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EASA Workshop « Weather information for operators and flight crews »

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Current situation and deficiencies

Operations conducted currently rely on two basic types of weather information

- Real time detection, on-board, by means of a Weather Radar
- Weather forecasts and observations, distributed as ICAO Annex 3 products (TAF, METAR, TEMSI, Winds Aloft, … etc)

On-board weather radars have intrinsic limitations

- to detect all weather-related hazards (CAT, icing, …)
- To provide adequate weather forecasts enabling strategic rerouting

ICAO Annex 3 products are limited

- In their information
- In their representation
- In their update rate

Needs for safe operations

Enhanced weather situational awareness with additional information on-board

> IN FLIGHT

- Convection
- Clear Air Turbulence (CAT)
- Icing
- Turbulence
- Temperature profiles
- Volcanic ash cloud
- …

> NEAR GROUND / AIRPORTS

- Wind
- Ceiling
- Visibility/RVR
- Temperature
- Windshear
- Pressure
- Runway contamination
- …

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Available options

Embedded weather radars improvements will not be sufficient to achieve these needs

EFB based solutions are more adapted

- Open world connectivity allowing ground server connections
- Can provides weather 4D format (2D map, with vertical and time projections)
- Enhances ICAO annex3 products with additional needed information
- Allows enhanced display features
- Allows taking benefice from improved update rates of MET providers

Associated challenges

Technical

- To collect and redistribute to pilots in Cockpits real-time weather data from ground sources, satellite sources and on-board observations through suitable datalink means and with suitable integrity and latency

Regulation

- To amend current rules and interpretative materials to facilitate and accelerate the deployment of such solutions

Standardization

- To define adequate real time Weather data quality requirements
- To standardize most exchanged weather information(eg. PIREP)