



LOADMOSAIC HELP MANUAL

LoadMosaic

Load optimization, manual design and documentation

Complete guide to features, tables, settings and the 3D viewer

Focus of this guide. The text and screenshots show the LoadMosaic interface in English. Visible control names are kept in quotation marks so that every control can be located unambiguously.

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How to use this manual

This guide describes the current LoadMosaic interface, its controls, validations and file formats. Screenshots and visible option names match the English interface.

- Start with "Quick Start" if you want to get an automatic distribution in a few minutes.
- Check the chapters of tables when you have doubts about an editable column, its unit or its limits.
- Use the configuration chapter to choose engine, search depth, processors, rendering and truck appearance.
- Use the chapters of the manual editor to understand cuts, boxes, Tetris, positioning and palette hierarchies.

Visual convention. In the five main tables, the bold and cursive headers identify editable columns. The normal headers correspond to calculated or read-only data.

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1. What LoadMosaic is

LoadMosaic helps to organize boxes, packs and pallets within a conventional palette or a transport enclosure. You can automatically search for distributions, convert a result into a manual configuration, edit cuts and export PDF reports and BMP images.

1.1 Two forms of work

Mode	When to use it	Outcome
Find better distributions	When you want the programme to test strategies and guidelines allowed.	One or more optimized, navigable and exportable load units.
Create manual configuration	When you need to impose a specific provision, retouch a result or build layer by layer.	An editable configuration with cutting and isometric view, validated in real time.

1.2 Basic concepts

Concept	Meaning
Box	Rectangular unit with reference, dimensions, optional weight, label, pack and orientation restrictions.
Tag	Reusable definition of size and position; it is represented in green and can be assigned to box types.
Pack	Logical grouping of two or more boxes per instance. Each type indicates how many units it brings to the pack.
Pallet	Conventional base on which internal boxes or pallets are stacked.
Transport container	Truck, trailer or container with long, wide and Alto inside. The vehicle remains fixed when the layers are visually separated.
Cut / Layer	Horizontal level of construction. The separation between layers of the view is only visual and not Altera the physical calculation.
Distribution	Complete document with catalogues, load units and automatic results or manual editions.
Settings	Portable interface and calculation settings; does not contain the current distribution.

2. Quick start

This flow covers the usual case: loading data, defining demand, optimizing, reviewing and exporting.

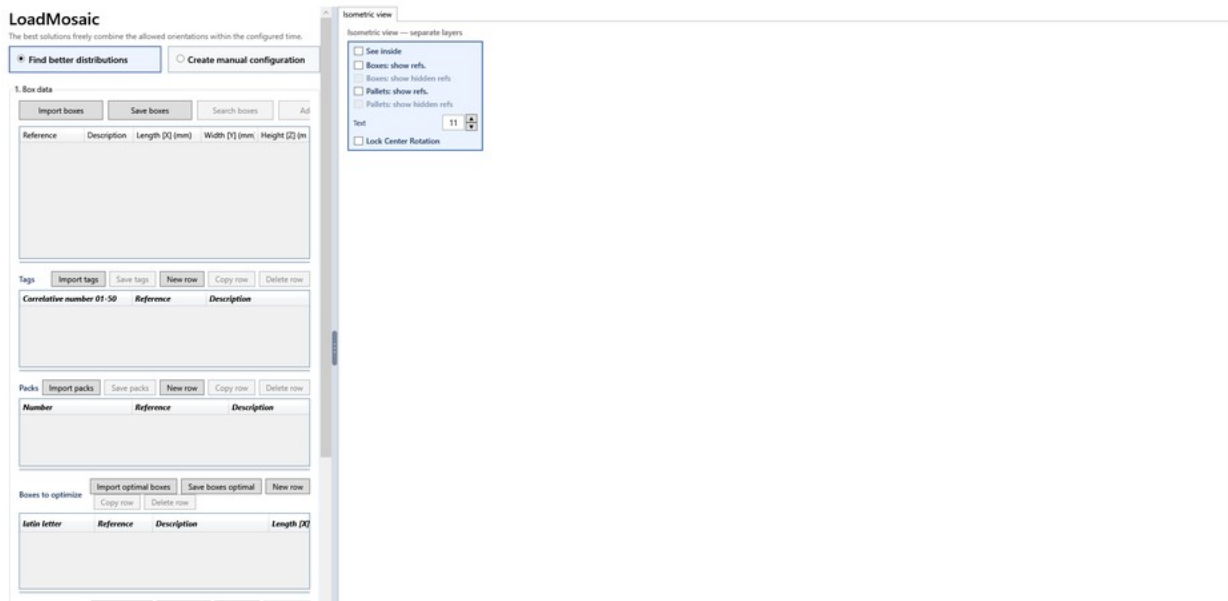


Figure 1. LoadMosaic start screen in English: mode selection and the "Box data" table.

2.1 Get an automatic distribution

1. Select "Find better distributions."
2. Press "Import boxes" and open a CSV or XLSX with Reference, Description, Length [X], Width [Y] and Height [Z].
3. Add tags and packs if needed; then add the box types to "Boxes to optimize."
4. Indicate the Quantity of each box and configure its restrictions, label, pack and weight.
5. Define one or more pallets or enclosures in "Pallets to optimize" and set your Quantity.
6. Review "2. Configuration" and press "Optimize distributions."
7. Select the distribution found, navigate between instances if there are several and check the isometric view and "Features of the selected distribution."
8. Export via "Export PDF" or "Export BMP," or transfer the result with "Transfer pallet to manual configuration."

2.2 Create a manual configuration

9. Select "Create manual configuration" and choose in "Pallets to optimize" the drive you want to edit.
10. Add boxes to "Boxes to optimize" and select the type you want to insert.
11. Use "Add box," rotations and position controls to build the active cut.
12. Double, turn or empty cuts; use "Optimize by algorithm" or "Apply Tetris" where appropriate.
13. Check that the state is "Valid" and export the PDF or BMP.

