND OF COST?” (Figure 63).
5.1, 6.1	Card headers	Show the name and the cost type. A right-click opens the card menu (Figure 64).
5.2, 6.2	▾	Collapse or expand the card.
5.3, 6.3	↶ BACK	Goes back one answer in the decision tree.
5.4, 6.4	↺ RESTART	Goes back to the first question.
5.5, 5.7, 5.9, 6.5, 6.7, 6.9	Fields	The inputs of the cost.
5.6, 5.8, 5.10, 6.6, 6.8, 6.10	BIND COLUMN	Binds a field to a dataset column (Figure 65).
5.11, 6.11	CALCULATE	Calculates the card.
7.1	Legend key	Opens or closes the legend.
8.1	Panel handle	Drag to set the width of the panel.

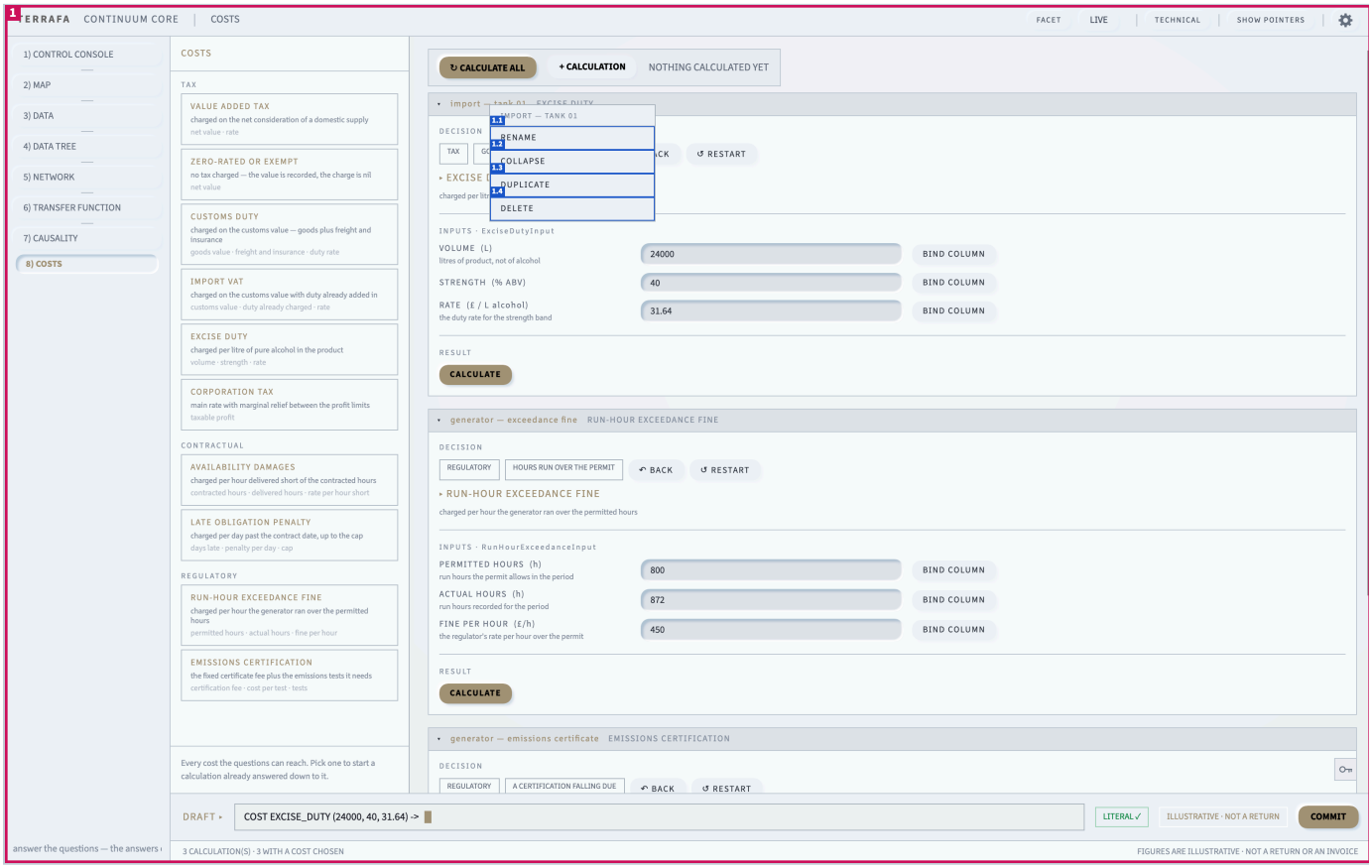
Figure 63. WHAT KIND OF COST?



