Civil/Military ATM Cooperation and Flexible Use of Airspace Webinar

Online

20th-21st Nov 2024

Clim van der Weyden (KLM)
ATM Regional Manager Asia

This event is jointly organised with

EU-CHINA APP | EU-ROK APP | APP EU-Japan | EU-SOUTH ASIA APP | EU-ASEAN SCOPE APP | Funded by the European Union | EASA European Union Aviation Safety Agency | EUROCONTROL | PANSA

EU - Asia Aviation Partnership Projects (APP)

FUA in the Netherlands

Use of Conditional Routes (CDRs)

CDRs open for planning based on agreement with the Military:
Weekdays: Before 09:00LT, after 17:00LT
Weekends and holidays: 24hrs

Benefits for the airline

If plannable:

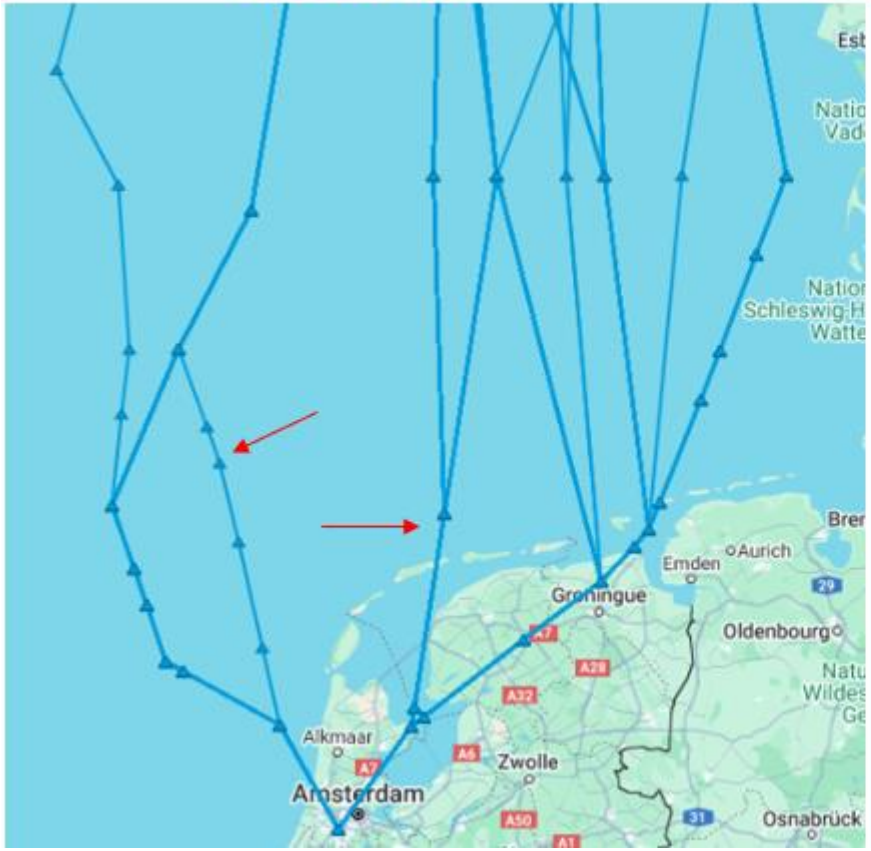
- Schedule adjustment -> new connections available
- Shorter flight and crew duty time
- Less fuel needed for the flight plan
- Less Co2 emissions

Not Plannable, but offered by ATC:

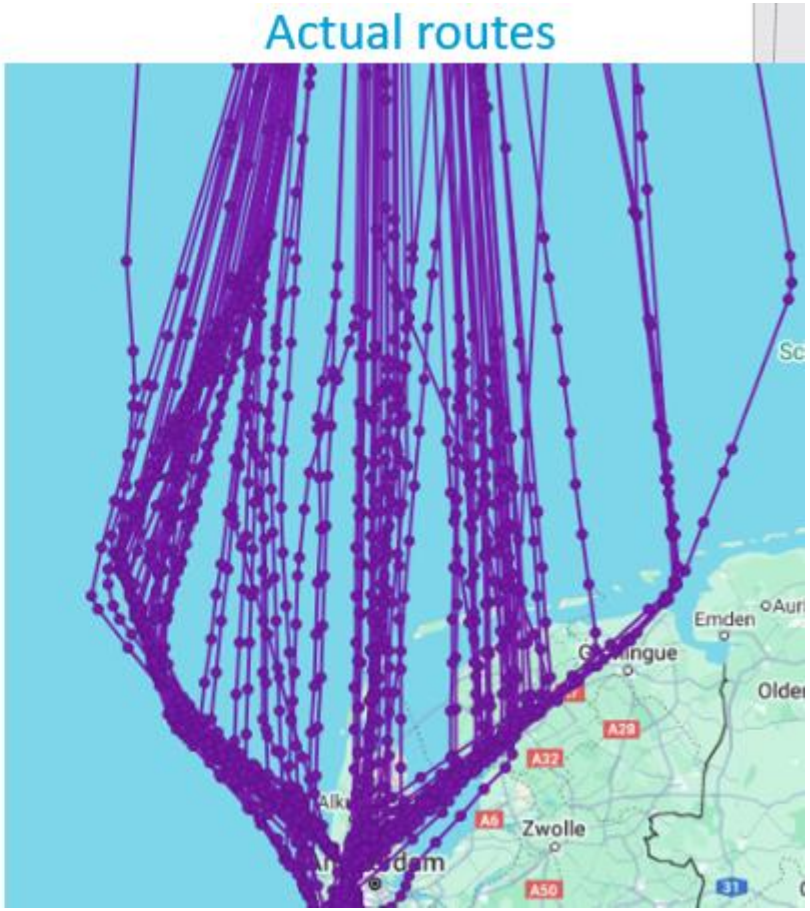
- Shorter flight time
- Some fuel and Co2 saved (transport loss)

