



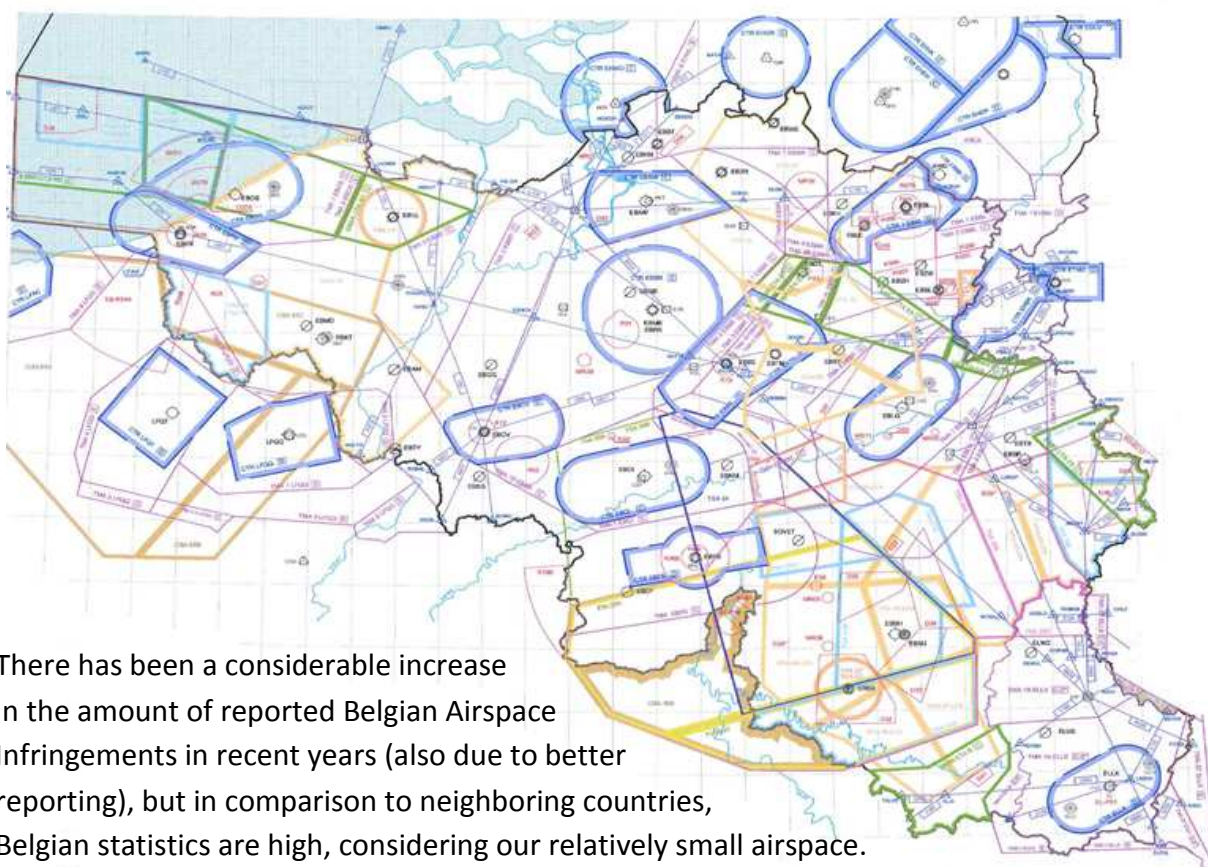
AIRSPACE INFRINGEMENTS

LEAFLET V.2

Update of the Belgian Airspace Infringement Reduction Plan (B/AIRP)



Over the years, the structure of the Belgian airspace has become ever more complex. This evolution has been identified as one of the leading contributing factors of unauthorized entries into notified airspaces, called Airspace Infringements, in the Belgian airspace. In the first edition of this leaflet several risks resulting from an Airspace Infringement have been underlined, as well as an initial statistical analysis of the Airspace Infringement issue: The areas that are most prone to reported Airspace Infringements in Belgium are CTR and TMA, both military and civilian. The second edition of the Airspace Infringement leaflet wishes to inform you of the Belgian 'hot-spot' airspaces and explain the actions that will be undertaken in the near future, in an effort to reduce the number of Airspace Infringements in the Belgian Airspace.



