

2019-09-13 - HPOxygen Server 5.2.22

Here you can find information about what is new in HPOxygen Server version 5.2.22.

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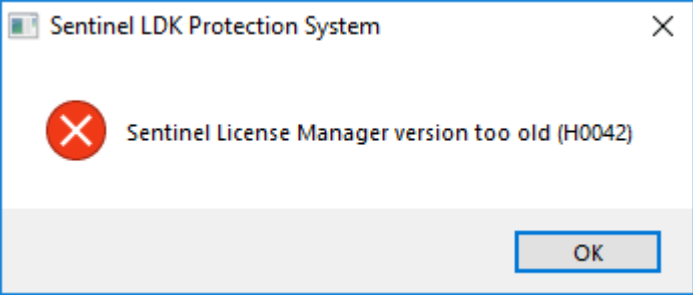
19

Fixed Problems and Improvements



HASP HL Driver - Update


After installation of HP Oxygen of version 5.2.13 or later, on running the system you may obtain the error message:



If so, download the [newer version installer](#) and then run it. As soon as your HL Driver is updated, you may continue using the system.

Note The driver update will not affect older HPO releases installed on the system - they will continue to work normally.

New AnyCut Workflow



Features described in this section are available for a fee. To purchase, refer to your distributor.

The system now provides the new *AnyCut workflow* which includes new tools and comfortable user interfaces for registering your own new cuttings from your own designs (ascii, dmc), sample stone scans and successful allocation solutions. The new workflow significantly simplifies both the process of cutting registration and subsequent solution allocation, and also provides extended control over parameters of the solutions. This is achieved by providing the new user interface for user cutting registration, as well as adding a new Recut algorithm paired with the relative appraiser and providing the option of automatic start of SmartRecut basing on the automatically detected best Recut solution.

You can apply the new workflow to any cuttings.

The AnyCut workflow includes the following steps:

- User cutting registration
- Allocation, includes sequentially:
 - Recut AnyCut allocation
 - SmartRecut AnyCut allocation with relative ASCII appraiser

- (optional) Adding allocation forms

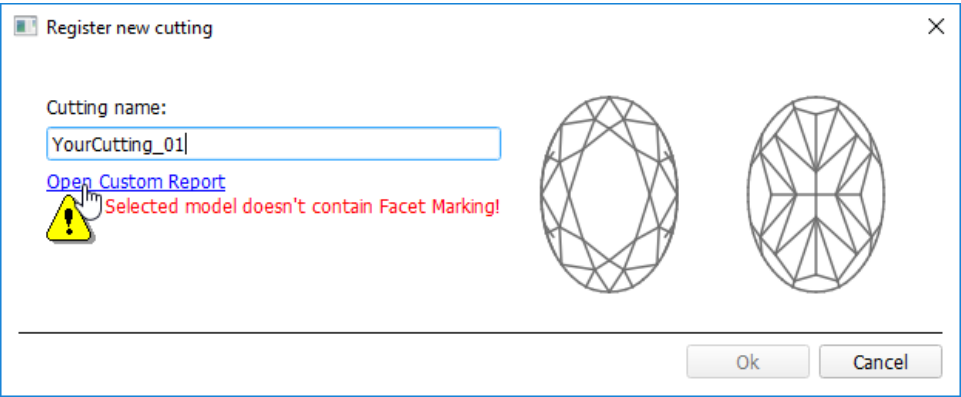
Below these steps are described in an overview video and as step-by-step.

Overview Video

User Cutting Registration

This stage includes obligatory normalization of the model you decided to use as cutting, then registration optimal normalization variant as a new cutting.

1. For the scan, you want to register as cutting, run the "18. SmartNormalize" algorithm. Several solutions are produced.
2. From the solutions, produced by the "18. SmartNormalize" algorithm, select the one you want to register as cutting.
3. Right-click this solution, and from the context menu, select **Register as new cutting...** The dialog is displayed.
4. In the **Register new cutting** dialog, if necessary, specify Facet Marking.



5. Set **Cutting name**.
6. Click **Ok**.

Allocation

This stage includes sequentially:

- Recut AnyCut allocation
- SmartRecut AnyCut allocation with relative ASCII appraiser

The latest version of the system allows executing both steps within one run.

For the Recut allocation within AnyCut workflow, two new algorithms are added to the system:

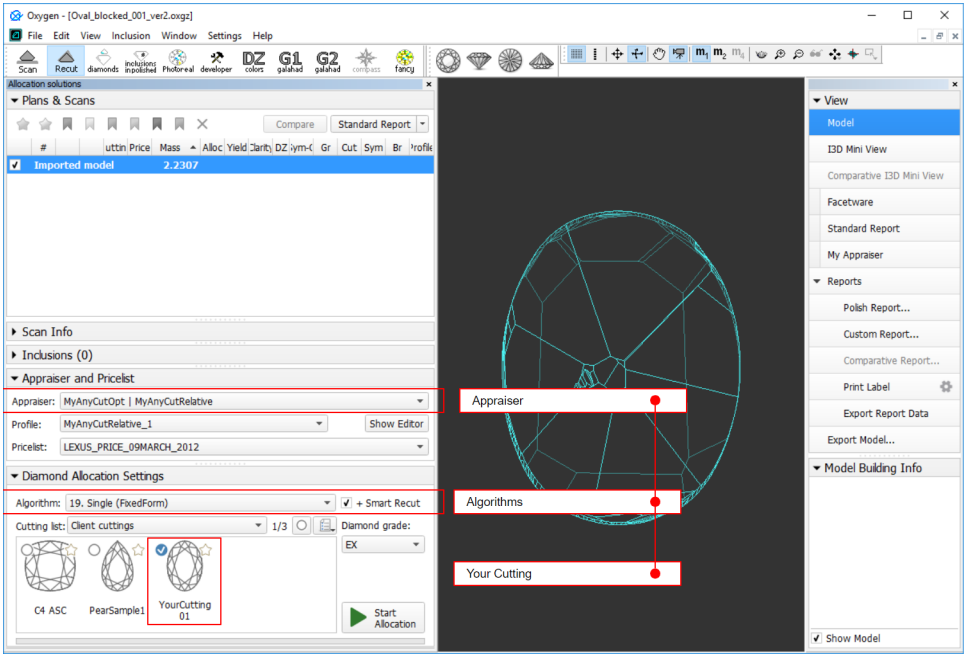
- **19. Single (FixedForm)** - is intended to produce solutions in maximum correspondence with registered forms and limited by these forms number. Better to use when there is a number of registered forms and you want to stick to them. See detailed description of allocation forms in the "Adding Allocation Forms" section below.
- **19. Single (Recut)** - is intended to produce solutions for forms and then search additionally beyond them (but in the limits specified by the appraiser). Better to use for searching for larger mass, taking into account that some fixed form solutions may be excluded from results if the algorithm finds better solutions.

To perform Recut + SmartRecut allocation for AnyCut with your previously registered cutting:

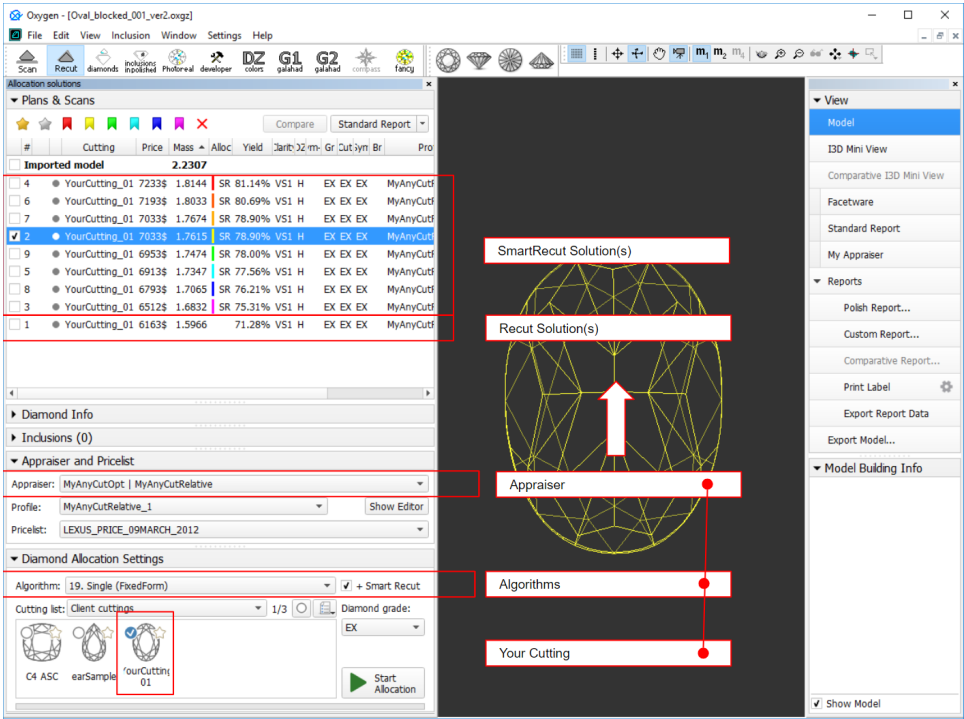
1. Set:
 - a. **Algorithm** = "19. Single (FixedForm)" or "19. Single (Recut)"
 - b. **Appraiser** = MyAnyCutOpt | MyAnyCutRelative
 - c. **Cutting list** via **Cutting List** > **Client cuttings** = your registered cutting
2. Select **+SmartRecut** option. With this option selected, from the two best Recut solutions, the SmartRecut will be immediately started.