3. Main window and general management

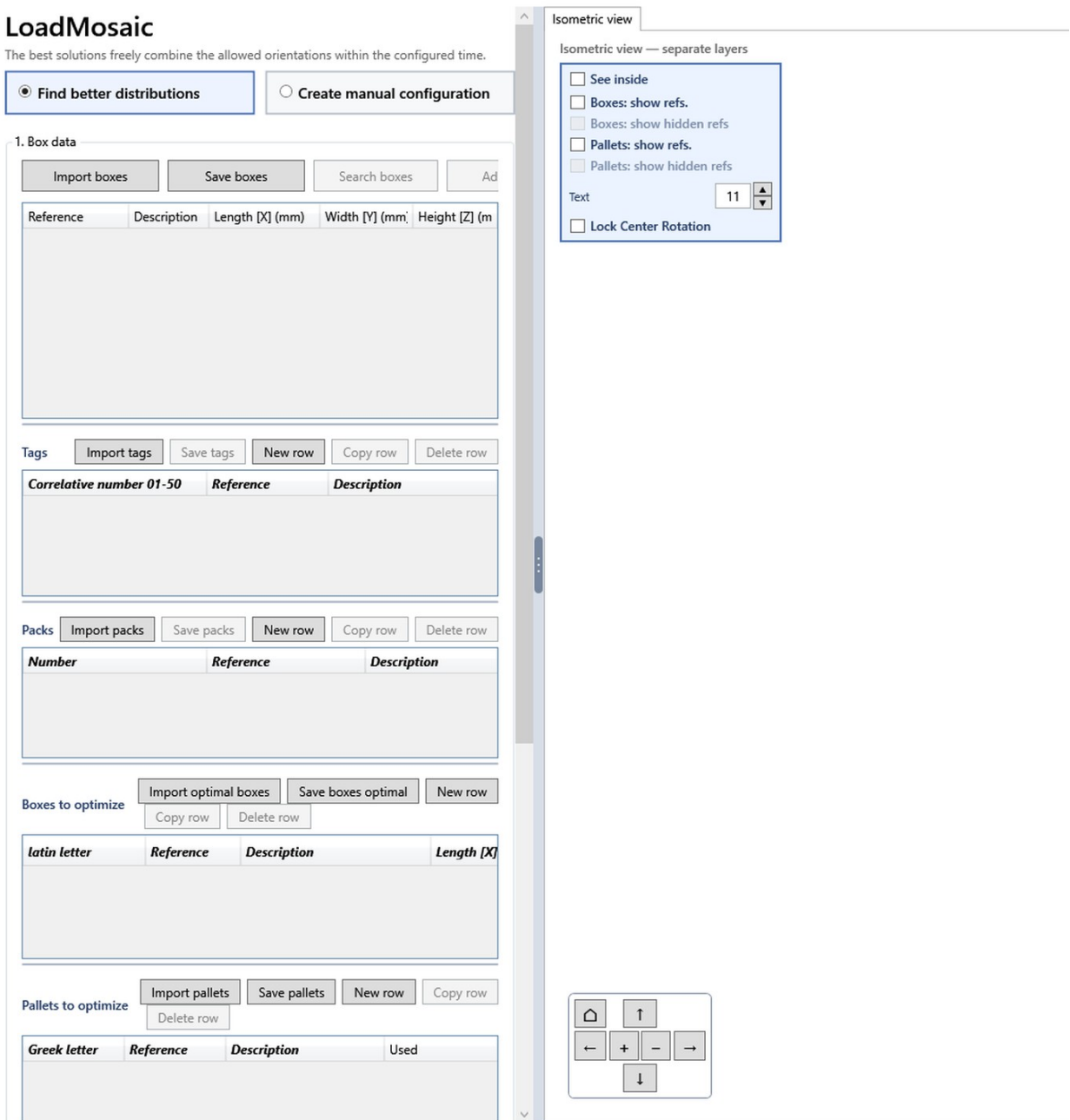


Figure 2. Empty main window in English, with the settings expanded and the isometric viewer.

3.1 Left panel

It contains catalogues, demand tables, distribution files, configuration and results or manual summary. Its right edge can be dragged to change width; the central shooter allows it to be hidden or recovered.

3.2 Right panel

In automatic it presents "Isometric view." In manual it appears "Layer design," which combines the cutting bar, the cutting plant, the isometric and the inspector of the selected box.

3.3 Working with tables

- Click on a header: select the column; Ctrl and Mayus allow to preserve or expand the selection of columns.
- Ctrl + C: copy the selection as tabulated text and include the headers.
- Ctrl + V: adds rows at the end of the active table; the selected rows are not replaced.
- Delete: removes the selected rows when the "Delete row" button is enabled.
- Filling wheel: vertical drag from the active cell to copy its value. A double click fills down to the first row without consecutive data.
- The headers can be reordered and their edges can be dragged. The Altura of each table is also adjustable.

Persistence. The order and width of the columns, the Altura of the tables, the width of the left panel and the open drop-down are saved as interface preferences.

4. “Box data” table

It is the original box catalogue. It is imported from CSV or XLSX and is read only inside the main window.

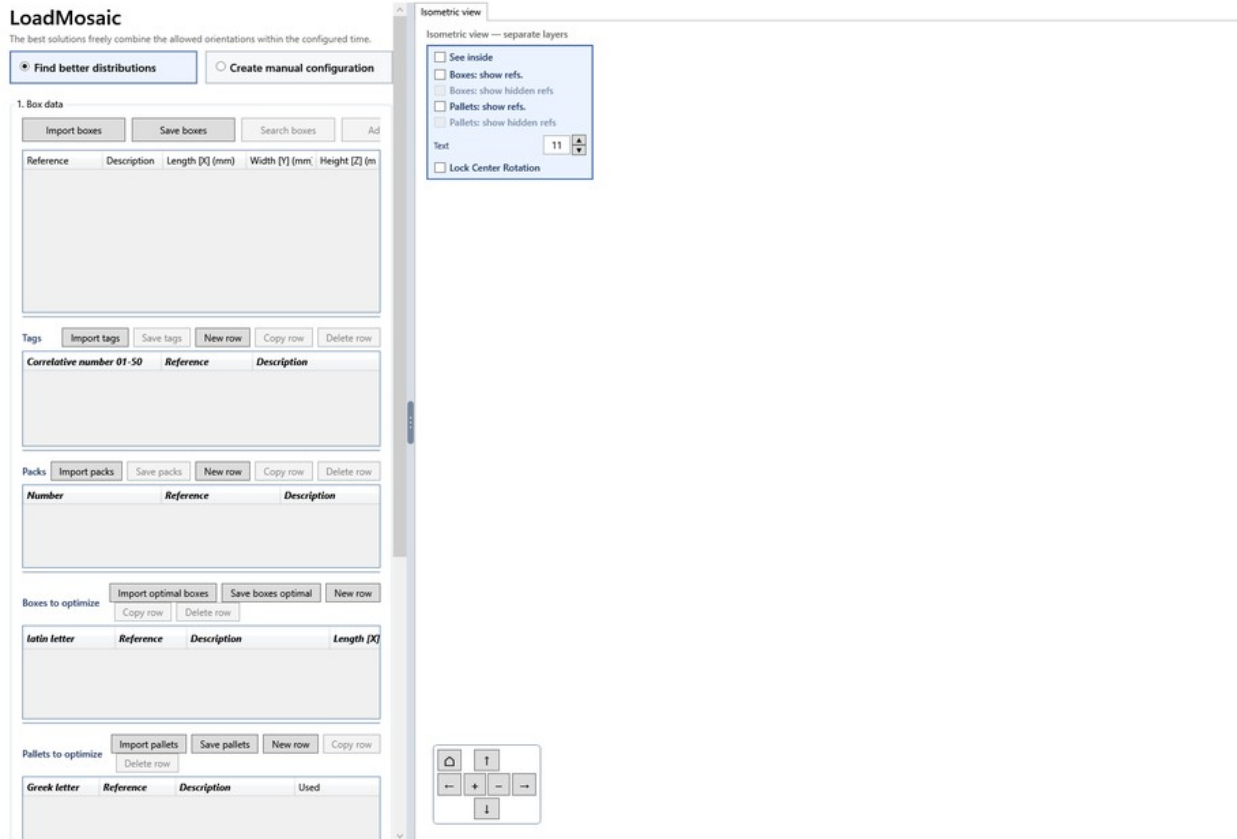


Figure 3. Catalogues "Box data," "Tags" and "Packs" with example data.