There has been a considerable increase in the amount of reported Belgian Airspace Infringements in recent years (also due to better reporting), but in comparison to neighboring countries, Belgian statistics are high, considering our relatively small airspace.

In a combined effort, the B/AIRP-team, composed of representatives of the BCAA, Belgocontrol, the Belgian Air Force and Belgian airspace users, has investigated the causes and nature of Airspace Infringements more deeply in 2013. This was also based on feedback from pilots that filled in the Airspace Infringement questionnaire. The B/AIRP-team wishes to thank these pilots for their useful feedback. Nobody was prosecuted for their involuntary Airspace Infringement, but their feedback was used for the benefit of the aviation safety.

In many Airspace Infringements absent-mindedness, lack of recent flying experience, temporary loss of situational awareness, lack of vigilance, or fatigue, resulted in entering a controlled airspace, without prior clearance.

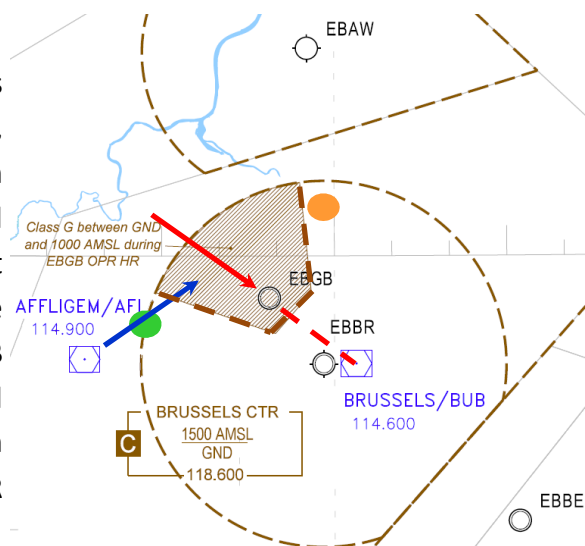
Many Airspace Infringements in Belgian airspace are caused by misinterpretation of the complex airspace structure, resulting in choosing a wrong course, or altitude in certain areas.

There are specific areas or 'hot-spots' in the Belgian airspace, that are more prone to Airspace Infringements, than others and require further attention. The second version of the Airspace Infringements leaflet focuses on a few of those particular cases.

Grimbergen airfield (EBGB)

A lot of Airspace Infringements in the Brussels CTR are caused by traffic to and from Grimbergen airfield (EBGB). One of the most obvious reasons for Airspace Infringements is its location within the Brussels' CTR. Some traffic has been observed cutting off edges of the Brussels CTR, across **Mechelen** and **Merchtem**.

A part of the Brussels CTR is uncontrolled class G airspace, during EBGB operational hours, reaching from GND level to 1.000 ft AMSL, in the area surrounding Grimbergen airfield (EBGB). Between 1.000 ft AMSL and 1.500 ft AMSL, the Brussels CTR completely covers the temporary G-class airspace, during the EBGB opening hours. Pilots inbound to or outbound from Grimbergen airfield often forget to remain below 1.000 ft AMSL, to avoid the Brussels CTR on top of the G-class airspace in the EBGB area.



INBOUND: It is often observed that the Affligem VOR (AFI, 114.9 MHz) is used for navigation to Grimbergen. **Flying radial 040 (and higher values) outbound AFI, to Grimbergen**, will inevitably cut off the edge of the East border of the Brussels CTR and should be avoided. Keep Merchtem (landmarks: the red factory building and the church) at all times to your right.



TIP 1: Obtaining CTR crossing clearance from ATC remains the pilot's responsibility in Belgium, even when in contact with Brussels Information, or Belga Radar

