

3D Laser Scanning Deployment for A330 Veer Off Runway in Myanmar

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3D Laser Scanning Deployment

- Evidence documentation



3D Laser Scanning Deployment

- Greatly reduces the need to correlate information from multiple sources
- Increased accuracy in the evidence documentation
- Infinite opportunities to virtually revisit wreckage site



3D Laser Scanning Deployment

Key parameters	Specification
Range	Up to 120m
Measurement speed	Up to 976,000
Accuracy	Down to +/- 2mm
Field of view	300° vertical 360° horizontal
Weight	5kg (scanner only)
Battery life	Up to 5 hours

3D Laser Scanning Deployment

- History of flight
 - 21 May 2014 at about 0243 UTC, an A330 Singapore to Yangon
 - landing in heavy rain and strong cross wind
 - drifted to the right and veered off the runway.
 - The crew brought the aircraft back on the runway.
 - Some hydraulic systems were damaged, tyres deflated and mud found on engine.

Yangon International Airport



imagery Date: 1/19/2014 2004

16°54'48.45" N 96°07'56.85" E elev. 19 m

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Eye alt. 1.55 km

3D Laser Scanning Deployment

- 2 AAIB investigators travelled to Myanmar
 - field investigation equipment
 - 3D laser scanning system



3D Laser Scanning Deployment



Left landing gear re-entry



Right landing gear re-entry

3D Laser Scanning Deployment



Inspection of aircraft for damage



3D Laser Scanning Deployment



Left flap track fairing



Right flap track fairing

3D Laser Scanning Deployment

Before	After
Longer time and more manpower required to complete site documentation	Shorter time and lesser manpower needed (up to 120m per scan)
Less precise tools and equipment produce larger measurement errors	Down to 2mm accuracy
Risk omitting crucial measurements	Scanned volume can be revisited indefinitely



3D Laser Scanning Deployment

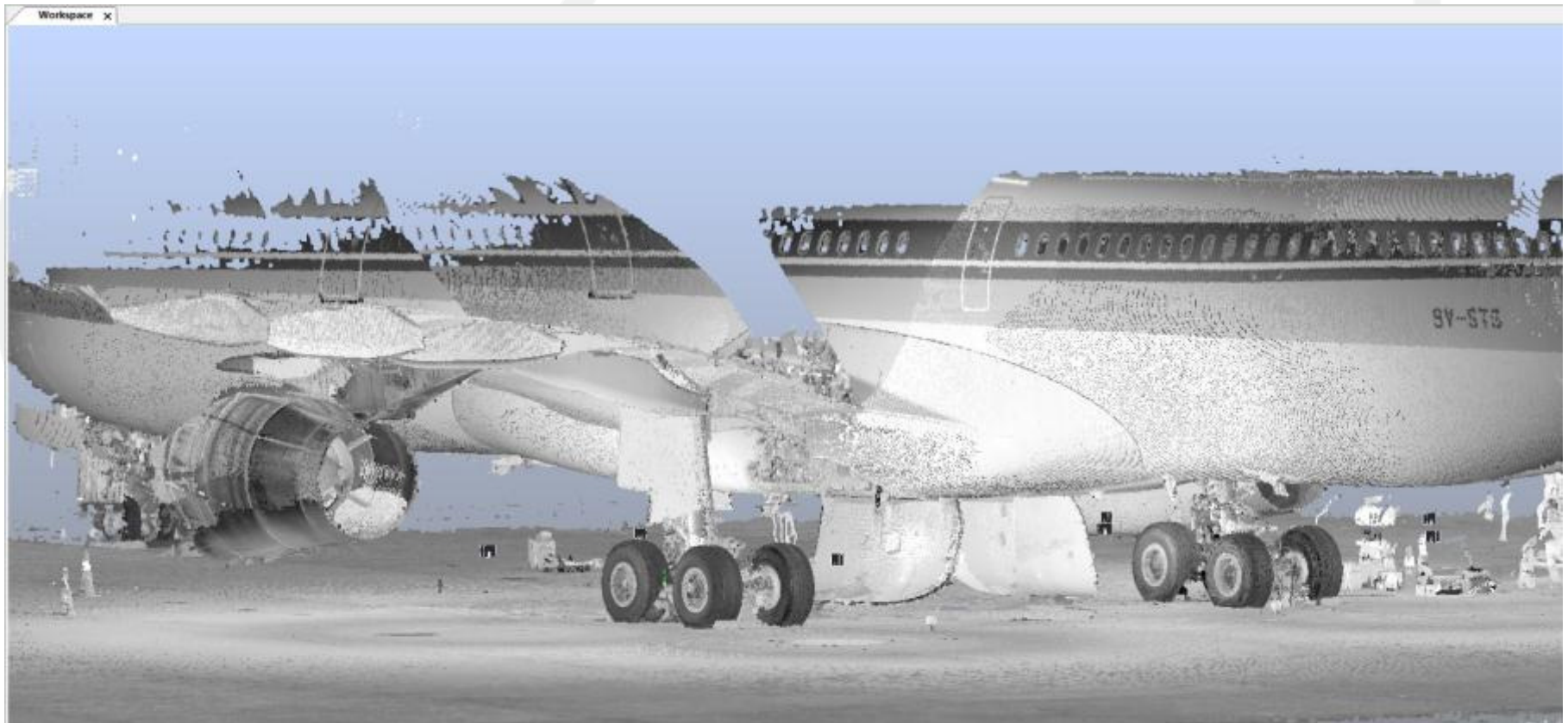
- Manpower reduction
 - Focus and perform other investigation activities
- Time savings
 - On site activities completed sooner
 - Shorter runway closure
- Reduces need to correlate information from multiple sources