English column	Editable	Use
Reference	No	Stable identifier of the type of box. You must distinguish the box during imports and assignments.
Description	No	Descriptive text; does not intervene in geometry.
Length [X] (mm)	No	Physical longitudinal dimension. It must be greater than zero.
Width [Y] (mm)	No	Physical transverse dimension. It must be greater than zero.
Height [Z] (mm)	No	It must be greater than zero.

4.1 Buttons

Control	Function
Import boxes	It replaces the catalogue with the validated content of a CSV or XLSX.
Save boxes	Save the visible catalogue as CSV or XLSX.
Search boxes	Open a search engine per column, comodines, capital / lower case and full cell.
Add selected	Add the selected boxes to "Boxes to optimize" by avoiding incompatible duplicates.

4.2 Tabular forms

Readers support CSV separated by point and coma, coma or tabulator, with fields between quotes and regular encoding (UTF-8, UTF-16 and ANSI / Latin-1 when applicable). A XLSX may request the leaf to be imported. Dimensions must be finite and greater than zero; the optional weight must be finite and not negative.

5. Table "Tags"

It defines up to 50 reusable labels. The visible color is derived from its number and is kept consistently in the interface, the viewer and the reports.

English column	Editable	Use and validation
Correlative number 01-50	Yes	Visual number of Label 01 to Label 50; cannot be repeated.
Reference	Yes	A stable label identity; mandatory and unique.
Description	Yes	Free description.
Width (mm)	Yes	Non-negative width. Zero maintains the logical allocation, but avoids drawing geometry.
Height (mm)	Yes	Alto not negative. Zero maintains the logical allocation, but avoids drawing geometry.

English column	Editable	Use and validation
Placement reference	Yes	Anchor: center or corner, expressed in millimeters or percentage.
Horizontal distance...	Yes	Displacement from the reference point. In percentage it is limited to 0... 100; if the anchorage is center it can be - 100... 100.
Vertical distance...	Yes	Equivalent rule for the vertical axis of the chosen face.

5.1 Placement references

Family	Interpretation
Center (mm /%)	The distance moves the center of the label; it supports negative values.
Top / Bottom + Left / Right (mm)	It measures from the chosen corner to the inside of the face; it does not allow negative distances.
Top / Bottom + Left / Right (%)	Same logic expressed as a percentage of the face; range 0... 100.

5.2 Buttons

"Import tags" replaces the table; "Save tags" exports it; "New row" creates a 0 × 0 mm label with the first free number; "Copy row" doubles the active row with another number; "Delete row" only eliminates unassigned tags.

6. "Packs" table

A pack group of cash types to be counted together. The catalogue supports Pack 01... Pack 50.

English column	Editable	Use
Number	Yes	Local number of Pack 01 to Pack 50; not permanent identity.
Reference	Yes	A stable, mandatory and unique identity.

English column	Editable	Use
Description	Yes	Free description of the set.

For a pack to be valid it must contain at least two boxes per instance. In "Boxes to optimize," each type assigned to the pack indicates its quantity per instance; the total demand of each type must be multiple of that quantity and all types of the same pack must involve the same number of instances.

Example. If Pack 01 contains 2 boxes A and 1 box B, a valid demand can be A = 20 and B = 10: both columns represent 10 packs. A = 20 and B = 9 generates an incidence.

7. Table "Boxes to optimize"

Define the real demand that the optimizer or manual editor will use.

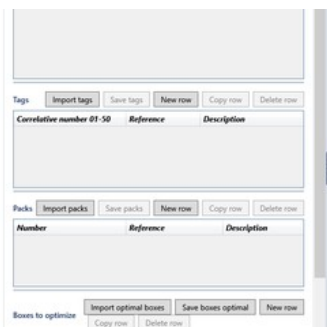


Figure 4. Start of the "Boxes to optimize" table with Latin letters, geometry and calculated column "Settings."

English column	Editable	Use and validation
Latin letter	Yes	Visual identity A... Z and following Latin letters admitted. It must be unique.
Reference	Yes	Box type reference; it is linked to the catalogue when it matches.
Description	Yes	Visible description in tables and reports.
Length [X] (mm)	Yes	Physical length, finite and greater than zero.
Width [Y] (mm)	Yes	Physical width, finite and greater than zero.
Height [Z] (mm)	Yes	Alto physical, finite and greater than zero.

English column	Editable	Use and validation
Settings	No	Calculated summary of used placements and, where appropriate, breakdown by pallet.
Quantity	Yes	Zero keeps the line, but does not request units.
Volume (cm ³)	No	Unit volume calculated from dimensions.
Label number	Yes	"No Label" or Label 01... 50.
Label ref.	No	Defined reference of the catalogue for the selected label.
Pack number	Yes	"No Pack" or Pack 01... 50.
Ref. Pack	No	Solved reference of the selected pack.
Quantity of this box in the pack	Yes	I get positive if there's pack; zero if there's no pack.
Dimension increase based on the difference (%)	Yes	Geometric mark applied to the smaller dimension; 0 means without fattening.
Box weight (kg)	Yes	finite and non-negative unit weight. Empty is equivalent to unconfigured.
Stack	Yes	It allows other boxes to be placed on top of this type.
Tilt	Yes	It allows the box to lie down, exchanging a base dimension with the Altura.
Rotate	Yes	It allows to turn on the floor and to exchange long and wide.

7.1 Combined restrictions

The "Stack," "Tilt" and "Rotate" boxes are applied by type of box. Disable "Tilt" keeps the vertical box; disable "Rotate" prevents the box from lying on the floor; disable "Stack" prevents other boxes from relying on their top face. These restrictions affect the engine candidates and the manual inspector.

8. Table "Pallets to optimize"

It allows up to 24 references identified with Greek letters $\alpha \dots \omega$. A row can represent a conventional pallet, an interior pallet or a transport enclosure.



Figure 5. Start of "Pallets to optimize"; "Used" is calculated and the other visible columns are editable.

English column	Editable	Use and validation
Greek letter	Yes	Unique visual identity α...
Reference	Yes	Stable reference of the load unit.
Description	Yes	Free description.
Used	No	Quantity used and breakdown of boxes calculated after optimization.
Quantity	Yes	Maximum number of available instances; non-negative integer.
Length [X] (mm)	Yes	Useful length or interior, greater than zero.
Width [Y] (mm)	Yes	Useful or inner width, greater than zero.
Pallet height [Z] (mm)	Yes	Altura from the base. In an enclosure it is used as a background / structure level according to the model.
Matryoshka level...	Yes	Level I: outside. Level II: inner palet that is introduced into another unit.
Upper gap on the inner pallet (mm)	Yes	Top slack reserved in Level II pallets; disable for Level I.
Own weight of the pallet (kg)	Yes	Non-negative own weight, included in total mass calculations.
Maximum total height of outer pallet [Z] (mm)	Yes	Altura total allowed for Level I. In a palet must exceed the base Altura; in the enclosure must be at least its inner Altura.
Max layers	Yes	Maximum number of layers; vacuum means no specific limit.
Maximum total weight (kg)	Yes	Total weight limit; vacuum means unconfigured.
Adjust pallet edge (+ / - mm)	Yes	It reduces with negative value or amplifies with positive value the effective footprint.