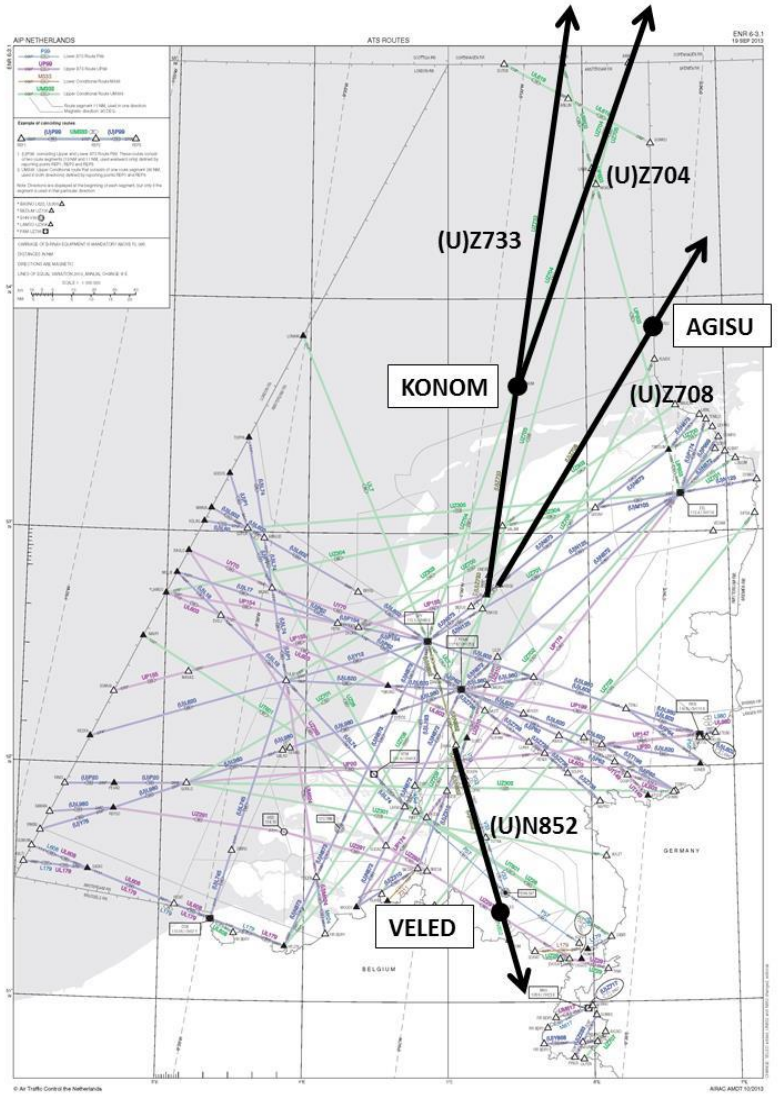
Use of CDRs in the Netherlands

OFP routes



Actual routes





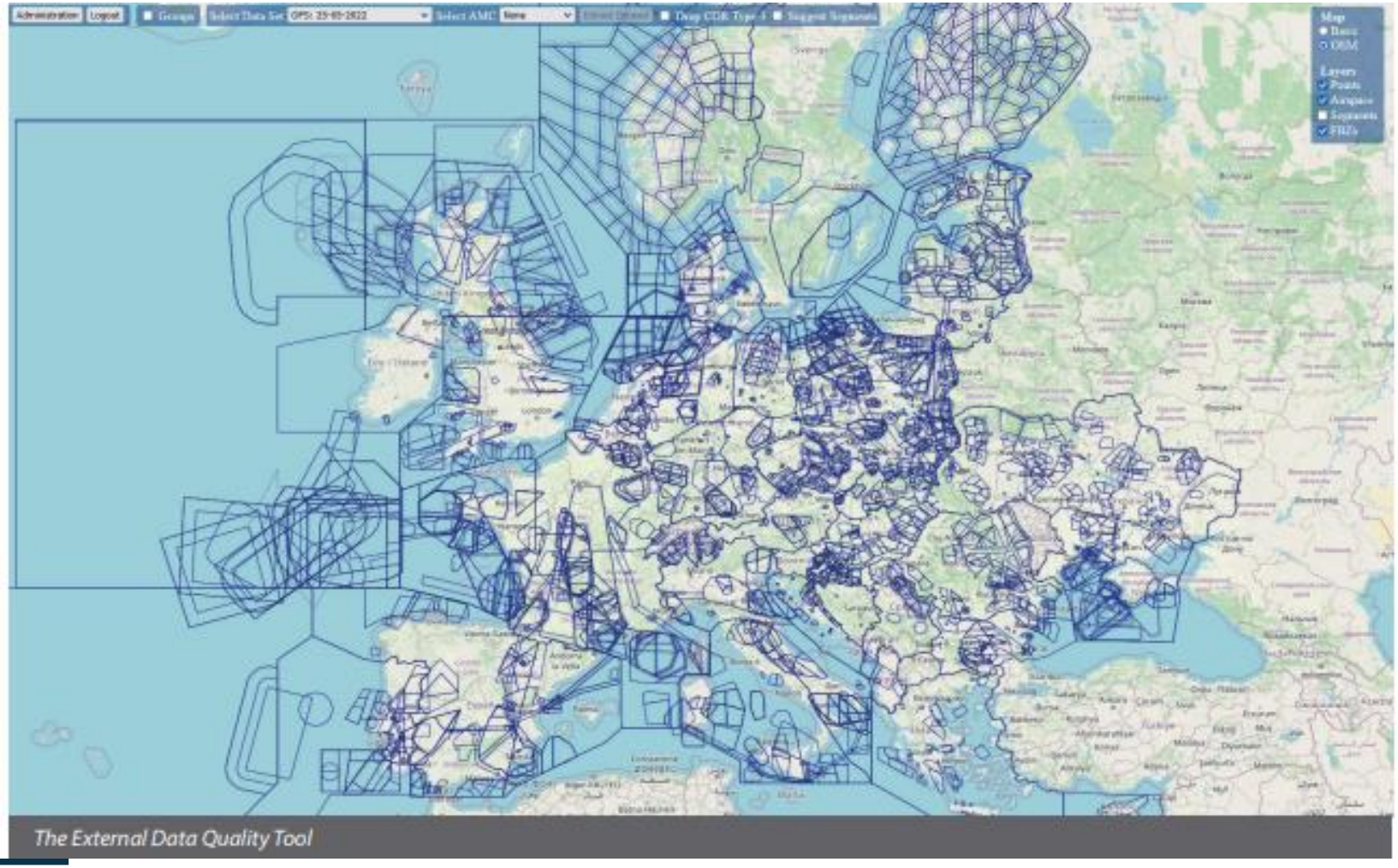
Flight Planning

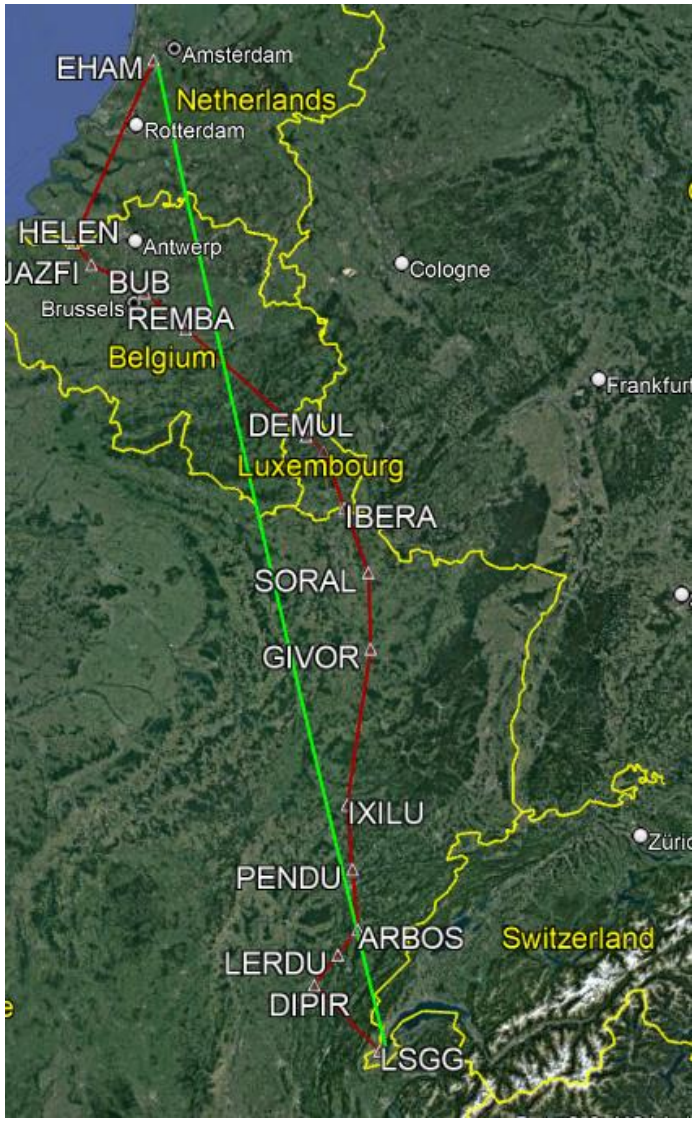
Day of operation route choices will be made by Dispatchers based on:

- **Time (to arrive on time)**
- **Costs (fuel and ATC)**
- **Wind/ temperature**
- **Available routes, flight levels and en-route Airports**
- **Closures of airspaces by Notams**

More available routes enable the choice for the optimal route!