Note that the SmartRecut algorithm will run with the latest used options. The latest version of the Relative appraiser in addition to others supports **Fix Girdle**, **Fix Crown** and **Fix Facets** options.



3. Click **Run**. Recut solutions are added to the list, then SmartRecut solutions are added.



Adding Allocation Forms

i This step is optional as AnyCut is able to run on a single base form (cutting itself). Still, it is recommended to register allocation forms, especially for the different W:L ratio, as it significantly improves allocation results.

For any registered cutting, immediately after its registering or at any moment later, you can add any number of the *allocation forms*. Each *allocation form* is a high-quality solution variant for your cutting. Any solutions or normalized scans can be registered as allocation forms for your registered cuttings.

Although the registering of the allocation forms is optional, it may improve the quality of solutions, because on running your registered cutting, the optimization algorithm will check all the included forms trying to produce solutions well allocated with these forms. This means, the more high-quality solutions you register as allocation forms, the better results you achieve when running optimization with your cutting.

To add a new allocation form to your registered cutting, do one of the following:

- To add a new allocation form from a scan:
 - For the scan, you want to register as the allocation form, run the "18. SmartNormalize" algorithm. Several solutions are produced.
 - Among the solutions, produced by the "18. SmartNormalize" algorithm, right-click the one you want to register as the allocation form.
 - From the context menu, select **Add to allocation forms...** The dialog is displayed.
 - In the **Add to allocation forms...** dialog, from the **Cutting** list, select the registered cutting, you want to add the allocation form to.

- Facet Marking from the selected cutting is automatically applied to your new form. If necessary, adjust the Facet Marking.
- Set **Form name**.

Add to allocation forms

×

Form name:



YC_F1



Marking from YourCutting_01 applied automatically

[Open Custom Report to adjust marking](#)

Cutting:

YourCutting_01





Ok

Cancel

- Click **Ok**.
- To add a new allocation form from a solution:
 - Right-click the solution you want to use as an additional allocation form.
 - From the context menu, select **Add to allocation forms...**The dialog is displayed.
 - Further steps are the same, as described above for the normalized scans.

Add to allocation forms

×

Form name:

YC_F2



Selected model has own marking!



[Open Custom Report to adjust marking](#)

[Revert to automatic marking from cutting YourCutting_01](#)

Cutting:

YourCutting_01



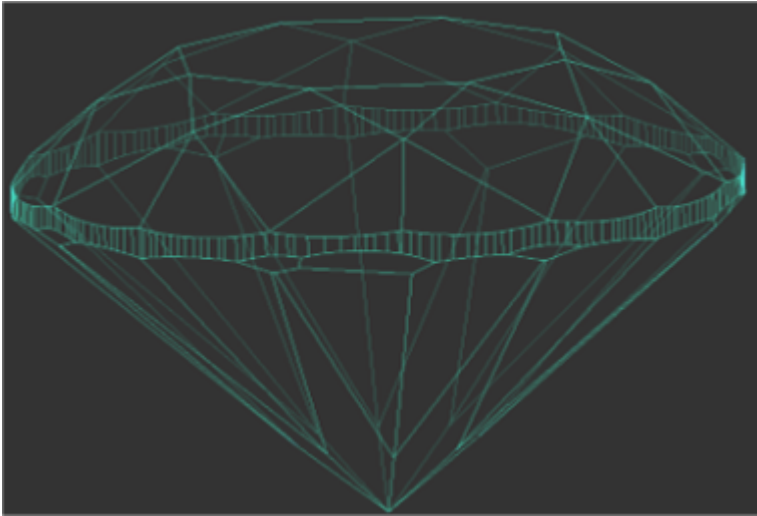


Ok

Cancel

Heights Calculation - New Approach

Handling Extra Facets Adjacent to Girdle



As of August 19, 2019, GIA is using a different methodology for measuring an average girdle thickness. The cut grading system remains the same - only the method used to measure this parameter has changed. The lab was using a method that excluded features such as naturals and extra facets next to the girdle that were not close to vertical. Going forward, the lab is using a method unaffected by any features at the girdle ^{*}.



^{*} This thwarts the practice of adding extra facets to artificially reduce the girdle thickness measurements.

This methodology is used in HP Oxygen 5.2.10 and later:

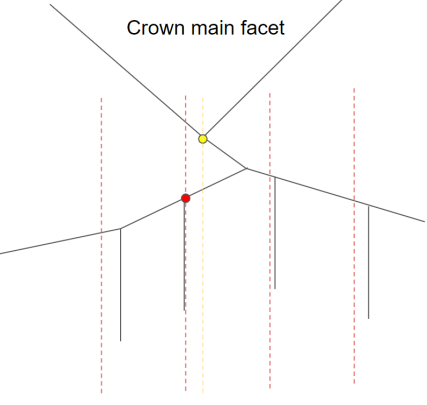
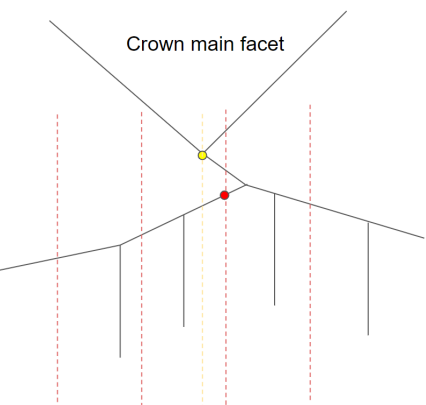
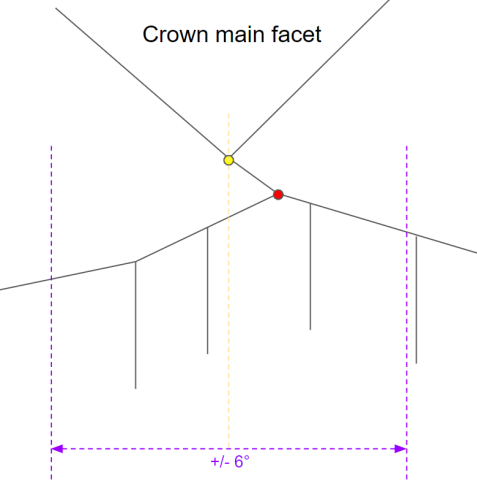
- Starting from version 5.2.10, if there are extra facets adjacent to the girdle, the **Girdle bezel**, and **Girdle bone** are calculated using the **NEW** method. The **Girdle valley** is calculated using the **OLD** method.
- See details in [Girdle Heights Calculation Methods](#)

