

metaAIR Laser Protection Eyewear

– Commercial Aviation




METAIR

SATAIR

OEM PARTS
& SERVICES

AN AIRBUS SERVICES COMPANY

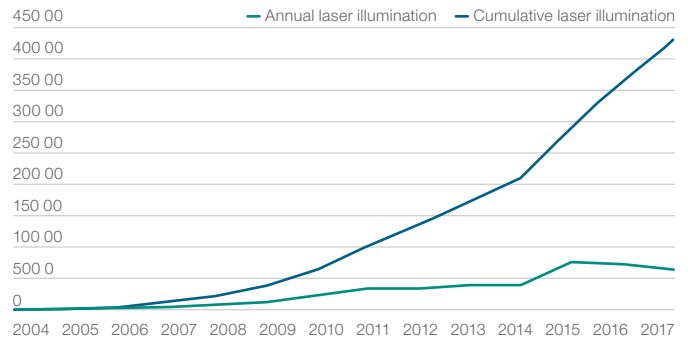
Laser Incident Prevention

– A Rising Industry Challenge

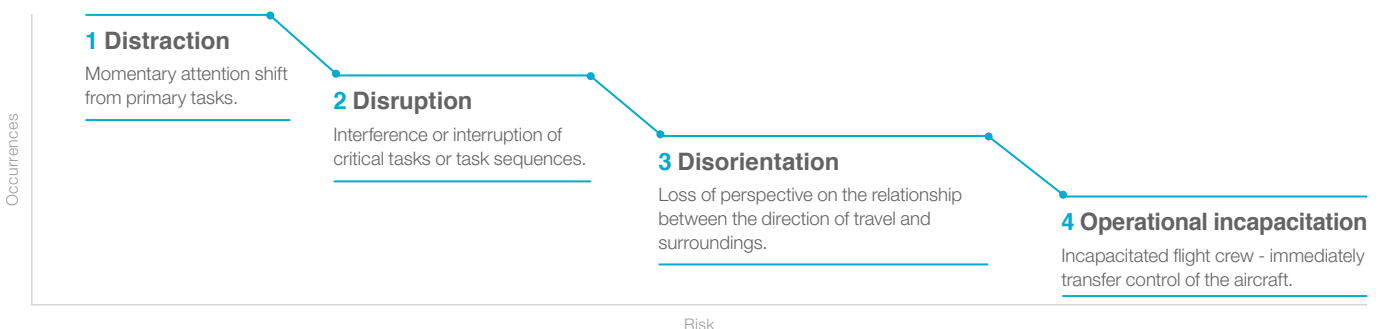
Laser illumination of air traffic is a growing problem

Laser illuminations reported to FAA, annual and cumulative totals

Illuminations of aircraft have risen over the last years according to the FAA, and lasers are becoming cheaper and more powerful.



Implications of cockpit laser illuminations



metaAIR Technical Specifications

Attenuated enhanced cylindrical lens groove retention geometry for ANSI Z87.1 impact resistance (pending 2019).

M-Tec™ proprietary blended TR90LS-7 premium nylon frame. Impact and chemical resistant in a lightweight, premium material.

Full-Flex™ 50 percentile Alderson headform fit compliance for ultimate global head comfort and headphone compatibility.

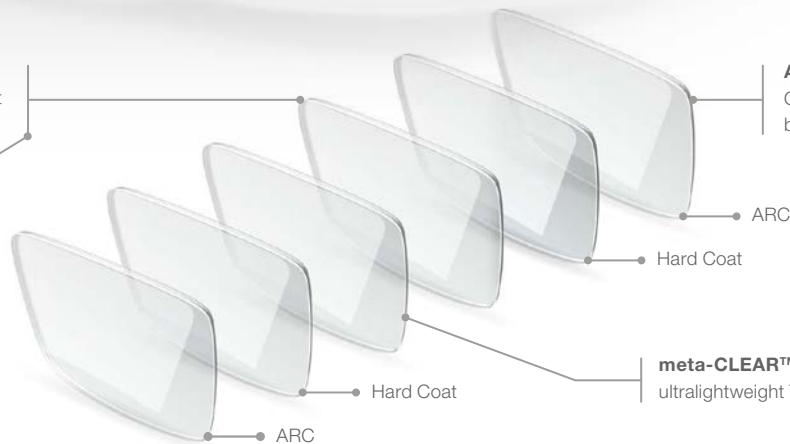


420SS Tri-lobular hinge screws.

X-Block™ proprietary laser strike blocking side shielding.

MXColor™ nanopatterned layer offering extra clarity and compatibility with cockpit instruments, HUDs and runway lights.

MX3™ multilayer holographically recorded nanostructures protect against 532nm laser strikes.



AR M-Clean™ Oleophobic anti-smudge backside lens coating.

ARC

Hard Coat

Hard Coat

ARC

meta-CLEAR™ 1.7mm thin ultralightweight Trivex optical material.

Protection wavelength	532 nm
ODmax	5.0
ODmin over Angular Coverage	2.0
Angular Coverage *	64° (hor) x 45° (ver) approx. 85% of field of view
VLTp **	45%
Out of band transmission	> 70%
Duv & CCT	-0.02 & 4,500K "warm"
Haze	2.1%
Lens Material	Trivex
Abbe value	43
Frame Material	EMS TR90 Nylon w/ Electroformed Ni with chrome plating logo

*OD2.0 full angle based on eye-centred measurements. Percentage of protection includes the frame.

**Visible Light Transmittance (Photopic) measured at the primary point (eye looking straight forward) assuming a D65 illuminant spectrum.