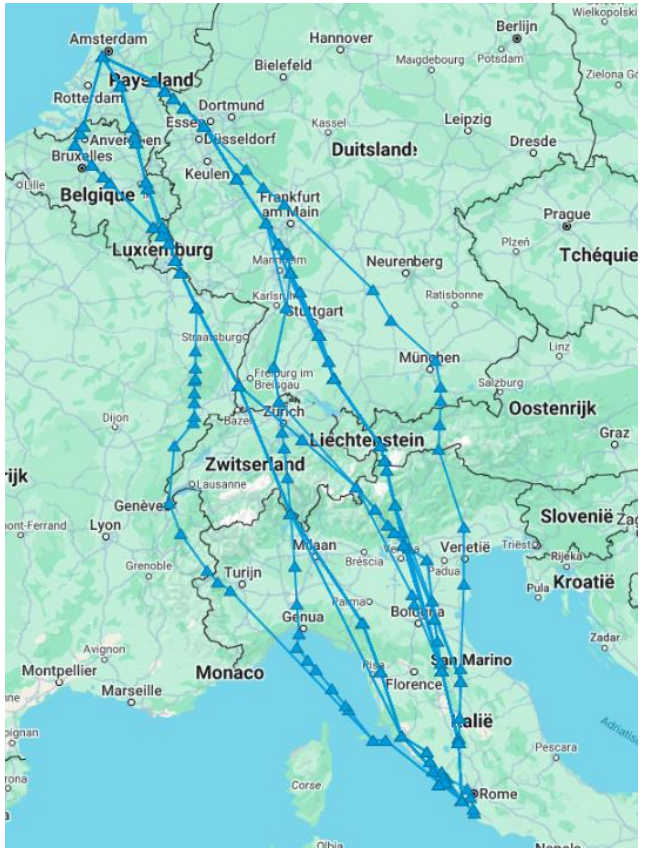
Military airspace EU





Route options

Example of flexibility in route choice AMS-LIS & AMS-FCO



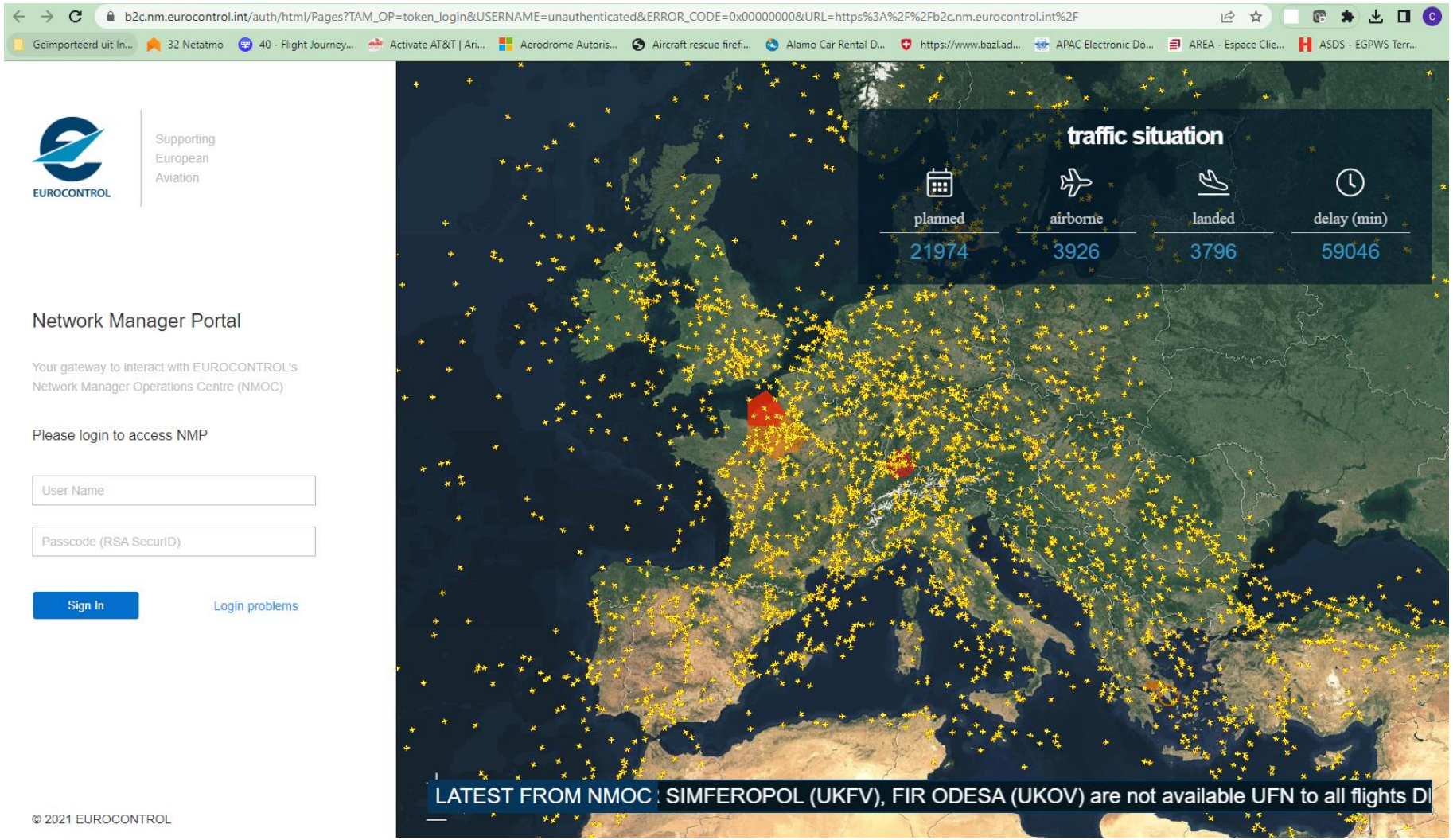
Interaction with ANSPs

How to improve the system on regular basis

- Have regular meetings with ANSPs to discuss route proposals
- Analysing actual routes to discover possible route efficiency improvements
- Requesting new route options for existing city pairs, or authorizing routes for new city pairs
- Opportunities may come after fleet changes or new technical developments on the ground
    - In The Netherlands there was a flight level requirement to use a CDR, when a new aircraft was introduced, this route could be used

In the EU Eurocontrol is a very important organisation that enables flexibility and capacity for airlines. Eurocontrol developed a system that enables airlines to optimize flight plans after filing.

Network Manager Portal



Network Manager Portal Flight

	☆	ARCID	REG	OPR	ADEP	ADES	EOBT	EOBT Validity	TOBT	TSAT	TT	E/CTOT	DELAY ↓2	REGUL+ AVG DL	REGUL+
›	☆	KLM1586	PHEXG	KLC	LIPE S	EHAM	04-07:15				15	07:41C	11	9	KLK3C04M