A new calculation at its first question

Tag	Control	What it does
1, 3, 4, 5, 8	Top bar, keys, tab strip, catalogue, legend	As in Figure 62.
2.1–2.9, 6.1–6.11	Cards	As in Figure 62.
7.1, 7.2	Card header, ▾	As in Figure 62.
7.3–7.5	TAX, CONTRACTUAL, REGULATORY	Pick the kind of cost. Each kind has its own decision tree. One question shows at a time.
9.2	Panel handle	As in Figure 62.

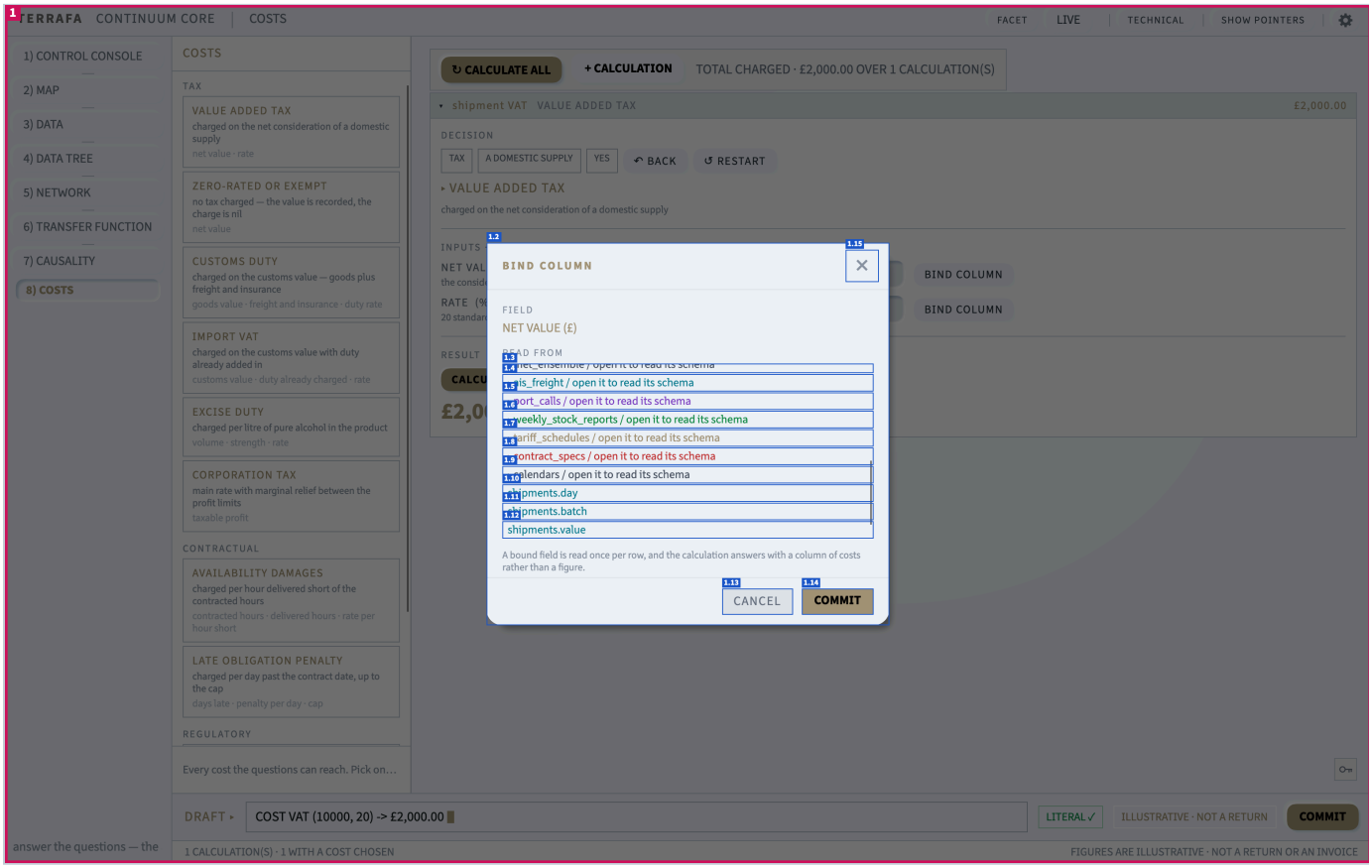
Figure 64. The card menu



The menu on a cost card

Tag	Control	What it does
1.1	RENAME	Sets the name of the card.
1.2	COLLAPSE	Folds the card to its header.
1.3	DUPLICATE	Adds a copy of the card.
1.4	DELETE	Removes the card.
2	Backdrop	A press outside the menu closes it.

