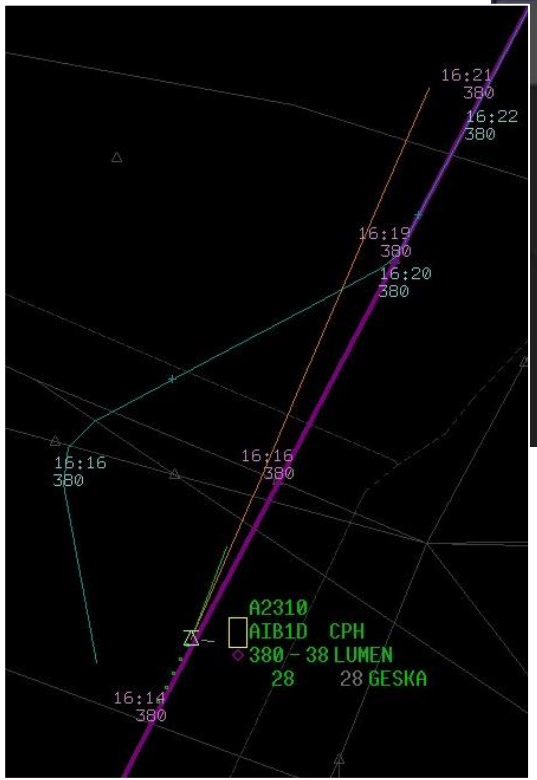
Maastricht UAC's Safety Enhancements

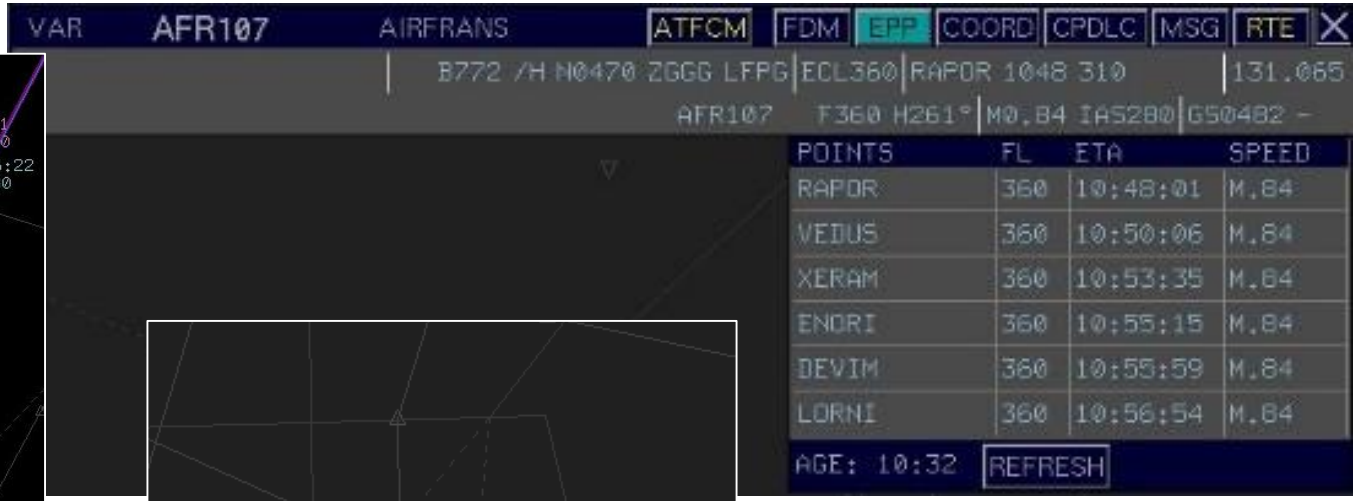
Christopher Adams
Maastricht UAC / Operational Expert