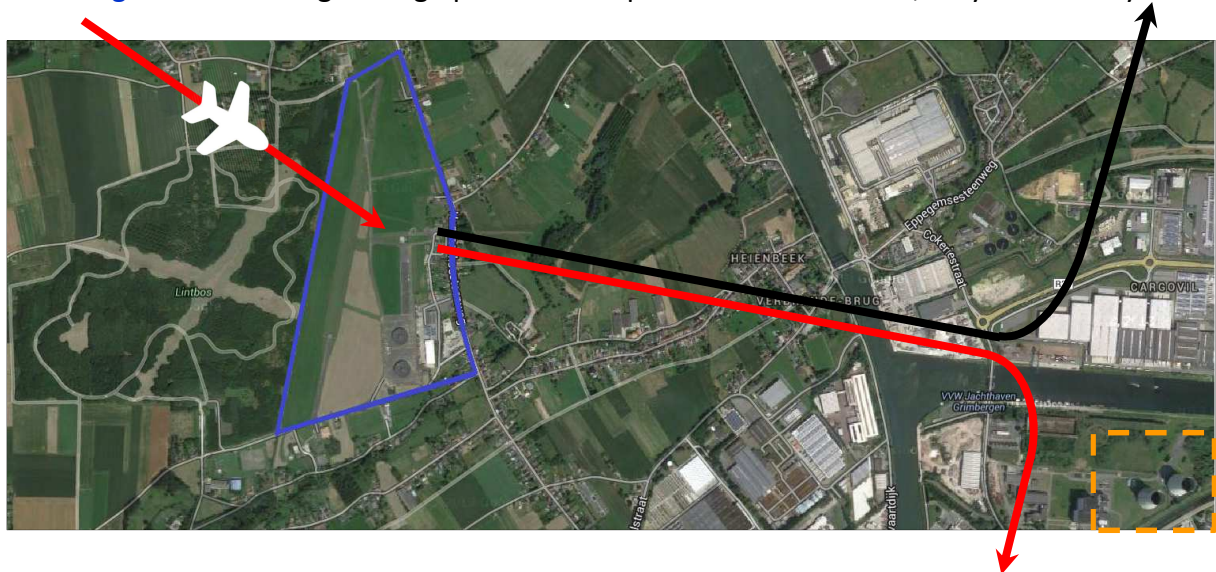
It is advised to fly to Grimbergen using **Brussels VOR (114,6 MHz) Radial 300 inbound** (heading 120°). This will take you across the forest of Buggenhout, the EBGB “Londi” (only!) entry point (red/white antennas of Rossem) and then overhead the Grimbergen airfield.



Another point of attention is the vicinity of the EBGB traffic pattern next to the Brussels CTR. Perform over-flight of the airfield at 900 ft AMSL (on Brussels QNH) and join the traffic pattern of the active runway 01 or 19 and check the signal area, or contact Grimbergen Radio on 119.50 MHz.

Notice that all traffic patterns are to be performed to the EAST of the runway!

Pilots unfamiliar with the airfield of Grimbergen will have 2 difficulties: finding the **airfield of Grimbergen** and avoiding ending up over the airport Brussels National, only 4 NM away.



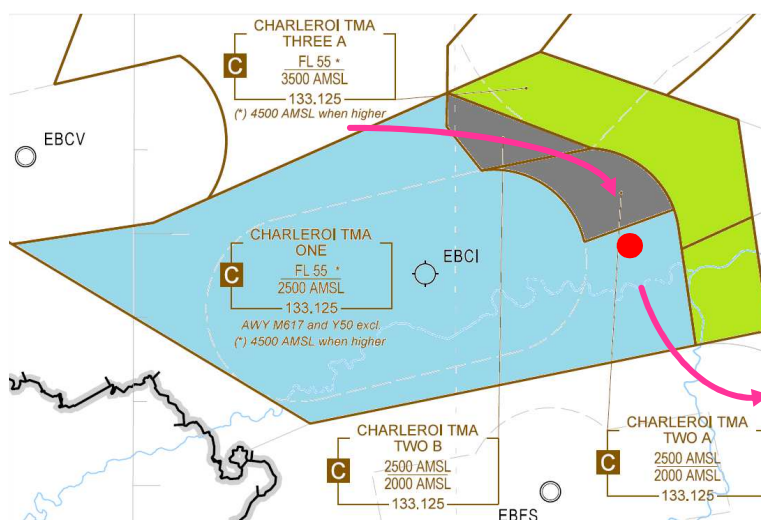
To find the airfield, there are some visual landmarks: The Lintbos (forest), to the WEST of the airfield, has a peculiar X-shape in the middle, and is clearly visible from the air. Aiming for the **cooling towers to the EAST of the airfield**, when passing overhead, is a good reference for locating the downwind leg. Turn downwind BEFORE PASSING the cooling towers.

