2021-07-30 - HP Carbon 1.2.95

Here you can find information about what is new in HP Carbon version 1.2.95.

> ✓ This version is available for **download** from the Octonus official web site.

On this page:

In-house cuts and hybrid appraisers overview

Brief vocabulary	
In-house cut	= "your own", "created by you", "added to the system by you"
Hybrid appraiser	An appraiser that has both absolute and relative parts: - The absolute part provides a maximum mass without a grade loss (industry-standard intervals). - The relative part allocates plans close to your own forms with excellent optical performance.

What can you do with version 1.2.95 that you could not do in the older versions?

The new version of the system provides a lot of new possibilities. They are described in the sections of these release notes. But the main changes in the release are related to in-house cuts and hybrid appraisers:

- For any number of your in-house (created by you) cuts, you can create its hybrid appraiser and thus get plans for beautiful and massy diamonds for these cuts.
- You can get excellent plans for both in-house and generic, including Brilliant via GIA Facetware, cuts in one run.
- You have the right appraiser at your fingertips - no need to manually select, no need to know or remember which one is needed.

Here is the brief abilities comparison:

Ability	Previous Version	New Version	Provided by what?
Using absolute appraisers when working with multiple cuts.	Yes*	Yes	-
Using hybrid (absolute+relative) appraisers when working with multiple cuts.	No	Yes	Create hybrid appraiser for in-house cut + Automatic appraiser selection
Creating for each in-house cut its hybrid appraiser.	No	Yes	Create hybrid appraiser for in-house cut
Editing appraiser of in-house cut via the user interface.	No	Yes	Create hybrid appraiser for in-house cut
Automatic detection and presenting in the user interface of the link between cut and its appraiser/active profile.	No	Yes	Automatic appraiser selection
Using simultaneously RBC (including optimization by GIA Facetware) and in-house cuts when working with multiple cuts.	No	Yes	Create hybrid appraiser for in-house cut + Automatic appraiser selection
Getting Smart Recut solutions for multiple selected cuts simultaneously.	No	Yes	Automatic appraiser selection + **+Smart Recut**
Getting Smart Recut solutions for a larger diamond in the multi-diamond solutions.	Yes	Yes	-
Getting in one click Smart Recut solutions for both diamonds in the multi-diamond solutions.	No	Yes	Automatic appraiser selection + **+Smart Recut** + "gold stars"
Automatic switch to correct appraiser when selecting a solution with a different cut.	No	Yes	Automatic appraiser selection

* Via adding in-house cut and then adding the corresponding section in one of the existing appraisers (by editing its text file).

Create hybrid appraiser for in-house cut

What is new?

Now for your in-house cut, you can create *its* hybrid appraiser.

What is it for?

To get plans with the best combination of mass and performance, add your in-house cuts to the system, populate them with forms, then allocate plans close to these forms with a hybrid appraiser.

How?

1. Add what you consider beautiful as your in-house cut.
2. Add variations of forms.
3. Allocate future plans close to your forms by a *hybrid appraiser.*
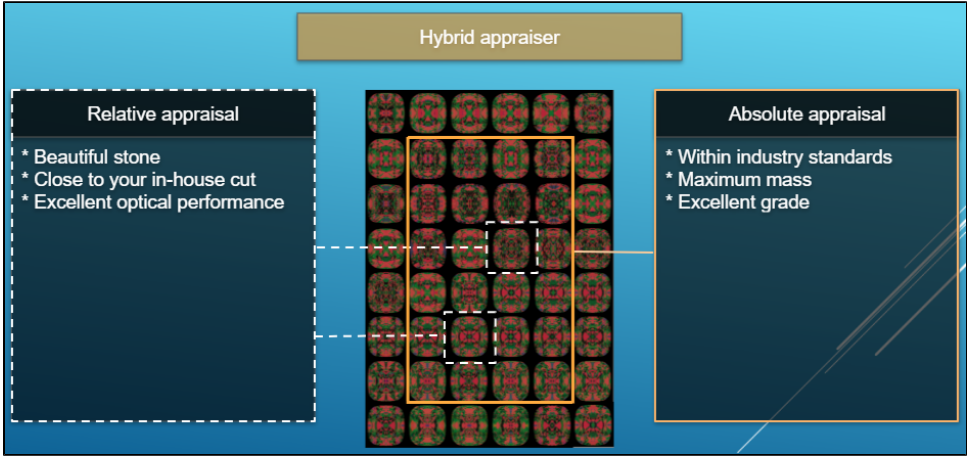
A hybrid appraiser has both absolute and relative parts:

- The absolute part will provide a maximum mass without a grade loss (industry-standard intervals).
- The relative part will bind plans to your own forms with the excellent optical performance.

And thus:

To create for in-house cut its hybrid appraiser:

1. In the **Recut** mode, in the left panel, in the **Diamond Allocation** section, from the **Cutbook** select "In-house Cuts".
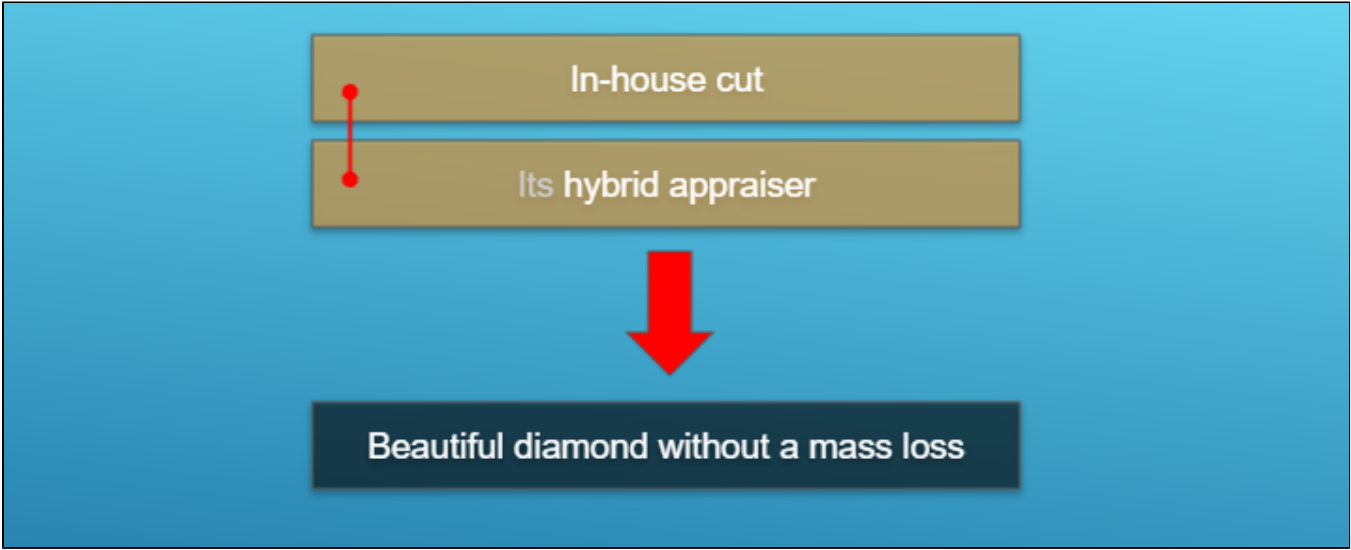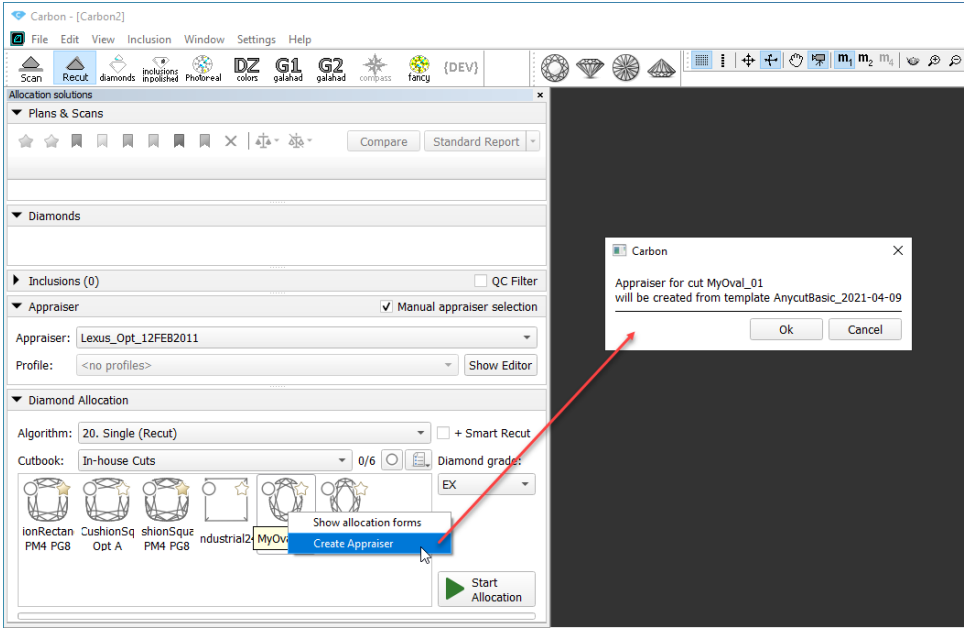2. In the cut list, right-click your cut, and then from the context menu select **Create Appraiser**. The dialog is displayed.

3. In the dialog, read the information about the template and then click **OK**. Your new appraiser is created, named the same as the cut. Two profiles are automatically created for it.

> ℹ️ **Notes**
>
> * The new appraiser is created by *copying* the template. As for now, the only available template is the "AnycutBasic_2020-12-09" which is identical to the "MyAnyCut".
> * If you previously already created the appraiser for this cut, the system will suggest *rewriting* it - for the cut, only one *its* appraiser can be presented in the system.

4. In the **Appraiser** section, from the **Appraiser** list, select your appraiser.
5. Select the profile to be edited, then click **Show Editor**. The **Appraiser Editor** window is displayed.
6. In the **Appraiser Editor** set boundaries for your parameters and then click **Apply**. For hints on how to edit profiles, see *Configuring Profiles* here.

> ⊘ Pay special attention that the *absolute* part must be filled with the parameters corresponding to your cut.

7. If necessary, set boundaries for the second profile as well.
8. As a hybrid appraiser only works when the linked cut has a good set of **allocation forms**, do not forget to add these forms to the cut (see details at In-house cut registration > "Adding allocation forms" and some questions and answers on allocation forms below).

Some questions and answers on allocation forms:

1. **How many and what forms should be added?**

   You need at least 20-30 forms. It is better to have more*. The quantity depends on the quality:

   30 of **these** are better than 100 of **these**
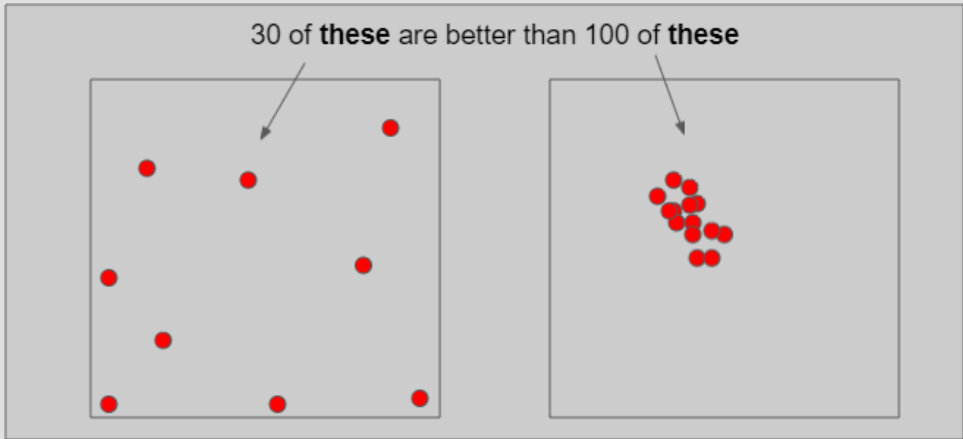
   In a multidimensional array of diamond parameters**, the more these parameters differ, the better (array coverage). Also the greater the GirdleRatio of your cut is, the more allocation forms are recommended to achieve a better result.

   NOTES
   * But how much more? And may adding a form make hybrid appraiser worse? The answer is that the more forms it has, the slower the appraiser is, therefore it is not recommended to have more than 100. Also if the relative part allows getting A from B or vise versa during allocation (click Show Picture... below) then one of them is redundant and again - only slows down the appraiser.

   A can be obtained from **B** during allocation (close, a deviation is allowed by the relative part).
   cannot be obtained from **B** during allocation (far, a deviation is not allowed by the relative part)

   Thus:
   either **A** or **B** is redundant and only slows down the appraiser,
   it is good to have in addition to **A** or **B**.

   ** When we say "parameters" we mean not only the ones presented in the appraiser but also the **additional** (for example, azimuths of non-main facets of crown and pavilion). Precisely, changing the additional parameters in many cases provides the best form distribution over the array.

2. **If no allocation forms, is it a hybrid appraiser?**

   A cut always has at least one form available immediately after cut registration (*base form*). That is why you need only 10 minutes to start using the new in-house cut (see "Ready for use" in this diagram). Does a linked hybrid appraiser stay hybrid in this situation? See next question.

3. **If only one form was added, is it a hybrid appraiser?**

   If your cut has only one allocation form or few forms and the relative part of its hybrid appraiser is narrow enough, this creates a great risk of mass loss, as the solution will be searched not along all the array provided by the absolute part but only close to this form. On the other hand, if you significantly widen the relative part, it may become wider than the absolute which means the appraiser degenerates into a simple absolute.

