HELICOPTERS TEAM SECURITE CIVILE
HELICOPTER MOUNTAIN RESCUE

IFR / NVG PRESENT OR FUTURE
HELICOPTERS TEAM
SECURITE CIVILE

- 22 BASES
- 17000 HOURS OF FLIGHT
- 125000 PERSONS RESCUE
- 1 PERSON RESCUE / 42 mn
AT THIS TIME

- 1897 BIRTH OF THE FIRST FRENCH MOUNTAIN RESCUE
- 1955 Jean Moine
- 1956 Vincendon et Henry
- FEBRUARY MONTH

- 20H30 CALL FROM THE RESCUE MOUNTAIN CENTER FOR AN EARTH ATTACK IN A HUT AT 7000 FT.

- METEO : CEILING 2000 FT/5000FT

- 21H00 TAKE OFF IFR/JVN

- 21H20 THE HELICOPTER LANDS AT THE HUT

- 21H45 TAKE OFF FROM THE HUT

- 22H00 LANDING AT THE HOSPITAL
Instrument Flight Rules

Conditions:

- The pilot must be qualified IFR.
- The helicopter must be certified IFR.
- The landing can be done only on one able airport to accommodate IFR flights.
- Few pilot helicopters are qualified.

- IFR qualification is a long and expensive formation.

- The instrument flying requires a minimum of hours of flights in operations and trainings throughout the year.
- 90% of the pilots of Sécurité Civile are qualified IFR.

- Mechanics of Sécurité Civile receive a specific training for IFR flight.
The airport is equipped to receive IFR flights. (VOR, ILS, NDB, GNSS)

The helicopter can take off and land in IFR conditions from this airport. (weather conditions)
The airport is equipped to receive IFR flights. (VOR, ILS, NDB, GNSS)

The helicopter can take off and land in IFR from this airport.

But it cannot flies in the clouds in the middle of the mountains
The airport is not equipped to receive IFR flights.

The helicopter can neither take off or land in IFR from/to this airport.
The idea consists to join a point in space (WPT) rather than directly the hospital. In many cases, the site to be served is surrounded by obstacles, from where the idea to land on a released site, then to join at sight the hospital.
- Low altitude IFR trajectories
- Approaches IFR using system EGNOS
  (European Geostationary Navigation Overlay Service)
EGNOS is a system whose signal is obtained thanks to a network of ground stations and satellites. The various data are combined to be sent towards a geostationary satellite which deals with redistributing them with the users.
Optronic Passive system whose role is to collect images on very low level of light or invisible to the human eye; either because it grows dark, or because these images are not emitted in the visible spectrum by the human eye, to amplify them and reconstitute an image visible with the human eye.

This image is completely artificial.
The binoculars of night vision are binoculars with intensification of light.

- 1 entering photon is multiplied by $10^8$ at the exit.
Personal equipment.
- The crew must be qualified NVG
- Long formation and requiring a rigorous training
- Expensive and regulated material
- Today, in France, there does not exist night vision goggles training for pilots operating in the private companies.
Training of crews of Sécurité Civile

Pilots and mechanics of Sécurité Civil receive the same training.

- 3 weeks of training course and 12 hours of flight
- Operational adaptation in helicopter base/2 months
- Training of partners/2 months
- 2 training flight with instructor per year.
DAYLIGHT VISION

NIGHT VISION WITHOUT GOGGLES

NIGHT VISION WITH GOGGLES

NIGHT VISION WITHOUT GOGGLES
Visibility MTO

horizontal visibility 3000m
MTO Ceiling

Height 500 Ft/sol at maximum speed
IFR / NVG

YES! BUT ATTENTION

IFR and/or NVG DON'T WANT TO SAY ALL HOURS AND ALL WEATHER
Helicopter. A magic machine?
The pilot. A magician?
ATTENTION

Not a magician and not a machine.
THANK YOU

HAPPY LANDING