3D Laser Scanning Deployment



Setting up laser scanner

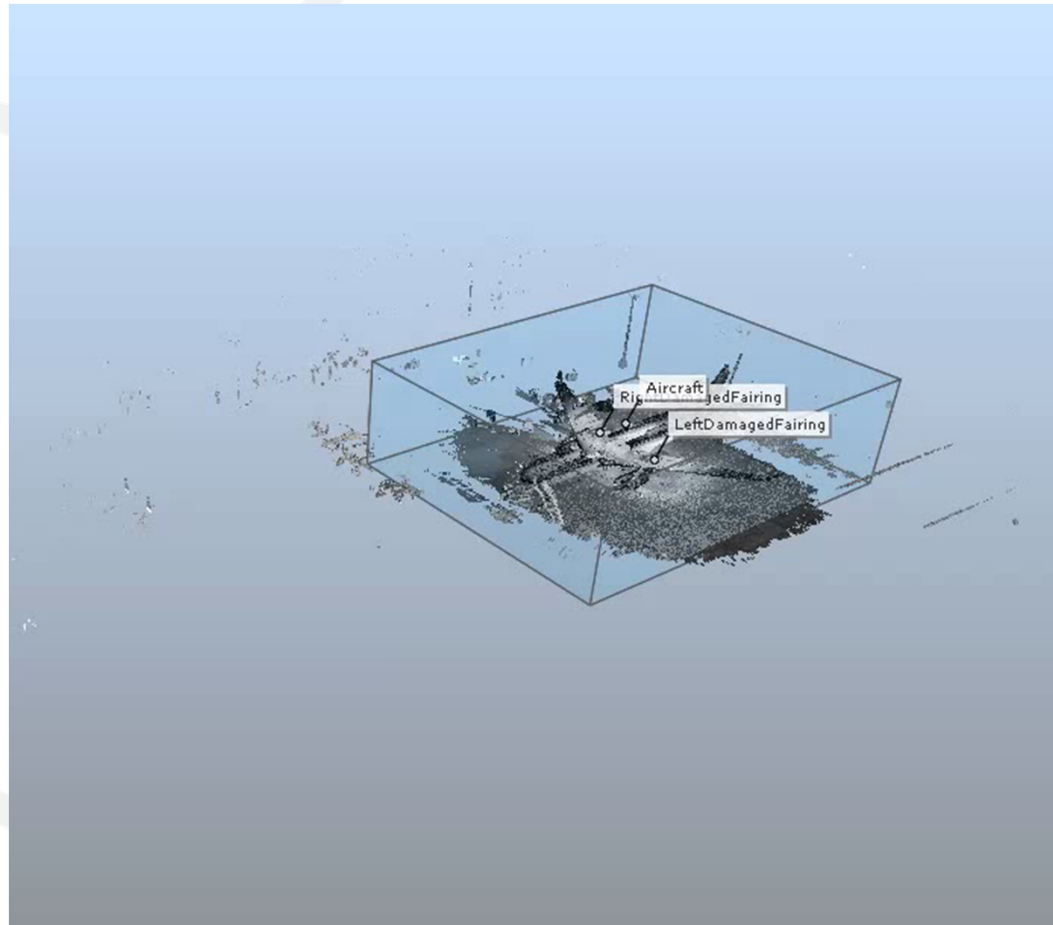
3D Laser Scanning Deployment



3D Laser Scanning Deployment