›	☆	KLM1651	PHHSD	KLM	EHAM C	LIPZ	04-07:10				14	07:33C	9	8	KLK3C04M
›	☆	KLM83J	PHEZY	KLC	EHAM C	LIRQ	04-07:35				13	07:56C	8	9	KLK3C04M
›	☆	KLM81K	PHBXE	KLM	EHAM C	LIRF	04-07:35				13	07:55C	7	9	KLK3C04M
›	☆	KLM69F	PHBCD	KLM	EHAM C	LGAV	04-06:25		06:25	06:56	16	07:12C	31	45	LGAVA04+
›	☆	KLM23F	PHEXC	KLC	EHAM C	LDSP	04-08:20				13	08:33E	*28*	23	KLK3C04M
›	☆	KLM58X	PHBXS	KLM	LIRF C	EHAM	04-08:20	185			25	08:45E	*27*	10	EHAMA04M+
›	☆	KLM68V	PHEXA	KLC	EDDN S	EHAM	04-12:30				10	12:40E	*24*	62	EDMFR04M
›	☆	KLM54R	PHBXW	KLM	LHBP S	EHAM	04-09:35				10	09:45E	*22*	15	KD3C04M+

Network Manager Portal Flight

Flight Details | Airspace Profile | Point Profile | Flight Management | e-Helpdesk | Slot Swap | Ops Log | History | IFPS History

Flight plan | Plot | Extra addressing - Enter up to 100 AFTN addresses

```
(FPL-KLM23F-IS
-E190/M-SDE2E3FGIJ1RWY/HB1
-EHAM0820
-N0442F390 EDUPO Z739 MISGO DCT TIVUN DCT NEGIX DCT DINKU M867 XERUM DCT BAVAX DCT RADIZ/N0417F370
DCT ALIVO DCT NUPSO
-LDSP0147 LDZD
-PBN/A1B1D1O1S2 DOF/230504 REG/PHEXC EET/EDVV0012 EDUU0024 LOVV0057 LJLA0109 LDZO0119 CODE/485085
RVR/175 IFP/MODESASP OPR/KLC ORGN/EHAMKLMF PER/C RMK/TCAS)
```

