

Now up to date: **Enhanced Satellite Radar** with the radar picture all over Europe!

Sensational low price via Thuraya satellite.

The MT-VisionAir X system is the only unit on the market that doesn't display „weather“ but real **radar** - at the same time catching the **radar picture all over Europe** with a **single download**, displaying it **immediately** over the chart - scaled! Both during flight preparation and inflight you receive **live updates**.
Read more from chapter 3.

Find below information regarding weather evaluation and radar - the essential issues for the summer season.

Have fun with reading!

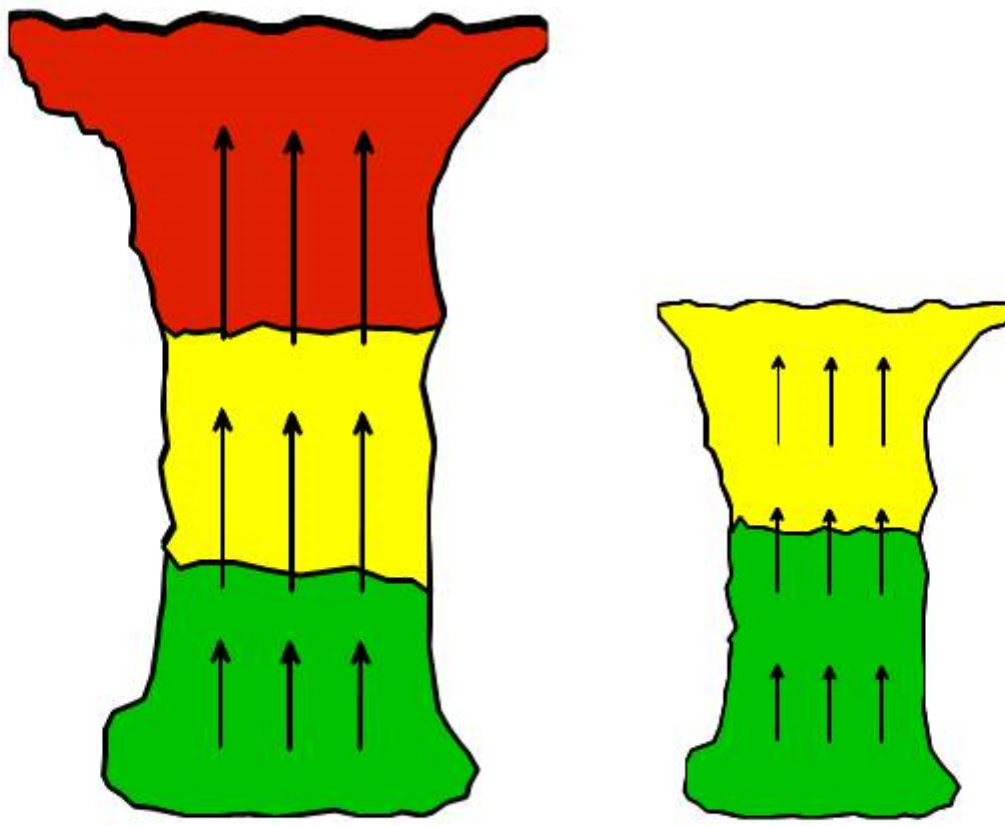
1. Weather evaluation and radar

No standalone sensor can detect the weather and analyze it for you exactly. Weatherradar measures the really dangerous appearances most direct and displays them. However, many things like fog etc. remain unrecognized.



CB clouds during the flight to Cannes

A cloud with high condensations content shows, if subcooled, a high freezing potential. A CB cloud with measured condensations shows besides icing also pellets and hail.
Because plenty of rainfall is the condensate created by strong updrafts it indirectly shows additionally updraft and turbulence areas.



Updraft creates condensate, CB clouds arise

Weather radar should be measured only with low intensity radiation levels. There is (good for our health) no weather radar satellites and thus no worldwide radar picture !

Weather versus Radar - any Difference?