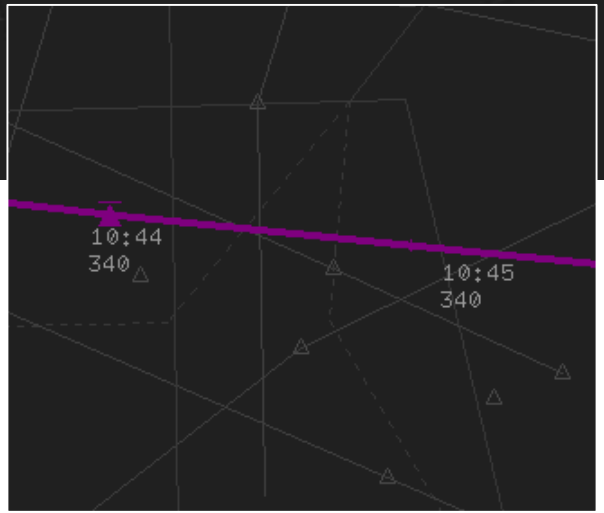
DIGITS Webinars 1st and 2nd Dec 2020

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SESAR
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MUAC's Controller Human Machine Interface (HMI)









MUAC's Safety Enhancements

Example 1: Ground Route Change but no Clearance



MUAC's Safety Enhancements

Example 1: Ground Route Change but no Clearance



MUAC's Safety Enhancements

Example 1: Ground Route Change but no Clearance



MUAC's Safety Enhancements

Example 1: Ground Route Change but no Clearance

- At night, flight from EDDK (Köln) to Poland.
- Opposite overflight towards the UK.
- Controller makes system input direct but does not clear as below MUAC airspace.
- Control team distracted and assume aircraft flying direct (free route airspace).
- Aircraft turns on to FMS route in to overflight while still climbing through level.
- Corrective action taken, flights have visual contact.

Conclusion:

Difference in routing would have been detected via ADS-C EPP.

Lack of clearance would have been highlighted.