Finding Points on Girdle Curves

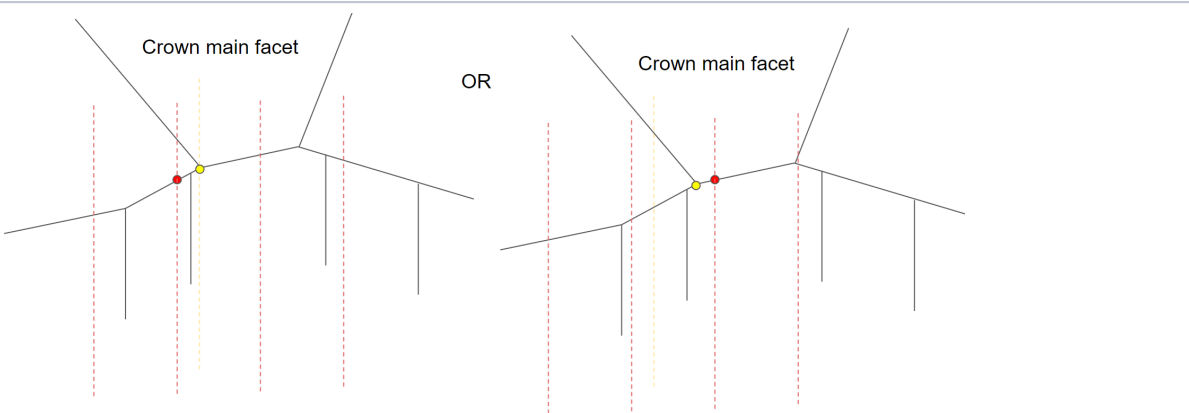
For the **calculation** of the **Girdle Bone** and **Girdle Bezel** parameters, it is important how the following points are found:

- Crown bezel point
- Crown bone point
- Pavilion bezel point
- Pavilion bone point

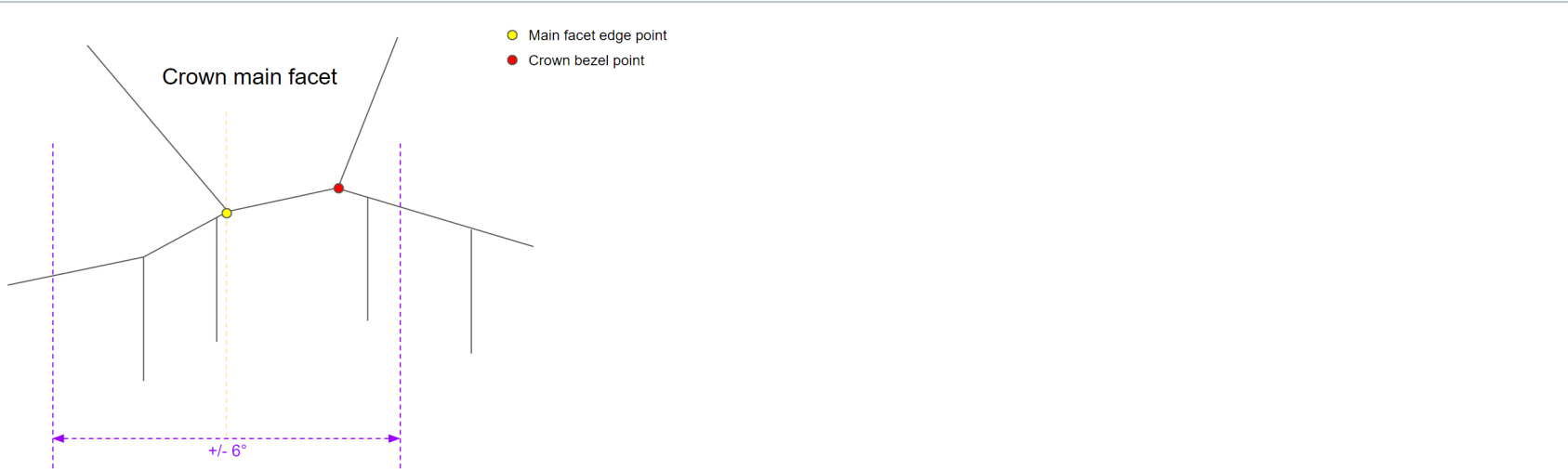
The approach to finding these points has changed.

Previously	Now
In case, when the crown main facet does not meet the girdle, nearest (by azimuth) point on the girdle upper curve produced by the 0,5° grid was taken as a crown bezel point .	In case, when the crown main facet does not meet the girdle, the lowest vertex (main facet edge point) forms +/- 6° range, the highest in this range point on the girdle upper curve will be a crown bezel point . It will also be used for calculating the Crown height .
<div><div><div>Crown main facet</div></div><div>OR</div><div><div>Crown main facet</div></div><div><div>● Main facet edge point</div><div>● Crown bezel point</div></div></div>	<div><div><div>Crown main facet</div></div><div><div>● Main facet edge point</div><div>● Crown bezel point</div></div></div>

In case, when the crown main facet reaches the girdle and has one or more common vertices with it, nearest (by azimuth) point on the girdle upper curve produced by the 0,5° grid was taken as a **crown bezel point**.



In case, when the crown main facet reaches the girdle and has one or more common vertices with it, the lowest vertex (main facet edge point) forms +/- 6° range, the highest in this range point on the girdle upper curve will be a **crown bezel point**. It will also be used for calculating the **Crown height** .



The same approach changes were applied to **pavilion bezel points** and all **bone points**.

This change affects also the **Crown Height** and **Pavilion Depth** calculations.

Hearts & Arrows Profile and Presets

To produce the solutions optimal from the perspective of the Hearts and Arrows (H&A) optical symmetry standard, for the "My Round | GIA Facetware + MyRound" appraiser the new "MyRound_H&A" profile has been added. The profile also contains the set of 8 profile-specific H&A presets, that allow getting a variety of excellent H&A solutions within one run for later comparison and selecting the best one.

Oxygen - [Demo1.ct.oxg]

File Edit View Inclusion Window Settings Help

Scan Recut diamonds inclusions PhotoReal developer DZ G1 G2 galahad compass fancy

Allocation solutions

Plans & Scans

Import... 1.0192 UNK-Poor UNK-Poor

Appraiser Editor

GIA Facetware + MyRound

Profile: MyRound_H&A (read only)

Presets

Hide Presets

Parameter	Grade	Value	[FR]	[GD]	[VG]	[EX]	[EX]	[VG]	[GD]	[FR]	H&A1	H&A2	H&A3	H&A4	H&A5	H&A6	H&A7	H&A8
Table	EX	55.598	10	46,5	49,5	51,5	62,5	66,5	69,5	99	1	1	1	1	1	1	1	1
CrownAngle	EX	36.433	10	21,75	26,25	31,25	36,75	38,75	40,25	90	1	1	1	1	1	1	1	1
PavilionAngle	EX	40.609	10	38,7	39,7	40,5	41,9	42,5	43,1	90	1	1	1	1	1	1	1	1
SweetLine	EX	0.288	-3	-1,5	-0,6	-0,3	0,3	0,6	1,5	3	0,5	0,5	0,5	0,65	0,65	0,65	1	1
StarLength	Poor	10	32,5	37,5	42,5	57,5	72,5	72,5	77,5	90	1	1	1	1	1	1	1	1
LowerGirdleLength	EX	79.147	50	57,5	62,5	75	80	92,5	97,5	99	1	1	1	1	1	1	1	1
GirdleBezel	EX	3.892	0	1,25	1,75	2,25	2,75	5,75	7,25	20	1	1	1	1	1	1	1	1
GirdleValley	EX	1.926	0	0	0,35	0,75	2,94	4,14	6,14	20	1	1	1	1	1	1	1	1
CrownHeight	EX	16.430	5	10,5	12	12,3	17	17,5	18,5	40	1	1	1	1	1	1	1	1
TotalHeight	EX	63.030	10	54	57	58	64,5	66	70	90	1	1	1	1	1	1	1	1
Culet	VG	0.457	0	0	0	0	0,2	1,5	2	20	-	1	-	1	-	1	-	1
CrownPainting	EX	0.636	-9	-6	-3	-2,5	2,5	5	7	20	0,2	0,2	0,2	0,2	0,4	0,4	0,6	0,6
PavilionPainting	EX	0.035	-9	-5	-3	-2,5	2,5	4	6	20	0,2	0,2	0,2	0,2	0,4	0,4	0,6	0,6
SumPainting	EX	0.671	-9	-6	-5	-3,5	5	8	10	20	0,2	0,2	0,2	0,2	0,4	0,4	0,6	0,6
GirdleVerticality	EX	-0.023	-20	-1,5	-1	-0,5	0,5	1	1,5	20	0,5	0,5	0,5	0,5	0,5	0,5	1	1
HeightGirdleExtraFacet	FR	9.774	0	0	0	0	2	4	8	20	-	0,5	-	0,5	-	0,6	-	0,6
GirdleCrownExtraFacets	GD	3.000	0	0	0	0	0	2	4	20	-	1	-	1	-	1	-	1
GirdlePavilionExtraFacets	EX	1.000	0	0	0	0	3	4	6	20	-	1	-	1	-	1	-	1
GirdleExtraFacets	EX	1.000	0	0	0	0	2	4	8	20	-	1	-	1	-	1	-	1

Scan Info

Inclusions (0)

Appraiser and Pricelist

Appraiser: MyRound | GIA Facetware + MyRound

Profile: MyRound_H&A

Pricelist: LEXUS_PRICE_09MARCH_2012

Diamond Allocation Settings

Algorithms: 1B_Semipolished

Cutting list: Brilliant

Brilliant

Start Alloc

Import...