4. **How the SweetLine parameter should be specified in a hybrid appraiser?**

The **SweetLine** slope is specified for an entire cut as described here. As forms belong to the same cut, the slopes of the SweetLines they belong to will be similar. But as good forms are distributed over the array, the position of their SweetLInes may be different:

Therefore, for the absolute part of the hybrid appraiser, we should turn off the SweetLine (set all values to "100" which will remove the fixed green zone from the picture above) and only in the relative part set the possible deviation from the SweetLine of each particular allocation form.
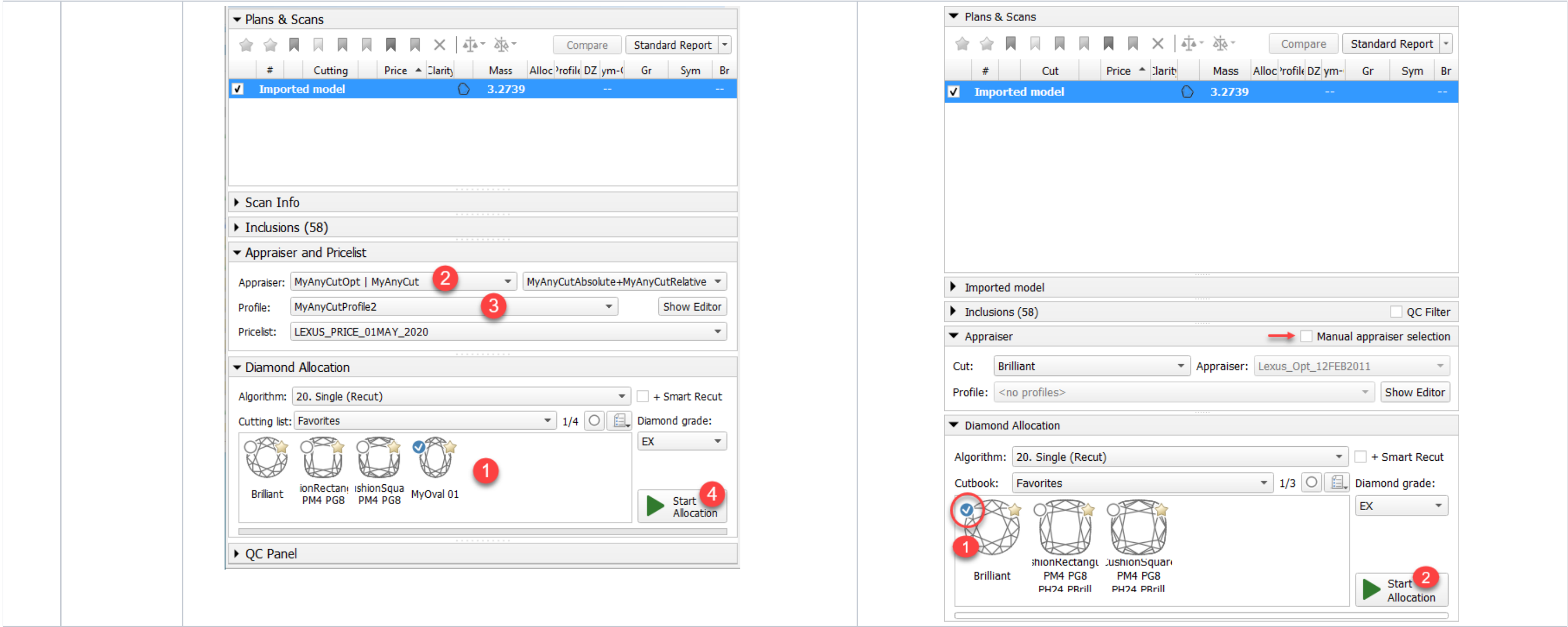
Automatic appraiser selection

There are two cases when you need to select an appraiser:

- For allocation (creating solutions)
- For appraisal (appraising of already existing solutions)

For appraiser selecting, the system behavior and thus what you need to do is changed now:

		Was	Now
System behavior	Allocation, 1 cut	**Process**: In **Recut** mode, in the **Diamond Allocation** section, you select the cut, then, in the **Appraiser** section, from the **Appraiser** list, manually select the appropriate appraiser and **Profile**, then click **Start Allocation**. **Result**: If you selected the wrong appraiser, there may be no results or they can be bad.	**Process**: you select the cut, then click **Start Allocation**. **Result**: The *linked appraiser** will be used automatically (and the last selected **Profile** of it)
	Allocation, more than 1 cut	**Process**: In **Recut** mode, in the **Diamond Allocation** section, you select your cuts, then manually select the "Lexus_Opt..." (must include selected cuts) appraiser and start allocation. The "Lexus_Opt..." should be pre-configured by an expert (no modifications via UI - only editing as file). **Result**: If your cut was not described in the "Lexus_Opt...", there may be no results or they can be bad.	**Process**: you select the cuts, then click **Start Allocation**. **Result**: The *linked appraiser** will be used automatically (and the last selected **Profile** of it) for each included cut.
	Appraisal of already existing solutions	In the **Plans & Scans** section, you click the solution, then, in the **Appraiser** section, from the **Appraiser** list, manually select the appropriate appraiser and **Profile**, then click **Show Editor**.	In the **Plans & Scans** section, you click the solution, in the **Appraiser** section, the system automatically displays the linked appraiser. When your switch between the solutions of different cuts, the appraiser changes correspondingly.

Left panel (screenshot):

Plans & Scans

	#	Cutting	Price	Clarity	Mass	Alloc	Profile	DZ	ym-C	Gr	Sym	Br
☑		Imported model			3.2739			--				--

Scan Info

Inclusions (58)

Appraiser and Pricelist

Appraiser: MyAnyCutOpt | MyAnyCut ② | MyAnyCutAbsolute+MyAnyCutRelative

Profile: MyAnyCutProfile2 ③ | Show Editor

Pricelist: LEXUS_PRICE_01MAY_2020

Diamond Allocation

Algorithm: 20. Single (Recut) | ☐ + Smart Recut

Cutting list: Favorites | 1/4 ○ ▤ | Diamond grade: EX

Brilliant | ionRectan PM4 PG8 | shionSqua PM4 PG8 | MyOval 01 ①

④ ▶ Start Allocation

QC Panel

Right panel (screenshot):

Plans & Scans

	#	Cut	Price	Clarity	Mass	Alloc	Profile	DZ	ym-	Gr	Sym	Br
☑		Imported model			3.2739			--				--

Imported model

Inclusions (58) | ☐ QC Filter

Appraiser | → ☐ Manual appraiser selection

Cut: Brilliant | Appraiser: Lexus_Opt_12FEB2011

Profile: <no profiles> | Show Editor

Diamond Allocation

Algorithm: 20. Single (Recut) | ☐ + Smart Recut

Cutbook: Favorites | 1/3 ○ ▤ | Diamond grade: EX

① Brilliant | shionRectangu PM4 PG8 PH24 PBrill | CushionSquar PM4 PG8 PH24 PBrill

② ▶ Start Allocation

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* In the system, cuts and appraisers are *linked* like this:

Cut	Appraiser***
In-house cut that has *its** appraiser*	*Its appraiser*
In-house cut without its appraiser	MyAnyCut
Brilliant	"GIA Facetware + MyRound"
CushionSquare_PM4_PG8_PH24_PBrill_C32	CushionSquare
CushionRectangular_PM4_PG8_PH24_PBrill_C32	CushionRectangular
Some oval cuts	MyOval
Other cuts	Lexus_Opt...****

** *Its* appraiser means created specifically for this particular cut
*** For each appraiser, its **active profile** will be used - the one that was last selected in the user interface **Profile** field.
**** Cuts linked to the "Lexus_Opt..." appraiser have limitations:

- The cut will not give the appropriate result if its description is not presented in the "Lexus_Opt..." appraiser.
- The **+ Smart Recut** option will not work for them

See details in the sections below.

When automatic appraiser selection is useful

The *automatic appraiser selection* eases your work with multiple cuts:

- Allocation cases:
  - You want to try getting solutions of different cuts for your scanned model.
  - You want to try getting diamonds of different cuts within your solutions for multi-diamonds algorithms.
- Other cases:
  - In your solution list, you have solutions of different cuts and you want the *appropriate appraiser to be selected automatically* when you switch to this solution.
  - You want to know which appraiser is linked to some cut and/or switch the *active profile* for it. The active profile is the last selected in the user interface **Profile** field for this appraiser. It is saved by the system automatically.

For single cut allocation

- Select cut and run allocation. No need to worry about the appraiser.

For multiple cut allocation

How to use:

1. From the **Cutbook**, select several cuts.
2. Run allocation.

Note that you do not need to do anything but selecting wished cuts and running allocation.

Optionally: to view the linked appraiser and its current active profile in the **Appraiser** section, select **Cut** from the list. Change active **Profile** if needed.

Note that the **Profile** field will be empty if the appraiser does not have any profiles.

For multi-diamond algorithms

The *automatic appraiser selection* greatly eases getting excellent diamonds of different cuts within one solution (via the multi-diamond algorithms, such as 13. Cascade-2M and **+ Smart Recut** option).

✅ New: now you can get a combination of your in-house cut and one of standard (for example, Brilliant linked to "GIA Facetware + MyRound") cuts within one solution.

Running multi-diamond allocation with Smart Recut

(*Prerequisites*: gold stars will be used - see instruction on how to configure them in the section below)

1. Use the **Recut** mode.
2. Select several cuts.
3. Set **Algorithm** to "13. Cascade-2M".
4. Select the **+ Smart Recut** option.
5. Click **Start Allocation**. The multi-diamond solutions are displayed in the list.

To get "Smart Recut + Smart Recut" solutions with the different Smart Recut presets:

1. In the **Diamond Allocation** section set **Algorithm** to smart recut one.
2. In the solution list, select the "Recut + Recut" solution.
3. In the diamonds section, select one of the solution diamonds. In the **Appraiser** section, the appraiser linked to the cut of the selected diamond is displayed automatically. Its active **Profile** is displayed as well.
4. From the **Presets** list, select the preset you want to be used.

5. Run allocation for the selected diamond. The new "Smart Recut + Recut" solution is added to the list, where Smart Recut is built with the selected preset.
6. Repeat configuration for the diamond remaining Recut.
7. Run allocation for the second diamond. Now you have a new "Smart Recut + Smart Recut" solution with each SR produced by the new preset.

"Gold stars" configuring

The "*gold star*" shows which Smart Recut preset will be used for the *active profile* of the linked appraiser when running allocation for multiple cuts with a multi-diamond algorithm with **+ Smart Recut** option. There is a default gold star for each profile of each appraiser working with Smart Recut. Thus, you can skip configuring gold stars - in this case, the default will be used (for MyRound profiles - preset 4, for MyOval and MyOvalPerformanceWare - 6, for MyAnyCut and alike - 8).

Notes on structure:

- profiles belong to an appraiser, presets (not presented on diagram) belong to the profile
- exception - SR presets belong directly to SR
- thus: do not mix appraiser profile's presets with SR presets

Notes on usage:

- If you marked this SR preset with a gold star for this profile, it does not say anything about other profiles.
- When for the in-house cut you create its appraiser, its profiles are copied from the template, presets for them are copied from the "MyAnyCut" appraiser (first two profiles), and gold star is set to SR preset "8.AllWidened".

The gold stars can be configured before running allocation as described below.

To configure gold stars:

1. Use the **Recut** mode.
2. in the **Appraiser** section, select **Manual appraiser selection**.
3. Select **Appraiser**.
4. Set active **Profile**.
5. In the **Diamond Allocation** section set **Algorithm** to smart recut one.
6. Expand the **Presets** list, then in the list, set the gold star to the right of the preset you want to be used during allocation for multiple cuts with a multi-diamond algorithm.

For viewing grades in Appraiser Editor

If, in your solution list, you have solutions of different cuts and you want the *appropriate appraiser to be selected automatically* when you switch to this solution:

1. Click **Show Editor**. The **Appraiser Editor** window is displayed.
2. In the **Plans & Scans** section, switch to the required solution. The **Appraiser Editor** window will automatically switch to the appraiser linked with the cut/*active profile*.
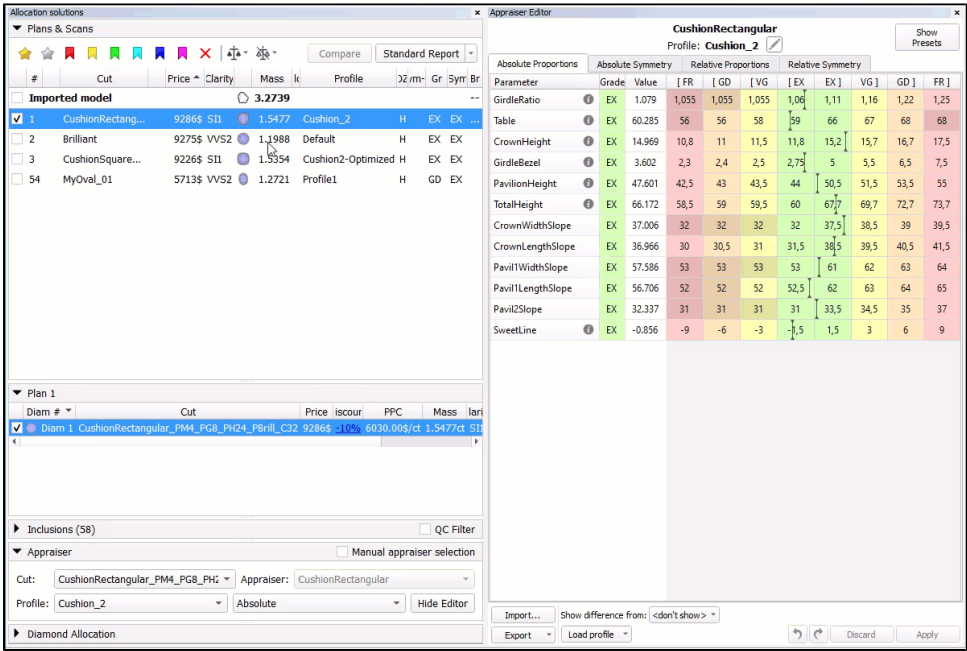
For switching active profile

To know which appraiser is linked to some cut and/or switch the *active profile*:

1. Do one of the following:

a. If you have a solution of the appropriate cut in the list, click it. Its cut is displayed in the **Appraiser** section, **Cut** field.
b. If you do not have a solution, select directly from the **Appraiser** section, **Cut** list.

For the selected cut, it's linked **Appraiser** and its active **Profile** is displayed. Note that the **Profile** field will be empty if the appraiser does not have any profiles.

2. If necessary, change the **Profile**. Selected new active profile for this appraiser is saved in the system automatically.

Old mode - Manual appraiser selection

Sometimes it may be necessary to try appraisal or running allocation with the appraiser, different from the linked one.

