GENTRAY 3®

NDT Inspection Path Programming

tecnatom

www.tecnatom-ndt.com

Gentray 3 is a comprehensive and high-performance solution for computer aided design and generation of inspection paths on aeronautical and industrial components.
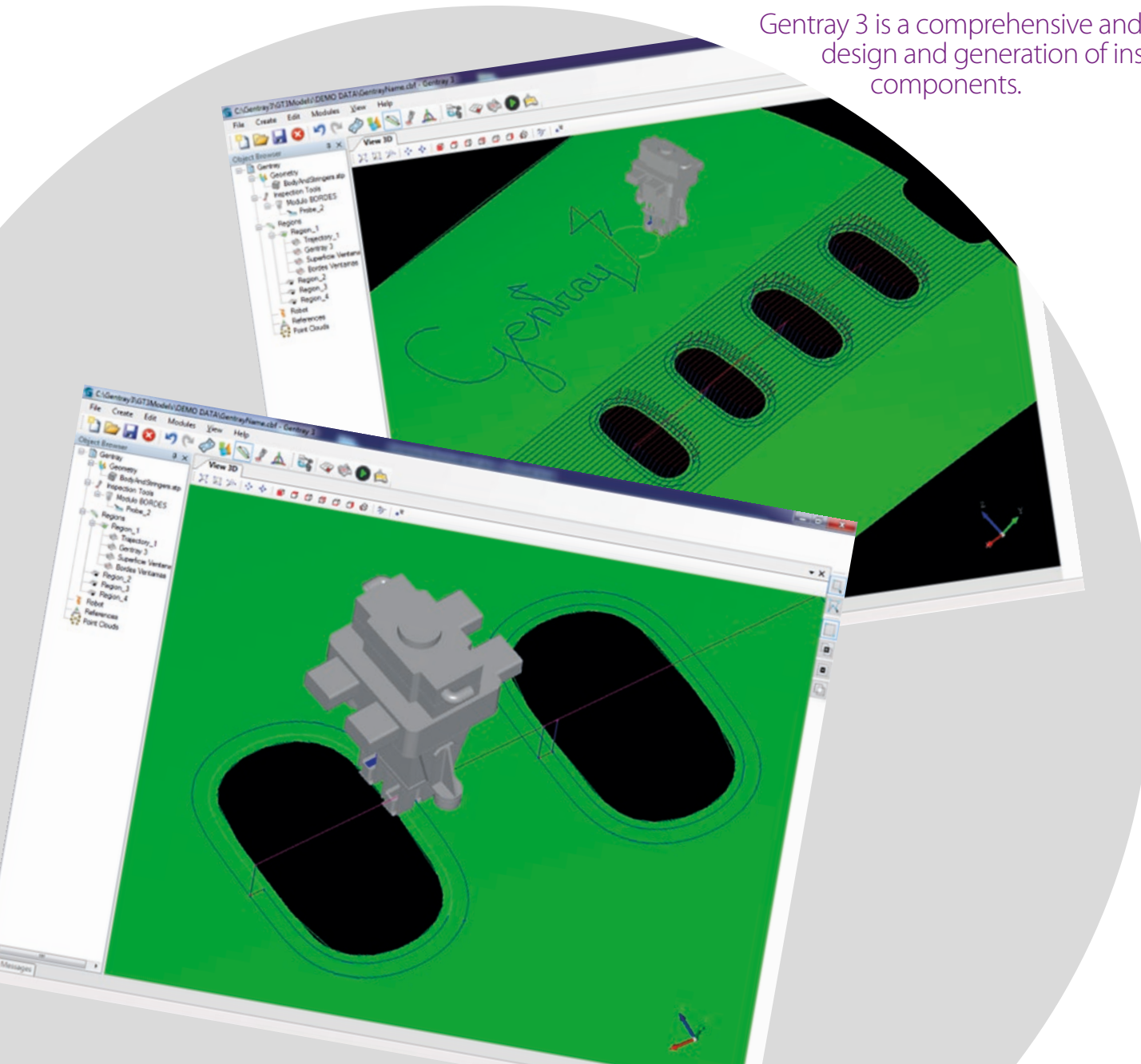
- Loading of CAD files of the components to be inspected.

- Loading of point clouds obtained by digitalization of components and surface reconstruction.

- Full flexibility for inspection path planning design for 3D pulse echo and transmission systems.