Turn downwind to runway 01, after over-flight and very briefly follow (20 seconds at most!) the channel. Turn right again for the base, BEFORE passing over the village of Vilvoorde. The church of Grimbergen (flat top) can be used as an aiming point for the base heading. Turn right BEFORE the church of Grimbergen, to position the aircraft for the final approach R01.

Outbound traffic must also remain clear of Brussels CTR at all times. Departures from Grimbergen must leave via the North. Approaching a railway (East-West oriented), a turn to the west may be initiated. A turn to the East may only be initiated AFTER passing the railway.

Namur Suarlée (EBNM)

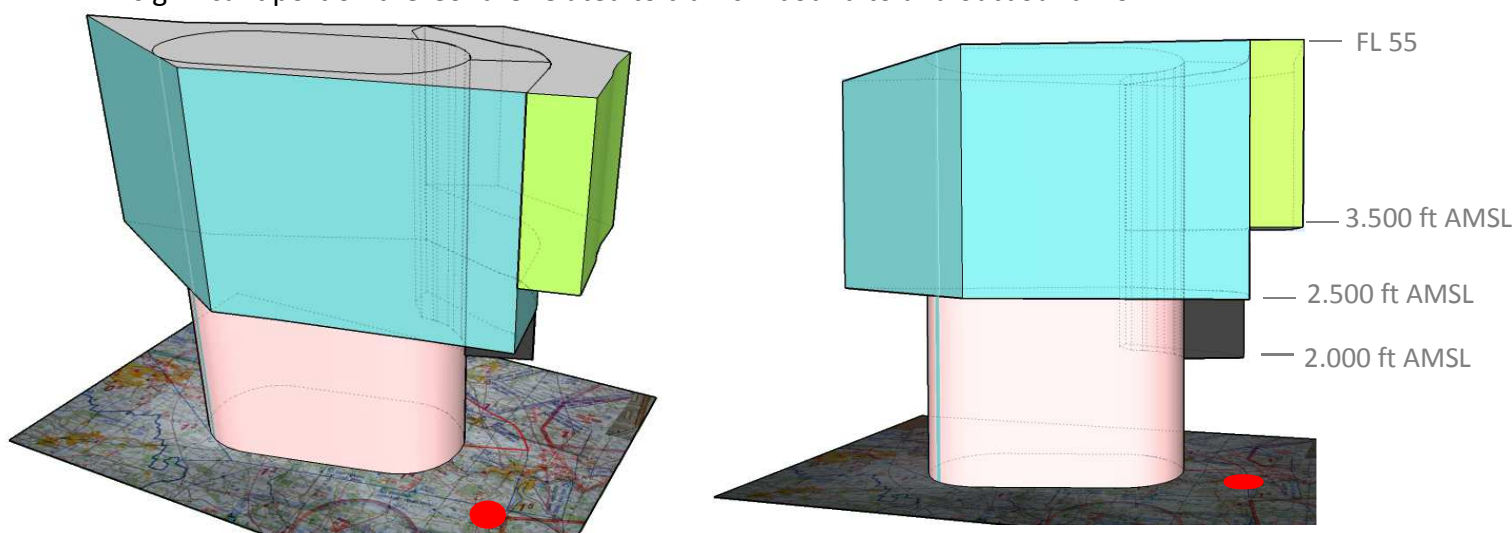
The vicinity of the **aerodrome of Namur** is another 'hot-spot' for Airspace Infringements in the Belgian Airspace. The aerodrome is surrounded by control zones: the Charleroi and Beauvechain CTR and especially the multitude of TMA of Charleroi, located on top of Namur.



There are multiple civil and military controlled airspaces in the vicinity of EBNM. During descent for landing at, or climb on departure from EBNM, pilots should be aware of different lower limits of the multitude of controlled airspaces that could cause Airspace Infringements.

Especially the Charleroi TMA 2A&B, almost directly located over EBNM and that have their lower limitation at 2.000 ft AMSL, lead to a lot of involuntary Airspace Infringements.