STATUS: **Filed - Targeted**

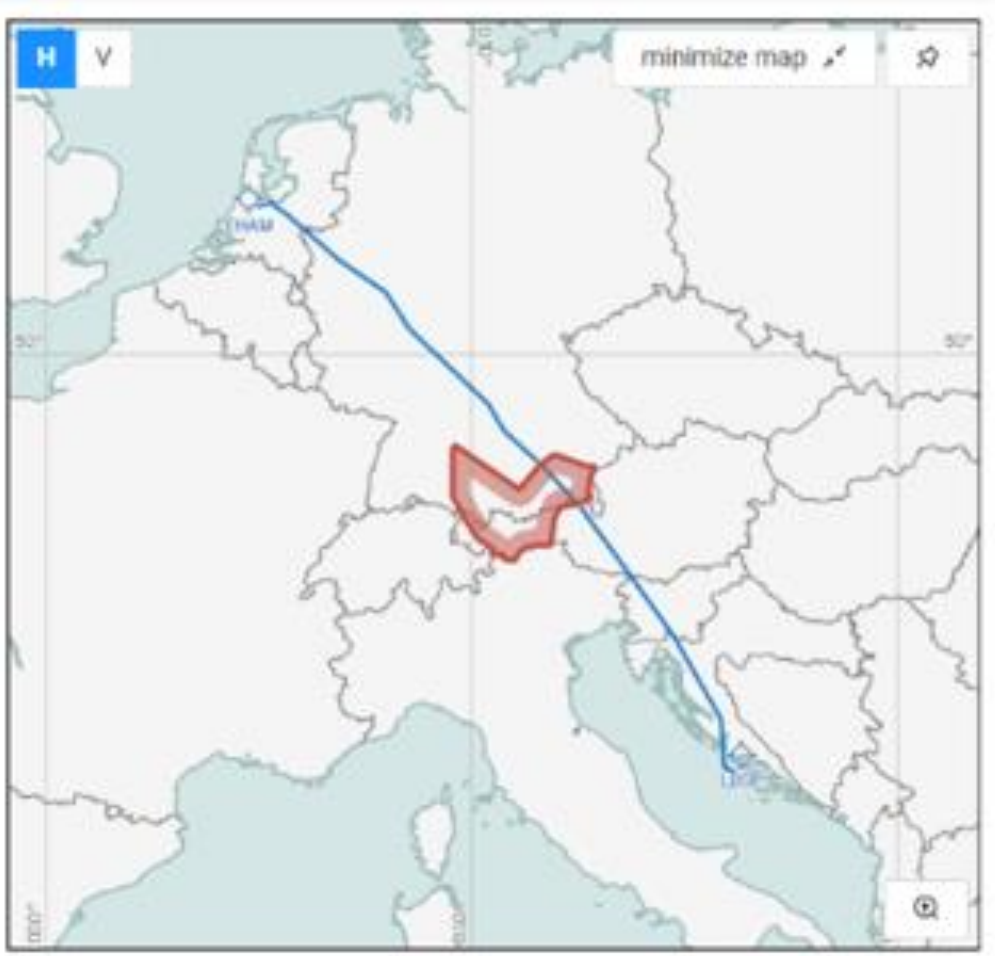
Validate | Apply reroute | Send CHG | Send DLA | Send CNL

Result

EOBT VALIDITY	CTOT	DELAY
+ 12:20	08:58	26

RAD Homepage

MESSAGE	DETAIL	ACTION
Caught in measure	KLK3C04M	Avoid



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STATUS: **Filed - Targeted**

Validate | Apply reroute | Send CHG | Send DLA | Send CNL

Result

EOBT VALIDITY	CTOT	DELAY
+ 12:20	08:58	25

RAD Homepage

MESSAGE	DETAIL	ACTION
Caught in measure	KLK3C04M	Avoid ☑

Propose route | ☐ Show the full route catalogue

Route proposal criteria

Route proposal results

	ORIGINAL ROUTE	CDR	ERROR	TOT	DELAY	EET	NM	FCI	RCI	EV	REGUL+
▸	EHAM LDSP 1		OK	08:58	25	110	762	3361	843	+ 12:20	KLK3C04M

	PROPOSED ROUTE ID	CDR	ERROR	TOT	DELAY	EET	NM	FCI	RCI	EV	REGUL+	TYPE	ROUTE ACTIONS
▸	EHAM LDSP 5004		Overload			103	727	3244	843	+ 12:20		STANDARD	Copy FPL Copy F15 Validate
▸	EHAM LDSP 5024		Overload			104	727	3244	843	+ 12:20		STANDARD	Copy FPL Copy F15 Validate
▸	EHAM LDSP 5003		Overload			108	736	3322	851	+ 12:20		STANDARD	Copy FPL Copy F15 Validate
▸	EHAM LDSP 5021	CDR1	Overload	08:34	0	104	768	3321	871	+ 12:20	KD3C04M	STANDARD	Copy FPL Copy F15 Validate
▸	EHAM LDSP 5005		Overload			108	748	3326	843	+ 12:20		STANDARD	Copy FPL Copy F15 Validate

