

Define Input Parameters



The **Define Input Parameters** item is in the contextual menu on the reports node, which on activation will open the dialog box.



The **Define Input Parameters** dialog contains all the explicit parameters for each analysis, organized in dialog's tab pages. This will enable you to specify the parameters values for that report. Any parameter value specified will replace the default parameter value in the analysis dialog. This dialog has one important particularity: it is not modal. The reason behind this choice is that for the update in simulation frame, you need to be able to select activities to get their beginning and end time. The downside of this choice is that some values will not be updated if they change: the default values (Default: default value) and the Automatic values (for RULA).

Implicit parameters will not appear in the dialog since they do not inherently belong to the report. In that way, they will not need to be saved with the reports since they will be saved with the manikin.


Every Boolean parameter (usually check button) is used as a combo box since we have (at least) an additional default value.



On opening of the **Define Input Parameters** dialog box, and when the current report selection changes, the display of the dialog and its sensitivity will change accordingly to a few simple rules:

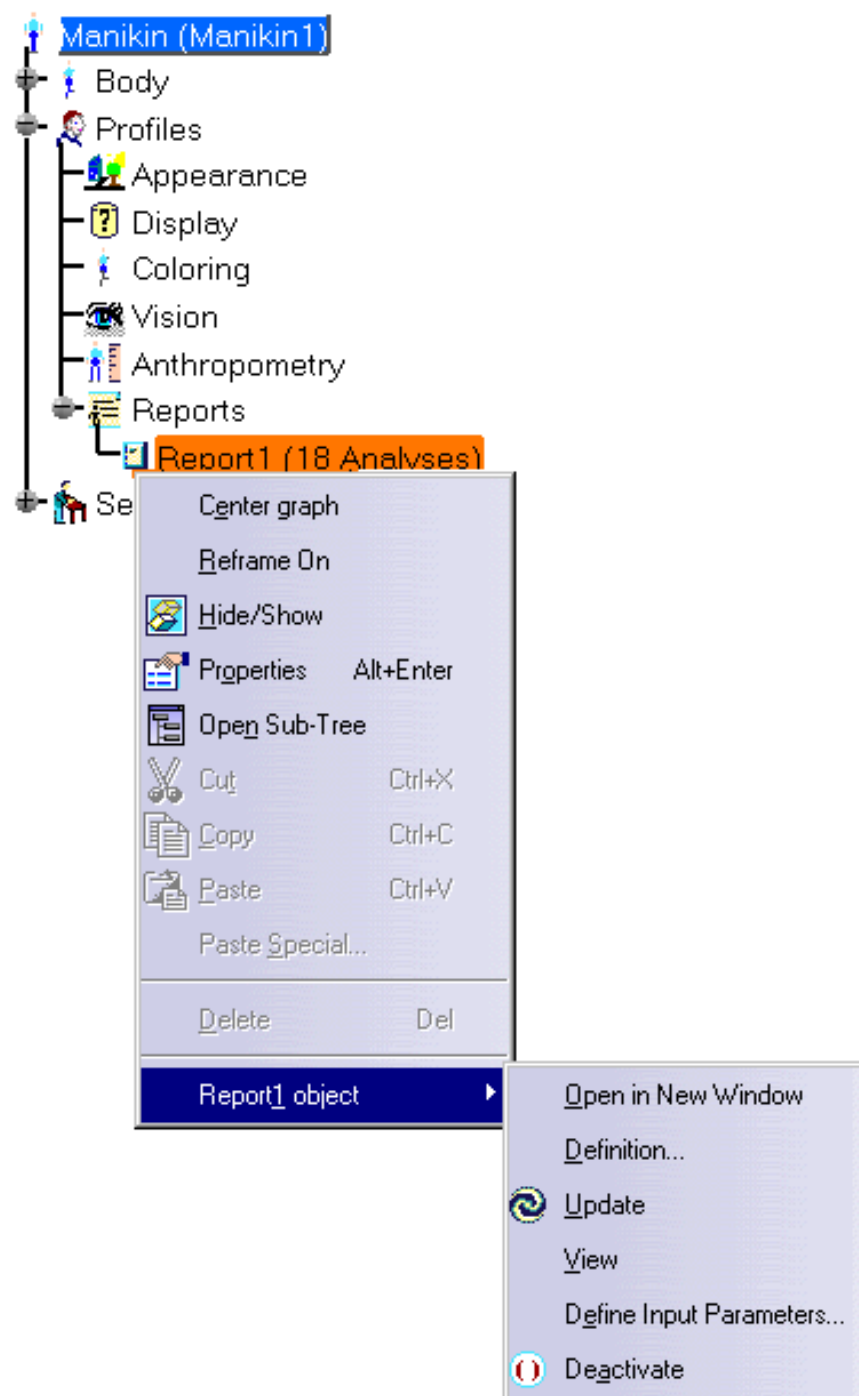
- On opening: if an analysis is found in (at least) one selected report, its corresponding tab or frame will be created.
- On selection of the **All Reports**: every tab and frame will be fully activated (like a single report that was the union of each report).
- On selection of a single report: every analysis not present in the report will have its tab disabled. If the last selected tab is still enabled, this tab is selected. If not, the first enabled tab will be selected. If no tabs are enabled (which can be the case with reports that contain only biomechanics analyses, for example), the first tab will be selected and the controls will be disabled. For the load frame, if the current report contains analysis that doesn't need a load (only RULA and biomechanics analyses need), the frame will be disabled. In case of a report that has a RULA analysis and no biomechanics analysis, only the **Total magnitude** spinner and the **Get Load values** will be enabled (since in the RULA analysis only the total magnitude is used).
- If the current workbench is Human Task Simulation, the frame **Update during simulation** will be opened in this mode, but hidden.