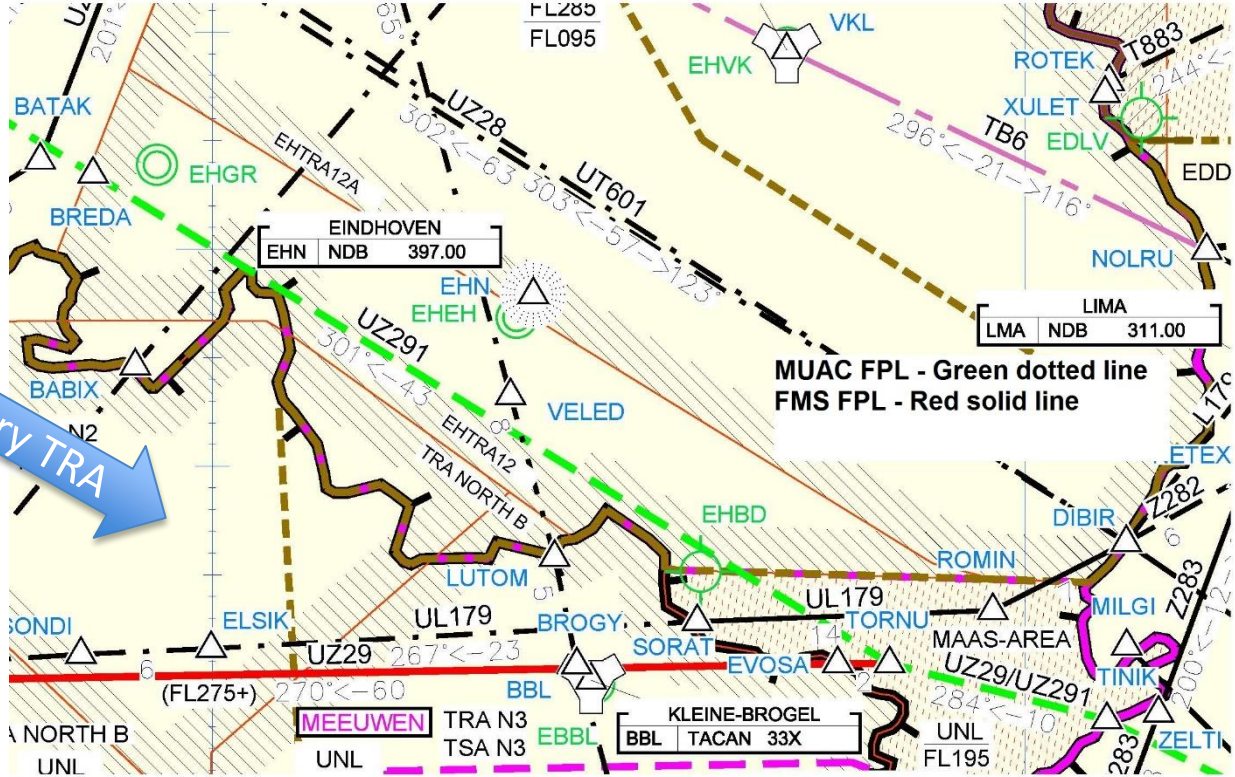
MUAC's Safety Enhancements

Example 2: Flight Entering Active Military TRA



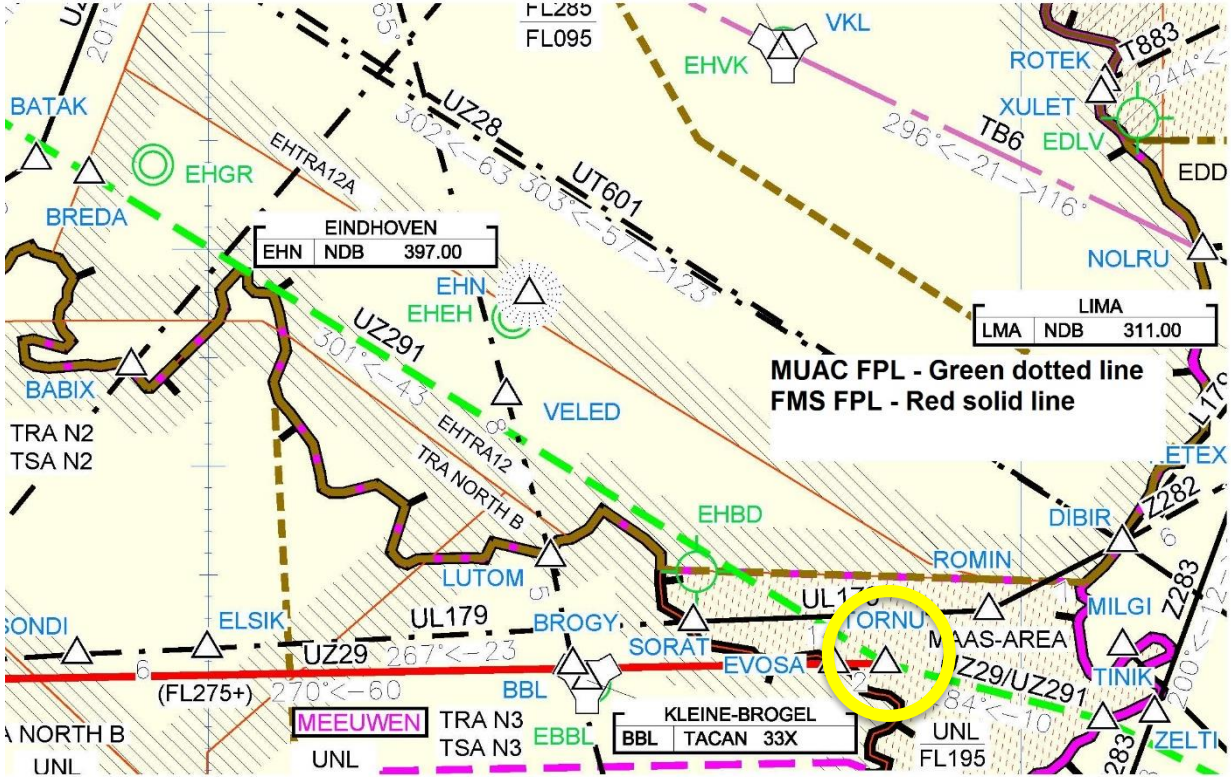
MUAC's Safety Enhancements

Example 2: Flight Entering Active Military TRA



MUAC's Safety Enhancements

Example 2: Flight Entering Active Military TRA



MUAC's Safety Enhancements

Example 2: Flight Entering Active Military TRA