You can switch to the old mode of working with the system where the manual selection was possible (and required). To do that, in the **Appraiser** section, select the **Manual appraiser selection** checkbox.
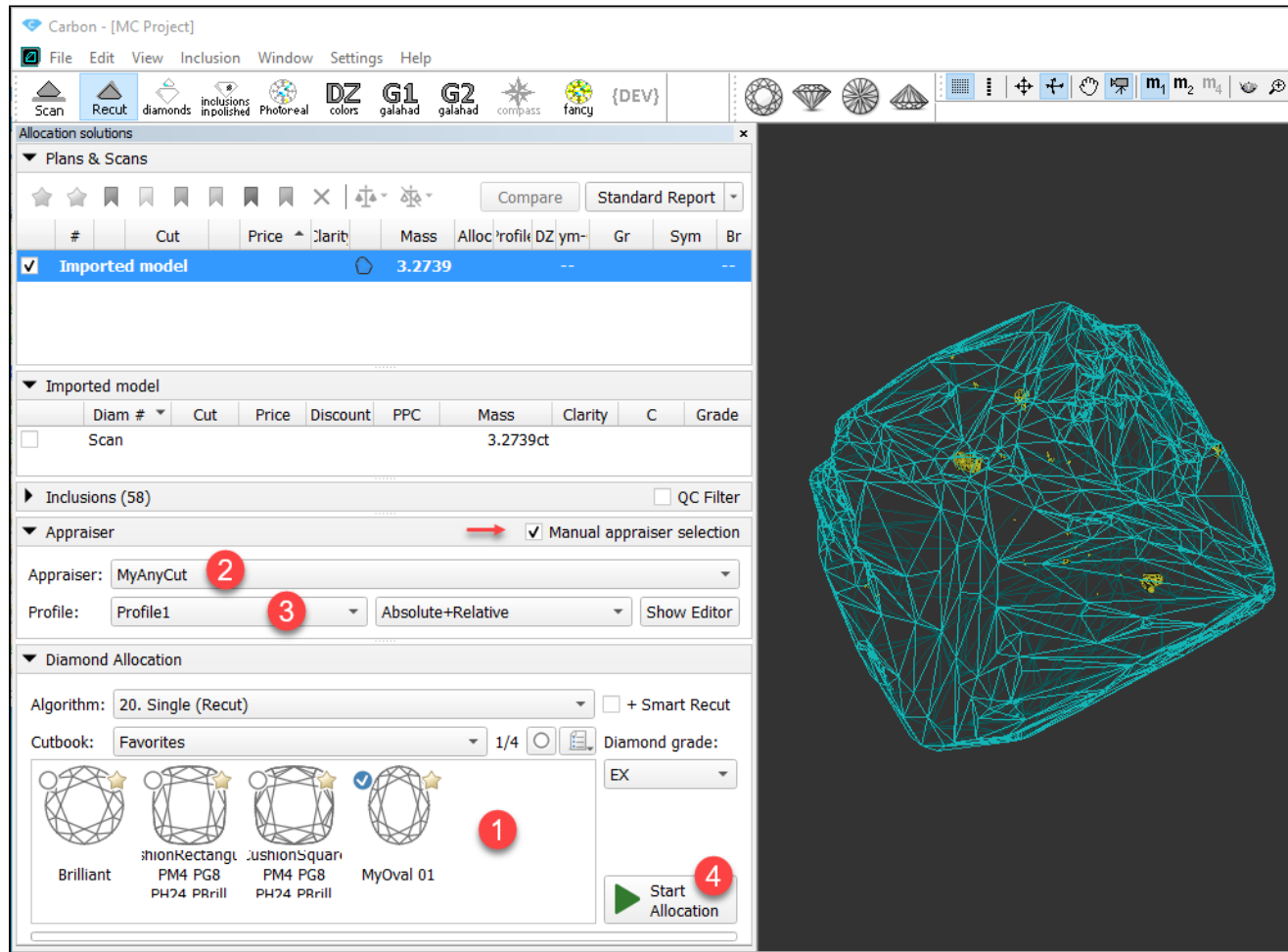
To switch back to the automatic appraiser selection, deselect the checkbox.

Cushion cuts of Goodwin type - check of allocation forms

For some cuts, the Goodwin cut engine is applied. At the moment they are the cushion appraisers:

- "CushionRectangular_PM4_PG8_PH24_PBrill_C32"
- "CushionSquare_PM4_PG8_PH24_PBrill_C32"

There are some limitations to allocation forms of such cuts:

- "4+ facets" limitation:

    - "4+" facet is a facet with 4 or more vertexes (junctions are the most common reason for the triangle facets to become "4+").
    - Goodwin checks every vertex of the model.
    - At each vertex, only 3 or fewer "4+" facets should converge.

> ⚠️ Table, culet, and facets of the girdle are not taken into account.
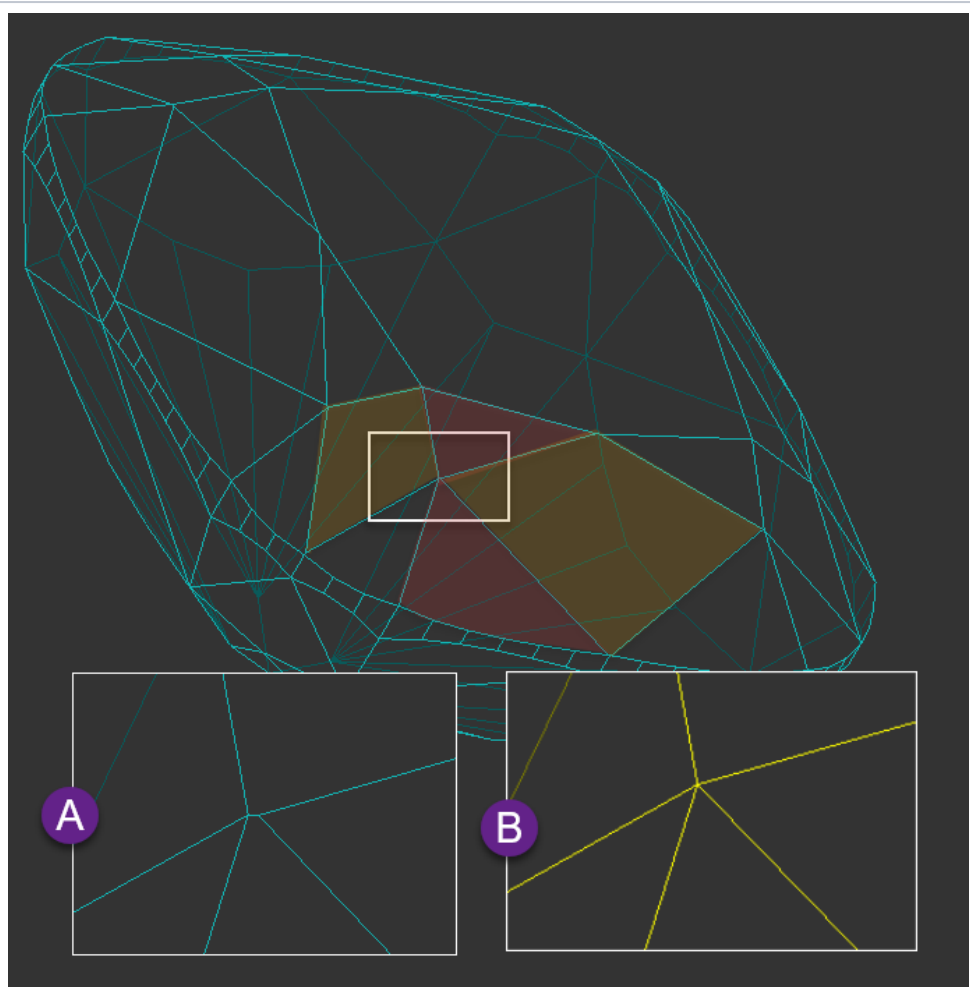
- A - before Smart Normalize
- B - after Smart Normilize
- Yellow facets have 4 vertexes
- Red facets have: 4 vertexes before SN, 3 vertexes after SN

Thus:

- before SN, at the center vertex, 4 facets with 4 vertexes converge - not good for Goodwin
- after SN, at the center vertex, 2 facets with 4 vertexes converge - good for Goodwin

- Facet types should not have serious errors (like some of the facets on the pavilion marked as the crown facets).

If these conditions are not met, the **Show allocation forms in solution list** command does not display the "wrong" forms in the list and *such forms do not produce any solutions*.

What's new?

Now the additional checks are added to the system when trying to add forms to Goodwin cuts. If these checks are not passed, the form is not added, the notification window is displayed:
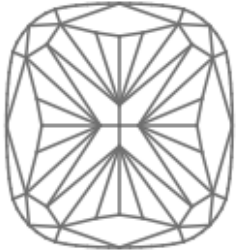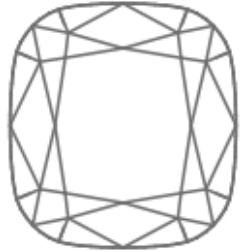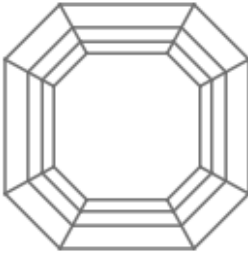
Or (for already normalized forms):
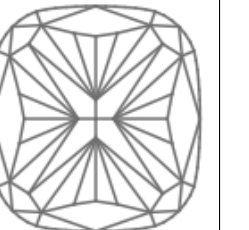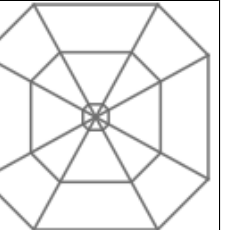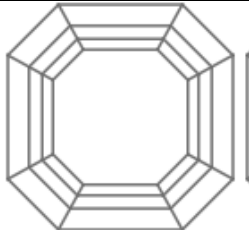
New report - Semipolish

A new report is added to the system - the *Semipolish Report*. It allows controlling (both visually and via parameter values) a table polishing process.

To access the report:

1. Select the solution.
2. On the right panel, click **Semipolish Report**. The report is displayed in the Scene.
3. If you select another solution, the report is updated to display information related to it.

The report includes:

1. Main parameters of a solution.
2. Table processing parameters.
3. Safe line parameters.
4. Image with the angles of the main facets on the pavilion.
5. Image with the angles of the main facets on the crown.
6. Image reflecting the process of polishing a table (angle 1).
7. Image reflecting the process of polishing a table (angle 2).
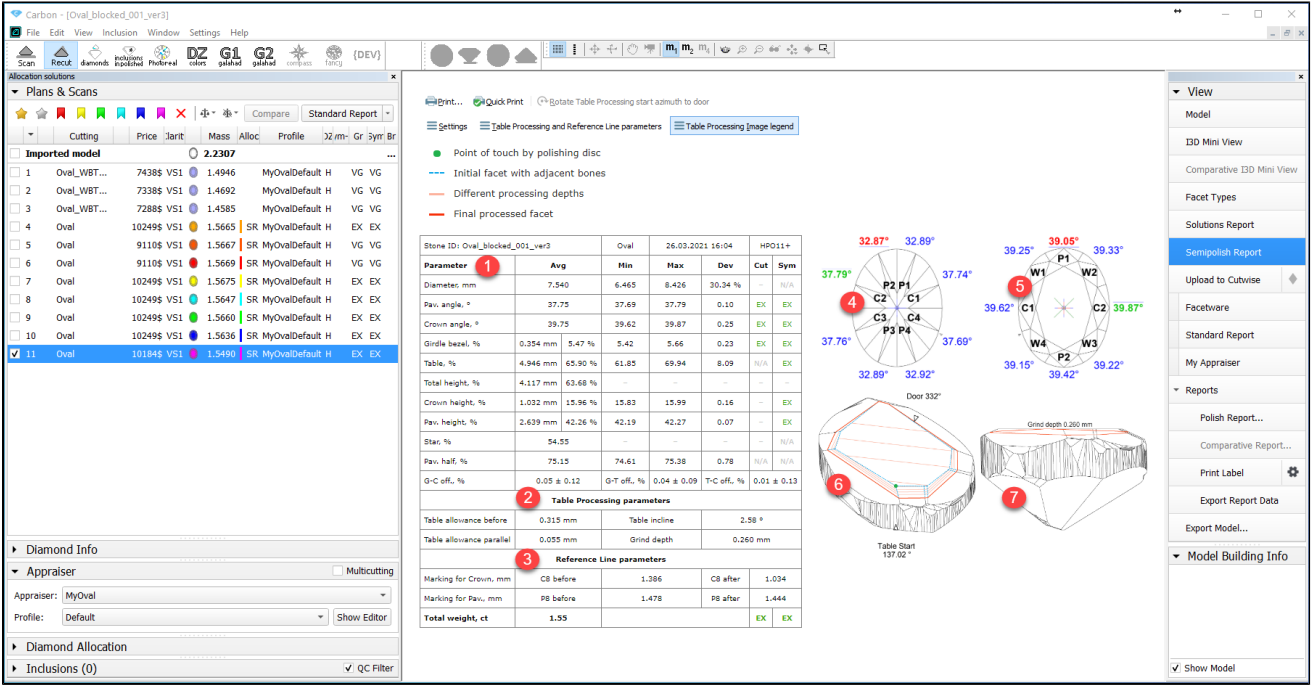
The images (6-7) reflecting the process of polishing a table includes information about:

- Poing of touch by polishing disc
- Positions of different planes related to polishing
- Door azimuth
- The azimuth of the table polishing start point.
- The **Grind depth** table processing parameter (see description here).
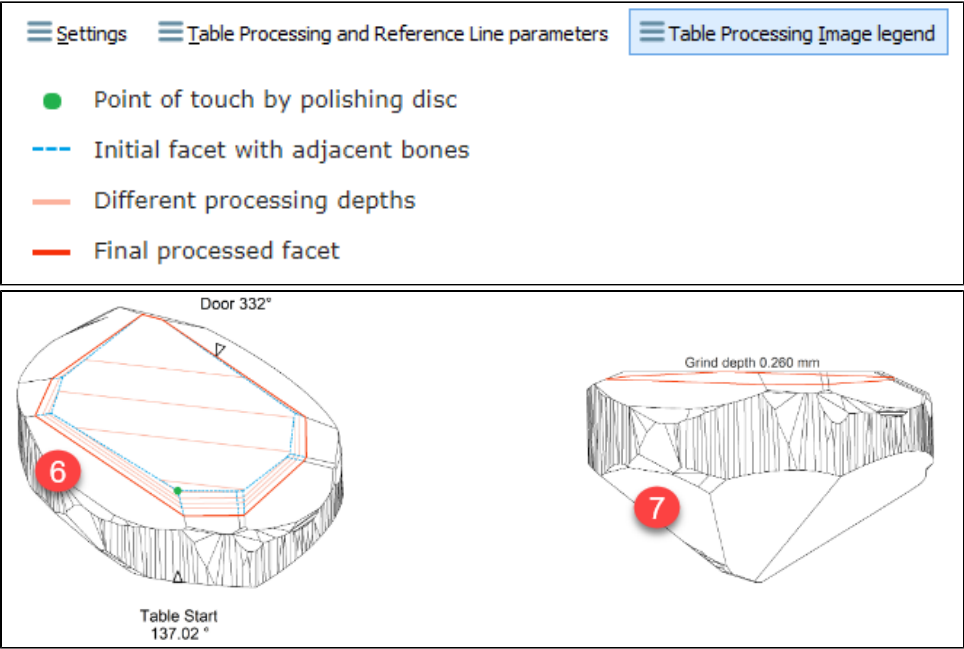
The report includes the **Rotate Table processing start azimuth to door** control (active if the hardware is connected).
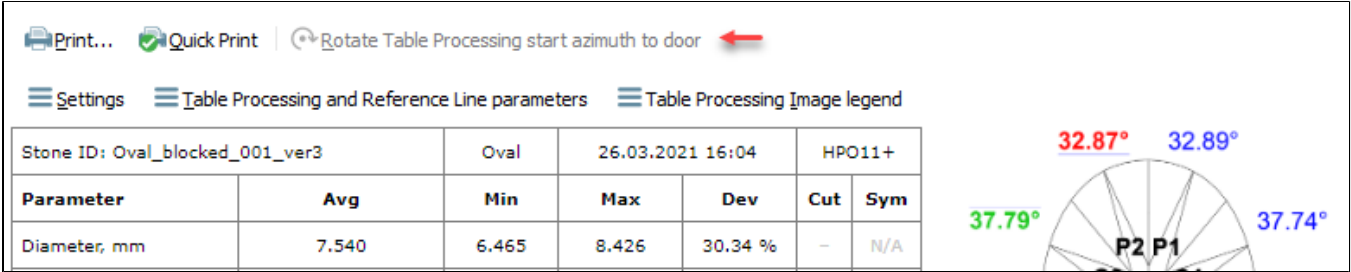
To access report settings and reference information, at the top of the report, click **Settings**, **Table Processing and Reference Line Parameters**, **Table Processing Image Legend**. On click, the corresponding section is displayed

Also, click **Table Processing and Reference Line parameters** to view the brief description of parameters.

Table Processing and Reference Line parameters documentation

To hide the displayed information, click the corresponding button again.

Appraiser for Brilliant - Changes in Profiles and Presets

For the "GIA Facetware + MyRound" appraiser (linked to the Brilliant cut), some changes were made in profiles and presets.

Profiles General Description

The general idea of each profile is presented in the table:

	Profile	
1	Max	Profile with as wide boundaries as possible (for Cut and Symmetry). Provides maximum mass within GIA EX.
2	ModernCut	Recommended profile. Provides solutions reflecting the current market preferences not reflected in GIA. Narrower than Max.
3	Commercial	In correspondence with solutions of large Indian companies. Narrower than ModernCut.
4	H&A	Creating Hearts & Arrows solutions. Narrow Symmetry and SweetLine, somewhat narrowed by Cut. Narrower than Commercial.
5	H&A 5ct+	Hearts & Arrows solutions for large stones. Narrower than H&A.

Purposes

For profiles:

1. Each next profile should be *narrower than the previous* (see table above). Previously, this logic was not fully supported.
2. Scanned stones should not go outside the EX grade where possible. Previously this happened often.

For presets:

1. The widest preset of each next profile (see table above) should be approximately the same as the narrowest of the previous.

⚠

> ⚠️ #2-3 (ModerCut and Commercial) have a specific place in this logic: **both of them** intersect with their ends with Max and H&A and in most aspects intersect with each other

2. ModernCut and Commercial should provide the maximum range: presets for presenting some from Max - presets for in-between - presets presenting some from H&A (see table below).

1. Max	1X.UltraSym	2X.HighSym	3X.MediumSym	4X.NormalSym	5X.Standard	6X.LowSym	7X.ExtendedLimits	8X.MaxMass
2. ModernCut	1M.H&A	2M.UltraSym	3M.HighSym	4M.MediumSym	5M.NormalSym	6M.Standard	7M.LowSym	8M.MaxMass
3. Commercial	1C.H&A	2C.H&A	3C.UltraSym	4C.HighSym	5C.MediumSym	6C.NormalSym	7C.LowSym	8C.MaxMass
4. H&A	1.H&A	2.H&A	3.H&A	4.H&A	5.H&A	6.H&A	7.H&A	8.H&A
5. H&A 5ct+	1.H&A5ct	2.H&A5ct	3.H&A5ct	4.H&A5ct	5.H&A5ct	6.H&A5ct	7.H&A5ct	8.H&A5ct

* General idea: presets with the same names give similar results.
* Where names repeat, highlighted shows correspondence.

Changes

For purposes "Profiles #1 - Each next profile should be narrower than the previous" and "Presets #1 - The widest profiles of each next profile (see table above) should be approximately the same as the narrowest of the previous":

1. In ModernCut, all that was narrower than Commercial was widened.
2. In H&A and H&A 5ct+, all that was wider than Commercial was narrowed.

For purpose "Profiles #2 - Scanned stones should not go outside the EX grade where possible:

1. For ModernCut and H&A, **Culet** is widened to 0.5 (as in Commercial). Done because the real culet of scanned stones is in this range. Later narrowed by presets.
2. For ModernCut and H&A, **HeightGirdleExtraFacet** is widened to 3 (as in Commercial). Done because the real girdle extra facets of scanned stone have heights in this range. Later narrowed by presets.
3. **GirdleBoneLocal**, **GirdleBezelLocal**, **GirdleValleyLocal** are widened for the same reason. Later narrowed by presets.
4. In the H&A, H&A 5ct+ for Symmetry the same values as for Commercial will be used.
5. In all profiles, except Max, Roundness parameters (22_5, 45, 90) were widened to 0,7, 0,8, 0,9 which keeps scanned stones in EX grade, but still meets GIA requirements.
6. Roundness 11_25 was added for large diamonds (see "New Parameter - Roundness at 11.25°" section of this documentation".

For purpose "Presets #2 - ModernCut and Commercial should provide the maximum range":

1. In ModernCut, a new preset is added - "1M.H&A" (corresponds to "6.H&A", see table above). It replaced the "7.ExtendedLimits".
2. In Commercial, 2 new presets are added - "1C.H&A" and "2C.H&A" (correspond to "6.H&A", "7.H&A", see table above). They replaced "5.Standard" and "7.ExtendedLimits".

Results

The table below describes changes and results.

	Profile	
1	Max	There is no significant difference.
2	Modern Cut	The range of masses provided by the profile is widened (the maximum mass increased due to parameters widening, the minimum mass decreased due to more symmetrical presets).
3	Commercial	The range of masses provided by the profile is widened (the maximum mass did not change, the minimum mass decreased due to more symmetrical presets).
4	H&A	The masses provided by the profile slightly decreased. The main input to the mass decrease is provided by the narrowing of Girdle Bezel and Valley parameters. Previously for Girdle Bezel, the boundaries were 2.25-4.75, Girdle Valley 0.75-2.94 (that is equal to Max profile). Now Girdle Bezel is 2.9-4.2, Girdle Valley is 1.35-2.4. These changes are considered reasonable as the profile is not going to be used to produce solutions too close to GIA boundaries.
5	H&A 5ct+	The same as for H&A.

Additional Minor Changes

Additionally, the order of profiles within the appraiser changed:

The new order is in accordance with the **frequency of use** in enterprises.

⚠ Work on the panel improvement is in progress.

Brilliant Cut - Viewing Allocation Forms

Viewing of the **cut's allocation forms** previously available only for *in-house cuts* (see the **Show allocation forms in solution list** command description in In-house cut registration), now is also available for the default Brilliant cut.
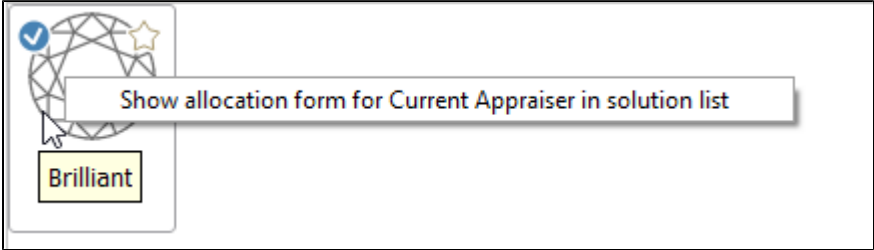
- Right-click the Brilliant cut and then select **Show allocation form for Current Appraiser in solution list**. Allocation forms will be displayed in the solution list.
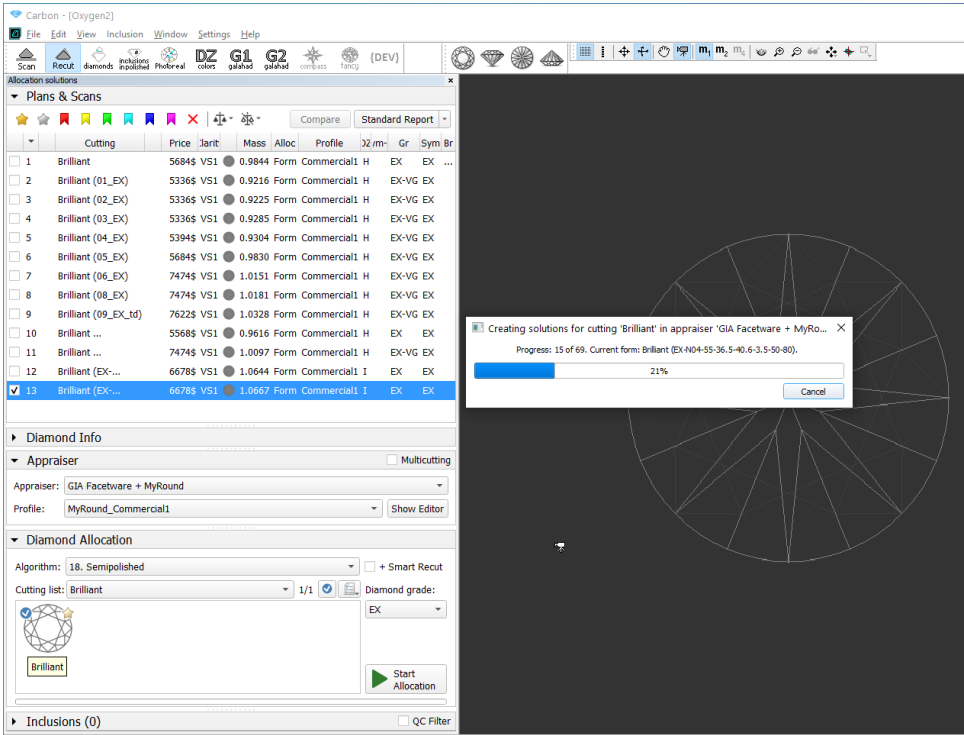
Note that for the Brilliant cut this command considers the *current appraiser* - before using the command, the appropriate appraiser should be selected. The reason is that several appraisers may be able to work with default cuts - each with its own set of allocation forms. Therefore the allocation forms for the default cuts (including Brilliant) are stored within the appraisers. If you do not select the correct appraiser (the one containing the allocation forms for this cut, the command will be unavailable:

Command unavailable - "greyed out" and not clickable

⚠ The displayed forms are copies. If you make some changes to them, this will not affect the initial copies actually assigned to the cut.

Still, via the context menu you are able to:

- **Add as allocation form to another cut...**
- **Register as new cut...**

It is impossible to remove allocation forms from the Brilliant cut.

New Algorithm - MEC for Round Bruting

⚠ This functionality is designed to work with the Brilliant cut.

A diamond bruting machine used in a round Brilliant cutting process is only able to produce a vertical girdle of a round shape. For calculation of the correct position of a stone in a bruting machine and a bruting radius, HP Carbon needs to find a cylinder circumscribed around a selected solution. This is now can be done by a new algorithm - "20. MEC for round bruting".

To use the algorithm, first allocate your solutions via Recut > Smart Recut, then:

1. Select the solution.
2. Set **Algorithm** to "20. MEC for round bruting".
3. Run allocation. As allocation is finished, in the solution list, the new model representing a bruting radius is displayed.
4. In the solution list, select this solution.

5. From the main menu, select **File** > **Export** > **MME for EOS bruting...** Set name and location for your MME model file.
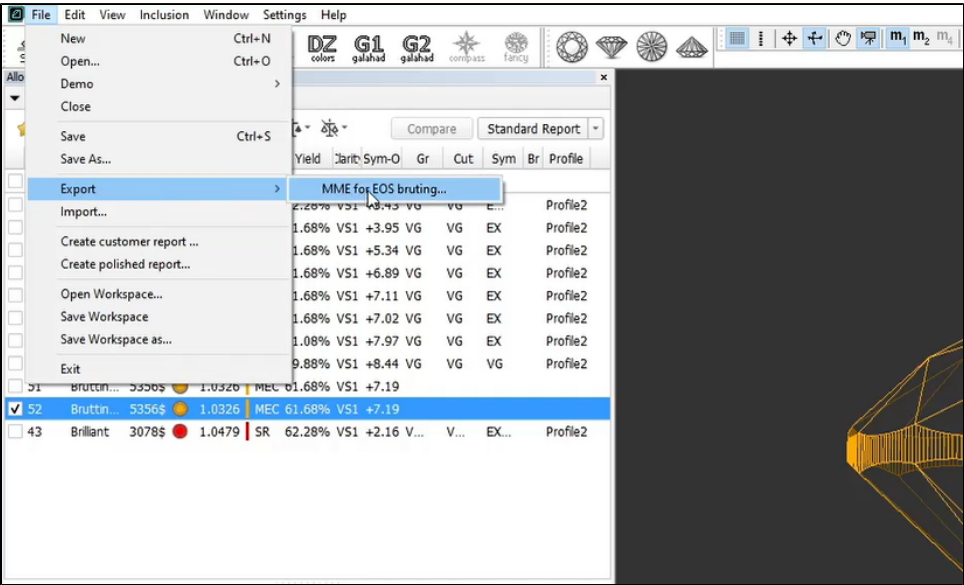
6. In your bruting software, use the created MME model.