For viewing the dialog box in **Human Task Simulation**, in the **selection mode** toolbar make sure the **Feature** selection  is activated. This opens the **Define Input**

Parameters dialog box with the **Update during simulation** section.

1. Directly from the tree's node, right-click on the **Report1**, and select **Report1 object**. The contextual window appears.



2. Select Define Input Parameters and the Define Input Parameters dialog box appears as shown in Human Builder.

Define Input Parameters
?
X

Current selection : Report1 (Manikin1)

Report ID:
☒ Use default

RULA Analysis
Push-Pull Analysis
Carry Analysis

Side: Left

Parameters

Posture
Intermittent

Arm supported/Person leaning
No

Arms are working across midline
Yes

Check balance
Default : No

Details >>

Load Definition

Defined:
☒ On current report
☐ On Load
☐ On RULA analysis

Magnitude

Left
0kg
50

Right
0kg
50

Total
0kg

Elevation
0deg

Deviation
0deg

☒ Symmetric

Get Load values

Ok
Cancel

- The Human Task Simulation workbench has the Update during simulation, section.

Define Input Parameters



Current selection : Report1 (Manikin1)

Report ID: ☒ Use default

RULA Analysis | Push-Pull Analysis | Carry Analysis

Side: Left

Parameters

Posture

Arm supported/Person leaning

Arms are working across midline

Check balance

Details >>

Load Definition

Defined:

☒ On current report ☐ On Load ☐ On RULA analysis

Magnitude

Left

Right

Total

Elevation

Deviation

☒ Symmetric

Get Load values

Update during simulation

☐ Continuously

☒ From: To:

>>

<<

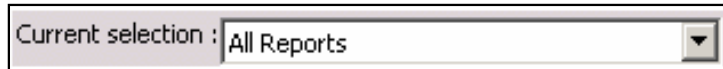


Ok

Cancel

Define Input Parameters Dialog box

Current
Selection
combo box

A dropdown menu with the text "Current selection : All Reports" and a downward arrow on the right.

This control is used to switch between the available reports and the **All Reports** selection. It contains the names of all the reports that were selected (and also the name of their associated manikin in parentheses).

Report ID text
editor

A text input field labeled "Report ID:" followed by a "Use default" button with a small icon.

This control is used to enter the ID value in the report's file log. The default value is none; therefore, if you select the **Use default** check box, the ID editor is disabled. If you do not select the check box, the value in the Report ID box overrides the value that can be entered in the **Report ID** dialog when the report is updated, if you have also selected **Use custom report ID** in the **Tools > Options** dialog.

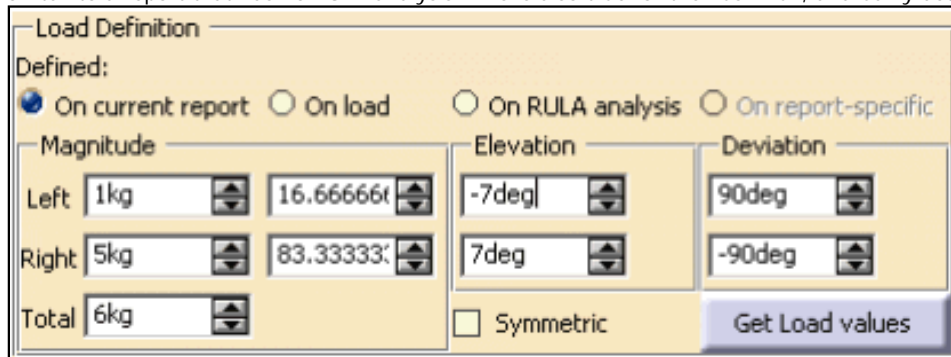
If all the reports selected have a **report ID** specified in the **Define Input Parameters** dialog, the pop-up window for the custom report ID will not appear. On multi-selection, if you have not selected the **Use default**, this value will not change in any of the reports.

