3D-FORENSICS

HANDHELD . EASY . PROFESSIONAL
OVERVIEW

The mobile high-resolution 3D-Scanner is designed to be used directly at crime scenes by crime scene investigators to record impression traces. The scanning technique is based on “fringe projection” combined with high resolution colour images. This technical approach enables the calculation of a highly resolved 3D point cloud with integrated colour layer of the measurement area.

The 3D-Scanner is mounted on a quadpod or handheld, battery powered and records for example, footwear and tyre impression traces and profiles in a fraction of a second and can also be be used indoors for example in custody suites to record the profiles of suspects' shoes.

After each scan, the user receives an automatic notification of whether the measurement was successful and a preview of the recorded 3D and colour data.

WORKFLOW

INDUSTRIES:
- FOOTWEAR TRACES - dedicated workflow
- TYRE TRACES - dedicated workflow
- ANATOMY PATHOLOGY
- FACE CAPTURE
- HERITAGE OBJECTS
- ARCHAEOLOGY

The integrated 3D measurement and colour data can then be analysed to investigate the characteristics of the scanned impressions (from footwear or tyres) and/or profiles (from suspects' shoes or tyres). Different shading variants are calculated which are later used to emphasise marks in the 3D-data. Randomly Acquired Characteristics (RACs) are determined for example through identifying holes, tears, trapped artefacts and wear. Compatible formats: .E57, .LAS, .OBJ, .STL, .WRML

Functionalities:
- 3D CLOUD TO CLOUD REGISTRATION PROCESS: TO MERGE IMPRESSIONS THAT ARE LARGER THAN THE 3D-SCANNER’S SINGLE FIELD OF VIEW
- HIGH RESOLUTION COLOUR DATA
- CLASS CHARACTERISTICS FOR COMPARING AN IMPRESSION’S STRUCTURES WITH IMAGES OR DATABASES
- FULLY 3D DATA NAVIGATION (E.G. TO ROTATE, ZOOM AND PAN; ALSO IN PARALLEL)
- MEASURE, ANNOTATE, FREEHAND DRAW TOOLS
- CROSS SECTIONS TOOLS
- OVERLAP 2D VIEWS/IMAGES AND 3D IMPRESSIONS TO COMPARE, VARYING THEIR TRANSPARENCY
- REPORT .PDF, ORTHOPHOTOS AND FILMS

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The scanner captures a 3D scene in a field of view large enough to capture most shoe sole traces and with a resolution better than 0.2mm. The resolution enables the visualisation of tiny identifying marks, such as small scratches which can be used to build an opinion on the similarities between impressions and a suspect’s shoes.
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