Export

Discard

Apply

In the video below you can find some information on how H&A profile and presets can be used and examples of produced solutions.

New SweetLine Profile

For the "MyRound | GIA Facetware + MyRound" Appraiser, the new "MyRound_SweetLine" profile is added. The profile is based on the "MyRound_ModernCut" profile but holds narrowed boundaries for the [SweetLine](#) parameter, which means it is aimed at producing solutions with better optical performance (see [Using SweetLine](#) for details).

▼ Active Appraiser and Pricelist

Appraiser: MyRound | GIA Facetware + MyRound

Profile: MyRound_SweetLine Hide Editor

Pricelist: LEXUS_PRICE_09MARCH_2012

CrownAngle	EX	34.694	10	21,75	26,25	31,25	36,75	38,75	40,25	90
PavilionAngle	EX	40.817	10	38,7	39,7	40,5	41,9	42,5	43,1	90
SweetLine	EX	0.110	-3	-1,5	-0,6	-0,3	0,3	0,6	1,5	3
SweetLine	EX	0.093	-9	-6	-3	-1,5	1,5	3	6	9

MyRound_SweetLine

MyRound_ModernCut

Recut and SmartRecut in One Run

The system now provides the ability to apply Recut and Smart Recut algorithms sequentially **within one run**. To enable, select your Recut algorithm, then select the **+ Smart Recut** option, then start allocation.

Oxygen - [Demo1.ct.oxy]

File Edit View Inclusion Window Settings Help

Scan Recut diamonds polishes polished Photoreal developer DZ colors G1 galahad G2 galahad compass fancy

Allocation solutions

▼ Plans & Scans

Compare Standard Report

#	Import Price	Mass	Alloc Yield	Start DZ	ym	Profile	Gr	Cut	Sym	Br
✓	Imported model	1.0192				Default	VG-Poor	VG-Poor	GD-Poor	

▼ Scan Info

Imported model Cutting: -- Model Mass: 1.0192 ct
Price: -- Clarity: --
Discount: -- DZ Color: --
PPC: -- Grade: --

► Inclusions

▼ Active Appraiser and Pricelist

Appraiser: MyRound | GIA Facetware + MyRound

Profile: Default Show Editor

Pricelist: LEXUS_PRICE_09MARCH_2012

▼ Diamond Allocation Settings

Algorithm: 19. Single (Recut) ✓ + Smart Recut

Cutting list: Brilliant EX

Brilliant

Start Allocation

▼ View

Model

I3D Mini View

Comparative I3D Mini View

Facetware

Standard Report

My Appraiser

▼ Reports

Polish Report...

Custom Report...

Comparative Report...

Print Label ⚙

Export Report Data

Export Model...

▼ Model Building Info

✓ Show Model

With the **+ Smart Recut** option, the SmartRecut will start automatically after the Recut, basing on the two best Recut solutions. In the solution list, you will obtain both recut and SmartRecut solutions.

i

SmartRecut starts with the last selected options.

▼ Plans & Scans

★

☆

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🟢

🟠

🟡

🟢

🔴

Compare

Standard Report

#

Cutting

Price

Mass

Alloc

Yield

Clarity

DZ

rm

Profile

Gr

Cut

Sym

Br

☐ Imported model

1.0192

Default

VG-Poor

VG-Poor

GD-Poor

☐ 7

● Brilliant

6518\$

1.0044

SR 98.11%

VS1 H

Default

EX-VG

EX

EX-VG

☐ 5

● Brilliant

7333\$

1.0036

SR 98.11%

VS1 H

Default

EX

EX

EX

☐ 2

● Brilliant

7333\$

1.0033

SR 98.11%

VS1 H

Default

EX

EX

EX

☐ 6

● Brilliant

7333\$

1.0025

SR 98.11%

VS1 H

Default

EX

EX

EX

☐ 3

● Brilliant

7333\$

1.0014

SR 98.11%

VS1 H

Default

EX

EX

EX

☒ 8

● Brilliant

7333\$

1.0002

SR 98.11%

VS1 H

Default

EX

EX

EX

☐ 4

● Brilliant

5792\$

0.9952

SR 97.13%

VS1 H

Default

EX

EX

EX

☐ 1

● Brilliant

5733\$

0.9859

96.15%

VS1 H

Default

EX

EX

EX

▼ Diamond Info

8

Cutting: Brilliant

Model Mass: 1.0002 ct

Price: 7 333 \$

Clarity: VS1

Discount: -10.00 %

DZ Color: H

PPC: 7333 \$/ct

Grade: EX

► Inclusions

▼ Active Appraiser and Pricelist

Appraiser: MyRound | GIA Facetware + MyRound

Profile: Default

Show Editor

Pricelist: LEXUS_PRICE_09MARCH_2012

▼ Diamond Allocation Settings


Algorithm: 19. Single (Recut)

+ Smart Recut

Cutting list: Brilliant

Diamond grade: EX

✓



Brilliant

▶ Start Allocation

Presets Mechanism Change

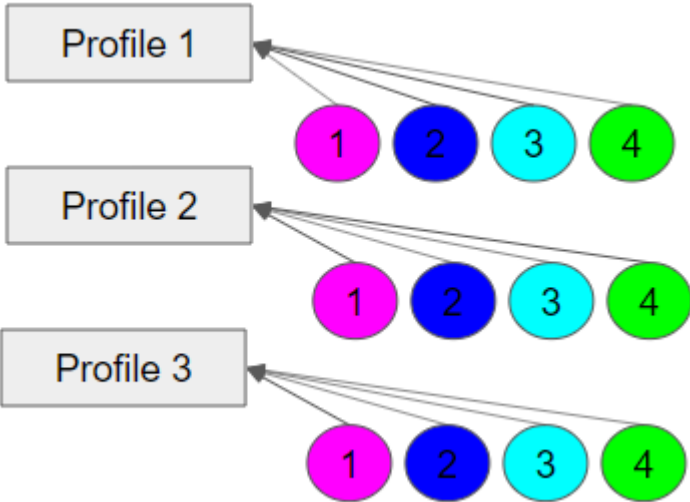
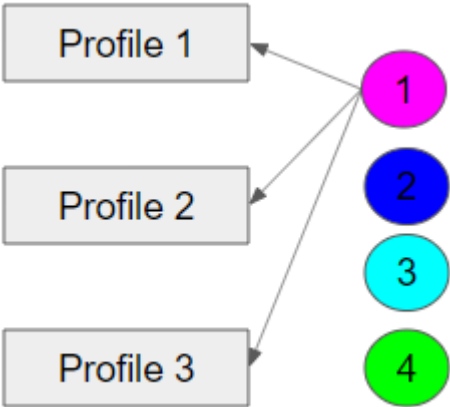
Profile Specific Presets

How the presets are used in the system is changed.

Previously	Now
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The same presets were shared between the different profiles, thus if you changed some preset, the new value affects all the profiles sharing the preset; you could not use different preset settings for different profiles.

Each profile contains its own set of presets. Thus, if you change some preset, the new value affects only the profile it belongs to.



The presets allow producing a spectrum of solutions within one run of an algorithm with this profile. The new approach allows precise configuration of profiles without interference with the other profiles. Each profile now consists of 1) cutting parameter intervals 2) presets values.

Note that the system allows copying both cutting parameter intervals (**Cut** and **Symmetry** tabs) and presets values into your own editable profile. There you can further tune them. More explanations about how profiles and presets are used now and examples are presented in the video below:

Rename and Color Legend Change

To comply with the color coding:

- presets with the **cold colors** (short wavelength) - **strict**
- with the **warm colors** - **extended**

...color legend and names of some presets have been changed comparing to previous versions.