English column	Editable	Use and validation
Minimum support when stacking boxes (%)	Yes	Minimum base percentage supported; range 0... 100. Empty uses the document's compatible value.
Maximum gap for bridge box (mm)	Yes	The maximum coplanar that a box can set; it cannot exceed half of the largest base dimension.
Center of mass in center of pallet	Yes	It activates a criterion that favours less horizontal displacement of the C.M.
Low center of mass on pallet	Yes	It activates a criterion that favours a lower level Z of the C.M.

8.1 Inner pallets and hierarchy

Level II pallets are treated as rigid units when placed within a Level I unit. The interface allows you to select the inner instance shown, return to the outside level and navigate between distributions of each pallet. A transport enclosure cannot be Level II.

9. Import, save and combine distributions

A LoadMosaic distribution is saved in XLSX. Import also supports the inherited JSON.

Control	Conduct
Import a distribution	Open XLSX or JSON inherited. Then request "Overwrite" or "Add."
Overwrite	It replaces catalogues, demand, units and results with the imported document.
Add	It retains current rows, incorporates the new ones and realifies to zero those that do not intervene when required by the combination.
Save a distribution	Save on the associated route. If it does not yet exist, request a XLSX route.
Save as... a distribution	Save a copy on another route and make it the current distribution.

The asterisk next to the route indicates pending changes. During an active calculation, transfer or export, the application blocks file operations to avoid partial states.

Important difference. A distribution contains data and results. A JSON configuration contains only portable preferences; importing a configuration does not change the current distribution.

10. Calculation and display configuration

The drop-down "2. Configuration" gathers portable preferences. The changes are marked with an asterisk until they are saved.

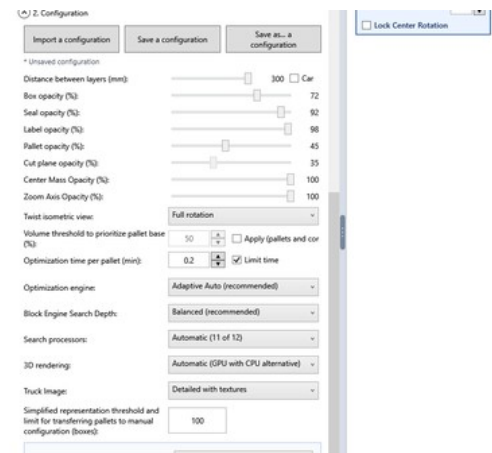


Figure 6. Upper part of "2. Settings" in English: files, separation and initial opacity controls.

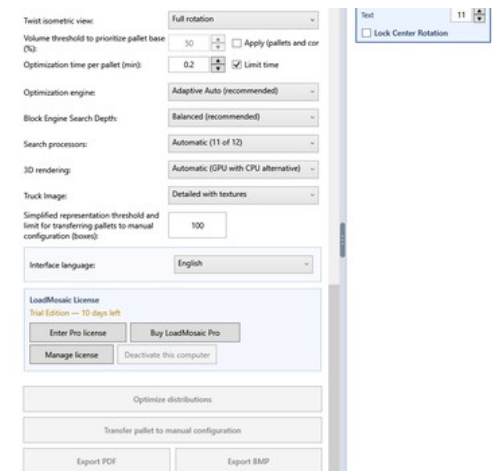


Figure 7. Continuation of the configuration: pallet opacities, cutting plane, mass center and zoom axis.

English option	What's the use?
Import a configuration	Load a JSON preferences without touching catalogues, demand or results.
Save a configuration	Save in the associated JSON; if it does not exist, request a route.

English option	What's the use?
Save as... a configuration	Save the preferences on another route and associate it as current configuration.
Distance between layers (mm)	Only visual separation between layers. In enclosures the truck is fixed and only the layers of boxes are separated.
Car / Car	It automatically calculates an intermediate separation adapted to the load; the concrete value can change with the result.
Box opportunity (%)	Transparency of the faces of the boxes.
Seal opacity (%)	Transparency of the brown seal.
Label opacity (%)	Transparency of green labels.
Pallet opportunity (%)	Transparency of the base of the palet or the representation of the enclosure.
Cut plane opportunity (%)	Transparency of the plane that marks the active cut in manual.
Center Mass opportunity (%)	Opacity of ISO symbol 7000-0627 and its guides X, Y and Z.
Zoom Axis opportunity (%)	Opacity of the discontinuous line and turn / zoom center.
Twist isometric view	No spin, 360 ° rotation or Full rotation. Control the free turn with the mouse.
Volume threshold to prioritize pallet base (%)	If the remaining volume does not exceed the set percentage, it favours solutions that take advantage of the base. The box applies the criterion to pallets and enclosures.
Optimization time per pallet (min)	Maximum time per palet; supports decimals. "Limit time" activates or disables the limit.
Optimization engine	Select the general engine of construction.
Block engine search depth	It adjusts the depth when the block engine intervenes; in manual it is reused as a reorganisation profile.
Search processes	Logical processor limit. Automatic reserve one normally to maintain the reactive interface.
3D rendering	Automatic, GPU Direct3D 11, CPU WARP or classic compatibility viewer.
Truck image	Detailed truck with textures or classic polygon model; it is independent of the rendering mode.
Simplified representation thirty...	By exceeding this number of visible boxes, the interactive viewer reduces detail. BMP and PDF keep the full detail.
Interface language	Change the application language immediately.

English option	What's the use?
LoadMosaic licensed	It shows the status and allows you to enter, purchase, manage or disable the computer license.

11. Engines, search depth and processors

11.1 Optimization engine

Option	Recommended use
Adaptive automatic (recommended)	Analyzes geometry and quantities; chooses or compares strategies. In conventional pallets you can use a specialized portfolio of towers and terraces.
Family base	Many geometries, soft gradients, transport enclosures or non-stackable internal pallets.
Blocks and orthotopes	Few geometric families or large numbers repeated.
Blocks + family fill	Mixed load: first place the repetitive part and fill gaps with the remaining families.

11.2 Block-engine search depth

Profile	Approximate effect
Fast (reduced exploration)	It reduces by about half beam, candidates and states.
Balanced (recommended)	Base depth; general balance between quality and time.
Expanded (more alternatives)	Explore approximately 1.5 times more candidates and states.
Intensive (wide search)	Amplia approximately 2 times beam, candidates and states.
Maximum (lower)	Up to about 3 times the exploration. It is not a mathematical test of optimality and can take much longer.

Scope. In automatic mode the depth only influences if the plan uses "Blocks" or "Blocks + family fill." In manual it decides axis priorities by pressing "Optimize by algorithm."