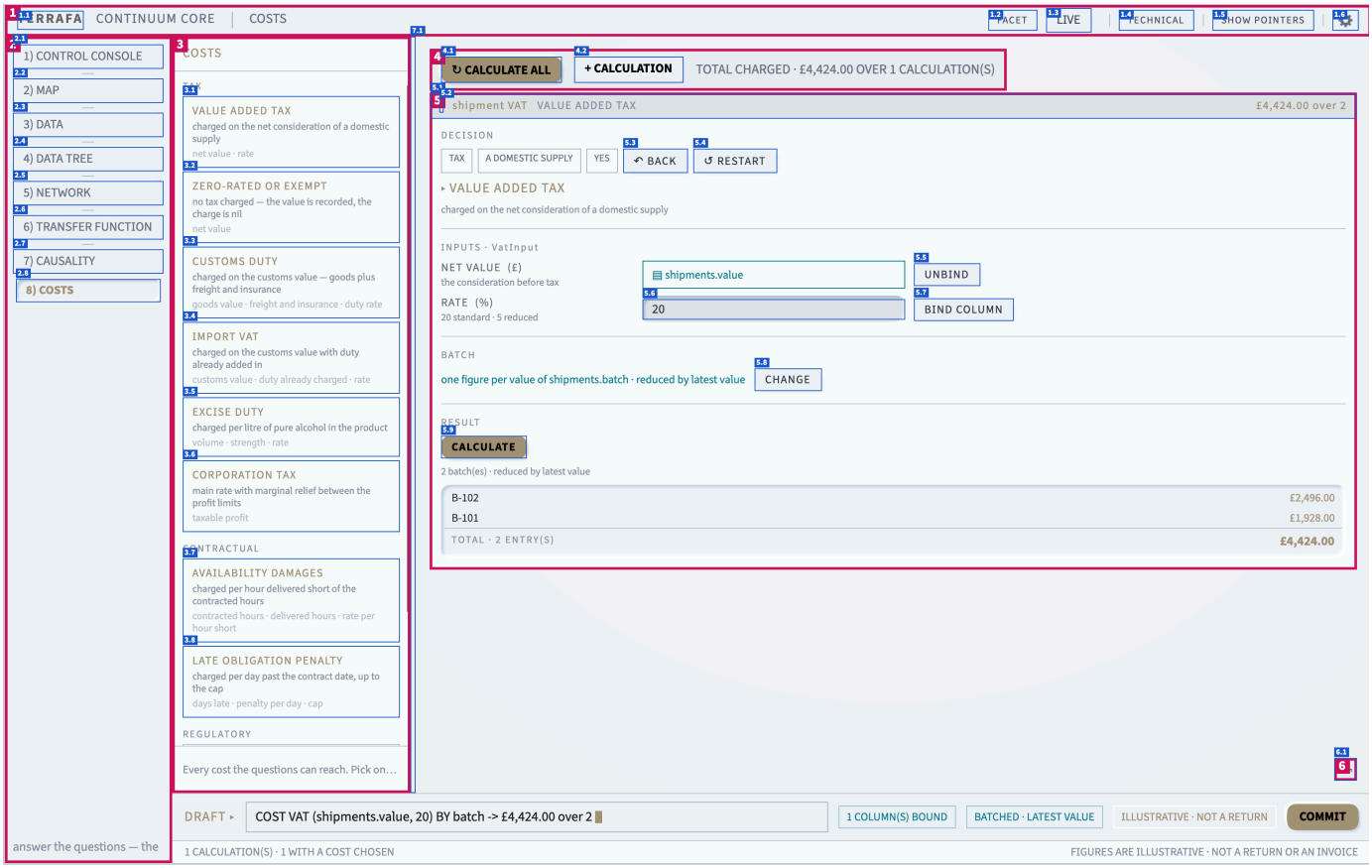
Figure 65. BIND COLUMN



The BIND COLUMN dialog

Tag	Control	What it does
1.2	Dialog header	Names the field to bind.
1.3–1.9	Datasets	Open a dataset.
1.10–1.12	Columns	Pick the column.
1.13, 1.15	CANCEL, ✕	Close the dialog with no change.
1.14	COMMIT	Binds the field to the column.

