Computer-vision-based NDE in aeronautics

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Airplanes are periodically inspected, either on the airport tarmac between two flights (preflight inspection) or in a hangar during maintenance operations. Today, these inspections are done by human operators, generally visually and sometimes with the help of some inspection tools (for instance to evaluate the criticality of a crack detected on the plane fuselage). In order to make the inspection more quick, more exhaustive and more accurate (and also for traceability reasons), a multi-partners research project is being carried on in order to develop a mobile robot equipped with several optical sensors (cameras and 3D scanners) to perform an automatic inspection of an airplane. This project will be presented.