11.3 Search processors

"Automatic" uses at most the available logical processors less one, with a minimum of one. Choosing a fixed number limits the parallelism of the calculation, not the 3D rendering. Reducing it can improve the response of other programs; increasing it can shorten parallelisable searches.

12. 3D rendering and truck appearance

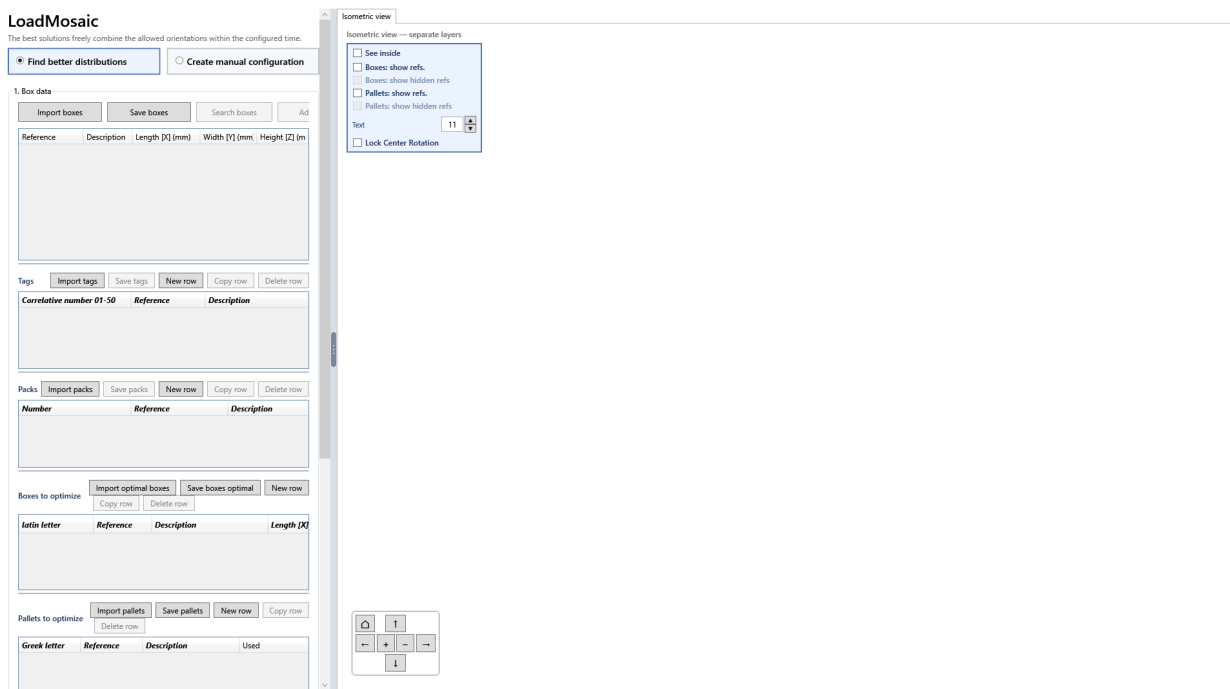


Figure 8. Full view of a transport enclosure with detailed pallet and truck references.

Mode	Conduct
Automatic (GPU with CPU fallback)	Try Direct3D 11 with manufacturer-independent hardware adapter; if not available, use WARP for CPU.
GPU (Direct3D 11)	Force a graphic hardware adapter. If it cannot be created, the view reports the failure rather than concealing the selection.
CPU (Direct3D 11 WARP)	Rasteriza Direct3D by implementing Windows software; useful for diagnosis or equipment without GPU compatible.
Classic viewer (compatibility)	Store the classic WPF view as Alternative with maximum compatibility.

"Truck image" does not depend on "3D rendering." "Detailed with texts" uses the mesh and embossed textures; "Classic polygonal" uses the geometry built by the program. The choice affects the vehicle image, not the useful space or the load calculation.

Light view. The simplified threshold affects interaction when there are many boxes. PDF reports and BMP export again generate the view in full detail.

13. Automatic isometric viewer

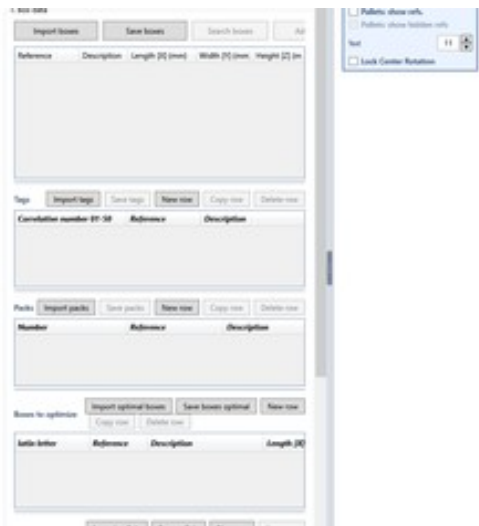


Figure 9. Higher controls of "Isometric view."

English control	Function
See inside	It activates a horizontal cut to see a single inner layer; a vertical control of Altura appears.
Boxes: show refs.	Show letter, number and reference of visible boxes.
Boxes: show hidden refs	It includes references of hidden boxes by projection.
Pallets: show refs.	It shows Greek letter, instance and reference of each palet.
Pallets: show hidden refs	It includes hidden pallets in the projection.
Text	It increases or reduces both the reference text and the mass center text.
Lock Center Rotation	It keeps the rotation center at the center of the current view.

13.1 Mouse and camera buttons

- Wheel: close or walk under the pointer.
- Drag with left or central button: turn the view according to the configured rotation mode.
- $\square$: restores zoom, frame and initial orientation.
- + / -: zoom per step; arrows: view displacement.

13.2 Centre of mass



Figure 10. Table of the mass centre (CM), geometric center (CG) and deviation from the center.

The C.M. symbol is accompanied by X, Y and Z. guides. The lower right table compares the mass center to the geometric center and shows the axis deviation. If weights have not been configured, the calculation is based on the available information and the report indicates it.

14. Automatic results

The screenshot displays the LoadMosaic software interface. On the left, a settings panel includes sliders for opacity (Box, Seal, Label, Pallet, Cut plane, Center Mass, Zoom Axis) and dropdown menus for Twist isometric view, Optimization engine, Block Engine Search Depth, Search processors, 3D rendering, and Truck Image. Below these are input fields for Volume threshold, Optimization time, and Simplified representation threshold. A license section shows 'Trial Edition — 10 days left' with buttons for 'Enter Pro license', 'Buy LoadMosaic Pro', 'Manage license', and 'Deactivate this computer'. Action buttons for 'Optimize distributions', 'Transfer pallet to manual configuration', 'Export PDF', and 'Export BMP' are present. The bottom section, titled '3. Distributions found', shows 'No optimization running.' with a progress bar and execution time. On the right, an 'Isometric view' panel offers options like 'See inside', 'Boxes: show refs.', 'Boxes: show hidden refs', 'Pallets: show refs.', 'Pallets: show hidden refs', 'Text' (set to 11), and 'Lock Center Rotation'. A navigation pad is located at the bottom right.

Figure 11. "Distribution found," progress and "Features of the selected distribution."