Figure 66. A batched calculation

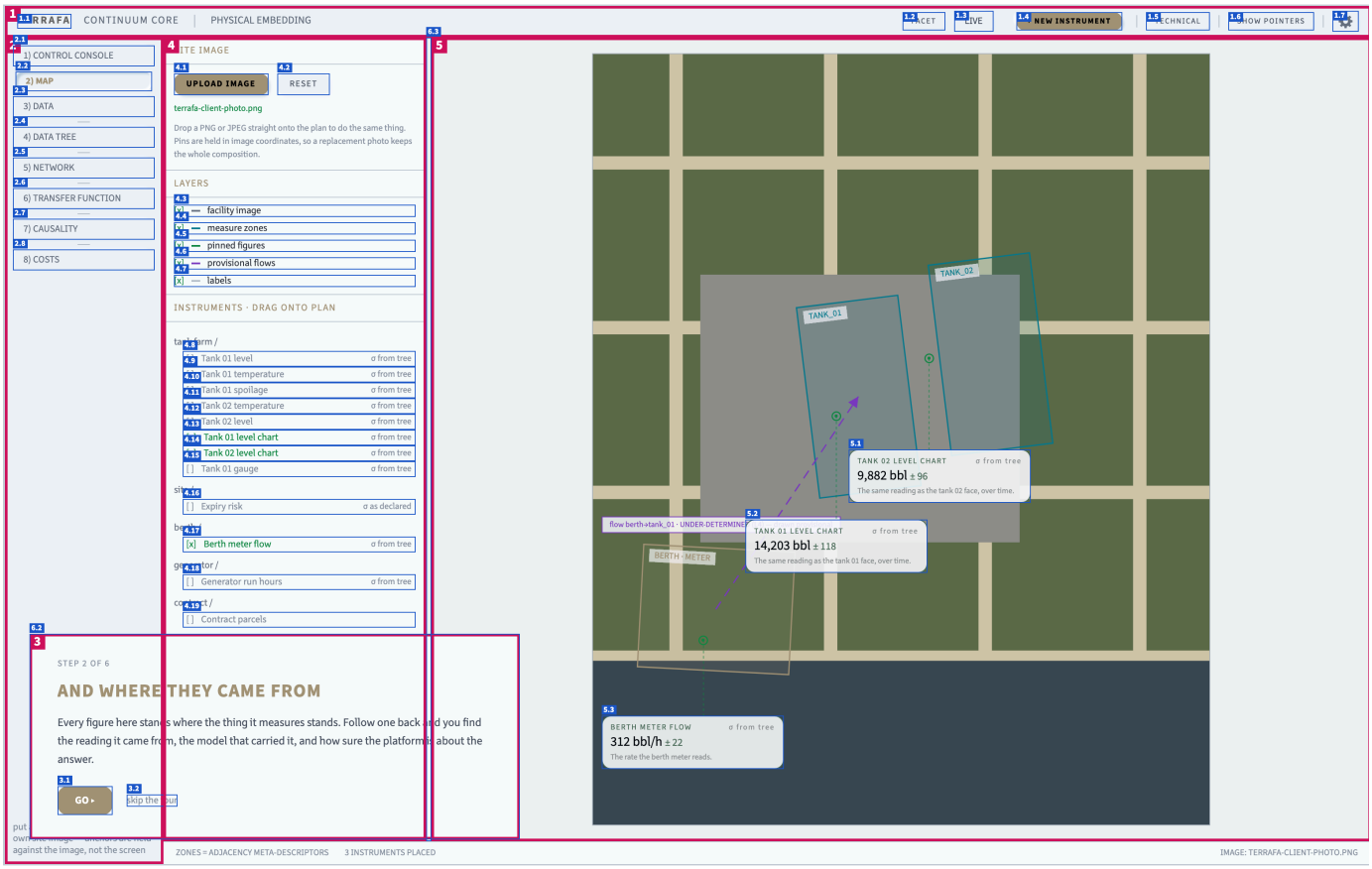


A calculation bound to a column, one result for each row

Tag	Control	What it does
1, 2, 3, 4, 6	Top bar, tab strip, catalogue, keys, legend	As in Figure 62.
5.1	Card header	Shows the total over the rows. A right-click opens the card menu.
5.2	▾	As in Figure 62.
5.3, 5.4	↶ BACK, ↺ RESTART	As in Figure 62.
5.5	UNBIND	Takes the column off the field.
5.6	Field	A typed field.
5.7	BIND COLUMN	As in Figure 62.
5.8	CHANGE	Changes the batching: the latest value, or one group for each value of a column.
5.9	CALCULATE	As in Figure 62.
7.1	Panel handle	As in Figure 62.