Here are the changes spread between profiles of most appraisers:

New version

1.UltraSym		2.HighSym		3.MediumSym		4.NormalSym		5.Standard		6.LowSym		7.ExtendedLimit		8.MaxMass	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	100	100	100	100
1	1	1	1	1	1	1	1	1	1	1	1	100	100	100	100
-	0,5	-	1	-	1	-	1	-	1	-	1	-	1	-	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-	0,5	-	0,6	-	0,6	-	0,6	-	0,8	-	0,8	-	1	-	1
-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1
-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1
-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1

Previous versions

1. UltraSymmetry		2. HighOpticalSymmetry		3. MediumOpticalSymmetry		4. NormalOpticalSymmetry		5. Standard		6. ExtendedLimits		7. LowOpticalSymmetry		8. MaxMass	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	100	100	100	100
1	1	1	1	1	1	1	1	1	1	1	1	100	100	100	100
-	0,5	-	1	-	1	-	1	-	1	-	1	-	1	-	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
-	0,5	-	0,6	-	0,6	-	0,6	-	0,8	-	0,8	-	1	-	1
-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1
-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1
-	1	-	1	-	1	-	1	-	1	-	1	-	1	-	1

Here are the changes related to the presets used by the SmartNormalize algorithm:

New version

CutSymmetryOther

Parameter	1.HighSym	2.MediumSym	3.LowSym	4.NoSym
TimeLimit	2	2	2	2
SquareLimit	5	5	5	5
DistanceLimit1	50	50	50	50
DistanceLimit2	100	100	100	100
SymmetryCoeff	100	10	1	0
EquableGirdle	20	20	20	20

Previous versions

CutSymmetryOther

Parameter	1. Small	2. Medium	3. Large	4. ExtraLarge
TimeLimit	2	2	2	2
SquareLimit	5	5	5	5
DistanceLimit1	50	50	50	50
DistanceLimit2	100	100	100	100
SymmetryCoeff	0	1	10	100
EquableRundist	20	20	20	20
2nd	1	1	1	1
KeepData	0	0	0	0

Initial Scanner Settings - Files Update

!

Attention

For proper functioning of the system, it is required that you download and use the new versions of files.

The files with the initial scanner settings have been updated. You can download the updated files from the page: [Initial Scanner Settings](#)

✓

Quick Download

You can quickly download all files listed on the [Initial Scanner Settings](#) page as a ZIP file.

Changes:

- For the HP_1 boards:
 - The Period has been changed (HPODrivers_Shadow_HeliumSpeed.ini)
 - Acceleration presets have been added (HPODrivers_Shadow_HeliumSpeed.ini)
 - hws_prosilica.xml has been added - contains settings for HPO Shadow with the Prosilica camera. Now includes two additional elements (by default commented out and thus inactive):
 - Under <benchmark_fps>, <!--measure/--> - uncomment to <measure/> to enable the benchmark measurement of the maximum FPS
 - <!--packetSize>8228</packetSize--> - for some installations, the automatically set packet size causes video artifacts like missing lines - in that case, uncomment to <packetSize>8228</packetSize> and decrease the initial "8228" until artifacts are gone.
- For the rest .ini files
 - Unused blocks have been removed
 - Some elements have been renamed

Interactive 3D Reports Client - Update

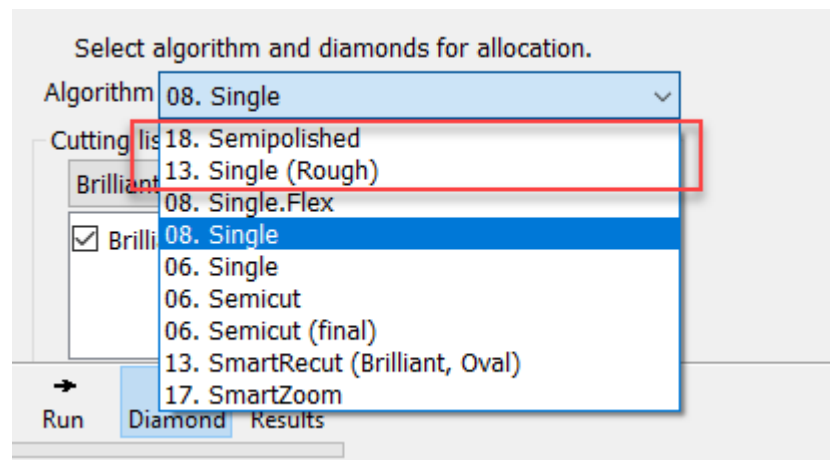
The Interactive 3D Reports Client utility has been updated to work properly with the new structure of folders where reports are stored.

To download the OctoNus Interactive 3D Reports Client Setup 1.2.12.0, click [here](#).

Renamed Algorithms

The following algorithms have been renamed:

- 18. Single(Recut) > 18. Semipolished
- 13. Single-M > 13. Single (Rough)



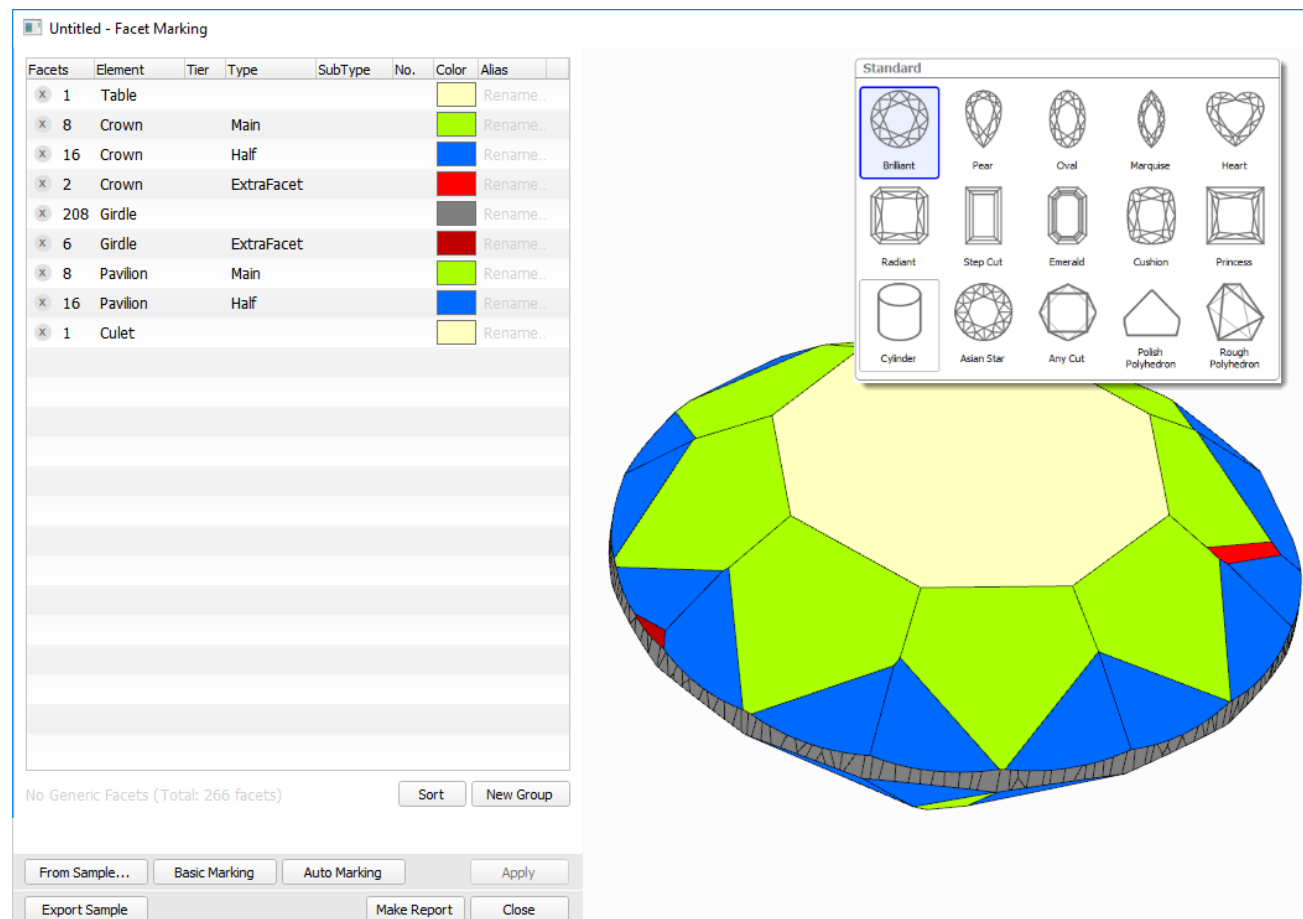
The new names reflect more clearly the difference between the algorithms and help to understand which of them should be used in each particular case.

