GelSight, Inc.:
GelSight Mobile

NCMS Technology Showcase
FRC East

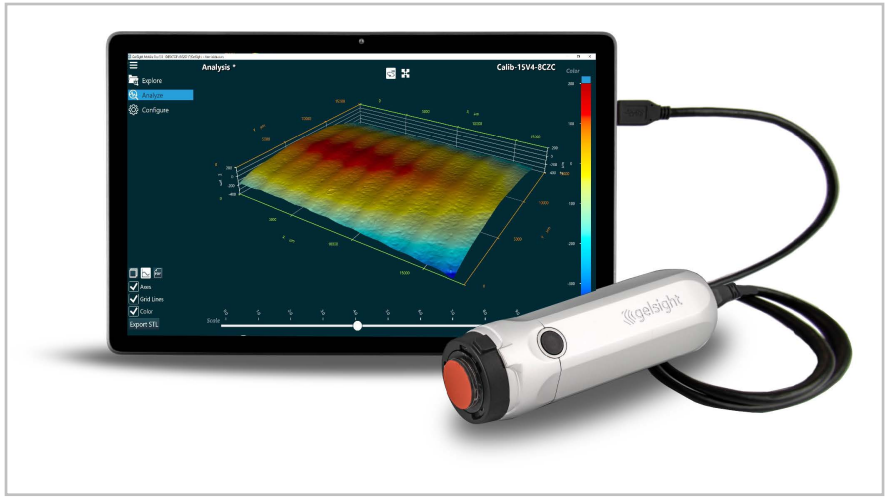
PROBLEM STATEMENT

Aircraft operate in demanding environments requiring the design intent of engineers is guaranteed in new production and during the system lifescycle. It can be difficult to detect surface imperfections on components with the industry using a mix of manual processes and lab instruments to guarantee component quality and condition.

BENEFITS

At GelSight, we've developed GelSight Mobile and Max, revolutionary touch-based metrology sensors offering unparalleled precision at the micron level. This groundbreaking technology empowers metrologiests and inspectors by delivering data-driven insights into surface characteristics, enabling them to make informed decisions with confidence. GelSight is a fully mobile solution which can be employed with any Windows 11 computer. Due to their elastomeric gel sensor, GelSight can quickly do surface characterizations of any material regardless of reflectivity, transparency or environmental lighting conditions. The system is truly handheld and with a high resolution live view, can show and analyze many types of surface defects. GelSight knows users need their data and offers fast .pdf reporting, /stl, .x3p and .csv outputs. Any Material, Anywhere.

TECHNOLOGY SOLUTION

GelSight offers a mobile 3D surface characterization tool. The GelSight system contacts the surface with an elastomeric gel sensor creating a constant contrast without using powders or other materials to image the surface. GelSight uses a proprietary probe containing a computer vision camera and signal electronics to illuminate the surface, trigger the captures used for the 3D reconstruction of the surface, and sends the data over USB C to a Windows 11 PC. The GelSight Mobile software shows a 23D live view offering critical insights to the user. The user triggers a capture of the area of interest, and GelSight Mobile software is then used to analyze the surface roughness, dents, scratches, cracks, corrosion and other defects and characteristics of the surface.

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