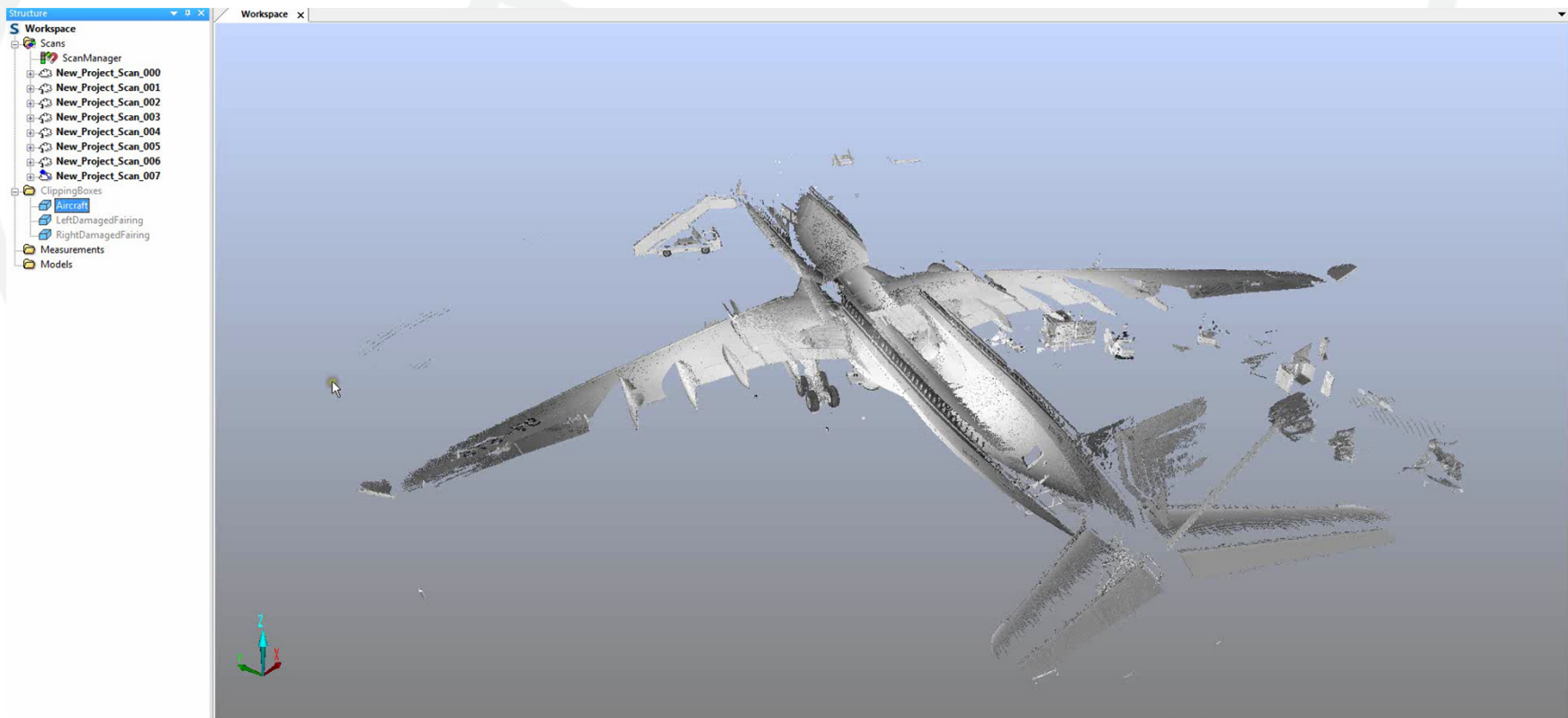
- Revisit virtually wreckage site
 - Valuable for active investigation
 - Useful for future training