The "13. Single (Rough)" algorithm produces several different solutions in the different areas of a diamond.

The "18. Semipolished" algorithm finds all the same solutions as "13. Single (Rough)", but selects only one - the best - of them, and then adds one more solution to it, which is aligned to the facets of the initial semicut stone and this solution may be better, especially after applying Smart Recut.

Improved Facet Marking for Standard Cuttings

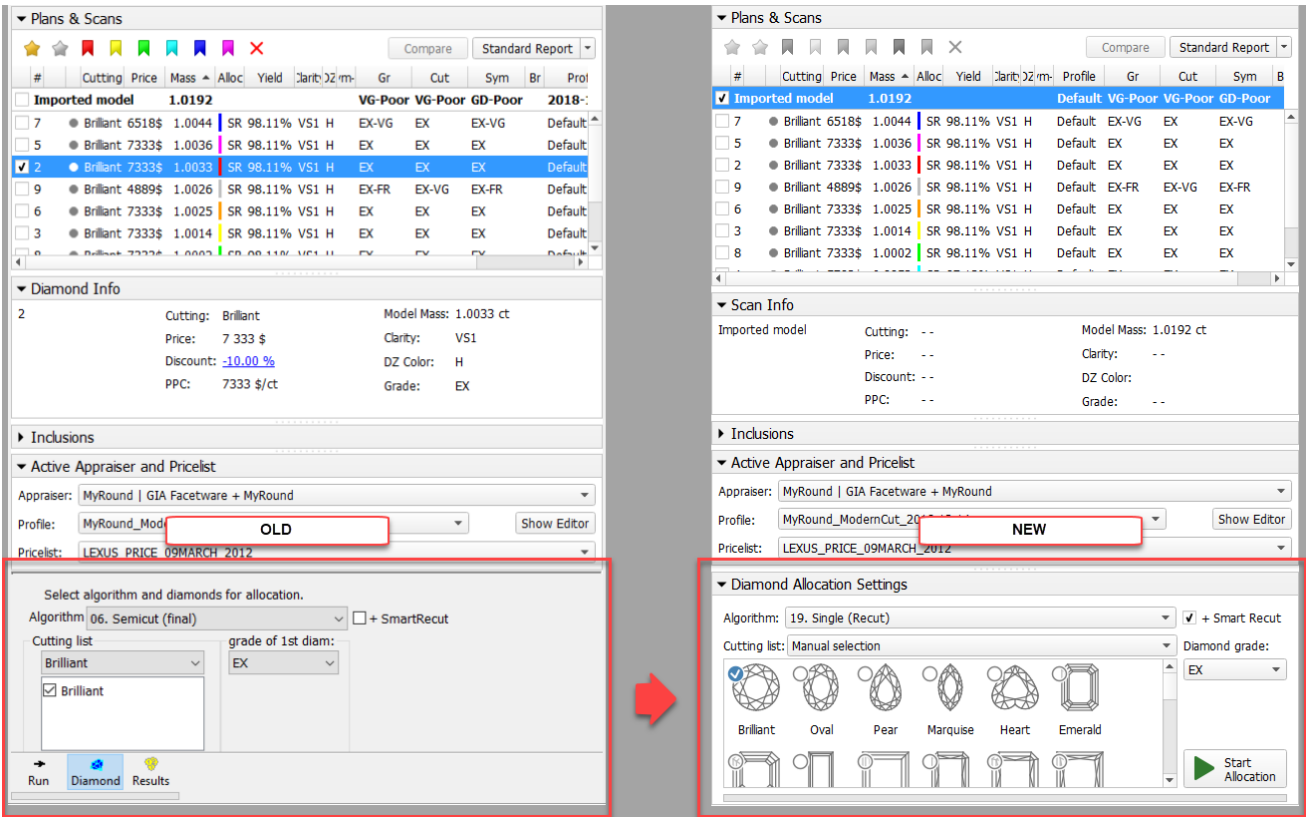
For allocation results the facet marking now is applied immediately after solution creation; Instead of the Polish Report method with very basic facet marking, the system now uses the pre-installed sample markings specified for each standard cutting.



Using the specific marking sample for each cutting makes the resulting Facet Making more accurate and reduces or eliminate the need for manual corrections.

Interface - Diamond Allocation Settings

For the **Recut** mode, on the left panel, the **Diamond Allocation Settings** panel now has a new look.



The new interface allows more comfortable work when selecting an algorithm and its options, including cutting.

SmartRecut for RBC - Improvements

For the "13. SmartRecut (Brilliant, Oval)" algorithm, for Brilliant cuttings, the accuracy of the calculation is increased for the following parameters:

- Diameter Avg
- Diameter Dev
- Radius Roundness
- GirdleValley Min
- GirdleValley Max
- TotalHeight Min
- TotalHeight Max
- CuletOffset
- LowerGirdleLength Avg
- LowerGirdleLength Dev

This allowed to significantly improve the main output characteristics of the algorithm - the **mass** and the **quality** of the produced solutions - as well as the algorithm **work speed**. Below you can find the statistics obtained from SmartRecut RBC tests for EX grade.

1. The average solution mass **0,11%** increase
2. The average work time for all 8 presets **20,5%** decrease due to reducing of the number of long working presets, specifically presets reaching the TimeLimit
3. Getting EX GIA solution in **more than 99,5%** algorithm runs
4. Getting solution strictly within MyGIA boundaries, taking into account the presets multipliers, in **98,7%** algorithm runs (it was 95,3 in a previous version)

Manual Editing of Reflect Contours



Now you can manually edit automatically created reflect contours. To access the editing tool, in the **Developer** mode, load your Reflect photo set, then use the **Reflect** tab, **Pavilion** sub-tab. With the appropriate photo selected, click **Manually Click Contour**.

