

## STAPIL CAD: Status and Release Timeline

This document serves to reiterate information demonstrated at the Launch of STAPIL CAD on the 5<sup>th</sup> and 9<sup>th</sup> of September 2022 in Cape Town and Johannesburg.

### 1. STAPIL CAD Base Module

#### 1.1 Beta Release

- **Timeline:**  
Approximately 2 – 3 weeks from launch. However, it must be noted that this will be a Beta release but we are committed to fix any issues while we finalize autonomous point cloud creation from images as there has been an overwhelming response and requests for this to be completed ASAP (see Raster and Orthophoto Modules below).
- **Existing features:**  
Full Mass Data Module included thus enabling import/export, clean-up, re-classification etc. of point clouds from any source. All the same functionality therefore provided in uSMART as per MPoints.

MLine functionality as per uSMART including clean-up, topology creation for surface shading, contouring etc. NB: Final Contouring not yet provided but MDM file can be opened in uSMART directly and final contours created. Final contouring of massive datasets to be added in the near future.

Interface includes: Workspace and Explorer, Essential Toolboxes, Ribbon, Primitive Settings and Commands.

- **Technology leveraged:**  
**STAPIL**, a well established low-level library developed by SmartTech with currently over 10,000 published functions.

**Vulkan**, fast graphics engine used by gaming studios with unprecedented speed and visualisation.

**wxWidgets**, the open source, cross-platform Widget library.

## 1.2 Further Releases

- **Timeline:**  
Approximately 12 – 18 months from launch.
- **Existing features:**  
All carried through from Beta release as described above.
- **Upgrades:**  
Primitive Element types required for CAD System i.e. Polylines, Curves, B-splines, etc. will be added and all the Element types and Features for a comprehensive CAD and Mapping System. Mathematics already complete for all functionality e.g. curve stroking, intersections, snapping etc.  
Full base mapping functionality equivalent to (and of course better than) uSMART.

## 2. Raster Module

- **Timeline:**  
Approximately 3 months from launch (January 2023).
- **Existing features:**  
Fully autonomous Feature Detection and Matching. Current powerful and fast Raster engine which handles large images, which has been tried and tested over the last 15 years.
- **Technology leveraged:**  
**STAPIL** which has the mathematics for the Bundle Block Adjustment. Tried and tested for many years in uSMART. STAPIL also has the Area based matching for densification of the point cloud to any required ground spacing. Extremely robust techniques for eliminating outliers. Combining the advantages of Feature based matching with the advantages of Area based matching produces exceptional results.
- **Upgrades:**  
Add user interface for full Bundle Block Adjustment enabling fully automatic Image matching for automatic exterior orientation determination. Add user interface for densification of the Feature based point cloud. This enables users to take raw images and create point clouds essentially automatically e.g. other than control point measurements etc. The final results were demonstrated at the launch showing results far superior to other systems with an extremely well defined surface essentially without spikes etc. The BBA and densification was run in uSMART as the user interface was not ready by launch but the same mathematics will be used for STAPIL. See attached Slides for more details.

### 3. Orthophoto Module

- **Timeline:**  
Approximately 3 – 6 months from launch.
- **Technology leveraged:**  
**STAPIL** which has the mathematics for Orthophoto creation. Tried and tested for many years in uSMART with balanced and seamless final mosaic of individual images as shown at the launch.

### 4. Pricing

Please see the table below for the pricing of the various STAPIL CAD Modules.

STAPIL CAD Module	Rands	Euros
Base	9500.00	570.00
Raster	9500.00	570.00
Orthophoto	6000.00	360.00

Please note:

- These are STAPIL CAD Launch price specials (cash, excluding VAT).
- Valid until 10/10/2022 for order placement.
- One per company office location.
- Includes a year of free maintenance.
- Payment required only when module is released i.e. Raster and Orthophoto modules but order must be placed by 10/10/2022.
- Excludes freight of dongle for international clients.
- Currently STAPIL CAD is dongle protected but we are investigating Software Keys (Cloud Controlled Network licensing) for future releases.