

Innovation – Simpler & Safer





Established in 1986, AEI represents the main Helicopter Operators engaged in HEMS, Fire-Fighting, Off-Shore, Commercial Transportation, as well as enterprises providing services of support for Helicopter Operators.

Missions: representation of Operators' interests vis-a-vis the Civil Aviation Authority and EASA; negotiation of the Pilots' Labour Collective Agreement; promotion of the use of Helicopter in all possible fields.



Established in 1980, EHA represents the VTOL community in 13 Countries across Europe,

Missions: to speak as THE voice for the European VTOL industry at the European Institutions and elsewhere, promoting the best interests of all sectors.

Focused on promoting the use of the helicopter as a vital tool for improving the safety of citizens, enhancing National security and adding economic value to the European Union's collective wealth. EHA members are rotorcraft operators, manufacturers, service providers and suppliers all working together for a common cause.



Great News: 2027 Edition will be held in Milan. Program will include Aviation Law seminars dedicated to VTOL

1. Night Vision Imaging Systems

Night flights safe and efficient



- Increase of the demand for helicopter night flights (especially with HEMS)
- Night vision goggles (NVGs) are crucial for helicopter pilots operating at night, enabling them to see in low-light conditions and enhancing situational awareness. They work by intensifying existing light, making objects visible that would otherwise be hidden to the naked eye. Helicopters often use binocular NVGs, allowing for a wider field of view and greater depth perception.

Night Vision Imaging Systems

EASA Regulation

ANNEX V (PART-SPA) – SPECIAL APPROVALS

SUBPART H: HELICOPTER OPERATIONS WITH NIGHT VISION IMAGING SYSTEMS

SPA.NVIS.100 Night vision imaging system (NVIS) operations

Approval of the operator by the competent CAA.

To obtain such approval by the competent authority, the operator shall:

- (1) operate in commercial air transport (CAT) and hold a CAT AOC in accordance with Annex III (Part-ORO);
- (2) demonstrate to the competent authority:
 - (i) compliance with the applicable requirements contained in Subpart H;
 - (ii) the successful integration of all elements of the NVIS.

Night Vision Imaging Systems

EASA Regulation

- (a) ***Airworthiness approval*** in accordance with Regulation (EU) No 748/2012.
- (b) Radio altimeter. The helicopter shall be equipped with a radio altimeter capable of emitting an audio warning below a pre-set height and an audio and visual warning at a height selectable by the pilot, instantly discernible during all phases of NVIS flight.
- (c) ***Aircraft NVIS compatible lighting*** (to mitigate the reduced peripheral vision cues and the need to enhance situational awareness). By way of example: NVIS-compatible instrument panel flood-lighting, if installed, that can illuminate all essential flight instruments.
- (d) ***Additional NVIS equipment*** (back-up or secondary power source for the night vision goggles (NVG); a helmet with the appropriate NVG attachment, etc)
- (e) ***Proper classification*** of NVG on an NVIS flight (the same filter class and shall provide for sufficiently equivalent visual acuity)
- (f) ***Continuing airworthiness***

Night Vision Imaging Systems

EASA Regulation

Specific requirements for Crew (training, qualification)

Experience. Commander with no less than 20 hours VFR at night as pilot-in-command/commander of a helicopter before commencing training.

Operational training. All pilots shall have completed the operational training in accordance with the NVIS procedures contained in the operations manual.

Recency. All pilots and NVIS technical crew members conducting NVIS operations shall have completed three NVIS flights in the last 90 days.

Crew composition = minimum crew (aircraft flight manual (AFM); operational approval for the NVIS operations)

Crew training and checking = in accordance with a detailed syllabus approved by the competent authority and included in the operations manual.

A risk assessment is suggested prior to any NVIS operation.

The risk assessment should include as a minimum:

1. illumination level; 2. weather; 3. pilot recency of experience; 4. pilot experience with NVG operations; 5. pilot vision; 6. pilot rest condition and health; 7. windshield/window condition; 8. NVG tube performance; 9. NVG battery condition; 10. types of operations allowed; 11. external lighting environment.