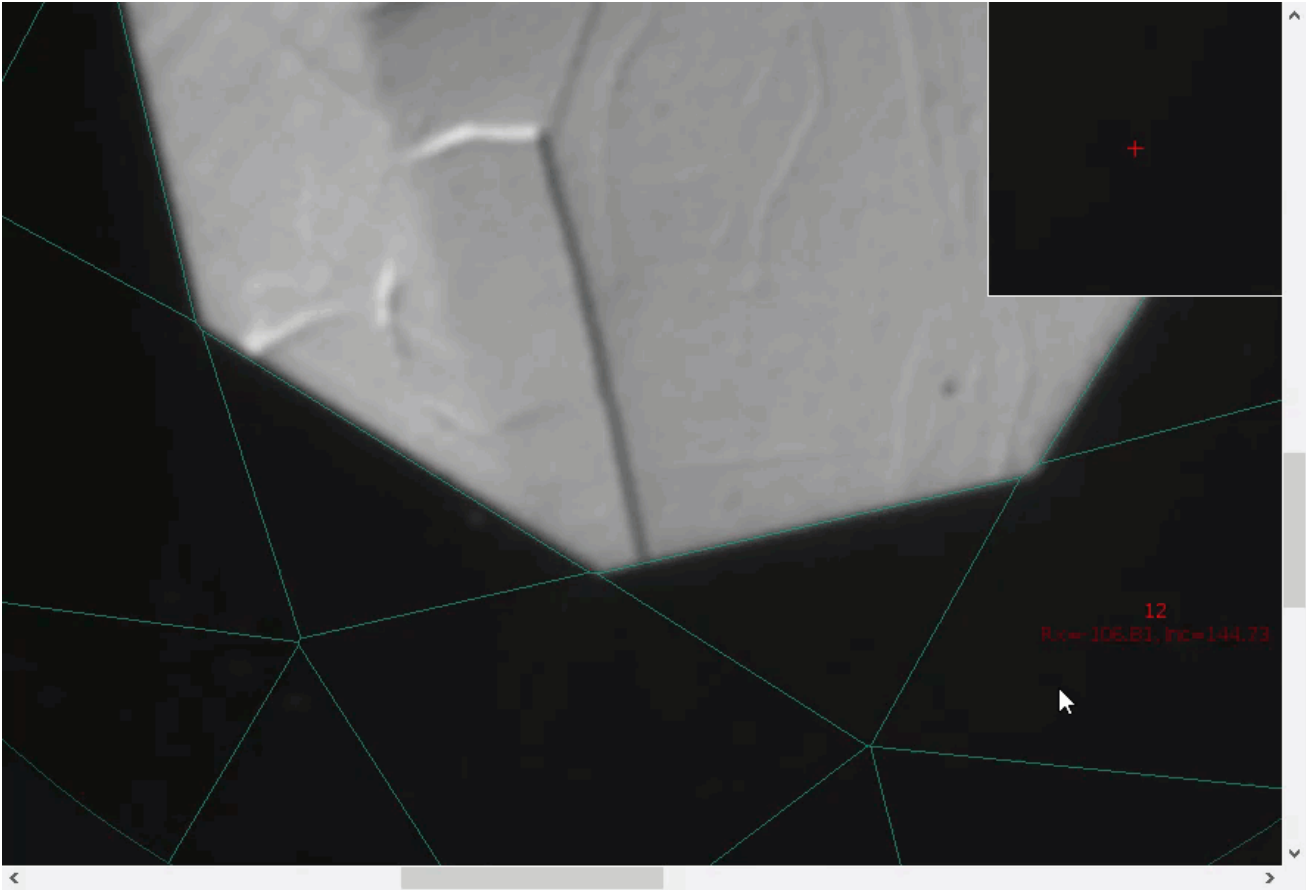
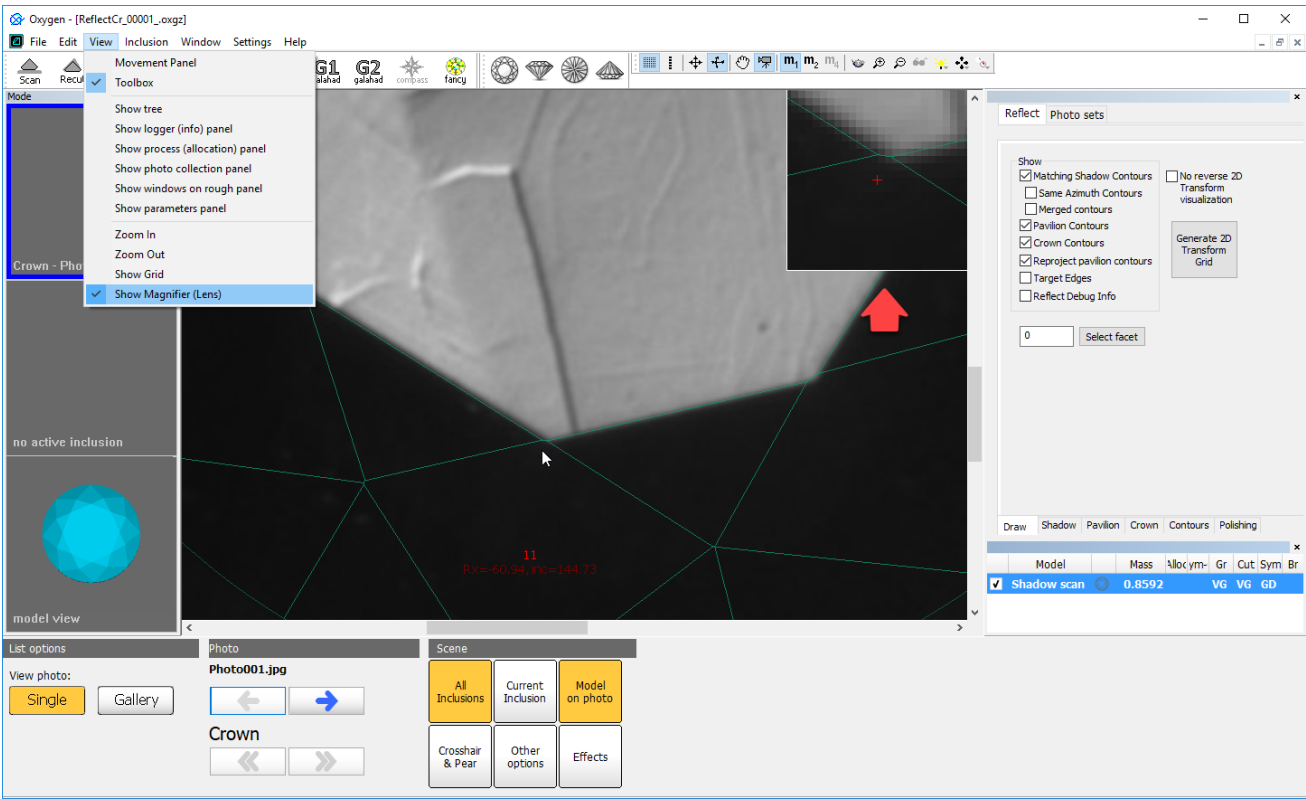
After tool activation, you can add, move and delete points with you mouse and keyboard, as described in details in [Manual Editing of Reflect Contours](#).

Finish editing by clicking the **Finish** button. Save your project via **File** > **Save** . Your edited contours will be saved along with the project.

Interface - Magnifier Tool for Photo Views

For the **Photos** views around the system, it is now possible to enable the *Magnifier* which represents the area around the cursor in the Scene in an enlarged form.

To enable the Magnifier, from the main menu, select **View** > **Show Magnifier (Lens)**. The Magnifier is displayed in the top right corner of the Scene for all **Photos** views.

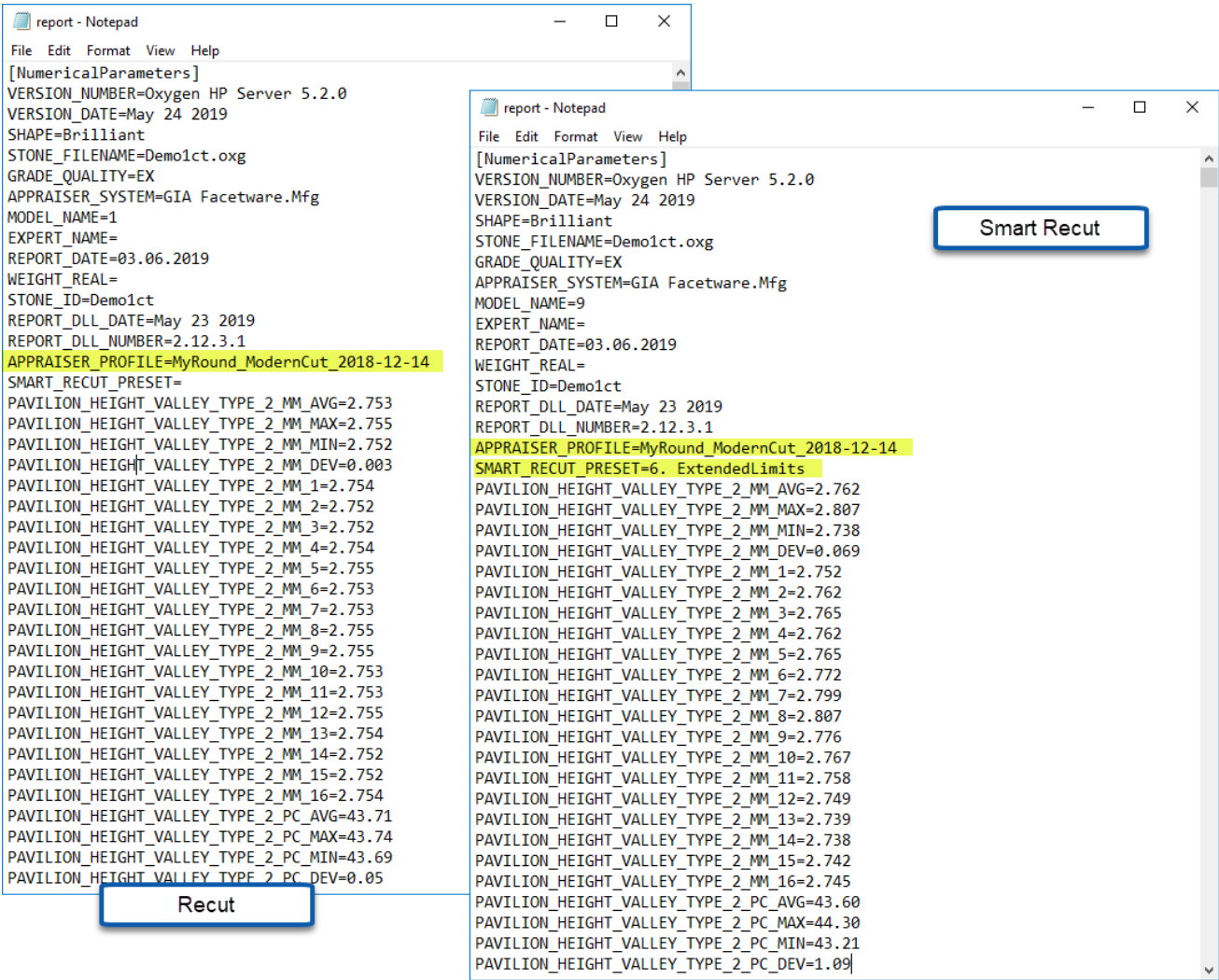


To hide the Magnifier, deselect the option in the menu.

