USE CASE

AD Aerospace Ground Manoeuvring Solution

20% of aircraft accidents involve ground manoeuvring, with **over half** of these involving aircraft on the ground[1].
Source: ICAO, 2018

Visibility is the **PROBLEM**

Large aircrafts (such as Boeing 747-8), present situational awareness challenges to pilots manoeuvring on the ground where wingtips are not visible from the cockpit. This increases the risk of collision with airport ground equipment or structures. In addition, many pilots have experienced difficulty in evaluating the position of the outer main landing gear when taxying, with increased risk of the outer main gear running over the edge of the taxiway whilst conducting turning manoeuvers.

AD Aerospace Ground Manoeuvring System is the **SOLUTION**

Our system provides the pilot with a clear view of the 'Blind Spots' directly to the Electronic Flight Bag (EFB). Furthermore, the system records the video, should it be required at a later date.

'Blind Spot' visibility is achieved with two cameras: one camera fitted to the left, and one to the right tips of the horizontal stabilizer, for situational awareness.

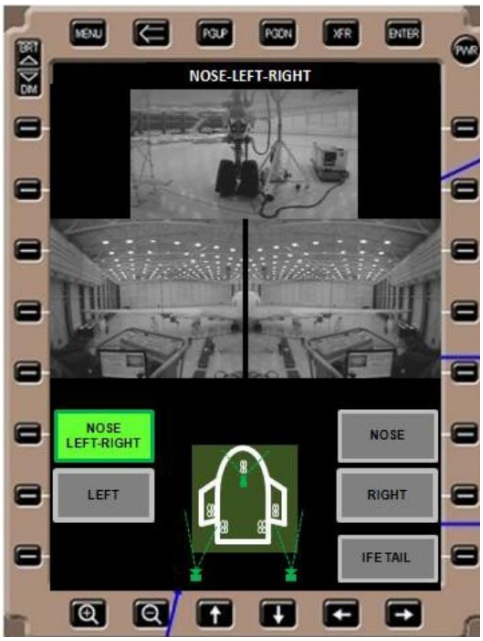

Figure 1: 'Blind Spot' visibility diagram

[1] https://www.icao.int/safety/Documents/ICAO_SR_2018_30082018.pdf

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The Technical Details

Figure 2: FV-0610 Video Transmission Unit

FV-0610

Video Transmission Unit

The backbone of this system is the FV-0610 Video Transmission Unit, which provides up to 8 video inputs. These inputs are multiplexed, digitized, compressed, and stored on a Compact Flash memory card.

Figure 3: FV-0315 External Video Camera

FV-0315

External Video Camera

The FV-0315 External Video Camera is a rugged and compact camera. With titanium housing and Sapphire Glass protection for the lens, the analogue performance removes any fear of latency issues that might have been a problem with a digital unit.

Figure 4: System Schematic

The Graphical User Interface (GUI), which is installed on the Electronic Flight Bag (EFB), allows for full control over camera inputs and visibility. The functionality included provides simultaneous viewing of the three situational awareness cameras utilizing a "stitched" image, which combines the outputs from the left and right horizontal stabilizer cameras into one single image. In turn, this provides wing tip to wing tip visibility to facilitate the risk reduction of external collision whilst manoeuvring on the ground.

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