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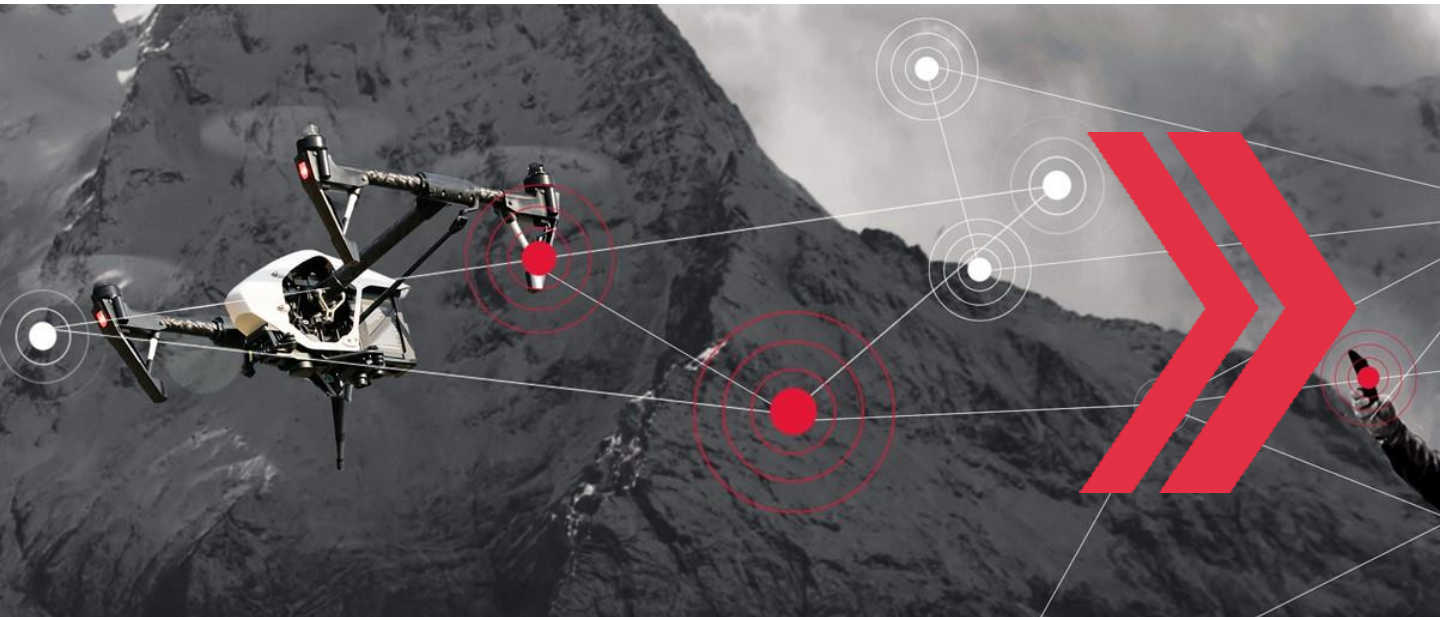
CASE STUDY

Drone Enabled Cognitive Inspection (DECI)

BUSINESS CONTEXT

- Considerable time and effort spent on visual inspection of hard to reach locations / large structures (e.g. aircraft, storage towers in factories, etc.,)

- Manual inspections are prone to errors resulting in damages not getting detected early

- Results in avoidable revenue loss due to downtime, higher cost of repairs and safety issues

APPROACH AND SOLUTION

- Computer vision solution using deep learning to identify and locate damages like corrosion, dents etc. on streaming video from drones hovering over different parts of the structure

- YOLO model trained on multiple objects for identification of damaged parts

- Algorithm for planning, inspection and maintenance of parts

- Classification of damages into different categories like dent, corrosion, crack, etc.

IMPACT & HIGHLIGHTS

Improved process for early identification & maintenance of damaged parts

50% reduction in part scrapping

80% reduction in inspection time

40% to 70% reduction in manual inspection efforts

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