Exported Report Data - Profile and Preset Information

Now to the exported report data file (generated using the **Export Report Data** function), the following information is added:

- Which profile of the appraiser was used to produce the solution: the APPRAISER_PROFILE element within the file.
- For smart recut solutions - which preset was used to produce the solution: the SMART_RECUT_PRESET element.

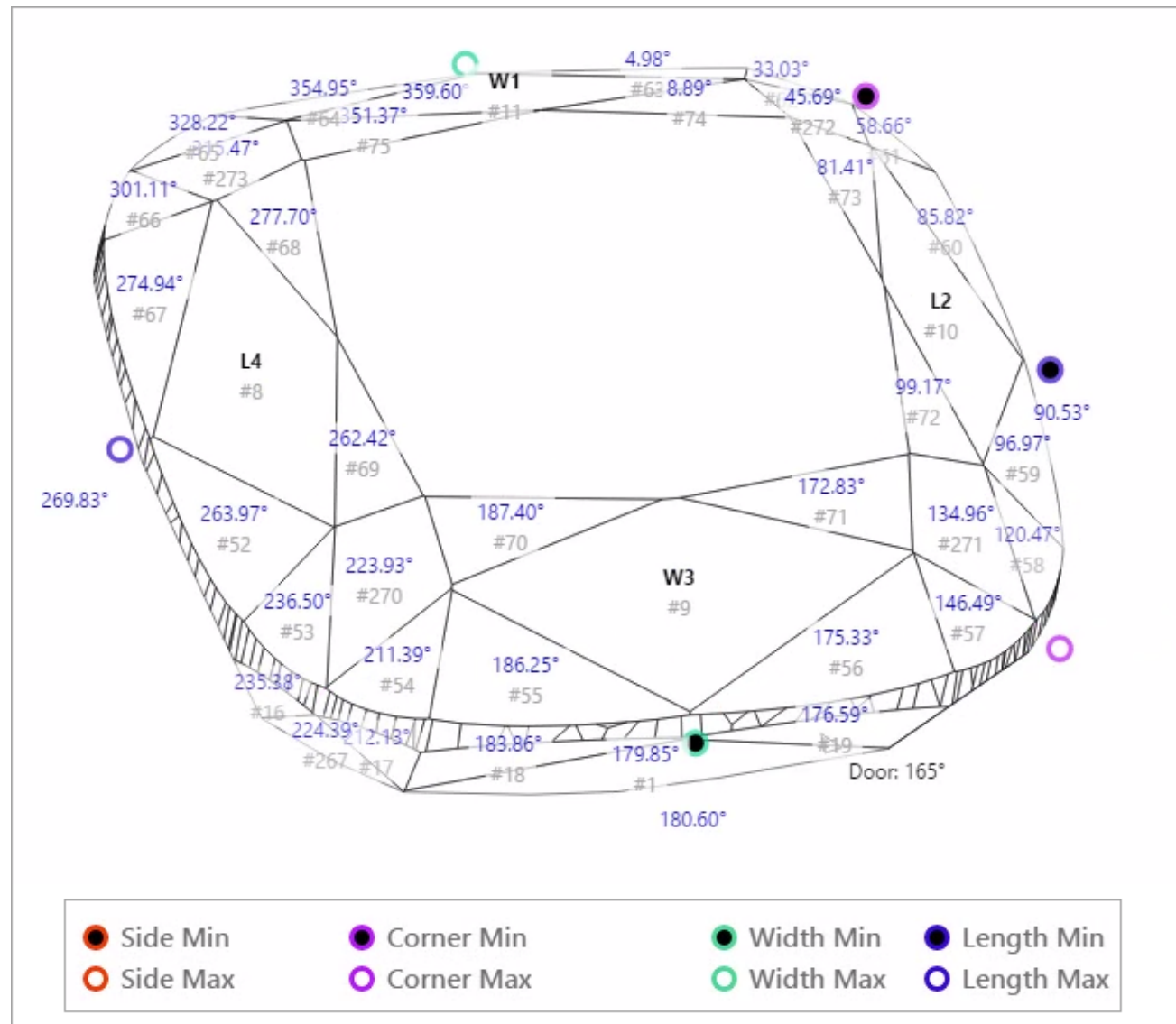


I3D Report and Views - Improvements

Multiple improvements have been implemented for I3D Report, I3D Mini View and Comparative I3D Mini View.

Girdle Heights Visualization

Previously lines representing girdle heights in I3D views were positioned incorrectly. Now this problem has been fixed. The positioning of girdle height lines in the I3D views is in correspondence with their representation on the Girdle Thickness graph.

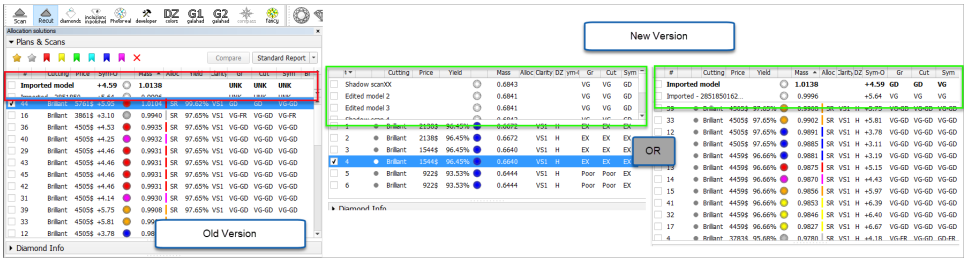


I3D Views - Legend

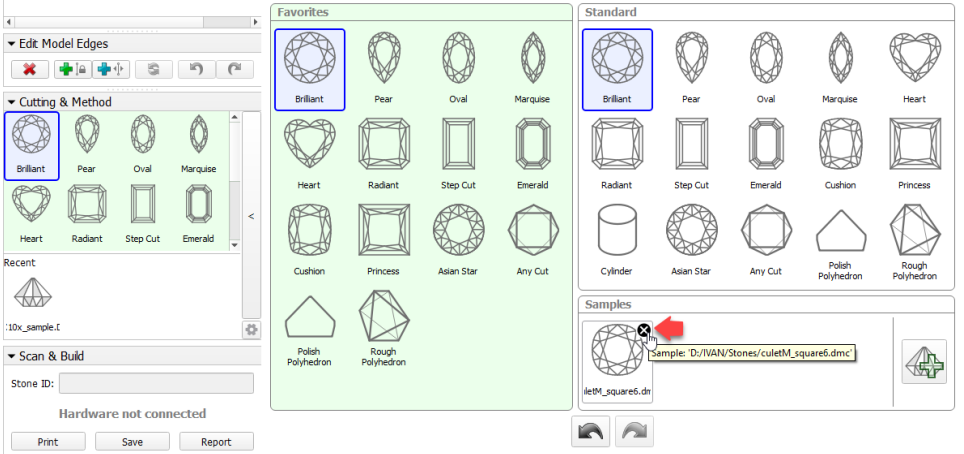
In correspondence with how it can be done in Interactive 3D report, now it is possible to show/hide **Legend** in I3D views.

The following fixes for the known problems and improvements have been implemented:

- For the SmartRecut algorithm, small improvements and fixes have been made.
- An infrequent error in Recognition has been fixed.
- Facet type detection has been improved for scanned RBC stones with lots of extra facets on the girdle.
- Shadow scan failed to start if the stage did not stop rotating. This problem has been solved by building the queue: the system now waits until the stage stops, then starts the Shadow Scan.
- Error with Princess shape wrongly recognized as Square Radiant has been fixed.
- Missing Table for Cushion cuttings error has been fixed.
- Rx motor initialization error has been fixed.
- In the **Recut** mode, the **Plans & Scans** section was inconvenient to work with scans when there was a lot of solutions. Now this problem is solved.



- A periodically appearing error during editing a model edges (using **Scan > Edit Model Edges** panel) has been fixed.
- In the **Scan** mode, in the **Cutting & Method** section removing from **Samples** did not work. Now deleting works fine.



- Minor improvements in the Crown Reflect basis adjustment have been implemented.