



USE CASE /

Aircraft Technician Training

Augmented Reality supports on-the-job training by providing aircraft maintenance technicians with visual guidance for complex tasks. Integration of AR guidance within electronic maintenance work cards reinforces task execution by displaying unambiguous, 3D maintenance information and instructions prior to starting a workflow.

AR Technologies

The following technologies support Augmented Reality-enhanced aircraft maintenance training:

- XML-based software architectures for production of technical publications and work cards (e.g., S1000D), which integrate AR-assisted instructional training
- A mobile AR device such as a head-mounted display or a tablet computer
- An optional communication device such as a bluetooth headset

Integration of AR capabilities directly into electronic work instructions enables seamless access to AR-based training when and where needed.

Data Sources

Sources for AR-enhanced maintenance technician training include:

- Maintenance procedures, training publications and illustrated parts catalogs
- Digital asset repositories of helicopter part information, some of which are CAD models
- Service publications such as service bulletins and service letters

Users

Users of AR-enhanced aircraft maintenance training systems are technicians performing corrective and preventive maintenance on all classes of aircraft.

Example Scenario

In a hangar, a helicopter technician must replace the wheel of the right main landing gear of a turbine helicopter as part of base maintenance.

Using a smartphone to find the appropriate work card for the maintenance procedure, the technician reads through the steps. To refresh his memory since his last training on the procedure, the technician clicks the "Help" button and points the device at the wheel. The smartphone displays Augmented Reality guidance about the position of the gear notches. This reminds him of the correct gear disassembly steps before proceeding with wheel replacement.