Night Vision Imaging Systems

EASA Regulation

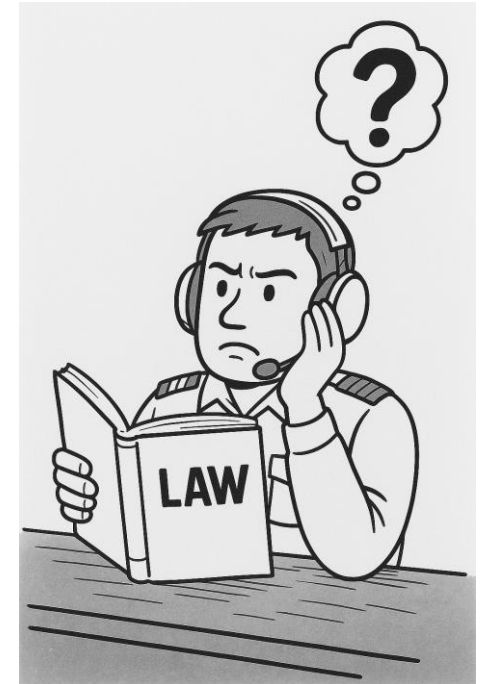
Next Challenges

At the next R.COMM (24 & 25 Jun) with EASA, the existing position of having to operate under Part-CAT to be able to hold a SPA.NVIS approval will be discussed.

While the vast majority of operators will have an AOC (i.e. for HEMS) there are operations under SPO and high-end NCC (Non-Commercial operations with Crew) that could also benefit from the safety enhancements offered by NVIS.

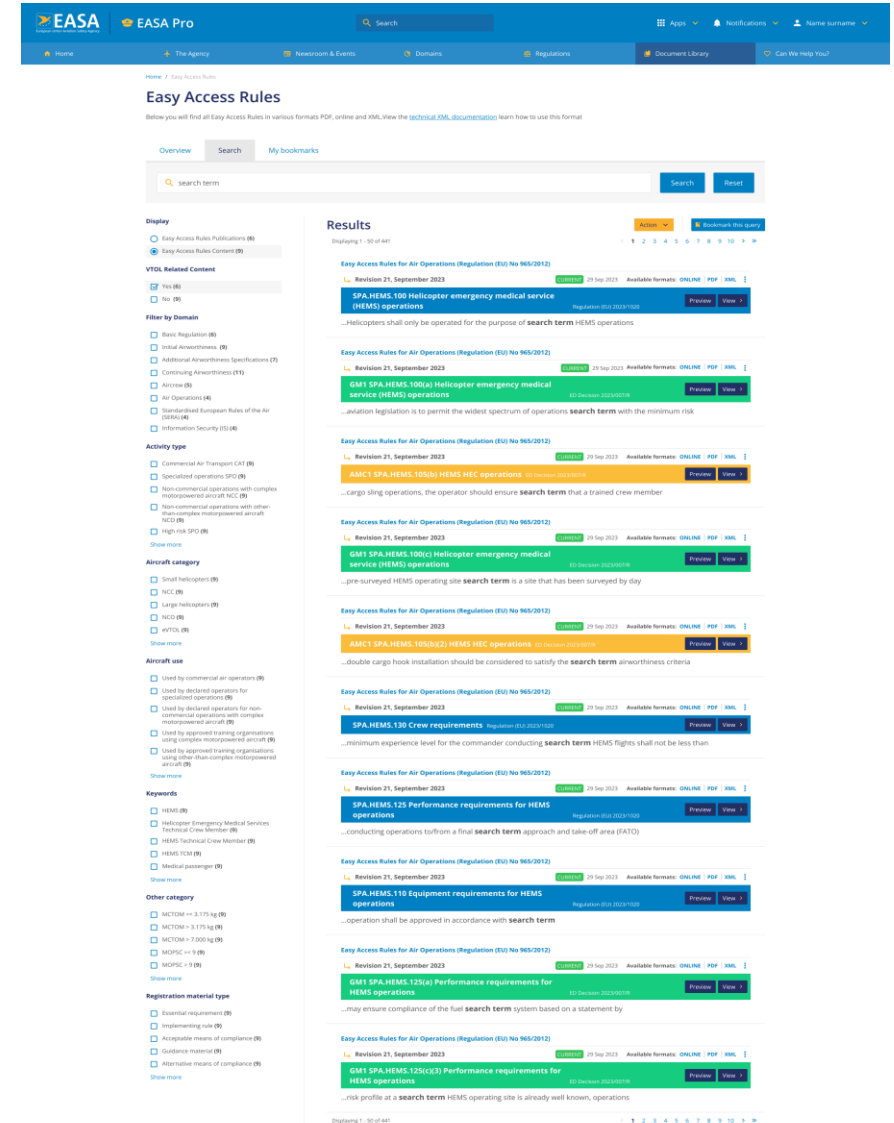
2. Simpler Rules Lead to Safer Operations