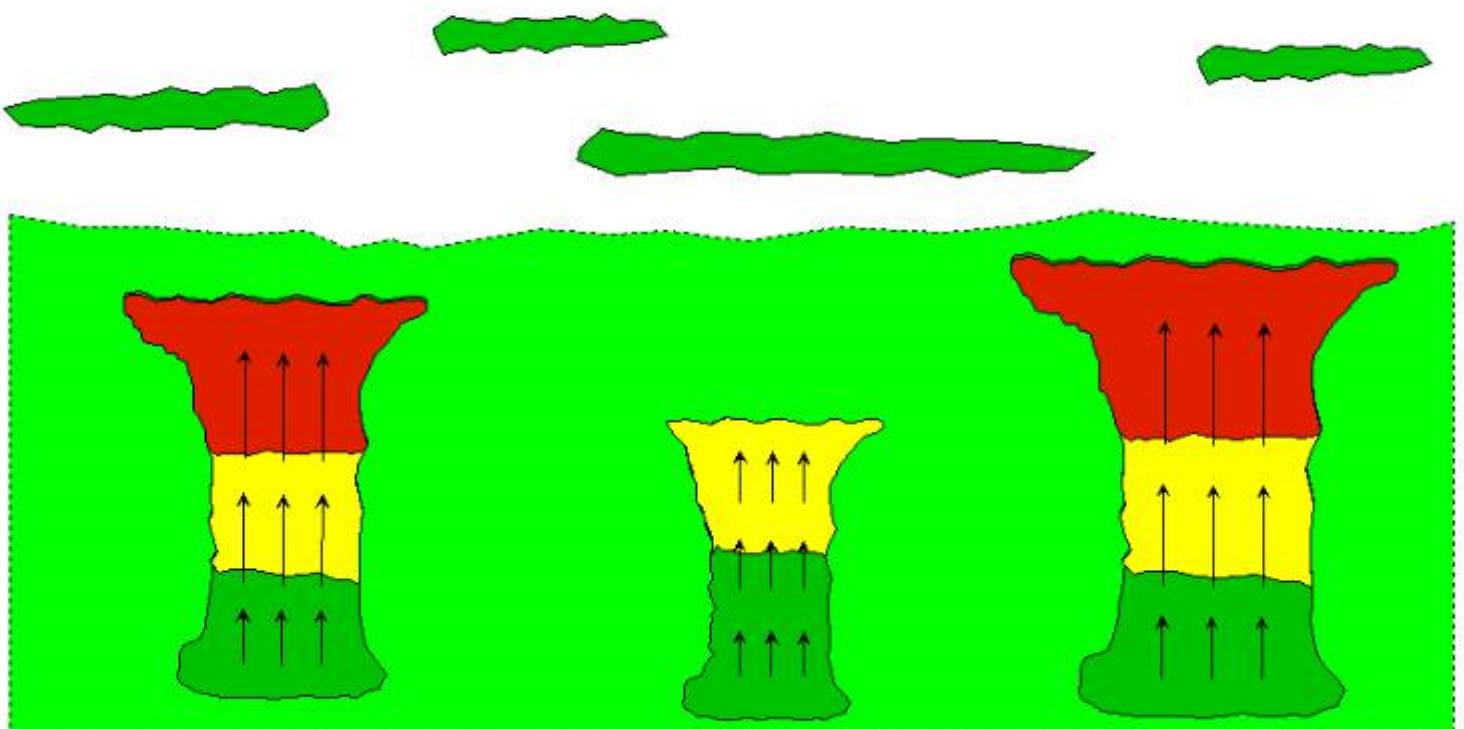
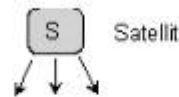
„Weather“ is offered for MFD systems. If such „weather“ covers large territory it is calculated by „non radar pictures“, for example estimated or derived physically / mathematically from cloud tops. These tops are in turn derived from cloud temperatures which are measured per satellite via IR.

Basically the analysis of single cloud towers works well. In embedded weather situations though, which are more dangerous because optic recognizability is no longer possible for the pilot, the „weather“ is inaccurate and subject to misinterpretations.



Typical embedded weather situation

Particularly layered clouds (see picture) spoil the „weather“ evaluation out of „top view“. „Weather“ evaluated in such a way is much more subject to model assumptions and mistakes than the actual measured „radar“.



A large-scaled „radar picture“ is assembled from extensively sampled single radar sweeps (composite process). Radar composite is much more expensive to do than to evaluate an IR satellite picture, but shows much more realistic where really „music“ is inside embedded clouds.

2. Weather Avoidance?

2.1 The pilot wants to avoid significant weather areas / dangerous areas, not weather in general. To use the help of a weather radar is the most reliable option. But how and when?

It is ideal if preflight information is continued into the inflight information. It is also ideal if the large-scale information which is used for flight planning in order to avoid bad weather-zones will remain available during flight.