6. Guidance

Figure 67. The guided tour

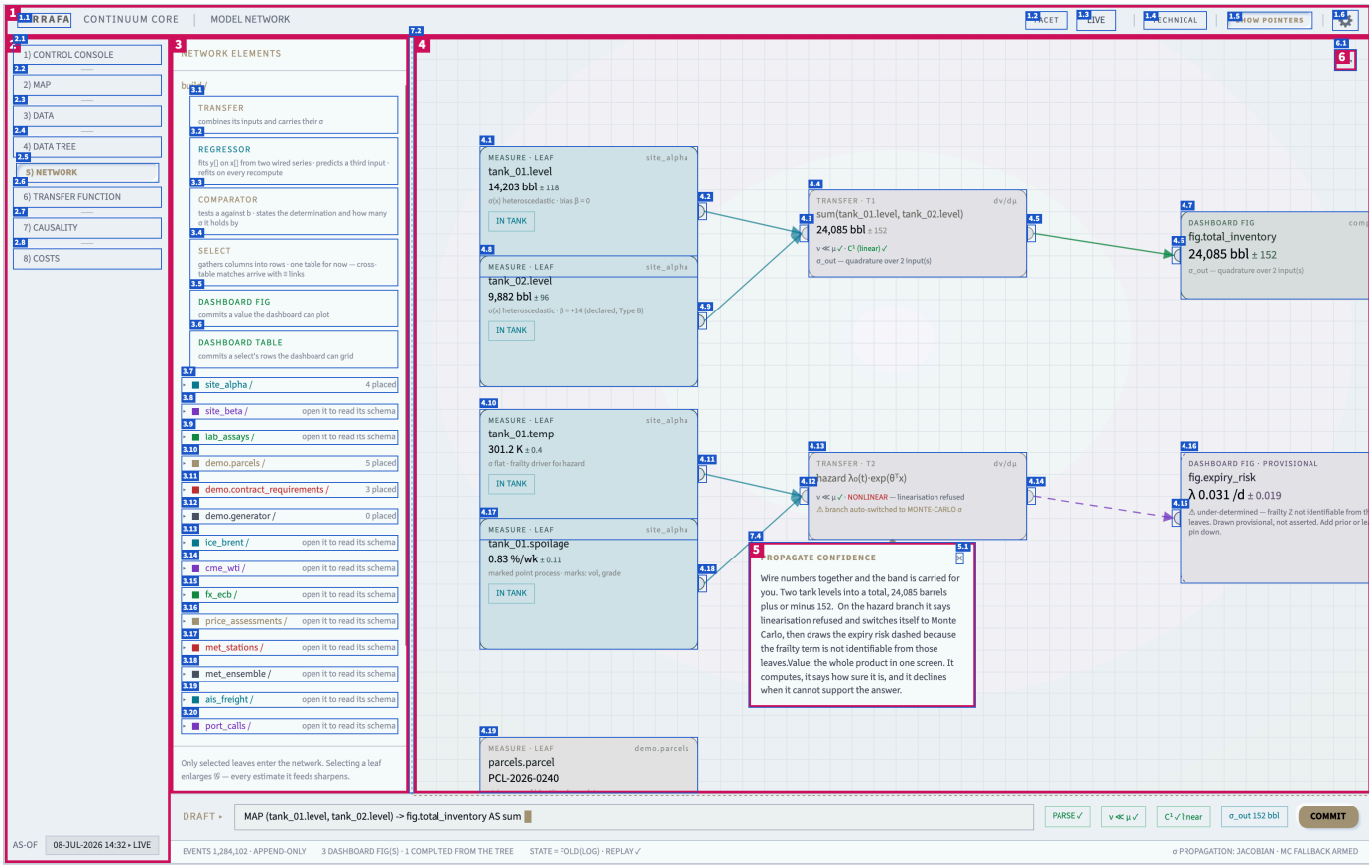


The tour card on MAP, step 2 of 6

The tour walks through the screens. One stop forks into two routes, and the tour comes back for the route not taken.

Tag	Control	What it does
1, 2	Top bar and tab strip	As in Figure 1.
3.1	GO ▸	Goes to the next stop.
3.2	skip the tour	Ends the tour.
4, 5	MAP	As in Figure 24.
6.2	Tour card	The text of the stop. It drops into place like a ball. SETTINGS sets how (Figure 70).
6.3	Panel handle	As in Figure 24.