14.1 Navigation

When a reference has several instances, "Previous ($\leq$)" and "Next ($\geq$)" go through their distributions. They also work left / up / Repág and right / down / AvPág; Start sAlta to the first and End to the last. In hierarchies, the selector allows to change the shown inner pallet.

14.2 Summary of distribution

Block	Information
Summary	Load unit, useful space, total boxes, cuts, Altura, weight, labels and C.M.
Occupancy	Loaded volume, available volume, free volume, average surface and density of the envelope.
Stability	Medium support, maximum overflow, C.M. coordinates and displacement from the center.
Longitudinal enclosure occupancy	Meters loaded, space left, longitudinal advance and free meters in enclosures.
Multi-pallet plan	Used pallets and boxes pending when a load contains internal pallets.
Detail by cuts	Z interval, boxes that intersect the cut, boxes that start and references involved.

The progress bar shows running time and estimate when it can be calculated. Esc allows you to finish the processes that allow controlled cancellation.

15. Transfer a result to the manual editor

"Transfer pallet to manual configuration" replaces the manual configuration with all the boxes shown from the selected result. The operation can be disposed of in the editor. If the result contains internal pallets, the hierarchy is retained and the level that is edited can be chosen.

Limit of complexity. The same simplified representation threshold is used to protect excessively large transfers. If a transfer exceeds the limit, reduce the number of visible boxes, select another instance or consciously increase the threshold.

16. Manual editor: overview

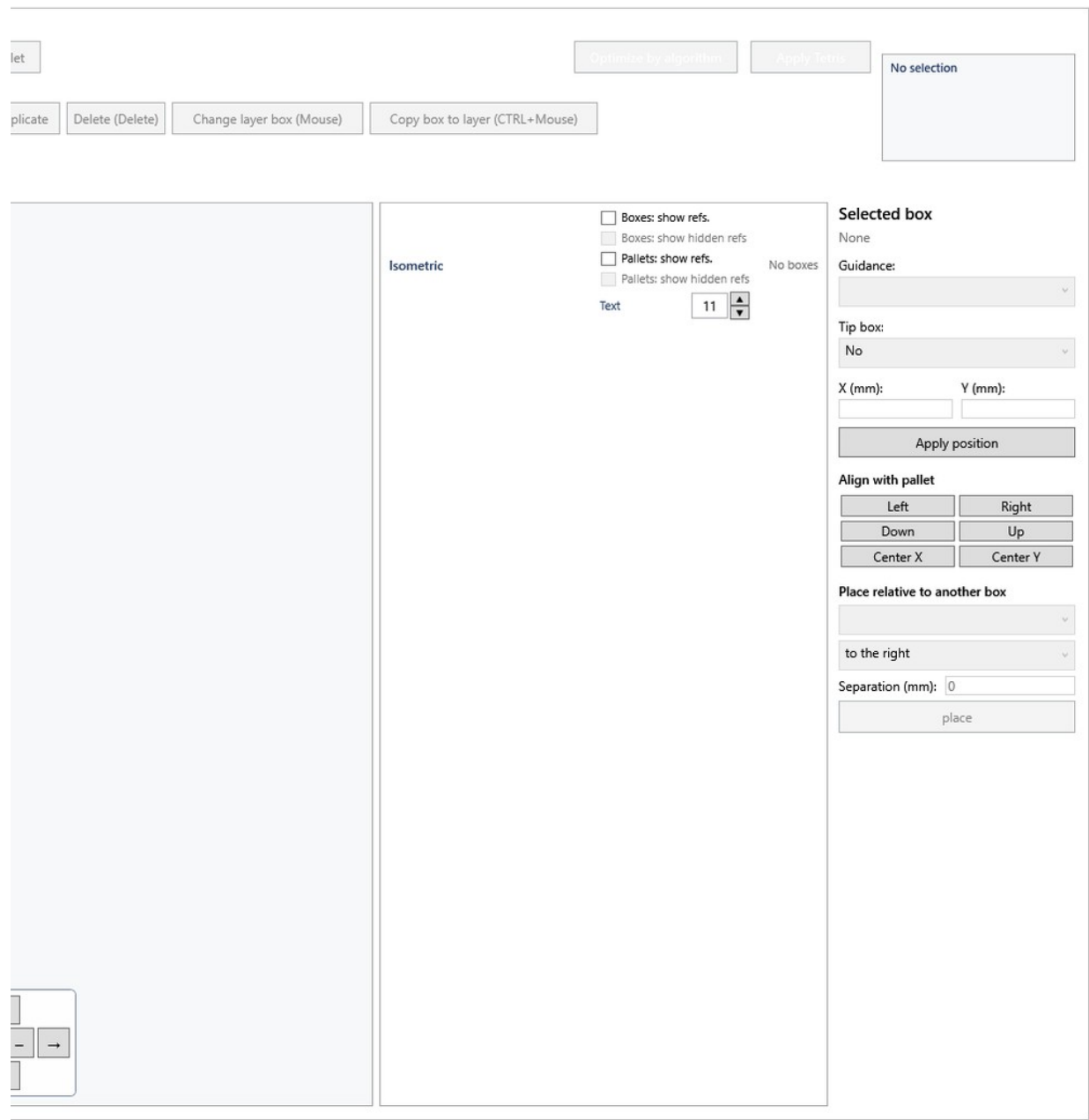


Figure 12. "Layer design": layer and box controls, cutting, plant, isometric and inspector.

LoadMosaic

Construye cada corte horizontal; las cajas iniciadas debajo se muestran bloqueadas.

☐ Find better distributions

☒ Create manual configuration

1. Box data

Import boxes

Save boxes

Search boxes

Ad

Reference	Description	Length [X] (mm)	Width [Y] (mm)	Height [Z] (m)
-----------	-------------	-----------------	----------------	----------------

Tags

Import tags

Save tags

New row

Copy row

Delete row

Correlative number 01-50	Reference	Description
--------------------------	-----------	-------------

Packs

Import packs

Save packs

New row

Copy row

Delete row

Number	Reference	Description
--------	-----------	-------------

Boxes to optimize

Import optimal boxes

Save boxes optimal

New row

Copy row

Delete row

latin letter	Reference	Description	Length [X]
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Pallets to optimize

Import pallets

Save pallets

New row

Copy row

Delete row

Greek letter	Reference	Description	Used
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Layer design

Layers

Duplicate cut

Rotate cut 90°

Empty cut

Clean pallet

Boxes

Add box

Rotate 90°

Rotate 90°

Tilt 90°

Dupl

Edition

Undo (CTRL+Z)

Redo (CTRL+SHIFT+Z)

Court

Alt. máx.: ∞ mm
(w sobre palet)

Capas máx.: 99

C-Max 99
0 mm

II (Home)

I (Page Up)

I (Page Down)

II (End)

☐ Auto mouse

C1 - ACTUAL
0 mm · 0 cajas

C1 actual
0 mm

Home

Up

Left

Right

Down

Figure 13. Manual left panel: files, export, active palet and summary of validity.