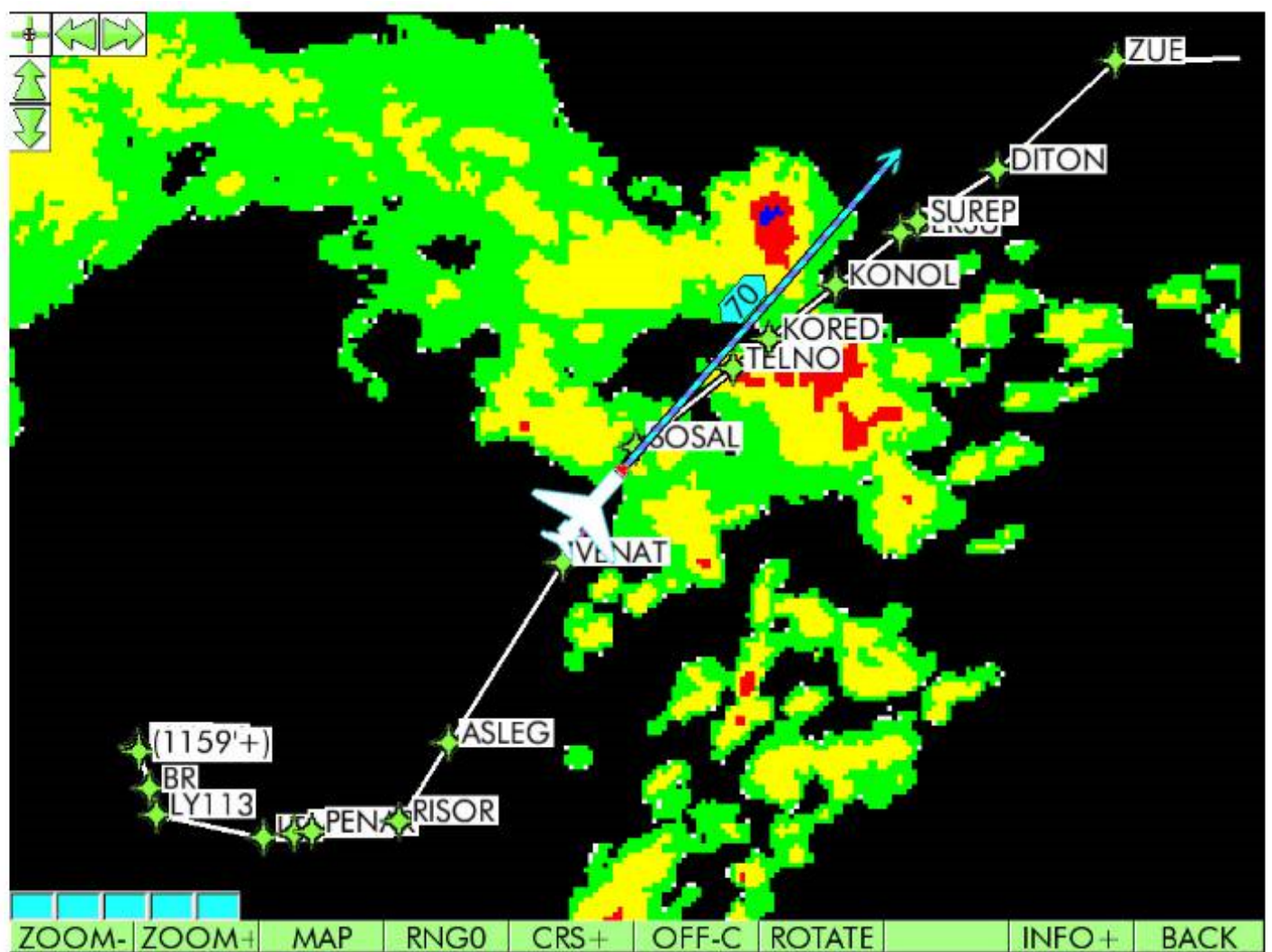


MT-Enhanced Radar: Radar picture for the entire route

2.2 One can try to circumnavigate bad weather tactically (small maneuvers). For this purposes a conventional onboard radar is suited best - with the limitation that such systems can not see behind the cell, suggesting free flight where the conditions might be even worse.

2.3 One can circumnavigate bad weather areas strategically (larger maneuvers) and save distance and time if there is a two dimensional, satellite-transmitted composite picture available in the cockpit.

The best is a picture where the situation is visible for the entire route, including favourable deviations.



MT-Enhanced Radar:

Flight from Lyon to Memmingen, heavy weather over Bern in FL280. The pilot knows where what to expect and takes the choice between „circumnavigating“ or flying between the cells.