Figure 68. Pointer hints



Pointer hints on NETWORK

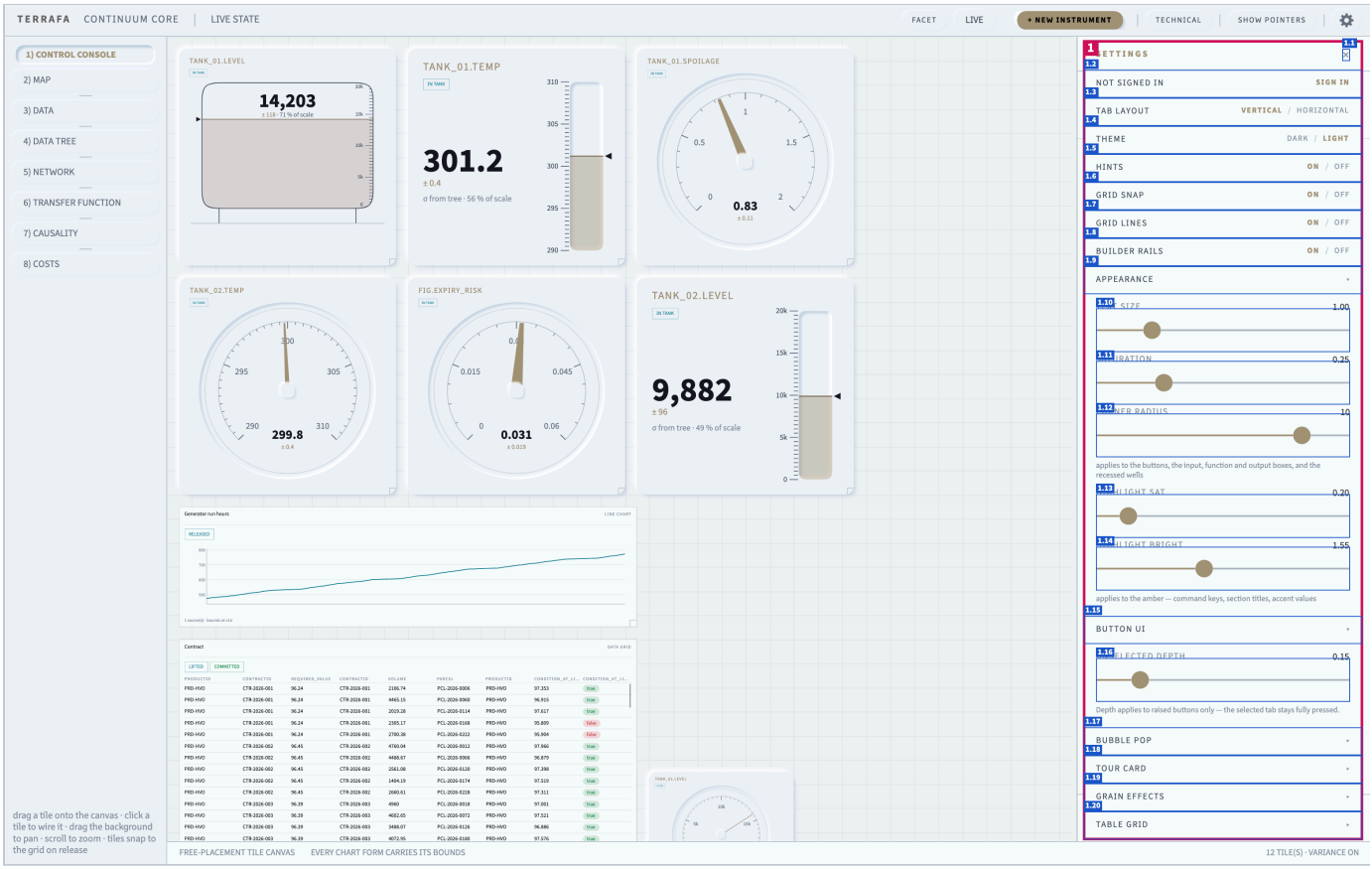
SHOW POINTERS opens every coach mark on the screen at once.

Tag	Control	What it does
1, 2, 3, 6	Top bar, tab strip, elements, legend	As in Figure 36.
4	Canvas cards and ports	As in Figure 36.
5.1, 7.4	Coach mark, ✕	A coach mark explains a part of the screen. ✕ closes it.
7.2	Panel handle	As in Figure 36.

7. SETTINGS

The gear in the top bar opens SETTINGS. The panel is longer than the window, so three figures show it, with two sections open in each.