- Double inspection tool positioning in 3D following front and rear component surfaces.

- Complete set of strategies for automatic generation of complex trajectories based on CAD geometry. Manual edition available for tuning up the inspections.

- Visual 3D simulation of End-Effectors motion.

- Surface coverage analysis for designed paths.

- Three-point correction for establishing the part position within the workspace.

- Customizable generation of trajectories in any motion controller programming language.

- Inverse kinematic computation capabilities.

- Capabilities for including events or labels everywhere in trajectory programs.

- Full integration with laser teaching system FALCOM-3D®.

- Full integration with NDT suite InspecView® applications for remote generation of trajectories in Re-test, Go-to- point and marking operations.

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INSPECTION SCENERY DEFINITION
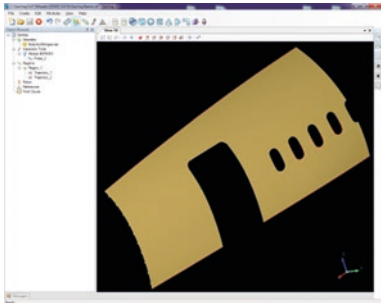
COMPONENT DEFINITION
- Import component CAD files in exchange formats STEP and IGES
- Reconstruction of surfaces from point clouds
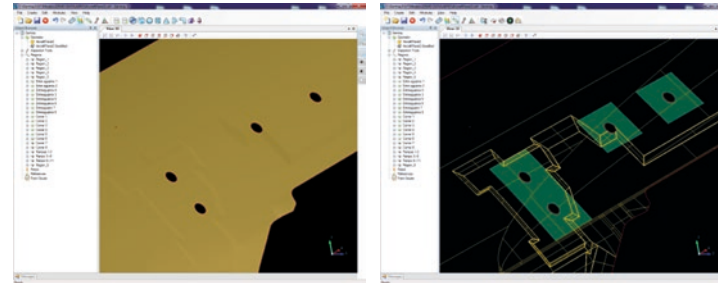
REGIONS DEFINITION
- Definition of custom inspection regions in which trajectory will be designed.
- Trajectories belonging to different regions can be included in the same trajectory program.
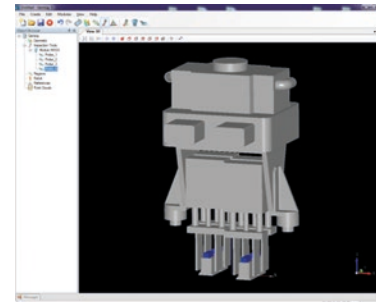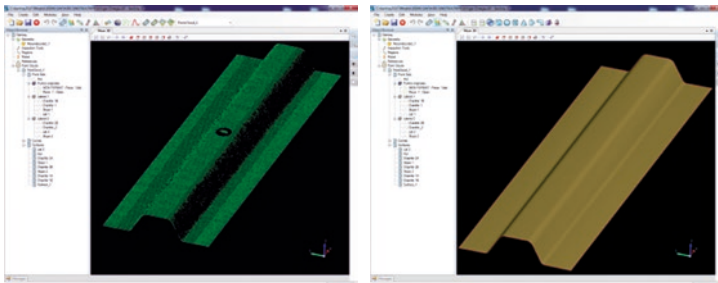
INSPECTION TOOL MODELING
- Import CAD files defining the shape of inspection tool
- Model the probes at the inspection tool
- Exchange tool models between Gentray 3 projects

TRAJECTORY DESING AND PROGRAM GENERATION

- Design trajectories in the 3D viewer by mean of aided strategies
- Tune-up designed trajectories with a full catalogue of edition and design tools
- Customizable reorientation of inspection tool
- Validate trajectories by simulation and coverage estimation tools
- Double inspection tool positioning in 3D according front and rear surfaces
- Trajectory sampling according to system needs and surface complexity
- Generate machine language trajectory program by processing the sampled trajectory
- Support for kinematic calculations of mechanical equipment
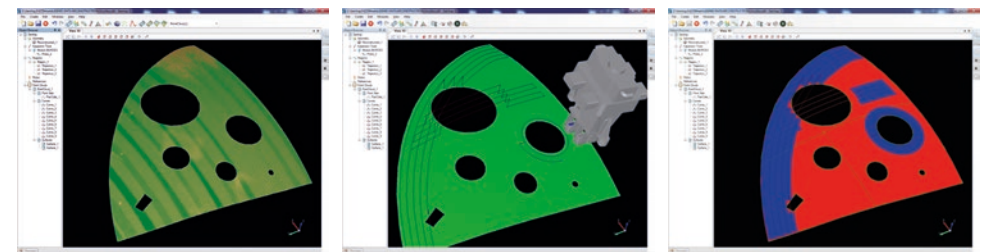
GT3 SUMMARY

