

# Maximum visibility for safe helicopter operations.



Ensure maximum flight safety. Rely on RUAG Aviation's proven system upgrades and engineering expertise to upgrade your visibility for increased confidence. RUAG integrates SFERION<sup>®</sup>, the state-of-the-art pilot assistance solution from Airbus DS Electronics & Border Security GmbH providing outstanding augmented reality during limited visibility conditions. This is the only pilot assistance system supporting all mission phases, including take-off, active flight, approach, and landing based on high precision, real-time 3D sensor-database fused information.

Safe landings and secure mission operations require reliable identification of outside reference points. Limited visibility conditions, caused by extreme weather fronts, whiteouts and brownouts, in dust, fog and smoke, make landmarks unrecognizable. Safe flight operations and real-time decision-making become more demanding.

## Reliable reference points, even in limited visibility situations

Steady, high quality situational awareness is crucial for safe and effective helicopter operations. When references points and landmarks are made unrecognizable by limited visibility conditions, the approach, landing and take-off phases become extremely challenging, especially with regards to unseen obstacles and uneven terrain.



Zero light landings (night)



Extreme weather fronts



Brownout (dust, self-induced rotor down wash)



Whiteout (snow, self-induced rotor down wash)



Flat light



Fog



Smoke

## Integrate the SFERION® solution with confidence

RUAG is your reliable upgrade partner for integration expertise and helicopter availability. Efficient to integrate, the SFERION® pilot assistance system for heightened visibility is your best advantage for enhanced mission safety. The only available solution combining both active flying and landing support, the system provides real-time sensor and data fusion to create a 3D augmented reality and the necessary reference points for increased safety in demanding limited visibility conditions and situations.

### SFERION® features 3D conformal visual cues on a helmet mounted display (HMD)

- Ensures necessary spatial awareness
- Assesses adequacy of landing zone
- Identifies obstacles in approach and landing zones
- Collects input from onboard database and 3D laser sensor
- Supports low-level flights pinpointing reference points
- Calculates terrain levels and surface details
- Is interfaced with the Helmet Mounted Display (HMD) with optional displays for 3D synthetic visualisation on a Head-Down Display (HDD) for the crew



**3D conformal en-route symbology**

### Pilot assistance for mission safety

Choose RUAG Aviation and you choose SFERION® as your pilot assistance system for limited visibility situations.

- Pilots realistically see outside reference points and visual cues
- Maximized mission safety, despite visual conditions
- Pilot assistance and extended mission capability during all flight phases
- Integration expertise combined with excellent system performance
- Only system offering 3D visual cues, based on real-time 3D sensor-database fused information, for both active flying and landing, retrieves process relevant information for informed real-time decision-making
- Flexible design combines exterior mount and ergonomics of HMD, with optional HDD, for dual pilot interfaces and advanced communication
- Identifies potential landing site, interpreting surface terrain and obstacles, as well as safest approach path
- HMD enables flexibility and exceptional reaction times for all situations
- Safely fly at low-levels even with impaired outside world visibility
- Optional head-down display (HDD) for 3D advanced synthetic visualisation