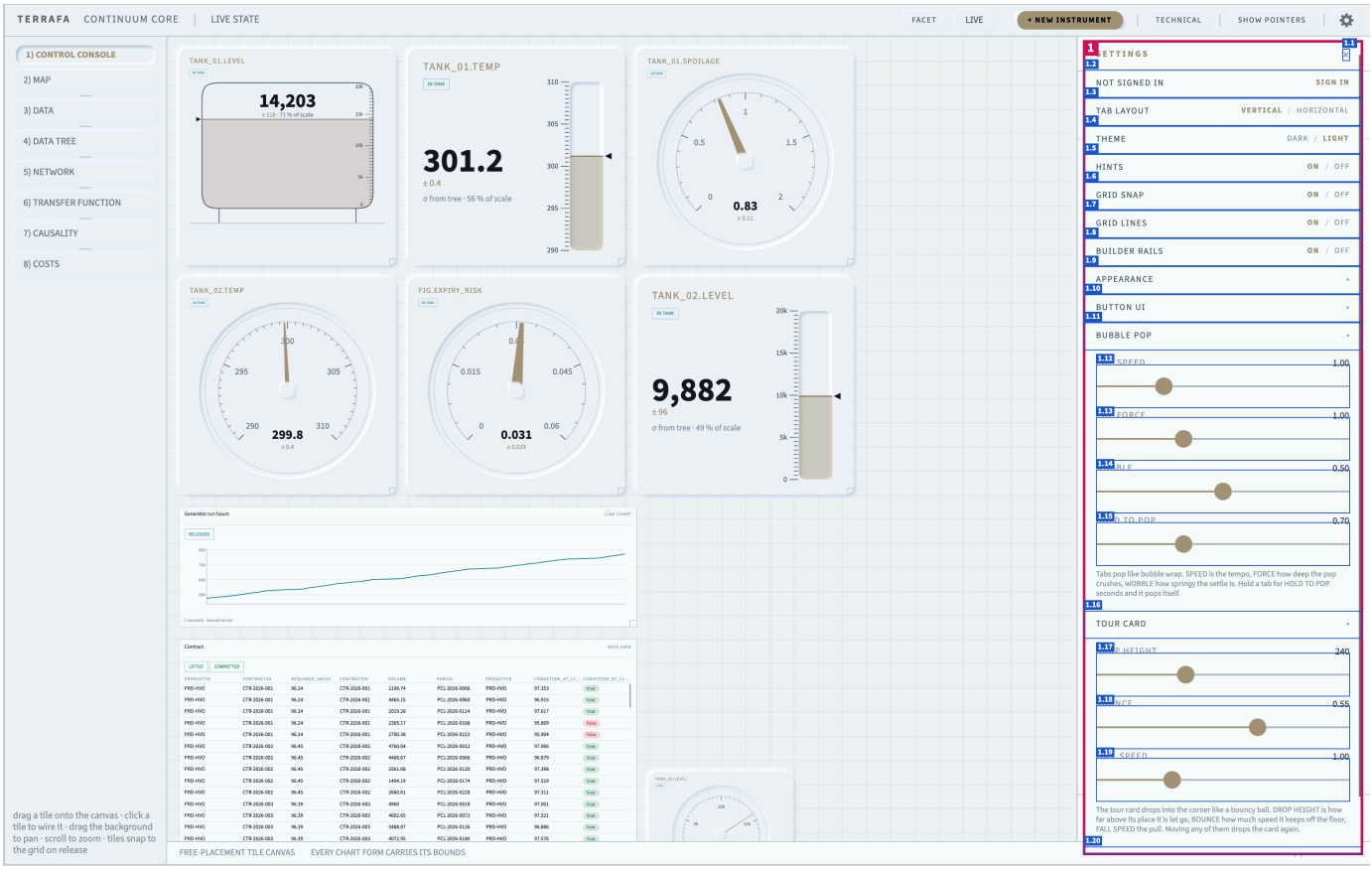
Figure 69. SETTINGS, top



SETTINGS with APPEARANCE and BUTTON UI open

Tag	Control	What it does
1.1	×	Closes SETTINGS.
1.2	SIGN IN	Opens the sign-in dialog. When a user is signed in, the row shows the account and SIGN OUT.
1.3	TAB LAYOUT	Puts the tab strip on the left (VERTICAL) or at the top (HORIZONTAL).
1.4	THEME	DARK or LIGHT.
1.5	HINTS	Shows or hides the hint lines on each screen.
1.6	GRID SNAP	Snaps tiles to the grid on release.
1.7	GRID LINES	Shows or hides the canvas grid.
1.8	BUILDER RAILS	Shows or hides the side panels of the technical screens.
1.9	APPEARANCE	Opens or closes the section.
1.10–1.14	TEXT SIZE, SATURATION, CORNER RADIUS, HIGHLIGHT SAT, HIGHLIGHT BRIGHT	Set the text size, the colour saturation, the corner radius of keys and cards, and the saturation and brightness of the amber highlight.
1.15	BUTTON UI	Opens or closes the section.
1.16	UNSELECTED DEPTH	Sets how raised an unselected key is.
1.17–1.20	BUBBLE POP, TOUR CARD, GRAIN EFFECTS, TABLE GRID	Open or close the sections in Figures 70 and 71.
2	Backdrop	A press outside the panel closes it.