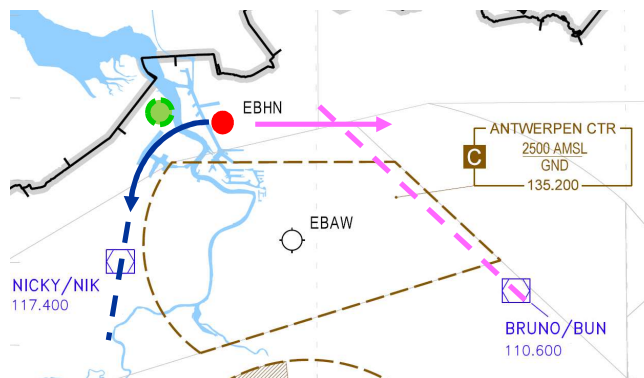
The rather low vertical limits, in combination with a high terrain elevation in the area as well as **intense VFR traffic** in the corridor between the CTR of Beauvechain and Charleroi, result rather frequently in Airspace Infringements. Statistics indicate that about one quarter of all the Airspace Infringements in the Belgian airspace, occur in the Charleroi airspaces. A significant portion thereof are related to traffic inbound to and outbound from EBNM.



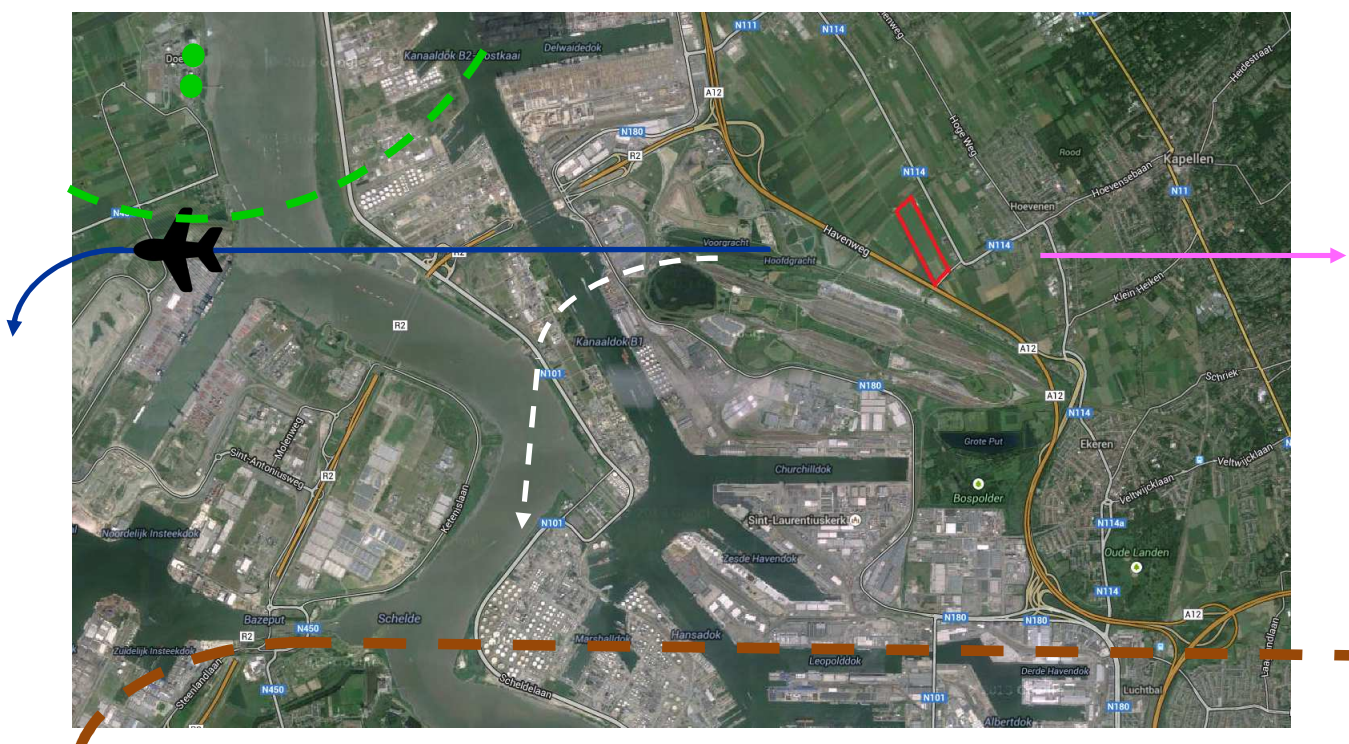
TIP 2: Many TMA Infringements are caused by wrong altimeter setting (REGIONAL QNH, instead of LOCAL QNH), which causes the airplane to fly higher than indicated. Flying in the vicinity of a CTR, or TMA, it is recommended to contact the TWR frequency to report the intentions and request LOCAL QNH, even when there is no intention to enter controlled airspace. We refer to the AIC 01/2014, with regards to correct altimeter settings, in the AIC section of the Belgian AIP.