Tabs

RULA details window

In a subsequent update of this dialog, it should be that the RULA details are included in the Set Report Parameters dialog, making the dialog size dynamic, when the side of the RULA analysis change; the values (automatics and defaults) are updated. The panel will close when you close the Set Report Parameters dialog or switch to a report that has no RULA analysis. This is also true for the Push-Pull, and Carry details window.

Load Definition

A dialog box titled "Load Definition". It has a "Defined:" section with four radio buttons: "On current report" (selected), "On load", "On RULA analysis", and "On report-specific". Below this are three columns: "Magnitude", "Elevation", and "Deviation". The "Magnitude" column has "Left" (1kg), "Right" (5kg), and "Total" (6kg) with spinners. The "Elevation" column has "-7deg" and "7deg" with spinners. The "Deviation" column has "90deg" and "-90deg" with spinners. There is a "Symmetric" checkbox and a "Get Load values" button.

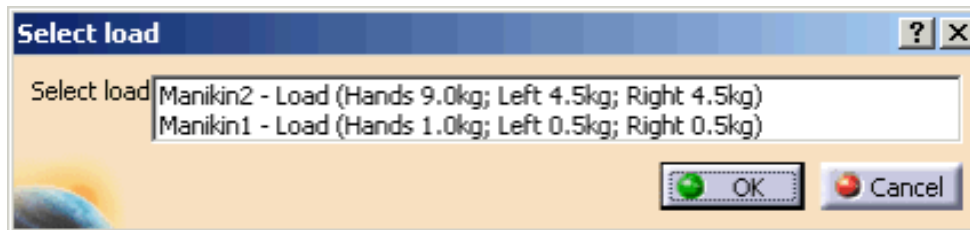
- If the **On current report** is selected, all the controls are enabled.
- If the **On Load** is selected, the controls are disabled and the values are updated with the values from the current load on the manikin (or set to zero if there is no such load).
- If the **On RULA analysis** is selected, the controls are disabled and the values are updated to the value set in the RULA analysis dialog.

The **on report-specific** is available, whenever more than one report is selected and **All Reports** item is selected. Selecting this makes it so that the reports will not be impacted by the values in the dialog.

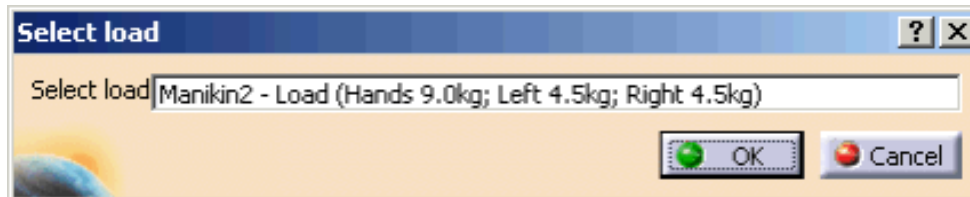
The **Get Load values** is used to update the values in the controls with a snapshot of the values from a load. If there is more than one load that has an effect on these values, a **Select Load** dialog will be displayed.

The **Select Load** dialog will open in any of these cases when the button is pushed:

If the sum of the number of loads on each manikin from each report selected when opening the **Set Report Parameters** dialog is greater than 1 (counting a same manikin only once).



If there is only 1 load for all the reports but the load comes from a different manikin than the manikin associated to the current report (i.e.: in the following case, the current report was from manikin 1)



The Controls

Combo boxes

The combo boxes typically contain a number of possible choices: the legal values, the default value (which can specify what is that default value if **All reports** is not selected), and, in case of the **All Reports**, possibly another value called **Different values exist**.

This value appears only if different values exist in the reports and stays as a choice in the combo box even if you change the value; in this case the **different values exist** is used as a value that will not impact the reports. Making it so it does not disappear once you select another value. It makes it possible for you to cancel a choice that was made (unless this makes an action that saves the data: more on this later).

The default value is a generic value that will change accordingly to the values set in the associated analysis dialog; it will be recalculated every time this value is used.

Spinners

Every spinner (except those in the load frame) has an associated check button. Selecting the default value makes the value variable, i.e. it will be recalculated every time it is used in the report. When you un-check the associated check button, the last saved value is set back in the spinner.

When **All Reports** is selected, the **Use default** becomes a **Use individual values** check button. If it is selected, the value in the spinner will have no impact on the reports when it will be saved. When un-selecting this, the value set in the spinner will take the last saved value of the first report.