16.1 Pallet status and selection

The "Pallet show in manual configuration" selector chooses the unit or instance that is edited. The validation message indicates whether the configuration is valid, how many boxes it contains and whether the result and the BMP export have been updated.

16.2 Mode of upper layers

Option	Outcome
Repeat the same layer	Repeat the geometry of the cut without mirror.
Alternate mirror left / right	Alterna a side mirror between layers.
Alternate mirror front / back	Alterna a longitudinal mirror between layers.

17. Manual editor: layers and cuts

Control	Function
Duplicate cut	It creates a top layer by copying all the boxes in the active cut.
Rotate cut 90°	Blow the cut around the center of the useful surface.
Empty cut	Remove all the boxes from the current cut, keeping the level empty.
Clean pallet	Remove all boxes from the manual configuration of the active unit.
Home / Page Up / Page Down / End	It goes to the top layer, up, down or down. The wheel on the bar also changes the cut.
Auto mouse	Change the cut by passing the pointer through the vertical bar, without clicking.
Cut plane	Translucid plane that marks the active height; when separating layers it moves with the corresponding layer.

The bar shows limits of Altura, maximum number of layers, C1 cuts... Cn and current height. In an enclosure, the bottom of the truck remains fixed while the layers of boxes and the cutting plane receive visual displacement.

18. Manual Editor: boxes and editing

Control	Function
Add box	Insert a box of the selected type into the first available cut hole.
Rotate 90°	Turn the selected box on the floor.
Roll 90 °	Exchange long and Alto, if "Tilt" allows.
Tilt 90°	Switch width and Alto, if "Tilt" allows.
Duplicate	It creates a copy of the selection.
Delete (Delete)	Eliminates the selected boxes; also responds to Supr.
Change layer box (Mouse)	Move the box to another layer; it also supports drag to the cutting marker.
Copy box to layer (CTRL+Mouse)	Copy the box to another layer; Ctrl + drag performs the same action.
Undo (CTRL+Z)	Reverse the latest manual edition.
Redo (CTRL+SHIFT+Z)	Reapply the reverse edition.

18.1 Multiple selection

The plant allows you to select boxes and move them with the mouse. Operations that require a single box are disabled when the selection is not compatible. The top box shows a miniature of the current type and orientation.

19. Inspector of the selected box

Control	Use
Guidance / Orientation	Select an allowed orientation for the box type.
Tip box	Mark the tip box when the orientation and rules allow.
X (mm), Y (mm)	Coordinates of the reference corner of the box over the active cut.
Apply position	Valid and apply the written coordinates.

Control	Use
Left / Right / Down / Up	Allows the selection with the corresponding edge of the useful surface.
Center X / Center Y	It focuses the selection on one of the axes.
Place relative to another box	Choose a reference box, direction and a separation in millimetres.
Place	Place the selection next to the reference box if it does not cause overlap or non-compliance.

When rigid internal pallets are edited, the inspector changes "box" to "pallet" and offers relative positioning between units. Validation avoids exiting the effective surface, surpassing Alturas or creating incompatible lapels.

20. "Optimize by algorithm" and "Apply Tetris"

Tool	What changes	When to use it
Optimize by algorithm	Reorganize in the plant with respect to the orientation and relative position of departure according to the configured profile.	To compact a cut without manually rebuilding it.
Apply Tetris	Vertically replace the boxes according to overlap and support.	To remove vertical holes and deposit boxes on valid surfaces.

Council. Save the distribution or check that "Undo" is available before applying a wide reorganisation. Check after support, Altura, C.M. and visible labels.

21. Manual cut and isometric views

The cutting plant shows the boxes that intersect the active height and those initiated below as blocked. The isometric presents the complete configuration and shares the visual separation of layers, opacities, C.M. and camera controls.

Control	Function
Boxes: show refs.	It shows references of the boxes in plant and isometric.

Control	Function
Boxes: show hidden refs	It includes hidden references by projection.
Pallets: show refs.	It shows identified pallets and enclosures.
Pallets: show hidden refs	It includes hidden pallets in the projection.
Text	Controls the size of the text of the isometric view and the active cutting view, including the text of the C.M.
Go to pallet level I	It returns from an inner instance to the outer unit that contains it.

When applying "Distance between layers," the viewer moves boxes, cutting plane and visual focus in a coherent way. The boxes that share the same physical base belong to the same visual cut and move together.

22. BMP export

"Export BMP" saves the selected isometric view as a 283×283 pixels, 24 bits, with a density of approximately 35 pixels per inch. The export uses the full detail even if the interactive viewer is in light mode.

- The selected distribution and the active instance are exported automatically.
- In manual only a valid configuration is enabled.
- The proposed name is formed from the reference and the load unit.

23. PDF export and preview

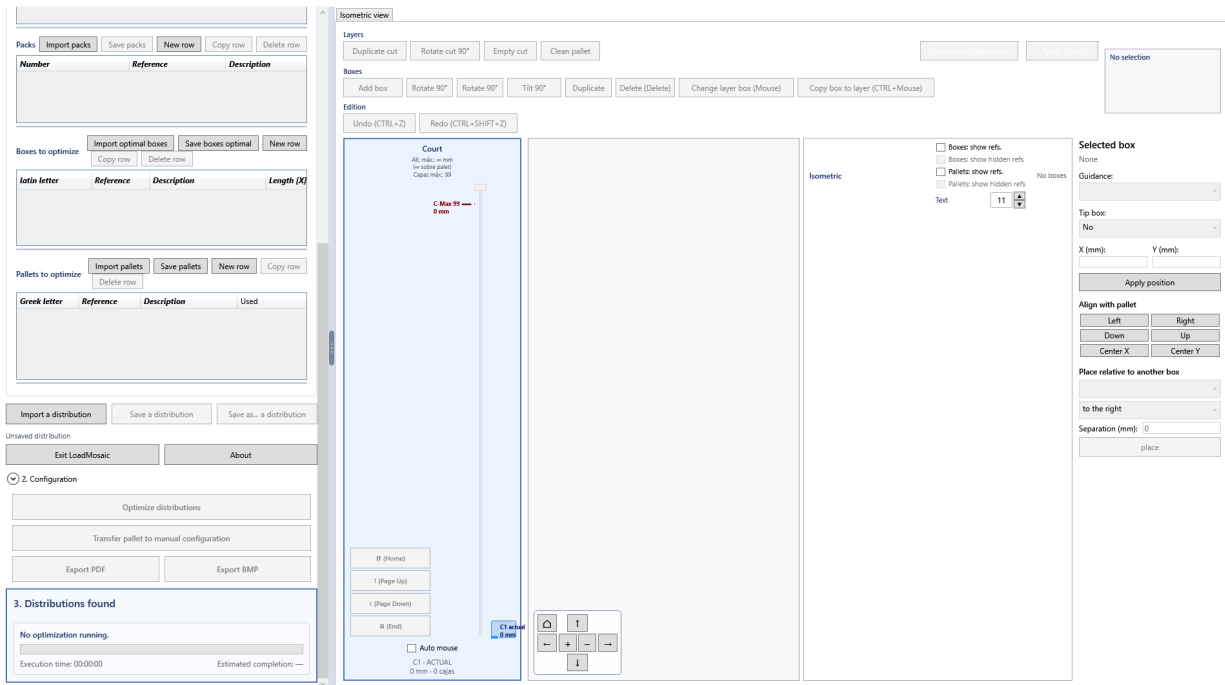


Figure 14. Export controls and results area in the English interface.

