UAV CATASTROPHIC EVENT

UAV LOSS combined with HITTING PEOPLE

COURSE DEVIATION COMBINED WITH COLLISION WITH ANOTHER A/C

$$p_{catastrophic} = p_{\substack{UAV \\ System \\ Loss}} \times p_{\substack{Hitting \\ People}} =$$

$$= p_{\substack{UAV \\ System \\ Loss}} \times \left(DP_{\substack{Density \\ Population}} \times A_{debris} \right)$$

MINIMUM EQUIPMENTS/SYSTEMS:
- navigation and anti-collision lights (24 hours a day)
- Communication System "Earth/Board/Earth"
- a telephone inside the Ground Control Station
- Transponder

INVESTIGATE THE FEASIBILITY TO ADAPT AND USE SYSTEMS AS:
- Traffic Collision Avoidance System (TCAS),
- Low Altitude Alerting System,
- Ground Proximity Warning System (GPWS),
- Terrain Awareness and Warning System (TAWS),
- Automatic Dependent Surveillance - Broadcast (ADS-B)

ARMAEREO
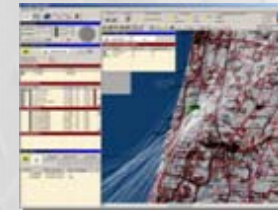
SSA

P (SYSTEM LOSS)

P (HITTING PEOPLE ON GROUND)

A/C INHERENT RELIABILITY

POPULATION DENSITY

THE INTRODUCTION OF THE POPULATION DENSITY ALLOWS TO CERTIFY THE DESIGN OF UAV SYSTEM WITH LOW INHERENT RELIABILITY (RATE OF SYSTEM LOSS), THOUGH MAINTAINING AN HIGH DEGREE OF SAFETY AGAINST THIRD PARTIES