- ✓ Operators' concern: so called “over-regulation”, but another real problem is: are regulations understandable and accessible?
- ✓ It would be naïve to believe that we will ever see a widespread reduction in regulations
- ✓ The issue, therefore, is presenting them in an accessible and digestible form that allows the reader to pick out the wood from the surrounding forest
- ✓ The EHA and its members, working with EASA is developing a significant enhancement to the existing ‘Easy Access Rules’ to allow each and every user to have a tailored version of the regulations to suit their operation
- ✓ All applicable rules should be captured.
- ✓ To achieve this, every single article and sub-part has metadata applied to identify its place and relevance



Simpler Rules Lead to Safer Operations

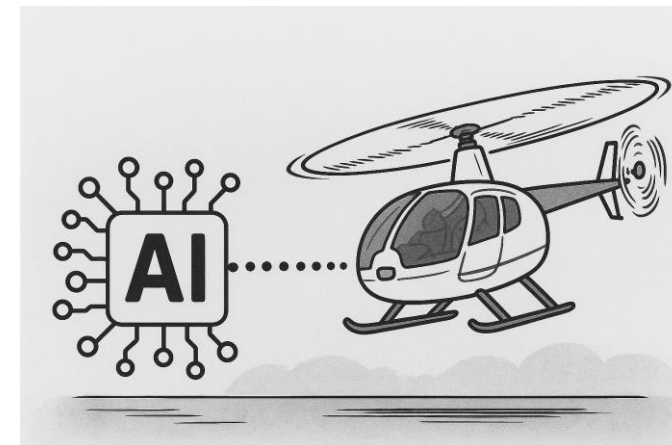
- By inputting specific criteria, relating to their intended activity, they will be left only with the hard and soft law articles they will be required to comply with
- The criteria includes:
 - Domain (i.e. Basic regulation; Initial airworthiness; air operations; continuing airworthiness etc.)
 - Activity type (i.e. CAT, SPO; NCC etc.)
 - Aircraft category (i.e. Small/large rotorcraft; AAM etc.)
 - Keywords (i.e. HEMS; NVIS; HHO etc.)



3. The Application of AI to Decision-making

IMC= Instrument Meteorological Conditions.

Weather conditions in which **visual reference to the horizon or terrain is not possible**, and a pilot **must rely solely on the aircraft's instruments** to fly (=IFR Instrument Flight Rules (IFR)).



The EHA-led project that aims to reduce accidents from pilots entering IMC inadvertently has, as one of its key pillars, an exploration of technical assistance to the Pilot. Consistent with other areas of development (human factors and training in IIMC prevention), the project will explore both the application of pre-flight risk assessment tools and in-flight decision-making . Due to be tabled at the next EASA Rotorcraft Committee meeting in Cologne, the intention is to bid for research and innovation funding into these specific areas

The Application of AI to Decision-making

AI support to decision-making might involve:

- **Pre-flight** – AI's ability to collate and present information from a number of sources may convert a largely subjective assessment process into a pseudo-objective one based on specific parameters such as weather, route, experience, recency etc
- **In-flight** – With AI access to large amounts of data of what is normal aircraft behaviour, linked to real-time weather, speed, height, terrain etc., the system would prompt the pilot for an acknowledgement of continued flight or escape paths at an early enough stage to avoid the IIMC encounter and re-route or abort. This does not prevent deliberate flight into IMC, where appropriate, but would require pilot acknowledgement.



The Application of AI to Decision-making

Interesting to know ...

On 1 April 2025, the European Commission has launched a call for high-priority applied research (AR) to help shape the future regulatory framework for a Digital European Sky (DES). The call reflects the research topics defined by the European Union Aviation Safety Agency (EASA) experts together with the EU Member States' Advisory Body Research Group in the Aviation Authorities' Research Agenda 2025.

The research themes sought for are among others human operator role versus automation, including artificial intelligence (AI) and machine learning (ML), Single European Sky (SES) airspace classification, certification of novel air traffic management (ATM) systems, methods for evaluating ATM / air navigation services (ANS) ground equipment safety, Data4Safety applications, and many more.

The deadline for submitting proposals for a research project is **16 September 2025**