Hoevenen (EBHN)

Traffic to and from the **airfield of Hoevenen (EBHN)** often causes Airspace Infringements in the Antwerp CTR. Based by the feedback of the pilots involved, many of the Airspace Infringements were caused by absent-mindedness and unfamiliarity with the area. It is strongly advised for visiting traffic at Hoevenen, to be vigilant when flying to or from Hoevenen and pay attention to the boundaries of the Antwerp CTR, close in the vicinity.



Flying along the river Schelde, after take-off in Hoevenen, towards the center of Antwerp is a very scenic flight path, but will take you straight into the Antwerp CTR which requires ATC approval prior to entering. Remember to bring the frequency of Antwerp Tower along and contact EBAW TWR (135.200 MHz) well in time.



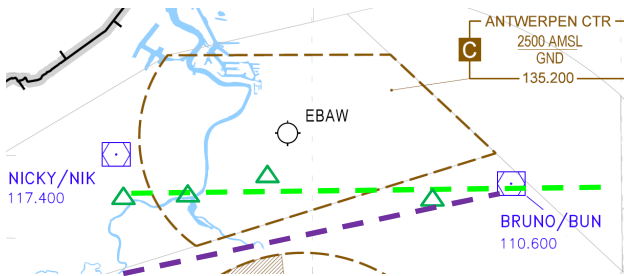
When leaving Hoevenen: Wishing to remain outside of controlled airspace, **on a westerly heading**, turn south only when the **nuclear power plant (landmark: cooling towers) of Doel** is beyond your 3 o'clock position. **VOR Radial 020 of NIK (Nicky) VOR** can be used for guidance, to remain clear of the Antwerp CTR. NOTE: The nuclear power plant of Doel is a MR-area (Military Restricted). Overflight by civil aircraft is not stimulated, but not forbidden, nor fined.

When wishing to remain outside controlled airspace, **on an easterly heading**, initiate a southerly turn only when **BEYOND the Radial 315 of BUN (Bruno) VOR**. Keep this radial to your right, to remain clear of the Antwerp CTR.

TIP 3: Traffic in the corridor between the Brussels and the Antwerp CTR also regularly cause Airspace Infringements. Not only can the narrow corridor get very crowded on busy days, but the traffic in both directions is topped off by the Brussels TMA 1, at 1.500 ft AMSL.

There is an increased risk of near-misses and possible collisions in mid-air in this corridor, and therefore it is advised to consider the following method for safe East-West crossing:

Contact EBAW TWR (Antwerp Tower) on 135.200 MHz and request an East/West crossing, within the CTR, well south of the airport.



1. Select **Radial 090/270** of the **VOR BUN (Bruno)** for a correct East/West-crossing
2. Report the reporting points **Tango – Rupel – Konti – Liera** to EBAW TWR

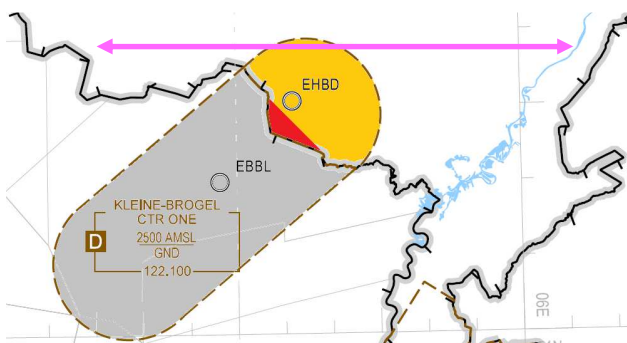
This procedure requires prior approval of EBAW TWR (Antwerp Tower)! **Without crossing clearance, track radial 080 inbound to, or radial 260 outbound from BUN VOR.**

W eert - Budel (EHBD), “Kempen Airport”

Just across the Belgian border, to the north-east of the Brussels FIR, there is an aerodrome called Weert Budel, inside Dutch airspace. The aerodrome is located within the military CTR of Kleine Brogel, that exceptionally reaches across the Belgian border, into Dutch airspace.