3D Laser Scanning Deployment



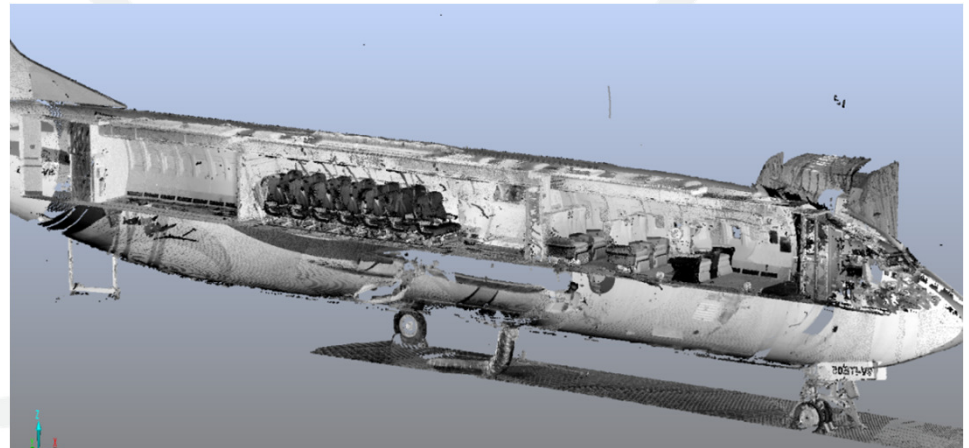
3D Laser Scanning Deployment

- Detailed measurements

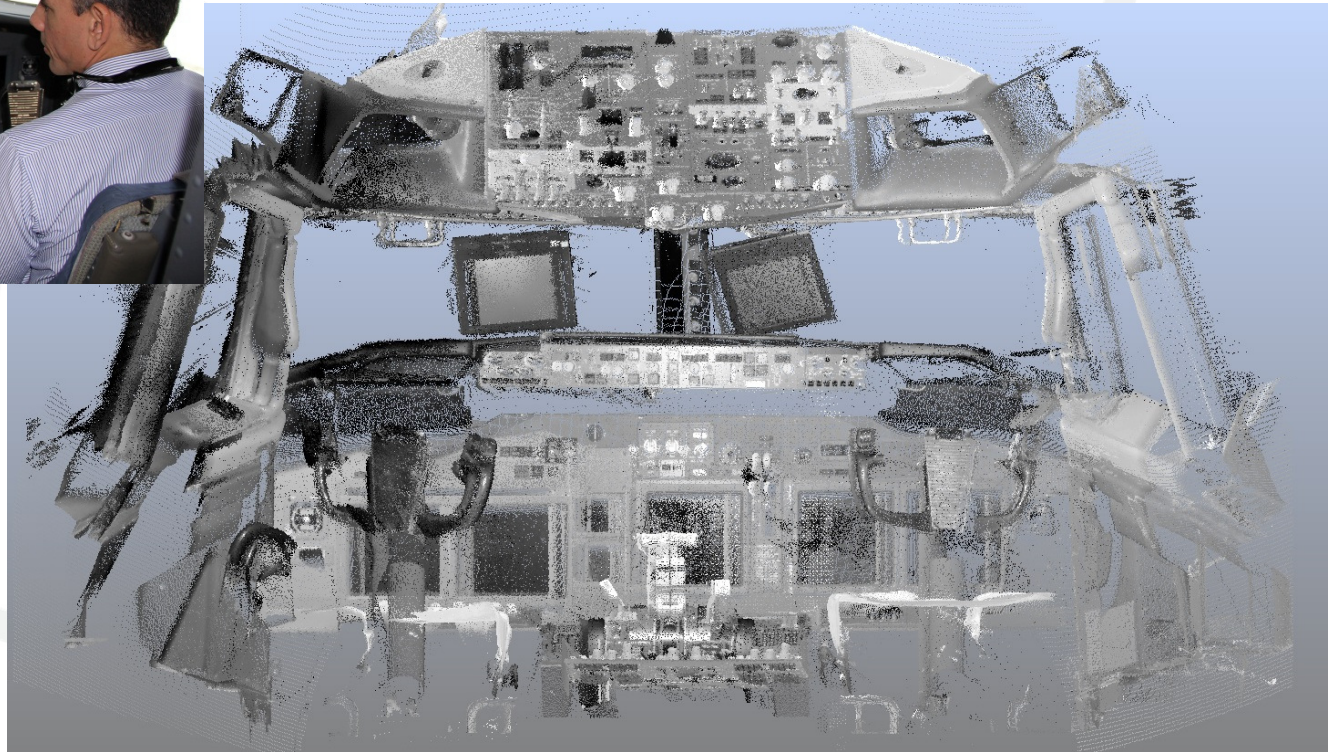


3D Laser Scanning Deployment

- Trial scanning of school's aircraft



3D Laser Scanning Deployment



3D Laser Scanning Deployment for Runway Excursion in Myanmar

Thank you