3. Enhanced-Radar Display MT VisionAir X.

The VisionAir X is the only system on the market that delivers

not „Weather“ but real Radar

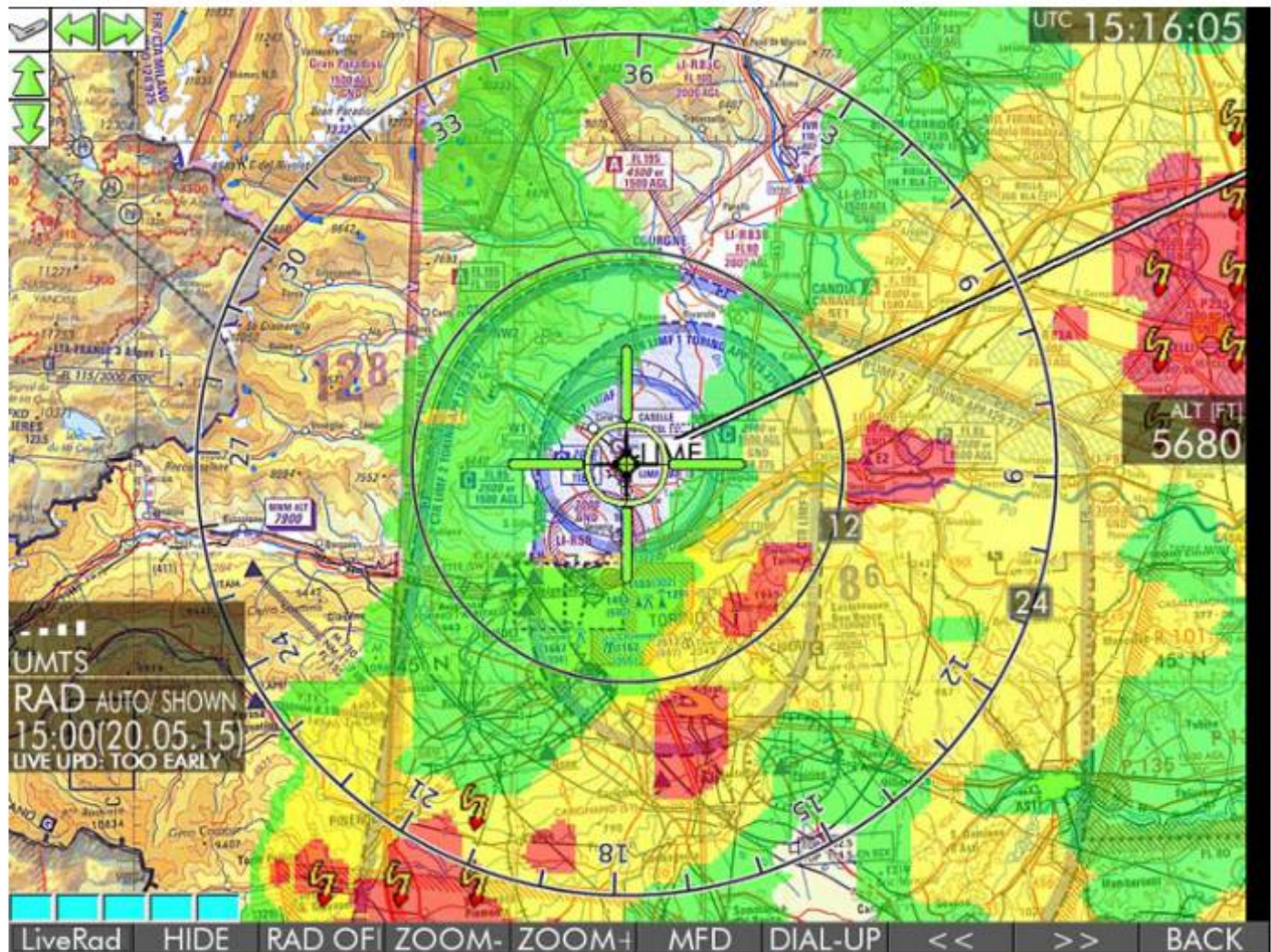
and at the same time gets the radar picture all over Europe with a single download. It is displayed immediately. The picture during flight planning is of the same quality and identical in presentation to the inflight scenario.

3. Enhanced-Radar Display MT VisionAir X.

The VisionAir X is the only system on the market that delivers

not „Weather“ but real Radar

and at the same time gets the radar picture all over Europe with a single download. It is displayed immediately. The picture during flight planning is of the same quality and identical in presentation to the inflight scenario.