User interface - changes in element names and behavior

General name changes

To better match modern brilliant processing, some elements of the user interface were renamed:

Old Term	New Term	Old Name in User Interface	New Name in User Interface
Cutting	Cut	All elements containing "Cutting"	Now contain "Cut"
		Cutting list	**Cutbook**
		Scan mode > **Cutting & Method**	**Scan** mode > **Cut & Method**
Client cutting, user cutting	In-house cut	**Cutting list** = "Client Cuttings"	**Cutbook** = "In-house Cuts"
Facet marking	Facet types	Right panel > **Facet Marking**	Right panel > **Facet Types**

Facet Marking Rename to Facet Types

For more compliance with the system usage practices, the *Facet Marking* feature is renamed to *Facet Types.*

Was	Now
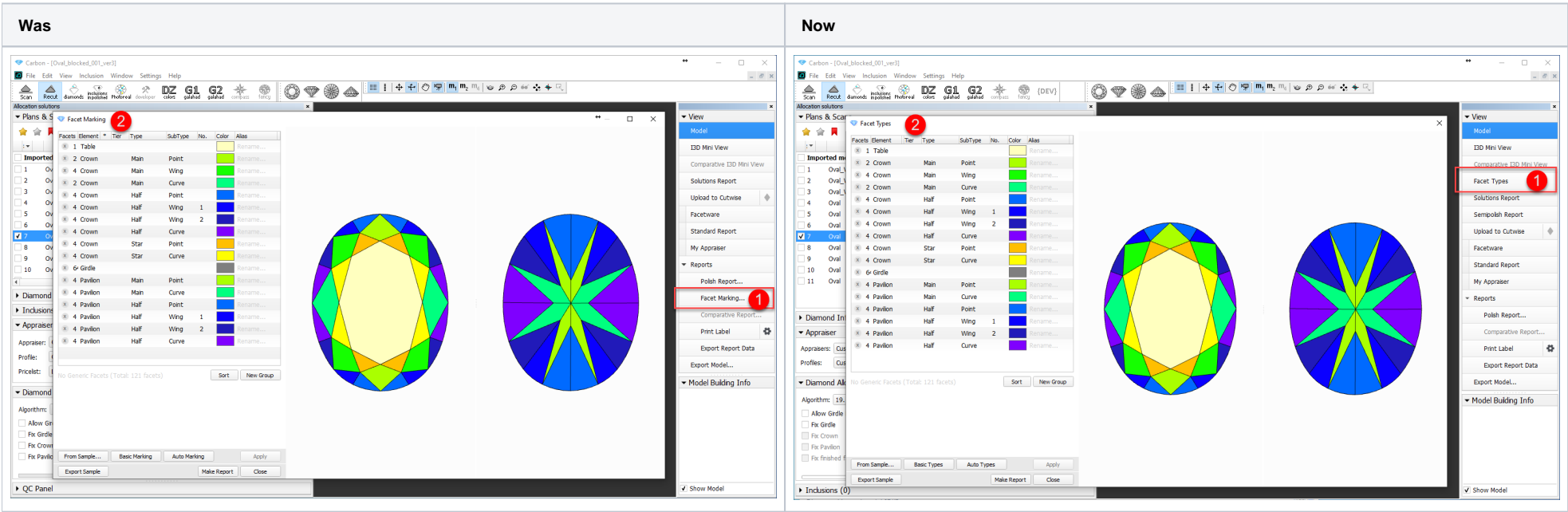
Allocation Solution Panel - Behavior and Order of Sections

For the **Recut** mode, the order of sections on the left panel was changed:

Was	Now

What was changed:

- order of sections (**Inclusions** moved up);
- **Inclusions** panel unified with the QC Filter (for details, see the sub-section below);
- default sizes for the sections (you do not need to resize panels as often as previously);
- **Diamond Info** unification and automatic name change (for details, see the sub-section below)

Inclusions Panel with QC Filter

The **Inclusions** panel lists diamond inclusions and allows users to manage them. Previously, the system also included a separate **QC Panel** used for inclusions filtering. To provide a more comfortable way of working with inclusions, these two panels are combined - the QC filter is included in the **Inclusions** panel and, if activated, affects the list of displayed inclusions.

Was	Now
Applying filter in the **QC Panel** affected what was displayed in the Scene, but did not affect the **Inclusions** panel.	Panels are combined. When activating the QC filter, the inclusions are filtered both in the Scene and in the **Inclusions** panel itself which makes it easier to locate and select the required inclusions.

Diamond Info Panel Unification

To avoid duplication of information, the **Diamond Info** panel information was merged into the **Diamonds** panel:

Now all the detailed information about the selected scan/solution you can find in a unified detailed information section. The section name dynamically changes to **Scan Name/Solution Nube**r (like "Imported Model", "Plan 1", "Plan 2"):

Applying Facet Types from Sample - Improved

The *apply facet types from sample* functionality introduced in the previous release have been improved. The major changes are:

- Facet Marking is renamed to Facet Types
- Grades are added to the solution list
- Grades are added to reports

The overview of how to work with the updated facet types apply from sample functionality is presented in the video below:

Video | Facet Types - Applying from Sample				
Published:	2021, April 16	**Last Updated:**	2021, March 29	**v.2.1**
Your browser does not support the HTML5 video element				
Video summary: - The same parameter of a stone can be graded differently depending on how the Facet Types of cutting for this stone are defined. - Therefore, if you control Facet Types, in some cases you control the cut grade. - You can control the Facet Types of the scanned or rebuilt model by using your own model as a sample. - Set the desired Facet Types for your sample, then use this sample during scanning or rebuild and the Facet Types will be automatically transferred from the sample to the created model.				
Video keywords: cut grade, facet types, sample				
Published in:	**Release Notes**	2021-07-30 - HP Carbon 1.2.95		
	Documentation	NA		
	Playlists	NA		
	Also	As Separate Page | Specification		

Angle between Neighboring Facets

Some changes were made for the AdjacentFacetsAnglesEveryMin parameter, allowing Smart Recut to set limitations for the angles between neighboring facets.

Adjusted Default Values

To provide better results by default, the initial values for the AdjacentFacetsAnglesEveryMin parameter were adjusted for the "MyAnyCut" appraiser.

	1.AllNarrow	2.VerticesNa	3.AnglesNar	4.GirdleNarr	5.GirdleWide	6.AnglesWic	7.VerticesWi	8.AllWidene
Was	1	-	0,7	-	1	-	0,7	-
Now	3	-	2	-	3	-	2	-

Note: table continues with columns 5-8 values:
Was: 0,7 - | 0,5 - | 0,7 - | 0,5 -
Now: 2 - | 1 - | 2 - | 1 -

Adding to MyOval Appraiser

The AdjacentFacetsAnglesEveryMin parameter previously was available only within the "MyAnyCut" appraiser - now it is also available in the presets of "MyOval" and "MyOvalPerformanceWare" appraisers.

Adding to SmartNormalize

The AdjacentFacetsAnglesEveryMin parameter is also added to the presets of the "19. SmartNormalize" and "19. SmartNormalizeLite" algorithms.

Appraiser Editor — MyOval, Profile: Default (read only) — Cut tab

Parameter	[FR	[GD	[VG	[EX	EX]	VG]	GD]	FR]	1.UltraSym	2.HighSym	3.MediumSy	4.NormalSy	5.Standard	6.LowSym	7.ExtendedL	8.MaxMass
GirdleRatio	1,2	1,2	1,2	1,25	1,75	1,8	1,8	1,8	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
TableGirdleSimilarity	0	0	0	0	15	17,5	20	20	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
SquareDeviation	-10	-5	-3	0	6	8	10	14	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
GirdleShape_Flexure	-6	-4	-3	-2	2	3	4	6	0 0,5	0,25 0,5	0,25 0,5	0,5 0,5	0 0,5	0,25 0,5	0,25 0,5	0,5 0,5
Table	50	50	52	54	63,5	65	66	66	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
CrownAngle	29	29,5	30	31	40	46	50	51	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
CrownSlopeDeltaCW	-1,5	-1	-0,5	0	3	4,5	6	7,5	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
CrownSlopeDeltaWP	-1,5	-1	-0,5	0	3	4,5	6	7,5	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
CrownHeight	10	11	11,5	12	16	16,5	17	18	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
PavilionAngle	34	34,5	35	37,5	40,5	42	42,5	43	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
PavilionHeight	35	36	36,5	39	44,5	46,5	47,5	48,5	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
GirdleBezel	1,5	2	2,2	2,5	5,5	6,5	8	10	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
LowerGirdleDepth	70	72	76	78	82	84	86	90	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
TotalHeight	51,5	52,5	56,5	58	64,5	65	65,5	66,5	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
StarHeight	17	22	25	27	35	37	40	45	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
StarLength	30	35	40	45	55	60	65	70	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
Culet_mm	0	0	0	0	0,03	0,09	0,4	0,8	- 0,5	- 1	- 1	- 1	- 1	- 1	- 1	1
SweetLine	-9	-6	-3	-1,5	1,5	3	6	9	1 1	1 1	1 1	1 1	1 1	1 1	1 1	1
AdjacentFacetsAnglesEveryMin									3 -	3 -	3 -	3 -	3 -	3 -	3 -	3

Carbon - [Oval_blocked_001_ver3] — Diamond Allocation, Algorithm: 19. SmartNormalize — Appraiser Editor (Other tab)

Parameter	Grade	Value	1.High	2.Med	3.Low	4.Micr	5.High	6.Med	7.Low	8.Micr
Shift			5	3	3	3	5	3	1	1
TimeLimit			2	2	2	2	2	2	2	2
SquareLimit			5	5	5	5	5	5	5	5
DistanceLimit			50	40	25	5	50	40	25	5
EquableGirdle			20	20	10	1	20	20	10	1
Custom Facet Marking			1	1	1	1	0	0	0	0
SymmetryCoeff			100	10	1	1	100	10	1	1
AdjacentFacetsAnglesEveryMin			1	1	1	1	1	1	1	1

Polish Report Templates

Cushion Reports - Tier Information

For the Cushion reports, the "Tier" information is added:

Was	Now

The Polish Illustrated HTML, RTF, and Standard Report templates for Cushion and Square Cushion are affected.

Cushion Reports - Grade Information

For the Cushion reports, the grades information is added:

Was	Now

Left table

Parameter	Avg	Min	Max	Dev	1	2	3	4
Crown height, %	14.89	14.89	14.89	0.00	14.89	14.89	N/A	N/A
Crown Width height, %	14.89	14.89	14.89	0.00	14.89	14.89	–	–
Crown Length height, %	15.10	15.10	15.10	0.00	15.10	15.10	–	–
Crn Main Width height, %	14.89	14.89	14.89	0.00	14.89	14.89		
Crn Main Length height, %	15.10	15.10	15.10	0.00	15.10	15.10	–	–
Crown Corner height, %	15.04	15.03	15.04	0.01	15.04	15.03	15.04	15.04
Pavilion height, %	48.17	48.17	48.17	0.00	48.17	48.17	N/A	N/A
Pavilion Width height, %	48.17	48.17	48.17	0.00	48.17	48.17	–	–
Pavilion Length height, %	47.63	47.63	47.63	0.00	47.63	47.63	–	–
Pav Main Width height, %	25.43	25.43	25.43	0.00	25.43	25.43	–	–
Pav Main Length height, %	23.26	23.26	23.26	0.00	23.26	23.26	–	–
Pavilion Corner height, %	47.49	47.48	47.49	0.00	47.49	47.48	47.49	47.49
Pavilion 2 Main height, %	30.12	30.12	30.12	0.00	30.12	30.12	30.12	30.12
Table: Side, %	62.61	61.18	64.05	2.87	61.18	64.05	–	–
Table: Corner w.r.t. Corner, %	65.39	65.39	65.39	0.00	65.39	65.39	–	–
Table: Corner w.r.t. Width, %	78.34	78.34	78.34	0.00	78.34	78.34	–	–
Diameter: Corner, %	119.79	119.79	119.79	0.00	119.79	119.79	–	–
Crown Star Length, %:	50.89	50.89	50.89	0.00	–	–	–	–
Crown Star Width, %	51.13	51.13	51.13	0.00	–	–	–	–
Girdle thickness, %	4.54	4.54	4.54	0.00	–	–	–	–
Culet, %	0.00	0.00	0.00	0.00	–	–	–	–
Crown angle, °	37.47	37.47	37.47	0.00	37.47	37.47	–	–
Crown Main angle, °	37.47	37.47	37.47	0.00	37.47	37.47	N/A	N/A
Crn Main Width angle, °	37.47	37.47	37.47	0.00	37.47	37.47	–	–
Crn Main Length angle, °	38.39	38.39	38.39	0.00	38.39	38.39	–	–
Crown Corner angle, °	35.91	35.91	35.91	0.00	35.91	35.91	35.91	35.91
Crn Star Width angle, °	25.23	25.23	25.23	0.00	25.23	25.23	25.23	25.23
Crn Star Length angle, °	25.64	25.64	25.64	0.00	25.64	25.64	25.64	25.64
Pavilion angle, °	32.56	32.46	32.65	0.19	32.46	32.59	32.65	32.53
Pav Main Width angle, °	57.90	57.69	58.11	0.42	57.69	58.11	–	–
Pav Main Length angle, °	55.69	55.58	55.80	0.22	55.58	55.80	–	–
Pavilion Corner angle, °	53.87	53.65	54.08	0.43	53.65	53.93	54.08	53.80
Pavilion 2 Main angle, °	32.56	32.46	32.65	0.19	32.46	32.59	32.65	32.53

Girdle thickness, %	Type	Avg	Min	Max	Dev	1	2	3	4
G. th. Width	red	4.54	4.54	4.54	0.00	4.54	4.54	–	–
G. th. Length	red	4.87	4.87	4.87	0.00	4.87	4.87	–	–
G. th. Width	red	5.08	5.07	5.08	0.01	5.07	5.08	5.08	5.07
G. th. Width	green	3.59	3.58	3.61	0.03	3.61	3.58	3.58	3.61
G. th. Length	red	3.94	3.94	3.95	0.01	3.95	3.95	3.94	3.94
G. th. Corner width	green	4.41	4.40	4.43	0.03	4.43	4.40	4.40	4.40
G. th. Corner length	green	4.40	4.39	4.41	0.02	4.41	4.40	4.39	4.40
G. th. Width	yellow	7.14	7.12	7.15	0.03	7.14	7.15	7.15	7.12
G. th. Length	yellow	7.51	7.49	7.53	0.04	7.50	7.53	7.52	7.49