The consequences of laser illuminations can be severe and affect not only crew and passenger safety, but also your bottom line



Incidents & Accidents

Laser illumination of the cockpit increases the risk of incidents and accidents during critical periods of flight.



Crew Safety

One of the most important senses for the flight crew is their vision. Laser illuminations can both cause temporary and permanent damage to their vision, ultimately risking a Loss of License.



On time Performance

Laser illumination of an aircraft that causes disruptions to normal operations might have a spillover effect on other routes potentially causing delays and effecting On time Performance.



Economic Penalties

Laser illumination can cause temporary flash blindness and lead the flight crew to divert or make a go-around. Missed slots and passenger reimbursement due to delays can be costly side effects of a laser illumination.



Airframe & Engine Hours

In the most extreme cases pilots can be forced to turn around the aircraft if struck by laser after e.g. take off, leading to wasted airframe and engine hours. Fuel dumping may also be an unwanted necessity if the aircraft is forced to make a security landing.



METAIR

**The answer is simple,
but the solution is high tech**

...solving the laser incident challenges
for airlines, pilots and pilot unions.



metaAIR laser protection eyewear



Pilot and crew Aviation benefits

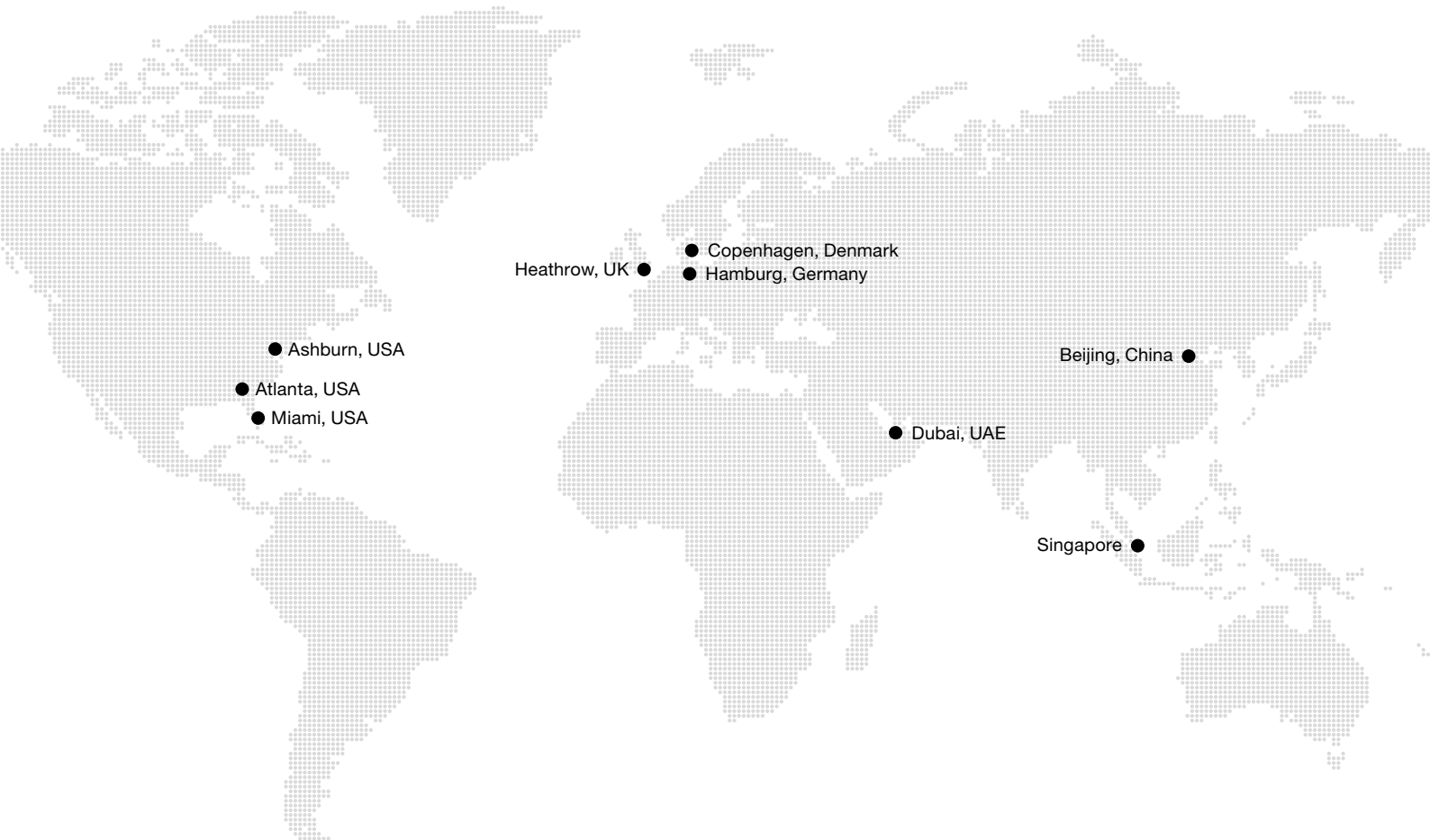
- Precision engineered holographic light filters and color balanced transmission
- Provides protection against glare and flash blindness
- Developed using nanostructure holographic technology
- The only filter system ready for night flights
- Protection at a wide range of angles
- Green 532nm filtering that protects from > 90 percent of attacks
- Approximately 85 percent coverage
- Optical Density (OD) minimum = 2.0, Peak OD = 5.0
- Anti-reflective coating (A.R. Coat)
- UV protection
- Custom engineered frame for additional safety
- Designed and tested to have minimum color impact on airport lights



To learn more

About metaAIR laser protection eyewear contact your dedicated Satair account manager or contact us at: laser@satair.com

Satair locations



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