Between the Belgian border and the airfield, there is an **ATZ between the GND level and 600 ft AMSL only**. Closer to the airfield, the ATZ reaches between GND level and up to 1.200ft, allowing uncontrolled VFR-traffic, overhead the Weert airfield, at low altitudes. Special attention should be maintained not to climb over 600, or 1.200 ft AMSL, depending on the location, when wishing to remain uncontrolled. This implies a departure out of Weert requires contact of the air traffic control service (Kleine-Brogel approach on 122.50 MHz), PRIOR TO climbing above the indicated altitudes. The same practices apply to arriving traffic.

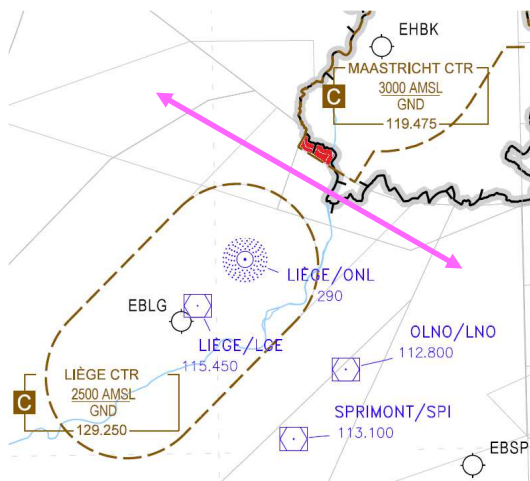
Crossing traffic between Belgium and Germany, over Holland, runs a risk of entering Kleine-Brogel CTR (GND level to FL55), without noticing its presence in the Dutch FIR.



In the EBBL CTR (Kleine Brogel), between GND level until 2.500 ft, always maintain 2-way radio contact

The area between EBBL and EHBD where uncontrolled traffic is allowed, reaches between GND and 600 ft AMSL only!

The ATZ overhead EHBD where uncontrolled flying is allowed, reaches between GND and 1.200 ft AMSL only!



VFR-traffic persists to fly through the narrow corridor between Maastricht (EHBK) and Liège (EBLG) CTR, causing infringements of either CTR, or overlying TMA of both airports.

Without GPS, there are not enough landmarks, nor useable ground stations available to correctly navigate through this corridor.

Furthermore, the Maastricht CTR reaches beyond the Belgian geographical border, a recent change that is often overlooked and that is only published on the 2014 1/250.000th map.

Given the low amount of commercial traffic at Liège airport during the day time (Liège is mostly frequented for night cargo), VFR-traffic is requested to contact Liège Tower (118.125 MHz) and ask for a crossing clearance. There are 4 navigation aids, to help you navigate correctly through the Liège CTR (3 VOR and 1 NDB) and landmarks along the ground for visual reference. Liège Tower will gladly assist you across!

Expected changes and improvements:

Planned for 2015, the B/AIRP wishes to present a **VFR-Guide for the Belgian Airspace**, providing guidance to conduct correct and safe flights in Belgian airspace.

There is a general consensus, to attempt a **simplification of the Belgian Airspace** between GND level and 3.000 ft (most intense VFR-traffic and region where most Airspace Infringements occur). Meetings with regard to attempt to simplify the Belgian Airspace are ongoing.

A general observation are the decreasing R/T-skills (Radio/Telephony) among pilots. Pilot training organizations (ATO) will in the future be stimulated to offer regular R/T-courses with interactive scenario based training to improve/refresh the R/T-skills of pilots and increase the ease of communication, with the Brussels FIR and Air Traffic Control units. R/T-testing will become a mandatory part of ELP-testing for all Belgian license holders, from 08/04/2015.

Special attention is drawn to the new flight preparation tools offered to pilots on www.Belgocontrol.be. NOTAM's are displayed on a map of the Belgian airspace. The Belgian AIP can also be consulted online and especially the section ENR 6 "Enroute Charts" is very helpful to get accustomed to the Belgian Airspace. For all Belgian controlled civil airports, VFR-crossing routes can be found in the VISUAL APPROACH CHART, in the charts published per airport, in the AD section of the AIP



The B/AIRP-team wishes all VFR-pilots fun and safe flights, in the Belgian airspace in 2015!