*MT-Enhanced Radar: instant recognition - also during approach - what conditions prevail.
Also tactical navigation and avoidance*

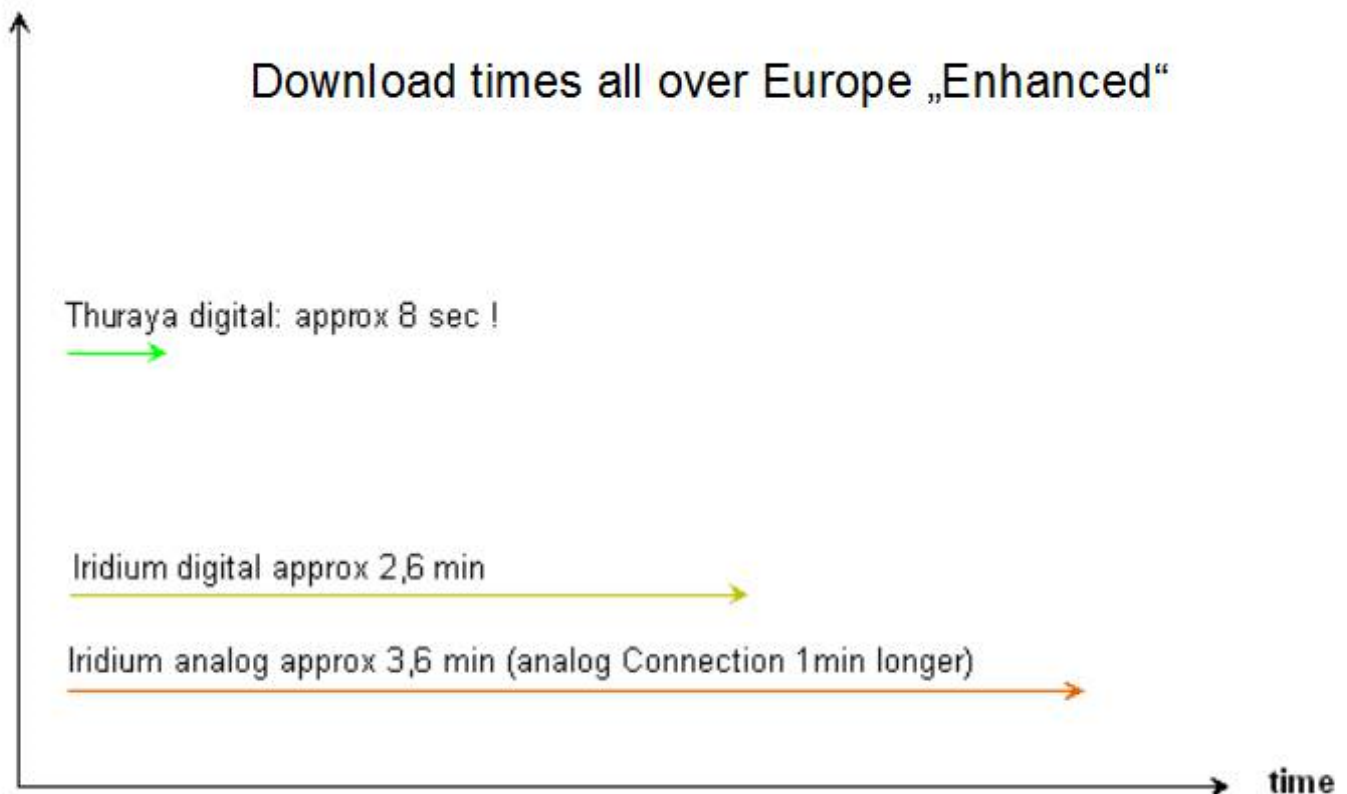
4. Enhanced Radar Coverage

all over Europe



5. New: prices and connection times

Price comparison MTVisionAir with Thuraya **speedlink** versus Gamin, Avidyne etc. Download times MT-VisionAir with Iridium, with Thuraya, with GSM



Costs:

	Thuraya	Iridium	Garmin	Avidyne
basic fee (annual)	—	600,— €	1.134,— €	567,— €
fee / download	0,25 €	2,50 - 4,— €	2,50 - 4,— €	2,50 - 4,— €

Iridium: invoices per minute or part thereof !

Thuraya: invoices only the data volume and remains online free of charge (flat)

6. Antenna Situation:

Iridium:

Has many satellites and needs relative free sight to the sky (mostly external antenna, internal antenna quite difficult, also because of disturbance by the GPS antenna up to 1,3 m).

Thuraya:

- a) has 1 satellite that serves Europe, needs either free external antenna (roof antenna) or
- b) reception through window with internal antenna if for very short time (10sec) view into direction 140° is given (low cost solution).