"Export PDF" first generates all the rasterized pages and opens a preview. "Previous" and "Next" go through the report; "Continue and choose to fuck" requests the destination and "Cancel" leaves the export.

23.1 Usual content

- Head with file, reference, description, occupation, limits and unit summary.
- Table of box types with quantities, dimensions, weight and restrictions.
- Pages for cuts or stages, with isometric images and legends.
- Last page with the final isometric configuration, C.M. symbol and X / Y / Z coordinates with two decimals.

On the last page, the text of the C.M. is placed in a lower right frame without invading the foot. Labels and seals are included in the images when they are configured and are rendered in size.

24. Files and persistence

File	Location / purpose
interface.json	Active configuration created next to LoadMosaic.exe: language, window, tables, opacities, viewer, engines and other preferences.
license.dat	License status with LoadMosaic.exe, protected for the user and equipment using DPAPI.
translations.json	A catalogue of languages embedded within the EXE; it is not distributed as an external file.
Configuration _ LoadMosaic.JSON	User-saved portable configuration. It does not contain boxes, pallets or results.
Distribution .XLSX	Full working document with catalogues, units, automatic results or manual editions.
CSV / XLSX tabular	Independent exchange of Box data, Tags, Packages, Boxes to optimize and Pallets to optimize.
PDF / BMP	Report and image outputs; they are saved in the folder chosen by the user.

Security copies. To move a way of working to another team, save a portable configuration and XLSX distributions. Do not copy license.dat between teams: the DPAPI protection prevents it from working as a transportable license.

25. Language, licence and About

"Interface language" immediately changes the interface between the available languages. Imported headers are recognized by canonical names in English, translations and inherited aliases, so a document can be opened even if the current language is different from that used when saving it.

Control	Function
Enter Pro license	Open the activation of a Pro key.
Buy LoadMosaic Pro	Open the commercial information configured by the application.
Manage license	Shows or manages the status of the equipment's license.

Control	Function
Deactivate this computer	Release the activation of the equipment after confirmation.
About	Show version, date of compilation, license editing and site LoadMosaic.com.
Exit LoadMosaic	Close the application and offer to save outstanding changes when appropriate.

26. Problem-solving

Symptoms	Recommended verification
No "Optimize distributions" enabled	Check that there is at least one box with Quantity > 0 and a load unit with Quantity > 0, valid dimensions and consistent limits.
A box cannot turn or lie down	Check "Rotate" and "Tilt" in "Boxes to optimize" and that the orientation does not exceed the surface or the Altura.
Do not draw a label	Check Label number, resolution reference and Width / Height. A zero dimension retains the allocation, but does not produce geometry.
A pack gives incidences	Check that it has at least two boxes per instance and that the total quantities are consistent.
The 3D view is slow	Lower the simplified threshold, use "Automatic," reduce visible references or opacities; the PDF and BMP will keep the detail.
GPU does not work	Try "Automatic" and then "CPU (Direct3D 11 WARP)." If the classic viewer does work, update the Direct3D driver and use compatibility in the meantime.
The truck does not show textures	Select "Detailed with texts." If it persists, try another 3D mode; resources are embedded in the executable.
The separation between layers seems not to act	Disable "Auto" to set a value and confirm that there is more than one cut. In boxes only layers of boxes are moved, not the vehicle.
PDF or BMP are not exported	Wait for them to finish the calculations, confirm that the selected result or manual configuration is valid and test a folder with writing permissions.
The imported configuration does not change the boxes	It is the expected behavior: a configuration only contains preferences. It amounts to a XLSX distribution to recover data and results.

Symptoms	Recommended verification
Can't remove a label or pack	First remove your assignments in "Boxes to optimize"; the items in use are protected.
Not all references appear	Activate "show hydrogen refs." With many boxes, temporarily raise the simplified threshold if you need to review the interactive detail.

27. Reference shortcuts and gestures

Shortcut / gesture	Action
Ctrl + C	Copy cells, rows, columns or table with headers, according to the active selection.
Ctrl + V	Finally add tabulated rows compatible with the active table.
Sudr / Delete	Remove selected rows or boxes when the operation is enabled.
Ctrl + Z	Undo in the manual editor.
Ctrl + Mayus + Z	Redo in the manual editor.
Home / End	First / last distribution or cut, depending on the focus.
Repág / AvPág	Distribution or cutting before / following.
Wheel in view	Zoom under the pointer.
Wheel in cutting bar	Change the active cut.
Left / central in isometric	Turn the camera.
Ctrl + box-to-cut drag	Copy the box to another layer.
Double click on filling shooter	Fill the cell down.

28. Good practices

- Maintain stable and unique references; use the description for human text, not as an identifier.
- Start with "Adaptive automatic" and "Balanced." Drive another engine only when you know the load pattern.
- Configure weights before assessing the mass center or load limits.

- Use zero-size labels only when you want to keep the logical allocation without representation.
- Check the packs before optimizing; an inconsistent composition can invalidate all demand.
- Save portable configurations for work profiles and distributions XLSX for specific projects.
- Before exporting, select exactly the instance and hierarchical level you want to document.
- In manual, review validity, supports, Altura, C.M., references and labels after each automatic reorganisation.

29. Glossary

Term	Definition
C.M.	Mass center calculated from available positions and weights.
C.G.	Geometric center of the volume or reference space.
Engorde	Margin applied to a dimension to represent slack or deformation.
Occupied envelope	Prism containing the load placed; its density may differ from the total occupation of the compound.
Hollow bridge	Separation between coplanar supports that a box can save.
Level I	External unit that is not inserted into another.
Level II	Inside pallet that is placed inside an outer unit.
WARP	Direct3D 11 software Rasterizer run by CPU.
Light view	Reduced interactive representation when you exceed the box threshold.
Court	Horizontal level active in the editor or in the result description.

30. Final checklist

- ☐ The references of boxes, labels, packs and pallets are unique.
- ☐ All dimensions are greater than zero and are in millimeters.
- ☐ The quantities are whole non-negative.
- ☐ The packs contain at least two boxes per instance and their multiple boxes match.
- ☐ The weights and limits of Altura are configured when necessary.

- ☐ Stack, Tilt and Rotate boxes reflect actual physical restrictions.
- ☐ The unit of load, level of matrioska and slack are correct.
- ☐ The engine, depth, time and processing settings are adapted to the case.
- ☐ The isometric view shows the correct instance and level.
- ☐ The summary, the mass centre and the support are acceptable.
- ☐ The PDF preview has been made to the last page.
- ☐ The XLSX distribution and, if appropriate, the JSON configuration have been saved.

End of the guide. LoadMosaic retains the classic view as Alternativa, separates the truck's choice from the 3D engine and allows to combine automatic optimization, manual editing and reports within the same distribution document.