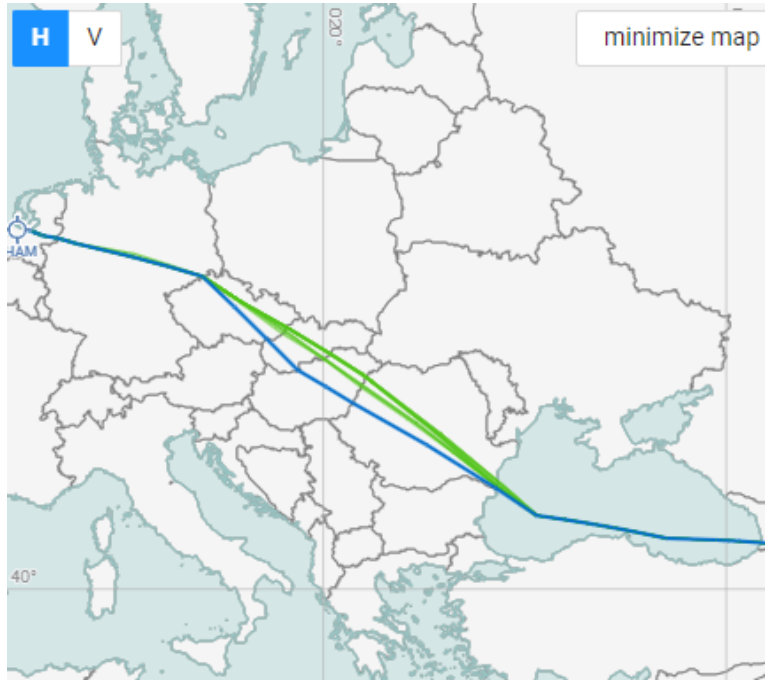
Network Manager Portal Flight

ORIGINAL ROUTE	TOT	DELAY	EET	NM	FCI	RCI	EV	REGUL+
EHAM VIDP 1			446	3810	60195	5324	+ 15:20	

N0477F330 ARNEM L620 HMM DCT NOMKA DCT OMELO DCT ODNEM DCT ERGOM DCT BUDOP DCT UDROS/N0471F350 UM859 KARDE UN644 ROLIN/N0472F350 N644 C
USETU G500 BUTRA L181 DAROW Z767 VAJEN G500 FIRUZ/N0480F350 P500 PS T400 NONIB L509 SULOM/M083F350 A466 ELKUX ELKUX6C

PROPOSED ROUTES

EXEC TIME	REROUTING NOTE	DELAY	EET	NM	FCI	RCI	EV	OPP ACTIONS	ROUTE ACTIONS
20-07:57	KLM 3 WIDE		445	3801	60093	5356	15:20		Copy FPL Copy F15 Validate
20-07:57	KLM 3 WIDE		445	3801	60110	5356	15:20		Copy FPL Copy F15 Validate
20-07:57	KLM 3 WIDE		445	3802	60123	5357	15:20		Copy FPL Copy F15 Validate
20-07:57	KLM 3 WIDE		445	3801	60125	5368	15:20		Copy FPL Copy F15 Validate
20-07:57	KLM 3 WIDE		445	3801	60125	5368	15:20		Copy FPL Copy F15 Validate



Conclusion

- Airlines need as much flexibility as possible to deal with wind variation. Impact on:
    - Passenger connections
    - Fleet connections
    - Crew working hours
- Necessity of having Flexible Use of Airspace is essential for choosing the most optimal flight path
- FUA can help bypass congested airspace sectors
- Flexible Use of Airspace (FUA), Free Route Airspace (FRA) or User Preferred Route (UPR) development is supported by airlines and can assist during development

All these points will lead to reduction of emissions for airlines which helps us reach our global aviation commitment to achieve net zero carbon in 2050.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Thank You