- Load or reconstruct the component surface
- Design trajectories
- Analize coverage and simulate
- Generate trajectory program and execute
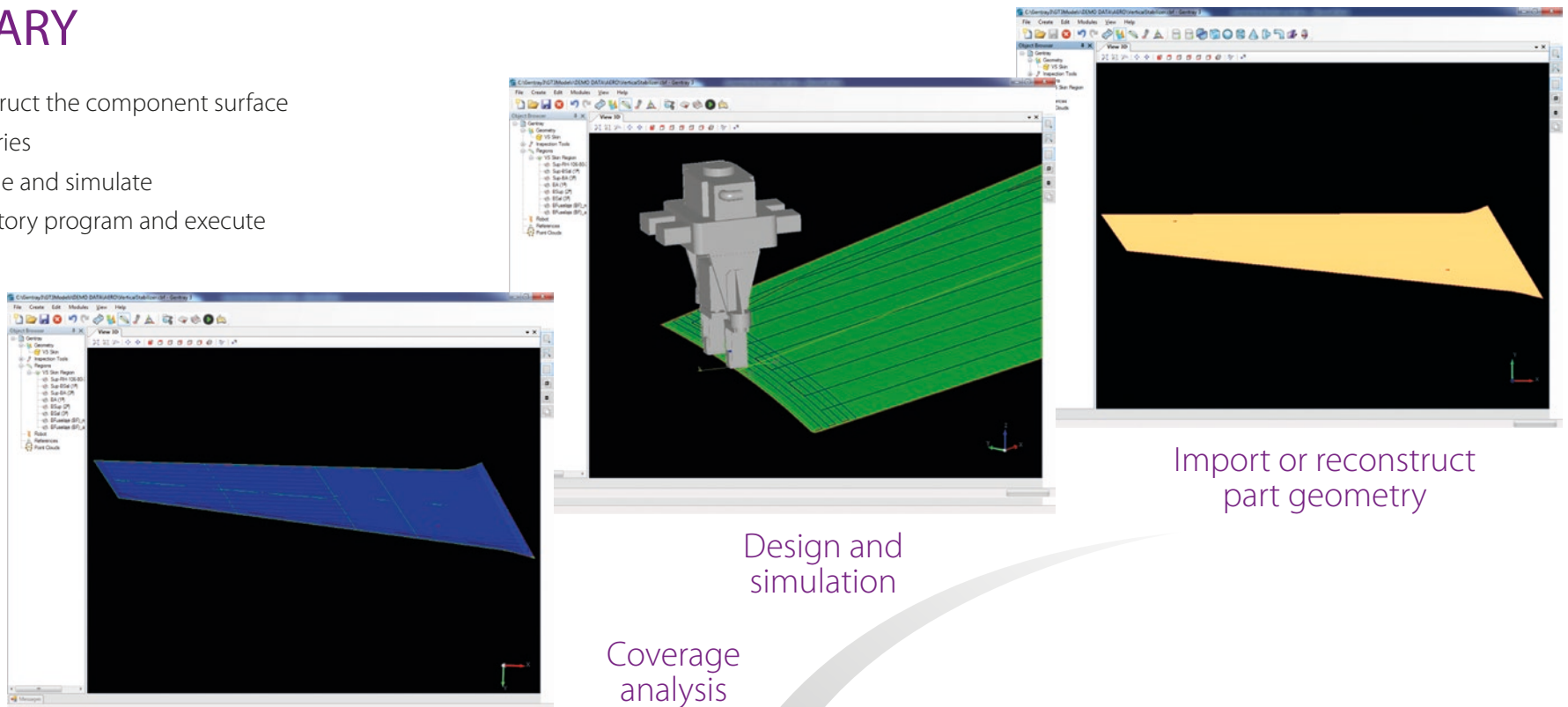
Import or reconstruct
part geometry

Design and
simulation

Coverage
analysis

Execution of
inspection
trajectory