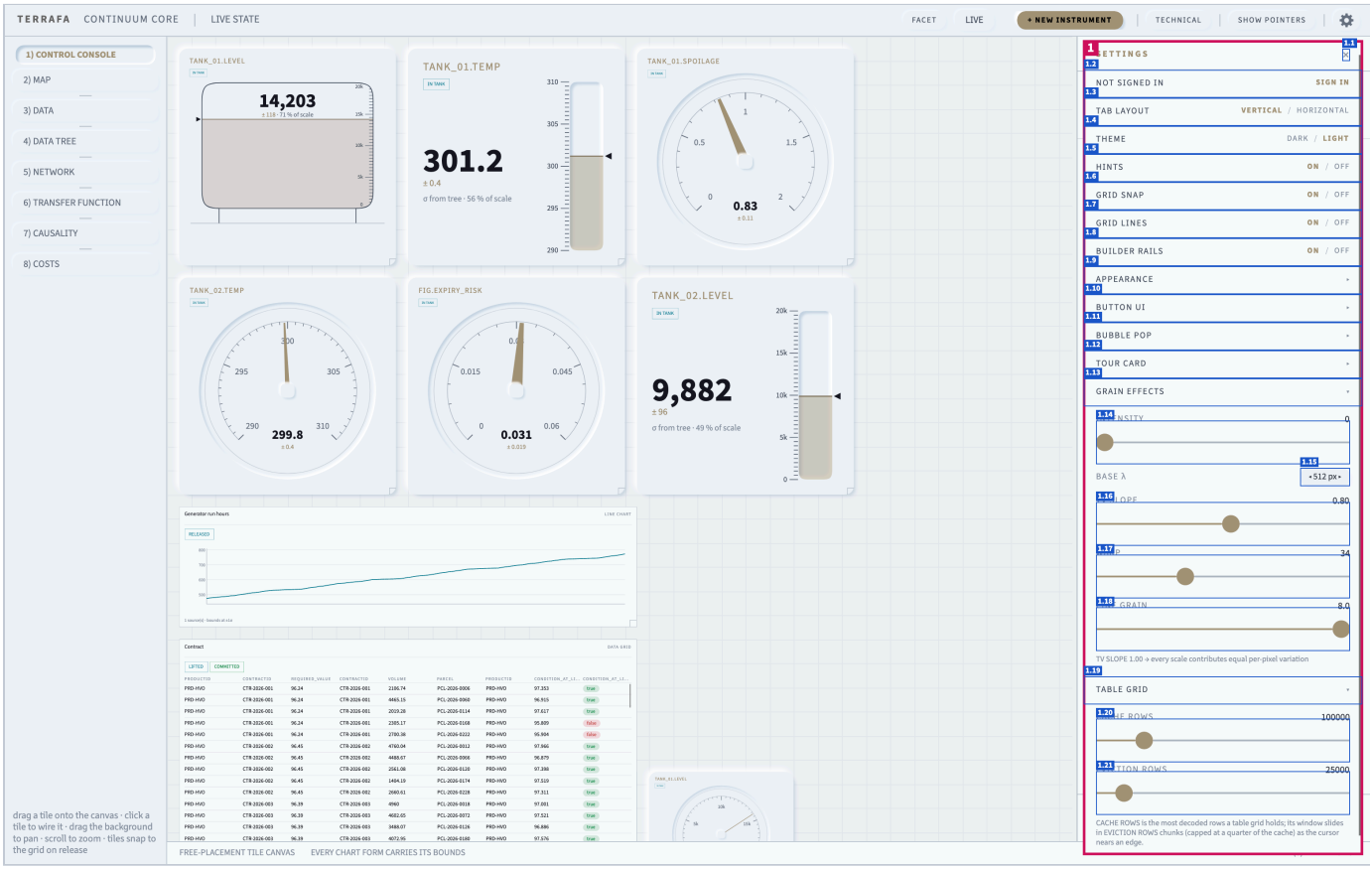
Figure 70. SETTINGS, middle



SETTINGS with BUBBLE POP and TOUR CARD open

Tag	Control	What it does
1.1–1.10	Top of the panel	As in Figure 69.
1.11	BUBBLE POP	Opens or closes the section.
1.12–1.15	POP SPEED, POP FORCE, WOBBLE, HOLD TO POP	Set how a key pops when it is held down.
1.16	TOUR CARD	Opens or closes the section.
1.17–1.19	DROP HEIGHT, BOUNCE, FALL SPEED	Set how the tour card drops into place. A change drops the card again.
1.20	GRAIN EFFECTS	Opens or closes the section in Figure 71.
2	Backdrop	As in Figure 69.

Figure 71. SETTINGS, foot



SETTINGS with GRAIN EFFECTS and TABLE GRID open

Tag	Control	What it does
1.1–1.12	Top of the panel	As in Figures 69 and 70.
1.13	GRAIN EFFECTS	Opens or closes the section.
1.14	INTENSITY	Sets the strength of the film grain. 0 turns it off.
1.15	BASE λ	Steps the base wavelength of the grain.
1.16–1.18	TV SLOPE, WARP, FINE GRAIN	Set how the grain varies with scale, how much it warps, and the size of the fine grain.
1.19	TABLE GRID	Opens or closes the section.
1.20, 1.21	CACHE ROWS, EVICTION ROWS	Set how many rows the grid cache holds, and how many it drops at a time.
2	Backdrop	As in Figure 69.