



Unique Technology for Air Vehicle Digitization

SCDS developed a leading-edge technology for aircraft digitization, accurate geometry creation and reverse engineering of the whole aircraft. The workflow complies with unprecedented performances:

- o Non-contact tri-dimensional sensing (laser scanning) performed in maximum two days, regardless the air vehicle size
- o Solid model creation in another three days
- o Global point distance accuracy within 1 millimeter, after the surfacing step, combined with a detail accuracy of 50 μ m
- o Creation of high quality lofts (NURBS-based)

SCDS went far beyond the routine tri-dimensional sensing by developing reliable in-flight scanning capabilities for several flight regimes and maneuvers. Obtaining the accurate shape of the aerodynamically loaded wing is now easier than ever. It only requires an appropriate flight test program and a quick and safe setup of the sensing unit inside the cabin. An accurate and consistent real-time sensing is achieved in short and eventually iterative maneuvering intervals. Digital processing is then applied to those specific wing stations that have previously been collected via in-hangar sensing. We can quickly obtain not only several loaded wing shapes but also a direct comparison of the same wing for different G-loads.

Effective Solutions for:

- o Understanding the differences between predicted and actual aircraft performance
- o Aircraft maintenance and fleet replacement management through accurate evaluation of the structural integrity of the wings of aging aircraft

Available Export Formats:

- o DXF/DWG, IGES, STEP, STL, ASCII (XYZ, TXT, PTS)

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