Product Information – ZEISS Reverse Engineering

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ZEISS Reverse Engineering

From a scan to a model
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01 Tools for your reverse engineering job

REAL OBJECT -> POINT CLOUD -> CAD

02 Our unique selling points
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01 Tools for your reverse engineering job

→ Highly accurate approximation of unstructured point clouds by means of NURBS-surfaces
→ Sophisticated tools and functionalities for postprocessing all generated geometries
→ Important tools for analyzing the quality of the calculated curves and surfaces
01 Tools for your reverse engineering job

→ Easy creation of standard geometries using discrete 3D-point-information

→ Provision of important CAD-functionalities in order to completely reverse engineer complex parts:
  Intersecting / Connecting / Extending / …

→ Important functionalities to analyze the quality of the calculated elements
01 Tools for your reverse engineering job

Various, easy-to-use tools to interactively process all your point clouds in your session

→ Rectangle-, polygon- und lasso-selection (XoR-, add- und remove-mode)

→ Intuitive and efficient management of activated points

→ Easy deletion of outliers/noise from your scan
01 Tools for your reverse engineering job

Reliable algorithms for the analysis and the automated postprocessing of the underlying points cloud

→ Curvature estimation to support the segmentation of the underlying point cloud

→ Feature extraction for the automated detection of standard geometrie elements

→ Algorithms for the thinning, smoothing and clustering of the given scan data
02 Our unique selling points

Highly accurate & highest quality surface reconstruction
02 Our unique selling points

Power workflow for tool correction process in injection-molding industry integrated in software:
02 Our unique selling points

**Tool correction in injection-molding industry**

→ Efficient workflow – for a faster start of the production process

01 Nominal data of your product  
02 Actual data of your product  
03 Analysis: Nominal-actual comparison  
04 Deviations are transferred to your tool  
05 Corrected tool
02 Our unique selling points

Support of correction process at experienced development partner from injection-molding industry:

→ Outer areas including blended areas have been corrected (cf. red trapezoids)
→ After only one iteration we could satisfy all geometrical requirements in the region of interest
→ Follow-up projects with development partner have been already set up
→ All calculations for the correction executed with algorithms available in ZEISS Reverse Engineering

INCREASE POINT DENSITY

1P 3000 P

TIME REDUCTION OF ITERATION CYCLE:

2d 5h
02 Our unique selling points

Full integration in metrology
Software CALIGO

Today: ZEISS Reverse Engineering as a standalone product

Mid-term: Full integration in metrology software CALIGO
03 Topmodern graphical user interface

Easy-to-use and intuitive user interface to software
03 Topmodern graphical user interface

Clear, smooth, slim and consistent layout of software

→ A: Application Bar
→ B: Menu Bar
→ C: Explorer
→ D: Status Window
→ E: Action Bar
→ F: Editor
→ G: Content View
→ H: Tool Bar
03 Topmodern graphical user interface

User guidance „from left to right“, „from top to bottom“

→ Management of all elements in Explorer
→ Choice of functionality category in Action Bar
→ Choice of to be created/manipulated/analyzed element type in Editor-Submenu
→ Final choice of function, input of necessary parameters and execution of function in Editor-Dialog
03 Topmodern graphical user interface

Continuous support of user:
3 examples

Favorite Actions
Quick access to repeated functionalities via user-defined „Favorite Actions”

Cue Bar
Ongoing user guidance by means of context-sensitive „Cue Bar”

Inline Message Box
Support of user through context-sensitive „Inline Message Box”
03 Topmodern graphical user interface

User guidance – consistent principles

Short period of vocational adjustment

Vision: Carl Zeiss IMT Software – you always work in a familiar environment

Short training phase
Goal: 2 days

New functionalities can be easily integrated in the existing structure and user concept

Intuitive user interface