Right table

Parameter	Avg	Min	Max	Dev	1	2	3	4	Cut	Sym
Girdle Ratio (L\W)	1.083	–	–	–	–	–	–	–	EX	–
Total height, %	67.45	–	–	–	–	–	–	–	EX	–
Crown height, %	13.73	13.73	13.73	0.00	13.73	13.73	N/A	N/A	EX	–
Crown height Width, %	13.73	13.73	13.73	0.00	13.73	13.73	–	–	–	–
Crown height Length, %	13.34	13.34	13.34	0.00	13.34	13.34	–	–	–	–
Crown height Corner, %	13.59	13.58	13.59	0.00	13.59	13.59	13.59	13.58	–	–
Crn Main Width height, %	13.73	13.73	13.73	0.00	13.73	13.73	–	–	–	–
Crn Main Length height, %	13.34	13.34	13.34	0.00	13.34	13.34	–	–	–	–
Pavilion height, %	49.96	49.96	49.96	0.00	49.96	49.96	N/A	N/A	EX	–
Pavilion height Width, %	49.96	49.96	49.96	0.00	49.96	49.96	–	–	–	–
Pavilion height Length, %	50.27	50.27	50.27	0.00	50.27	50.27	–	–	–	–
Pavilion height Corner, %	49.59	49.59	49.59	0.00	49.59	49.59	49.59	49.59	–	–
Pav 1 Main Width height, %	28.51	28.51	28.51	0.00	28.51	28.51	–	–	–	–
Pav 1 Main Length height, %	25.61	25.61	25.62	0.00	25.61	25.62	–	–	–	–
Pavilion 2 Main height, %	30.63	30.63	30.63	0.00	30.63	30.63	30.63	30.63	–	–
Table: Side, %	65.12	63.00	67.24	4.24	63.00	67.24	–	–	EX	–
Table: Corn. w.r.t. Corn., %	69.51	69.51	69.51	0.00	69.51	69.51	–	–	–	–
Table: Corn. w.r.t. Width, %	83.88	83.88	83.88	0.00	83.88	83.88	–	–	–	–
Diameter: Corner, %	120.68	120.68	120.68	0.00	120.68	120.68	–	–	–	–
Crown Star Length, %:	50.75	50.75	50.76	0.01	–	–	–	–	–	–
Crown Star Width, %	49.32	49.32	49.33	0.00	–	–	–	–	–	–
Girdle thickness, %	3.76	3.76	3.76	0.00	–	–	–	–	EX	–
Culet, %	0.00	0.00	0.00	0.00	–	–	–	–	–	–
Crown angle, °	36.57	36.57	36.57	0.00	36.57	36.57	–	–	–	–
Crown Main angle, °	36.57	36.57	36.57	0.00	36.57	36.57	N/A	N/A	–	–
Crn Main Width angle, °	36.57	36.57	36.57	0.00	36.57	36.57	–	–	EX	EX
Crn Main Length angle, °	36.96	36.96	36.96	0.00	36.96	36.96	–	–	EX	EX
Crown Corner angle, °	36.54	36.54	36.54	0.00	36.54	36.54	36.54	36.54	–	–
Crn Star Width angle, °	24.35	24.35	24.35	0.00	24.35	24.35	24.35	24.35	–	–
Crn Star Length angle, °	23.96	23.96	23.96	0.00	23.96	23.96	23.96	23.96	–	–
Pavilion angle, °	33.40	33.40	33.40	0.00	33.40	33.40	33.40	33.40	–	–
Pav 1 Main Width angle, °	60.08	60.08	60.08	0.00	60.08	60.08	–	–	EX	EX
Pav 1 Main Length angle, °	58.18	58.18	58.18	0.00	58.18	58.18	–	–	EX	EX
Pavilion 1 Corner angle, °	54.05	54.05	54.05	0.00	54.05	54.05	54.05	54.05	–	–
Pavilion 2 Main angle, °	33.40	33.40	33.40	0.00	33.40	33.40	33.40	33.40	EX	EX

Girdle thickness, %	Type	Avg	Min	Max	Dev	1	2	3	4	Cut	Sym
G. th. Width	red	3.76	3.76	3.76	0.00	3.76	3.76	–	–	–	–
G. th. Length	red	3.84	3.84	3.84	0.00	3.84	3.84	–	–	–	–
G. th. Width	red	4.28	4.27	4.28	0.00	4.27	4.27	4.28	4.28	–	–
G. th. Width	green	2.67	2.67	2.67	0.00	2.67	2.67	2.67	2.67	–	–
G. th. Length	green	2.98	2.98	2.98	0.00	2.98	2.98	2.98	2.98	–	–
G. th. Corner width	green	2.63	2.63	2.63	0.00	2.63	2.63	2.63	2.63	–	–
G. th. Corner length	green	2.86	2.86	2.86	0.00	2.86	2.86	2.86	2.86	–	–
G. th. Width	yellow	6.08	6.08	6.08	0.00	6.08	6.08	6.08	6.08	–	–
G. th. Length	yellow	6.50	6.50	6.50	0.00	6.50	6.50	6.50	6.50	–	–

The Polish Illustrated HTML and Standard Report for Cushion and Square Cushion are affected.
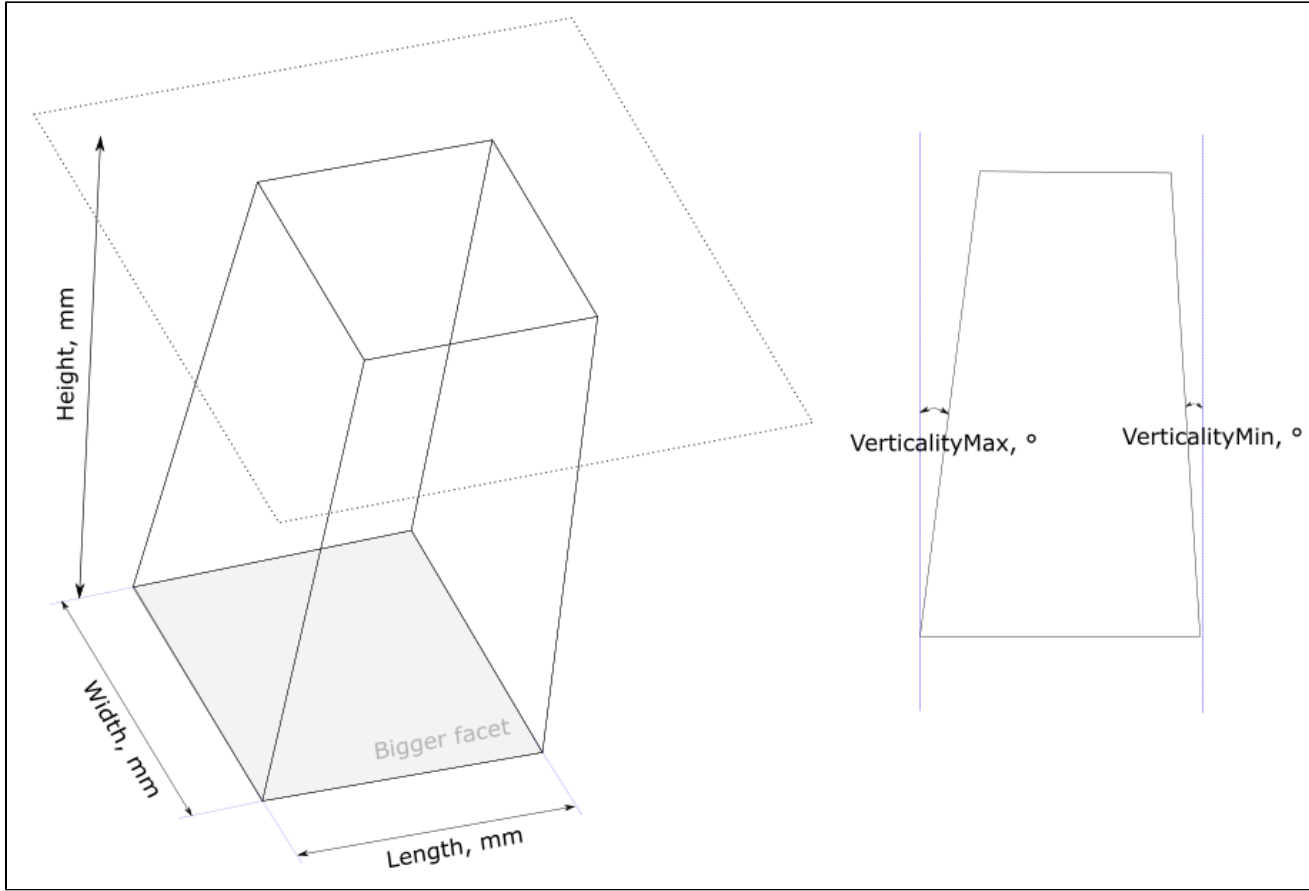
Appraiser for Trapezoid-Like Objects

You can now quickly estimate the trapezoid-like objects of the "Industrial24" standard. To do this, use the new "Industrial24" appraiser.
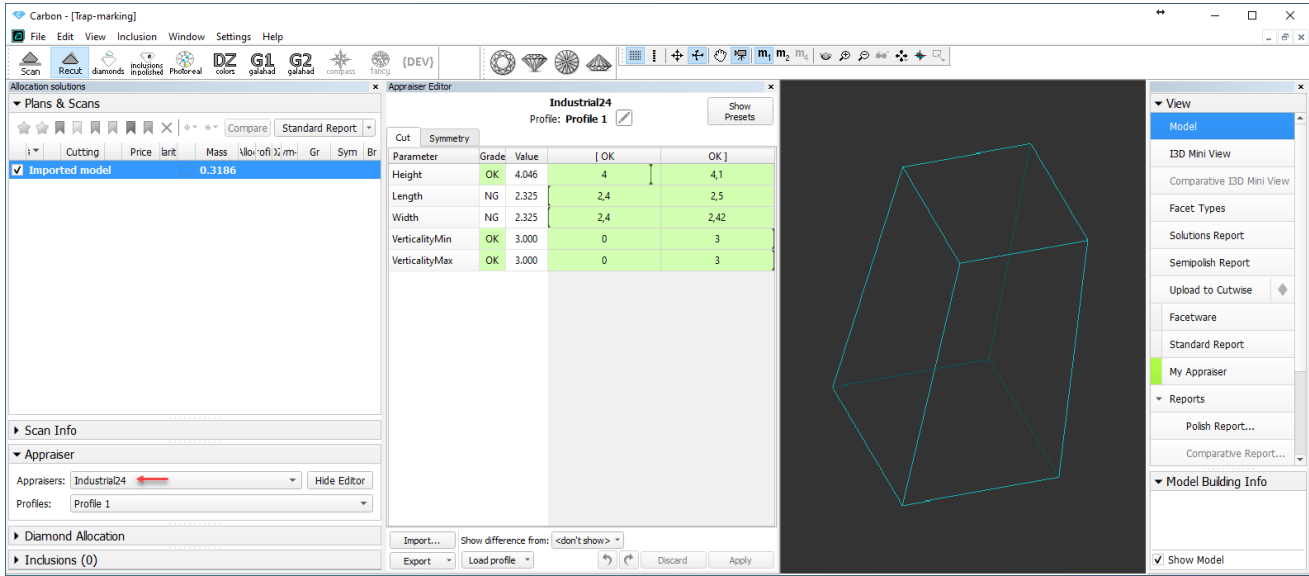
The "Industrial24" standard is aimed to produce:

- Width-Length of bigger facet close to 2.4 mm
- Height close to 4 mm
- Max and Min incline angles no more than 3°

Currently, the following grades are available for important parameters:

- OK - parameter is within boundaries
- NG ("NEGATIVE") - outside the boundaries

Smart Recut - Running for Both Diamonds in Multi-Diamond Solutions

Previously, when using the 13. Cascade-2M algorithm with the **+ Smart Recut** option, you obtained a *smart recut* solution only for the larger of two diamonds - the smaller diamond was a *recut solution*. Now you automatically obtain the smart recut solutions for both diamonds.

Smart Recut will be launched only for two best (by price) Recut solutions and only for "gold star" SR presets. Thus, there will be 2 solutions with SR. For details about gold stars, refer to the **"Gold Stars" Configuring** section of this release notes.

New Parameter - Roundness at 11.25°

On large diamonds, the difference in radius is especially noticeable within a small segment. To put this difference under the additional control, the new Roundness parameter is added - now it is additionally estimated at any selected 11.25° sector (previously the smallest segment was 15°).

> ⚠️ **Note**
>
> Unlike the other Roundness parameters measured in %(diameter), this parameter is measured in millimeters (mm).

Appraiser	GIA Facetware + MyRound
Tab	Symmetry
Parameter Name	2RRoundnessMM11_25
Units	mm

Automatic Actions - Post-Scan STL Export

Now you can configure the system so that after the stone scan the obtained model will be automatically exported to STL format:

1. Select **Settings** > **General Settings**.
2. In the **Automatic Actions** section, click the **Post-Scan Export** tab.
3. Enable **STL text**, **STL binary,** or both, and set save locations for them.
4. Click **OK**.

DZ Color Estimate

Solution Sorting

Previously, after running the DZ Color Estimate feature, in the estimation result window, the solutions were sorted in the same way as they were sorted in the solution list before running estimation. Because of that, this could be difficult to find solutions with *the best prices*: even if before color estimation your solutions were sorted by price, these prices changed after estimation, and keeping the previous ordering did not reflect this change.

Now after the color estimation, in the estimation result window, the solutions are re-sorted to put the best prices at the top of the list.

Before Estimation	After Estimation, WAS	After Estimation, NOW
Sorted by price.	The prices have changed, but this is not reflected.	The prices have changed, and this is reflected - solutions are sorted by the new price.

Running Estimation Only for Selected Solutions

Now you are able to obtain the DZ color estimation only for the selected solutions.