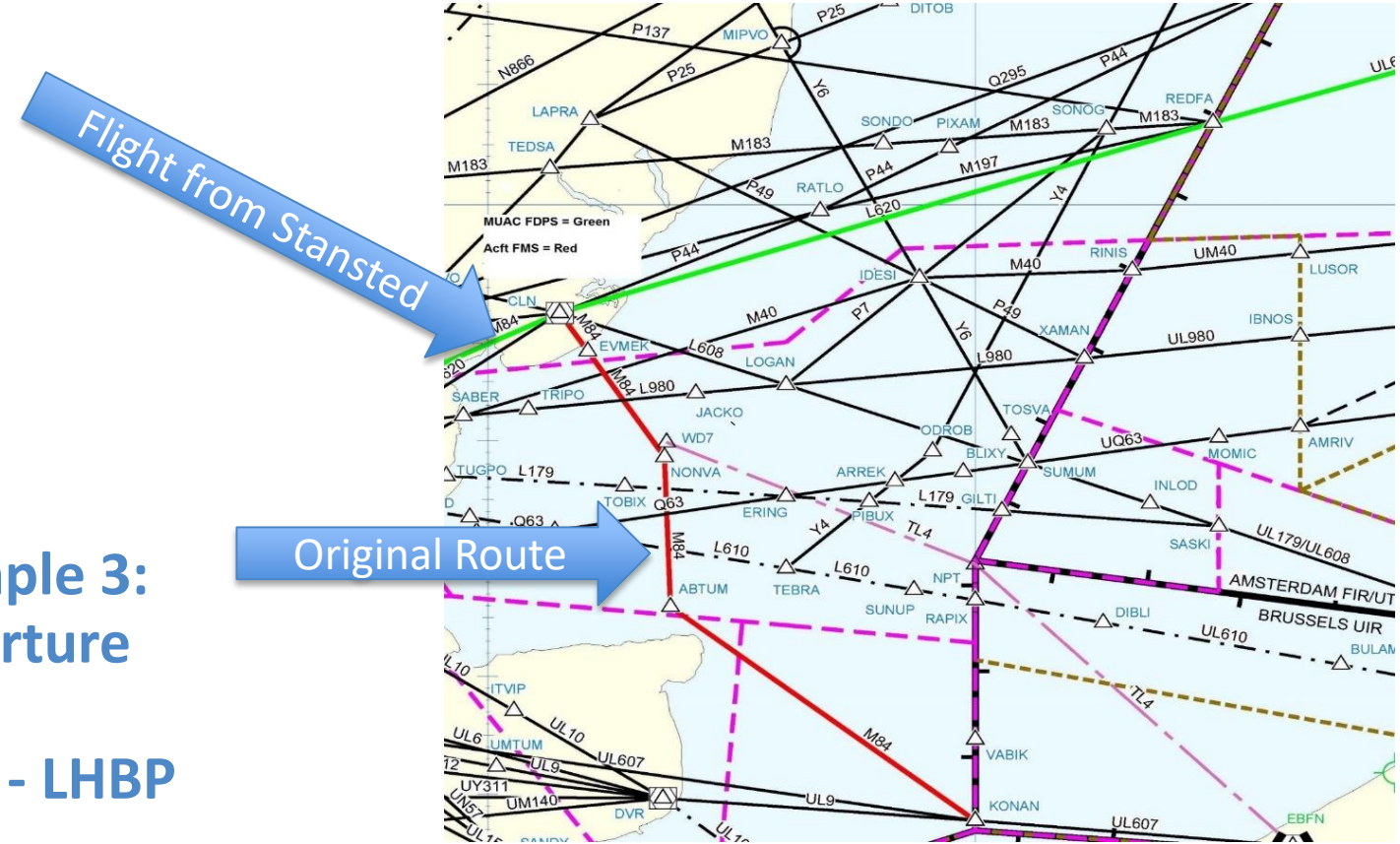
- Flight from EDDF (Frankfurt) to USA.
- Military TRA in northeast Belgium is active.
- Crew is confused by the different filed flight plans given to them by OPS.
- At the border with Belgium the flight turns left into the active TRA.
- Crew is advised immediately of the situation.
- Flight is turned towards the correct routing.

Conclusion:

Issue could have been detected via ADS-C EPP.

