



Maastricht Upper Area Control Centre

Radio Direction Finder (RDF)

Supporting safety and productivity improvements

Air traffic controllers at EUROCONTROL's Maastricht Upper Area Control Centre (MUAC) can now rely on additional technology to further improve their situational awareness. Using triangulation software, the Radio Direction Finder (RDF) system recently deployed throughout MUAC's international airspace (the upper airspace of Belgium, the Netherlands, Luxembourg and north-west Germany) accurately calculates an aircraft's position on the basis of its radio transmissions. In densely occupied airspace in which up to 25 aircraft are being controlled at any one time in one sector, RDF helps controllers quickly locate which aircraft are transmitting on the frequency. The transmitting aircraft appear clearly on the controllers' integrated human machine interface. This feature helps reduce call sign confusion, read-backs from wrong aircraft or crossed transmissions.

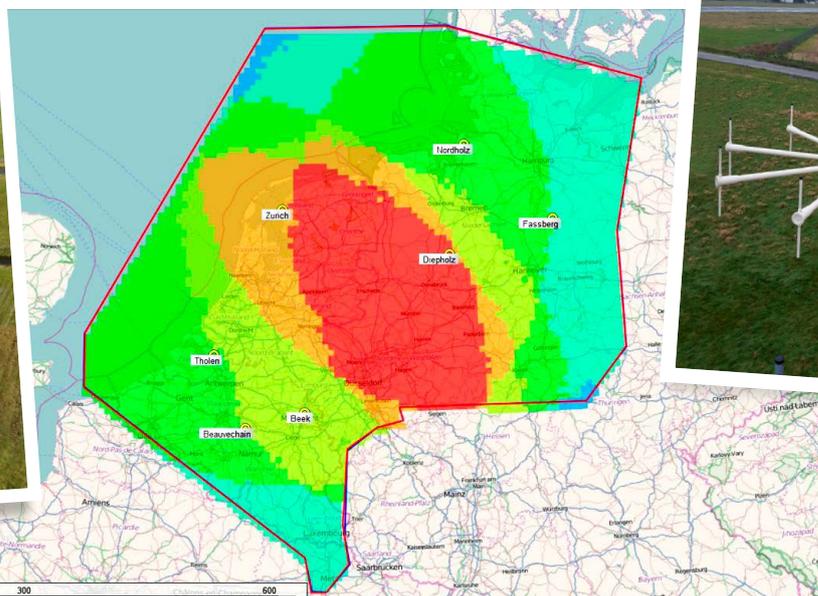
RDF deployment

To ensure reliable coverage, a total of seven RDF units have been deployed throughout Belgium, the Netherlands, Luxembourg and north-west Germany, resulting in coverage by at least two RDF units for each aircraft in MUAC airspace.

- Belgium: Beauvechain
- Netherlands: Beek, Tholen and Zurich
- Germany: Diepholz, Nordholz and Fassberg.

Project status

Since October 2016, the RDF function has been made available for evaluations in the MUAC operations room. Since 22 February 2017, the RDF function has been in operational use with initially four RDF units - and since June 2017 with all seven RDF receivers.



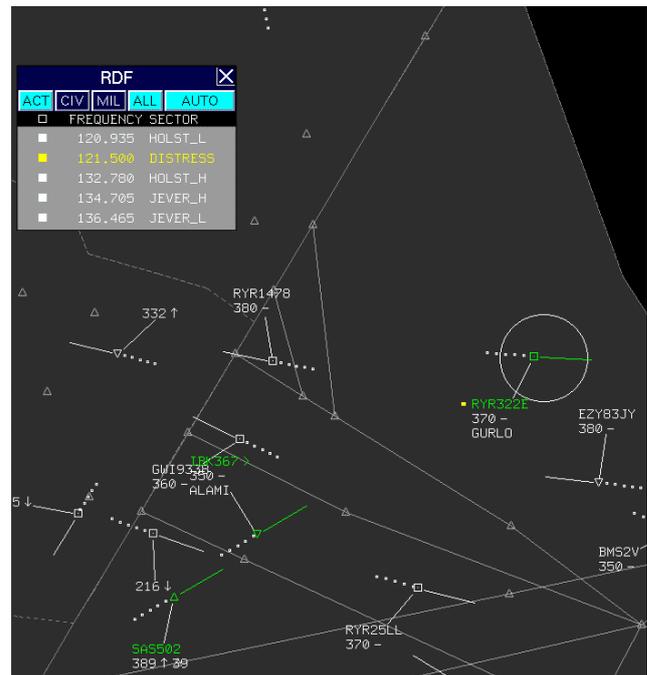
Controller working position display

On his/her controller working position, a MUAC air traffic controller can see the position (white circle) of a radio transmission on one of the frequencies assigned to his/her position.

Operational expectations and benefits

The Radio Direction Finder increases the situational awareness of air traffic controllers. It helps controllers locate the transmitting aircraft. It is less likely to misidentify an aircraft, because the tool displays the position from which a transmission is made.

If an aircraft which is not meant for a controller's sector calls, it is easier for him/her to locate it and transfer it to the adequate frequency.



Views from an air traffic controller using the RDF function in the initial days following introduction:

"After two days of working with the RDF function, I must say that the RDF is working much better than we expected. Coverage in the DECO sectors is already very good. It easily picked up transmissions from aircraft which usually have trouble just receiving transmissions from us.

For executive controllers, it is considerably easier to work with busy traffic, because RDF gives them a clue as to which aircraft is calling, saving them precious seconds, especially when a few aircraft have similar callsigns.

For planning controllers, it is much easier to follow what the executive controllers are doing by looking at the screen and seeing who is calling/answering while simultaneously doing phone coordination."

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