To do that:

1. In the solution list, select the checkboxes to the right of the solutions you want to get an estimation for.
2. On the toolbar of the **Plans & Scans** section, click the ⚖ **Add solution(s) to Solutions Report** button. The solutions are marked with ⚖ .
3. In the solution list, right-click the solutions you want to start estimation from and then select **Estimate color grade for ...**
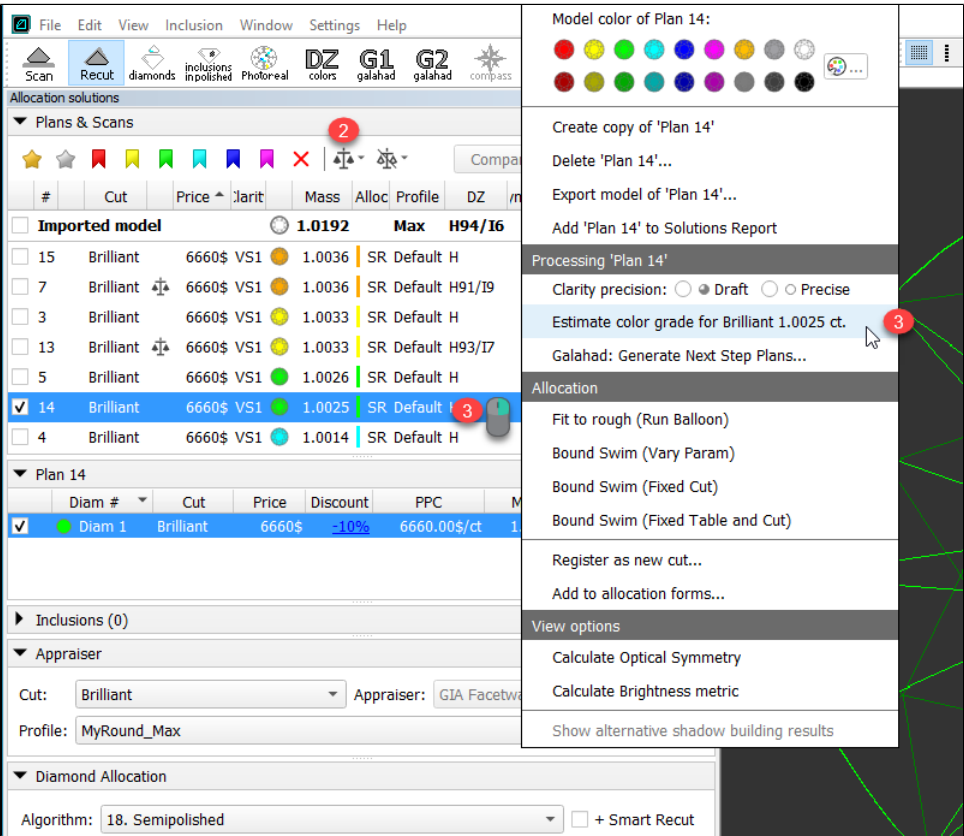
The estimate dialog is displayed.

4. In the estimate dialog, set color estimation for your starting solution and the **Estimation Mode**.
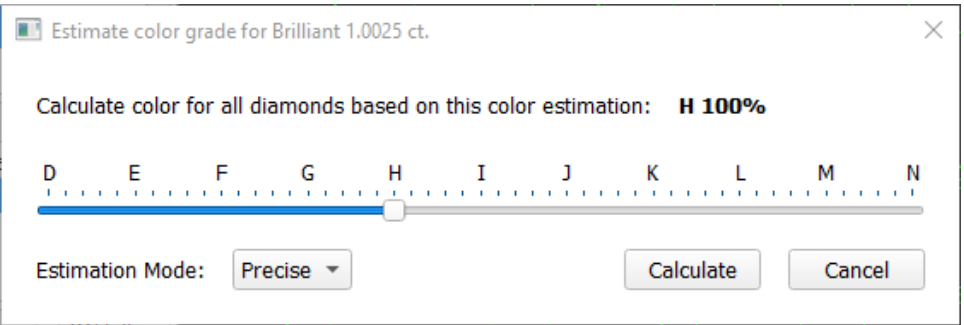
5. Click **Calculate**. The system switches to the **DZ colors** mode and displays the progress. As soon as the calculation for the selected solutions is finished, their results are displayed in the table.
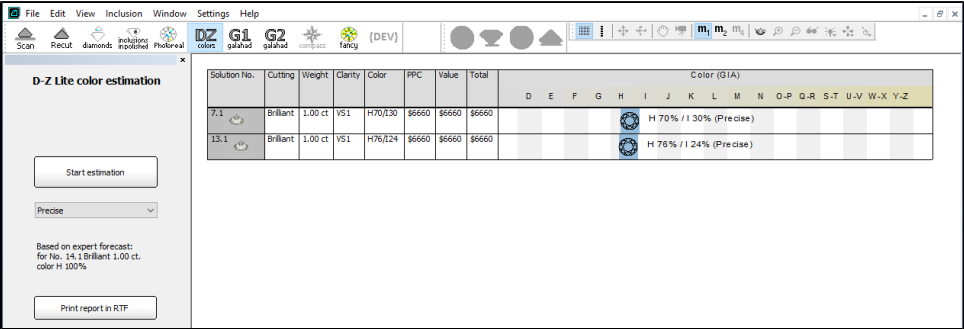
Grades for Scans

In many cases, it is important to quickly *estimate scans*. To provide this possibility, the **grades** information is presented in:

- Solution list (was before)
- The **Appraiser editor**
- Reports (Standard and Polish)
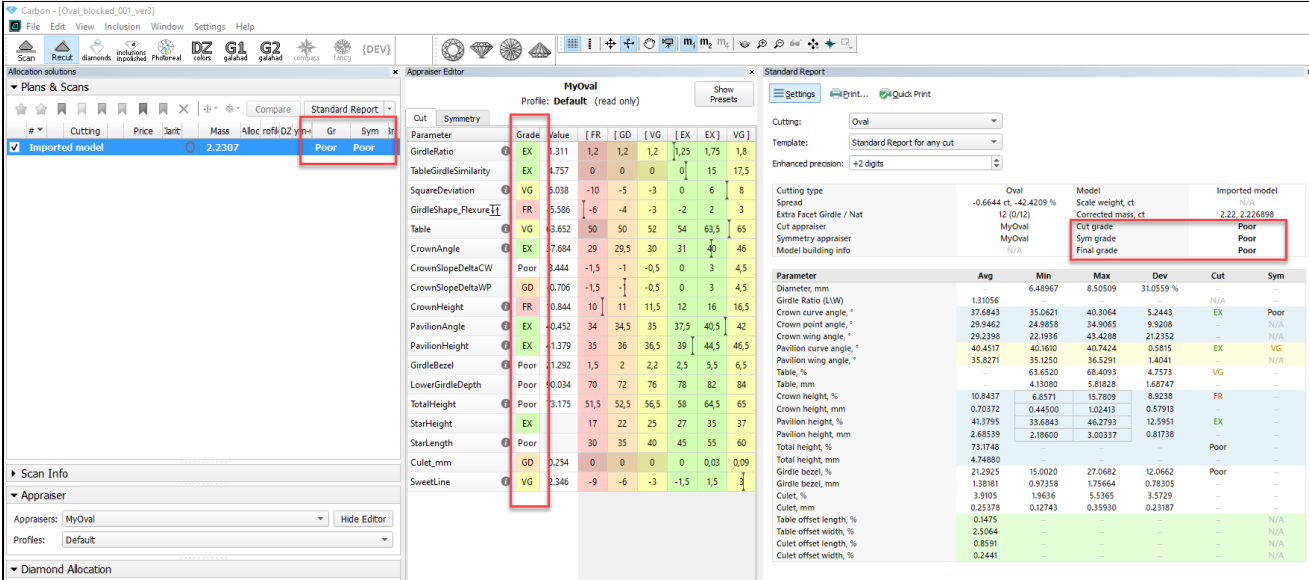
Report Actualization

To be in correspondence with the modern diamond processing, some reports were updated.

Label Report

In Label Report, for a more informative representation of cuts (parameters and grades), the templates were changed. Some parameters were added, some were removed. Below are examples of Cushion, Brilliant and AnyCut Label Reports:

	Was	Now
Brilliant		

| | Cushion | AnyCut |

Top-left report — Stone ID: Demo1ct | Brilliant | 07.05.2021 15:46 | HPO11+

Parameter	Avg		Min	Max	Dev	Cut	Sym
Diameter, mm	6.301		6.296	6.304	0.12 %		EX
Pav. angle, °	40.60		40.60	40.60	0.00	EX	EX
Crown angle, °	36.50		36.50	36.50	0.00	EX	EX
Girdle bezel, %	0.221 mm	3.50 %	3.50	3.50	0.00	EX	EX
Table, %	3.467 mm	55.02 %	55.02	55.02	0.00	EX	EX
Total height, %	3.972 mm	63.03 %	–	–	–	–	–
Crown height, %	1.049 mm	16.66 %	16.66	16.66	0.00	–	EX
Pav. height, %	2.701 mm	42.87 %	42.87	42.87	0.00	–	EX
Star, %	50.00		–	–	–	–	EX
Pav. half, %	79.00		79.00	79.00	0.00	EX	EX
G-C off., %	0.00 ± 0.12		G-T off., %	0.00 ± 0.10	T-C off., %	0.00 ± 0.13	

Table Processing parameters

Table allowance before	0.039 mm	incline	0.32 °

Reference Line parameters

Marking for Crown, mm	C8 before	1.095	C8 after	1.049
Marking for Pav., mm	P8 before	1.281	P8 after	1.270
Total weight, ct	0.97		EX	EX

Top-right report — Stone ID: Demo1ct | Brilliant | 07.05.2021 15:56 | HPO11+

Width	6.296 mm		Lenght	6.304 mm	Total weight	0.97 ct

Parameter	Avg		Min	Max	Dev	Cut	Sym
Diameter, mm	6.301 mm		6.296	6.304	0.12 %	–	EX
Crown angle, °	36.50		36.50	36.50	0.00	EX	EX
Pavilion angle, °	40.60		40.60	40.60	0.00	EX	EX
Table, %	3.467 mm	55.02 %	55.02	55.02	0.00	EX	EX
Crown height, %	1.049 mm	16.66 %	16.66	16.66	0.00	–	EX
Pavilion height, %	2.701 mm	42.87 %	42.87	42.87	0.00	–	EX
Girdle bezel, %	0.221 mm	3.50 %	3.50	3.50	0.00	EX	EX
Total height, %	3.972 mm	63.03 %				–	
Star length, %	50.00		50.00	50.00	0.00	EX	EX
Lower girdle length, %	79.00		79.00	79.00	0.00	EX	EX
Table offset, %	0.000 mm	0.00 ± 0.10 %	–	–	–	–	EX
Culet offset, %	0.000 mm	0.00 ± 0.12 %	–	–	–	–	EX
Table-culet offset, %	0.000 mm	0.00 ± 0.13 %	–	–	–	–	EX
						EX	EX

Table Processing parameters

Table allowance before	0.039 mm	incline	0.32 °

Reference Line parameters

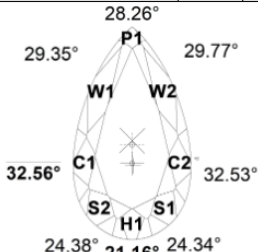| Marking for Crown	C8 before	1.095 mm	C8 after	1.049 mm
Marking for Pavilion	P8 before	1.281 mm	P8 after	1.270 mm

Bottom-left report — Stone ID: cushion_diamond_60025 with Solustions | Cushion | 07.05.2021 15:23 | HPO11+

Parameter	Avg		Min	Max	Dev	Cut	Sym
Diameter, mm	7.685		6.790	8.156	20.11 %	–	N/A
Pav. angle, °	32.50		32.50	32.50	0.00	N/A	N/A
Crown angle, °	37.14		37.14	37.14	0.00	N/A	N/A
Girdle bezel, %	0.245 mm	3.60 %	3.60	3.60	0.00	VG	N/A
Table, %	4.370 mm	62.28 %	60.71	63.84	3.14	N/A	N/A
Total height, %	4.527 mm	66.66 %					
Crown height, %	1.011 mm	14.89 %	14.89	14.89	0.00	–	N/A
Pav. height, %	3.271 mm	48.17 %	48.17	48.17	0.00	–	N/A
Star, %	50.95		–	–	–	–	N/A
Pav. half, %	N/A		N/A	N/A	N/A	N/A	N/A
G-C off., %	0.00 ± 0.12		G-T off., %	0.00 ± 0.09	T-C off., %	0.00 ± 0.13	

Table Processing parameters

Table allowance before	0.053 mm	incline	0.46 °

Reference Line parameters

Marking for Crown, mm	C8 before	N/A	C8 after	N/A
Marking for Pav., mm	P8 before	N/A	P8 after	N/A
Total weight, ct	1.87		Poor	Poor

Bottom-right report — Stone ID: cushion_diamond_60025 with Solustions | Cushion | 07.05.2021 16:00 | HPO11+

Width	6.790 mm		Lenght	7.233 mm	Total weight	1.87 ct

Parameter	Avg		Min	Max	Dev	Cut	Sym
Girdle Ratio	1.065		–	–	–	EX	
Crown Main Width angle, °	37.14		37.14	37.14	0.00	EX	EX
Crown Main Length angle, °	38.09		38.09	38.09	0.00	EX	EX
Pavilion 1 Main Width angle, °	57.90		57.90	57.90	0.00	EX	EX
Pavilion 1 Main Length angle, °	55.56		55.56	55.56	0.00	EX	EX
Pavilion 2 Main angle, °	32.50		32.50	32.50	0.00	EX	EX
Table Widthwise, %	4.122 mm	60.71 %	–	–	–	EX	–
Table Lengthwise, %	4.618 mm	63.84 %				–	–
Crown height, %	1.011 mm	14.89 %	14.89	14.89	0.00	EX	–
Pavilion height, %	3.271 mm	48.17 %	48.17	48.17	0.00	EX	–
Girdle bezel, %	0.245 mm	3.60 %	3.60	3.60	0.00	EX	–
Total height, %	4.527 mm	66.66 %				–	–
Star, %	50.95		–	–	–	–	–
Pavilion half, %	N/A		N/A	N/A	N/A	–	–
Table offset Length, %	0.00		EX	Width, %	0.00	–	EX
Culet offset Length, %	0.00		EX	Width, %	0.00	–	EX
						EX	EX