The Load Selected

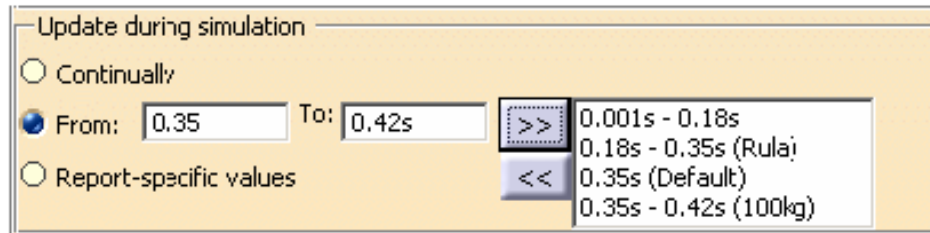
In the **biomechanics** analyses, if the load is inactive, it is not used for the calculations of the results; in this dialog, if you select **On current report** or **On RULA Analysis**, the load will always be considered active. If you select **On Load**, the load will be active or inactive depending on the default load.

This offers the possibility to define custom intervals or discrete values to be used during the simulation to have reports based on real loads and only when the data is needed.

This feature is available only if you are in the **Human Task Simulation workbench** and the **Set Report Parameters** dialog is open. In the selection mode



toolbar make sure the **Feature selection** is activated before selecting **Reports** in the tree.



The **Continually** permits the report to be updated at any time and on a specific event in the simulation (i.e.: the end of a auto-walk activity).

The **From: ____ To: ____** editors permits you to specify intervals or discrete values when an update will be done; only numerical characters are accepted in this editors. In case of a multi-selection, the values will be from the last selection.

The **Report-specific values** is a choice that is enabled (and selected by default) when the **All Reports** is selected and the intervals are not similar.

These buttons, **>>**, **<<** act as Add and Remove buttons.

- When selecting **>>** :

If no line was selected, the bounds of the interval are checked against the existing intervals. If there is an overlap, a warning pops up and the operation fails. If the interval does not overlap, then the line is added to the selector and the list is resorted. When adding (or modifying a line) the load that will be associated with the interval is the current load in the dialog.

For example, if you want to add the interval (5 – 8) and the current load is **On Load**, the added line will be added as 5s – 8s (Default) which in turn will use the load of the manikin. If the current load was a defined load, then the values of that load are saved with the interval as well. The same goes for the RULA valued load (which is not fixed but gets the current value when it will be used).

If one line is selected, the contents of the line are replaced (modified) accordingly to the new **From** value, the new **To** value and the current load.

If two or more lines are selected, only the loads on the intervals will be changed but not the bounds. In any case, the **From** and **To** editors are disabled when more than one line is selected.

- When the **<<** is activated, the selected lines are removed (deleted) from the intervals.

The selector list contains all the intervals (and discrete values) on the current report. On selection of a line, the **From**, the **To** and the **current Load** are updated with the values from the interval, to permit a modification of an existing interval. On selection of more than one line, the **From** and **To** editors are disabled to show

you that a modification on the current selection will affect only the loads. The selector list is sorted every time a line is added or removed. Notice how the lines are shown: for an interval, both bounds are shown, separated by a -. In case of a discrete value, only one bound is shown; after the bounds come the load information. For an interval that uses the default load on the manikin there is (Default), for a specified load we show the total magnitude of the load as a reminder of the load and for a RULA-valued load we have (Rula). When **All Reports** is selected and one interval has different load values over an interval that has the same bounds, there is no indication of the load on the current interval.

Update during simulation used with All Reports

When showing all the reports at once, the intervals are compared to see any kind of similarity: if all the reports update continually then the **continually** will be set. For the intervals, it is a little more complex: we must verify if, the intervals have the same bounds and if they have the same loads.

If the intervals are the same, then the **From ____ To ____** will be set; if for a given interval all the reports have the same load setting (i.e.: all have default or all have Rula or all have the same specified load) it will be shown as a standard interval that is like it is shown in a single report. If not, the specification about the load will simply be removed from the display.

On selection of an interval with different load values, the load frame will set the radio buttons to **On report-specific**. When adding (not modifying) an interval to all the reports: if the **On report-specific**, is set, the load becomes the current load for each report (in the load frame).

Activity selection when the Set Report Parameters dialog is opened

If the **Set Report Parameters** dialog is opened (in the **Human Task Simulation workbench**) and the **From ____ To ____** is selected, the selection of an activity will update the **from** and **to** editors with the beginning and ending time values of the selected activities. If more than one activity is selected, only the minimum beginning and maximum ending times will be used.

Note: this behavior happens only when the editors are enabled: that is, it will not work if you are not in the From/To mode or when you selected multiple lines in the interval selector list.

To have good time values, you need to use the **Update Cycle Time** before selecting the process or the activity.