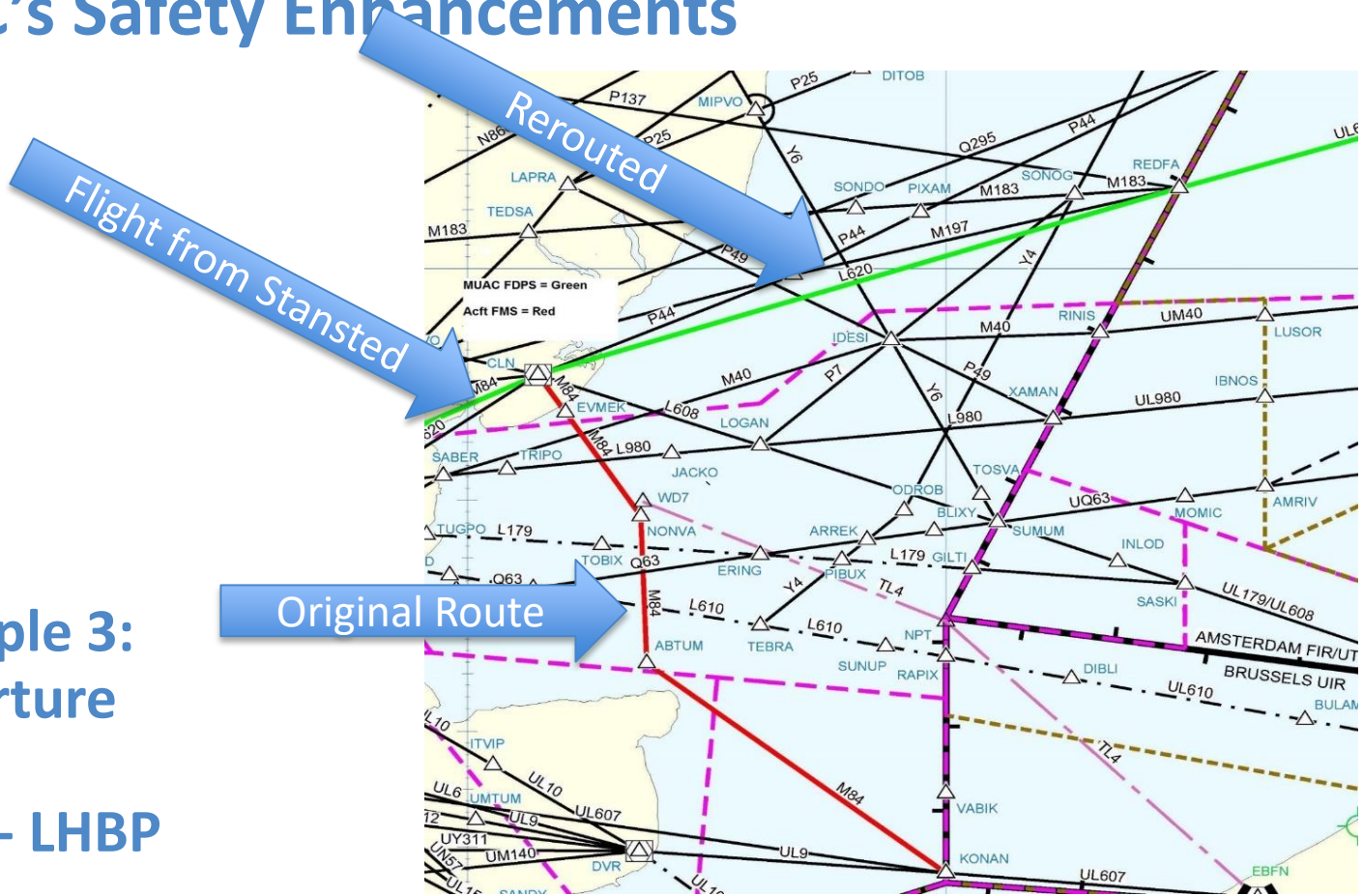
Infringement of active military airspace could have been avoided.