Table Processing parameters

Table allowance before	0.053 mm	incline	0.46 °

Reference Line parameters

Marking for Crown	C8 before	N/A mm	C8 after	N/A mm
Marking for Pavilion	P8 before	N/A mm	P8 after	N/A mm

AnyCut

Left panel:

Stone ID: Pear-semipolish-a		Pear	07.05.2021 15:33		HPO11+	
Parameter	Avg	Min	Max	Dev	Cut	Sym
Diameter, mm	6.709	4.778	8.601	80.00 %	–	N/A
Pav. angle, °	34.76	34.44	35.08	0.64	N/A	N/A
Crown angle, °	32.55	32.53	32.56	0.03	N/A	N/A
Girdle bezel, %	0.304 mm 6.36 %	4.45	7.45	3.00	EX	N/A
Table, %	4.734 mm 68.89 %	62.34	75.44	13.10	N/A	N/A
Total height, %	2.556 mm 53.50 %	–	–	–	–	–
Crown height, %	0.523 mm 10.94 %	9.71	12.03	2.31	–	N/A
Pav. height, %	1.702 mm 36.22 %	35.15	37.02	1.87	–	N/A
Star, %	51.20	–	–	–	–	N/A
Pav. half, %	76.33	70.43	79.87	9.44	N/A	N/A
G-C off., %	17.52 ± 0.14	G-T off., %	3.66 ± 0.12	T-C off., %	21.17 ± 0.15	
Table Processing parameters						
Table allowance before	0.000 mm	incline	0.00 °			
Reference Line parameters						
Marking for Crown, mm	C8 before	0.575	C8 after	0.575		
Marking for Pav., mm	P8 before	0.799	P8 after	0.799		
Total weight, ct	0.65				Poor	GD

Right panel:

Stone ID: Pear-semipolish-a		Pear	07.05.2021 16:32		HPO11+	
Width	4.551 mm	Lenght 7.838 mm	Total weight		0.57 ct	
Parameter	Avg	Min	Max	Dev	Cut	Sym
Girdle Ratio	1.722				EX	
Crown angle, °	33.82	33.81	33.83	0.02	N/A	N/A
Pavilion angle, °	35.54	35.39	35.68	0.29	N/A	N/A
Table, %	4.284 mm 66.82 %	58.01	75.62	17.61	EX	–
Crown height, %	0.631 mm 13.86 %	12.88	15.06	2.18	EX	–
Pavilion height, %	1.657 mm 37.01 %	35.95	37.81	1.87	EX	–
Girdle bezel, %	0.249 mm 5.46 %	4.08	6.66	2.58	EX	–
Total height, %	2.570 mm 56.47 %	–	–	–	EX	–
Star, %	50.62	–	–	–	–	–
Pavilion half, %	76.32	70.43	79.86	9.43	–	–
Table offset Length, %	0.65	EX	Width, %	0.00	–	EX
Culet offset Length, %	9.72	EX	Width, %	0.30	–	EX
					EX	EX
Table Processing parameters						
Table allowance before	0.000 mm	incline	0.00 °			
Reference Line parameters						
Marking for Crown	C8 before	0.685 mm	C8 after	0.685 mm		
Marking for Pavilion	P8 before	0.859 mm	P8 after	0.859 mm		

Removed, Added

Standard Report for Rounded Fancies

The Standard Report was updated for rounded fancies:

1. **Ratio (L/W)** - **Cut** grade is added.
2. **Table offset length**, **Table offset width** parameters, and their **Sym** grades are added.
3. **Culet offset length**, **Culet offset width** parameters, and their **Sym** grades are added.


Facet Types - Octonus Cuts Library

Currently, the system includes over 50 cuts you can use as samples to get facet types from. Now the ⌂ **OctoNus Cuts Library** button is added to quickly access them:

1. Click **Facet Types**. The **Facet Types** dialog is displayed.
2. In the **Facet Types** dialog, click **From Sample...**

3. In this was not done before, click ⌂ **OctoNus Cuts Library**

   Samples from the library folder are added to the list.
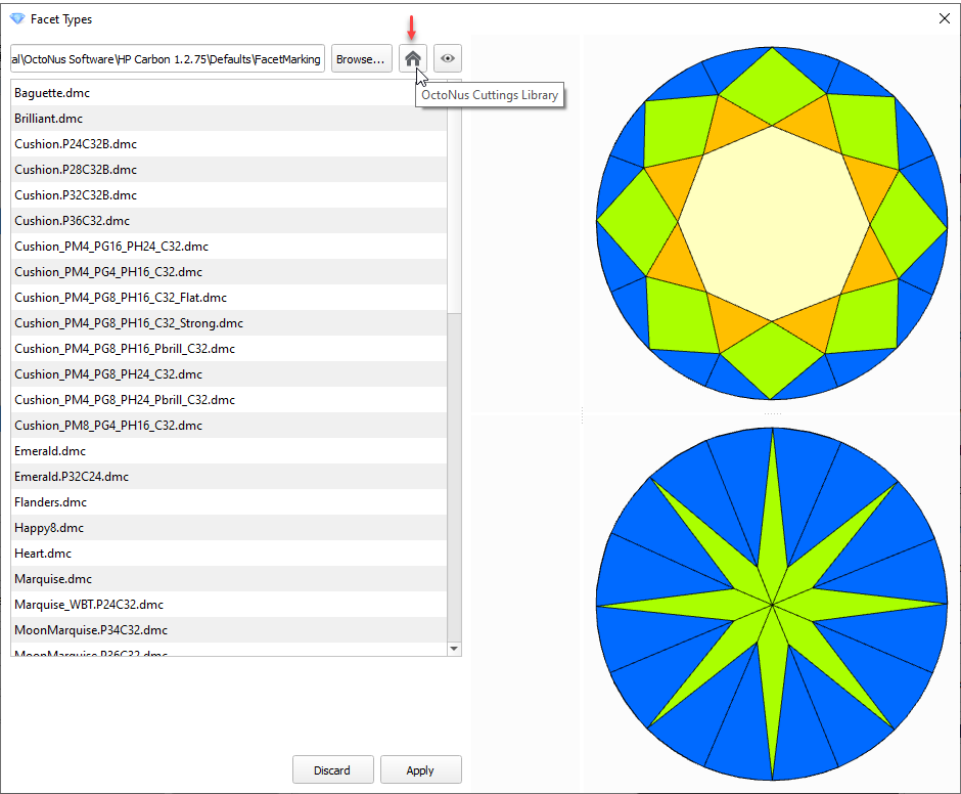
4. If you want to access the library folder, click **Browse**.

G1 Galahad - Allowance Editing

For the G1 Galahad mode, it is now possible to edit the **Allowance** defined during stage generation. The **Allowance** can be edited both for stages and for separate steps.

To edit allowance for a step:

1. Right-click the step.
2. From the context menu select **Edit Step**. The edit panel is displayed.
3. In the edit panel, set the new **Depth**.
4. Click **Apply**. The new allowance depth is set for the step.

If you have a modified allowance for the step, you can **Discard** this difference and revert this step to the stage standard value.

Allowance can also be edited for the stage. Note that if some steps of the stage have their own changed allowance, applying a new value for the stage will reset all steps, the corresponding warning is displayed:
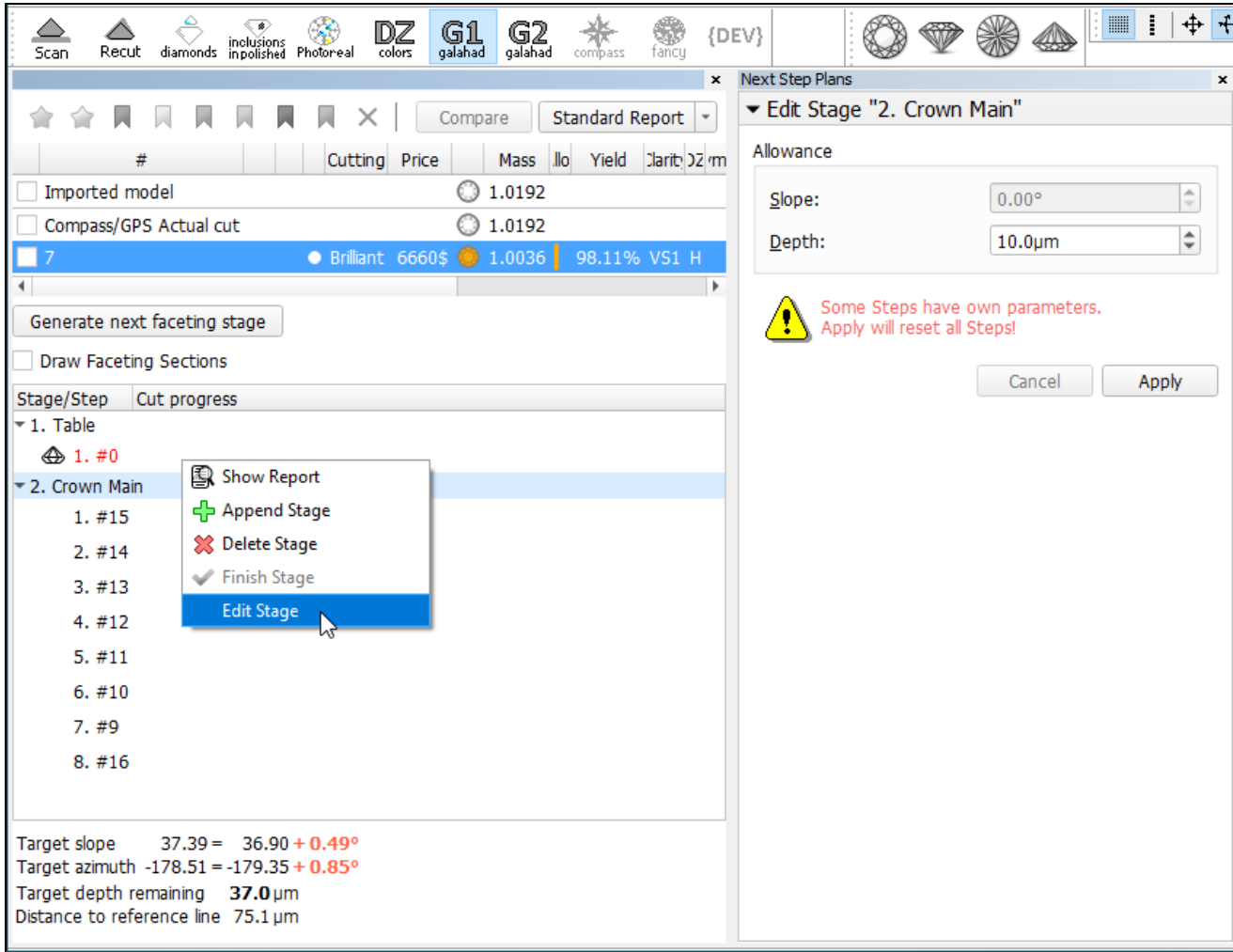
Ximea Firmware Automatic Update

Ximea MC023MG-SY-UB cameras firmware update is now included in the HP Carbon installation procedure - on the system installation, the firmware will be updated automatically.

⚠️ After the firmware update, the camera will not work with the old software - to work with this old software, the camera firmware downgrade will be required. Refer to your HP Carbon distributor for help with this downgrade.

Fixed Problems and Improvements

The following fixes for the known problems and improvements are implemented:

- The periodic low scanning speed caused by the sync cable detection problem is fixed.
- Facet types transfer to Smart Normalize solutions was broken - now it is fixed.
- For Smart Recut, the Fix Girdle option is improved to work with non-convex models.
- For **Scan** mode, in the **Cut & Method** section, now the last used cut stays selected after the system restart (previously "Brilliant" was always selected after restart).
- Previously, in **Polish Report**, the cut type was based only on parameter values - now it additionally takes into account the *Facet Types* specified for the model.
- Standard and Polish Illustrated HTML reports when working with composite appraisers (CushionRectangular, CushionSquare, MyAnyCut) now show grades only for the selected component: "Absolute", "Relative" or both of them.

Absolute

Cutting type	Square Cushion	Model		20
Spread	-1.09 ct, -28.79 %	Scale weight, ct		N/A
Extra Facet Girdle / Nat	No	Corrected mass, ct		4.87, 4.8738
Cut appraiser	CushionSquare	Cut grade	Absolute	EX
Symmetry appraiser	CushionSquare	Sym grade	Absolute	EX
Model building info	N/A	Final grade	Absolute	EX

Parameter	Avg		Min	Max	Dev	1	2	3	4	Cut	Sym
Pavilion 2 Main height, %	2.681 mm	28.61 %	28.61	28.61	0.00	28.61	28.61	28.61	28.61	--	--
Table: Side, %	5.784 mm	61.10 %	60.72	61.48	0.76	60.72	61.48			EX ⬅ abs	
Table: Corner w.r.t. Corner, %	63.51		63.51	63.51	0.00	63.51	63.51			--	--

Relative

Cutting type	Square Cushion	Model		20
Spread	-1.09 ct, -28.79 %	Scale weight, ct		N/A
Extra Facet Girdle / Nat	No	Corrected mass, ct		4.87, 4.8738
Cut appraiser	CushionSquare	Cut grade	Relative	VG
Symmetry appraiser	CushionSquare	Sym grade	Relative	EX
Model building info	N/A	Final grade	Relative	VG

Parameter	Avg		Min	Max	Dev	1	2	3	4	Cut	Sym
Pavilion 2 Main height, %	2.681 mm	28.61 %	28.61	28.61	0.00	28.61	28.61	28.61	28.61	--	--
Table: Side, %	5.784 mm	61.10 %	60.72	61.48	0.76	60.72	61.48			VG ⬅ rel	
Table: Corner w.r.t. Corner, %	63.51		63.51	63.51	0.00	63.51	63.51			--	--

- Appraiser profiles "Show difference from" function did not work - now it is fixed.
- The Smart Normalize and Smart Normalize Lite algorithms are improved to work better with short edges in the culet area.
- For the "GIA Facetware + MyRound" appraiser, the StarLength EX boundaries were updated to [42,5 - 57,5] for the following profiles:
  - "MyRound_ModernCut_2021-04-29"
  - "MyRound_ModernCut_2021-04-29_SweetLine"
- Incorrect estimation for Pear cut caused by the **Cullet offset length** parameter wrong grade is fixed.