MUAC's Safety Enhancements



Example 3: Departure from EGSS - LHBP

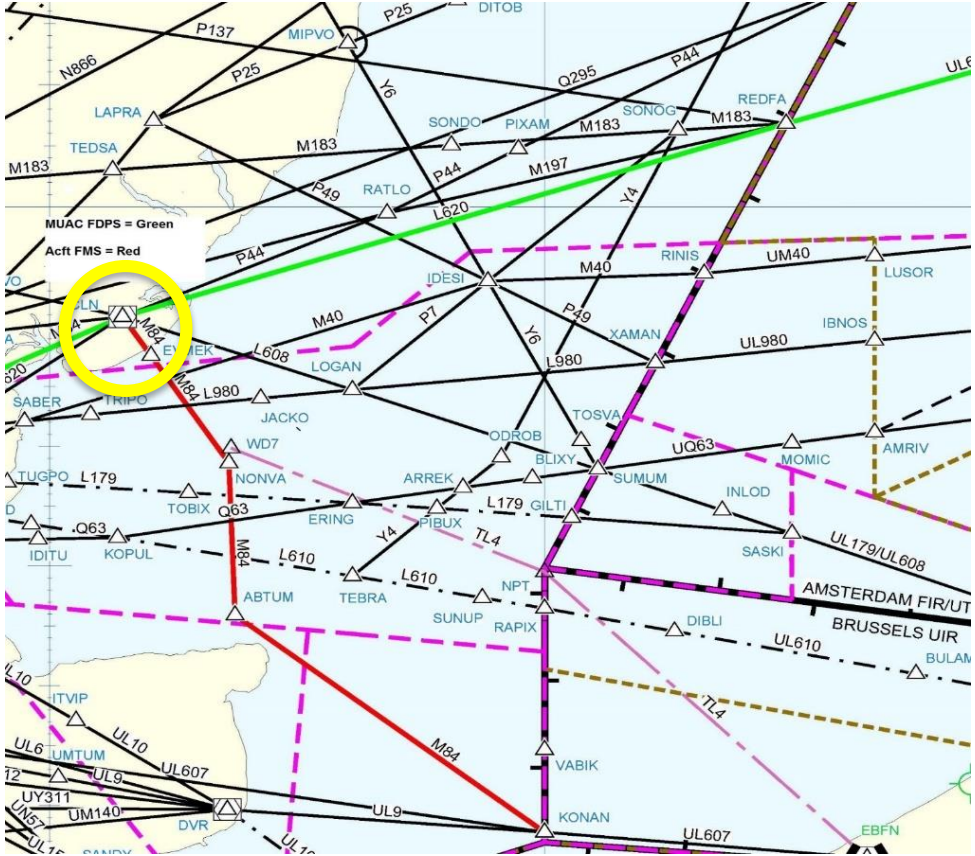
MUAC's Safety Enhancements



Example 3: Departure from EGSS - LHBP

MUAC's Safety Enhancements

Example 3: Departure from EGSS - LHBP



MUAC's Safety Enhancements

Example 3: Departure from EGSS - LHBP

- Flight from EGSS (Stansted) to LHBP (Budapest) passes everyday through MUAC West Sector
- Due to flow regulations, flight is rerouted through the MUAC Deco sector.
- However the FMS FPL is not updated by airline Ops.
- When the a/c approaches CLN (clacton point) it turns sharply right according to the set SID.
- This is spotted by the executive controller and a/c is turned towards the correct waypoint.
- Turn of 70 degrees is observed on radar.

Conclusion.

Detection would have been possible via ADS-C EPP

No unplanned turn by the flight.

MUAC's Safety Enhancements

Controllers/MUAC view

- Top of Descent (ToD) indication, give the clearance when pilot wants it.
- Top of Climb (ToC) / ToD indications allow better traffic management, smoother climbs/descents
- Discrepancy indication a good safety enhancement
- Every flight equipped is welcome, no minimal number needed
- Automated route checking saves a lot of time on the voice frequency, reduces mistakes
- Auto load of CPDLC clearances further avoids risk of miss-communication

- MUAC strongly believes in closing the loop air-ground via ADS-C
- MUAC envisages a long list of opportunities to improve the Ops' use and tools

Airlines

Airborne Industry

Thank you very much for your attention!

Ground Industry

ANSPs

founding members