



**Network Manager**  
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# EDDM WX TRIAL 2016 - 2017

Weather Forum 2018

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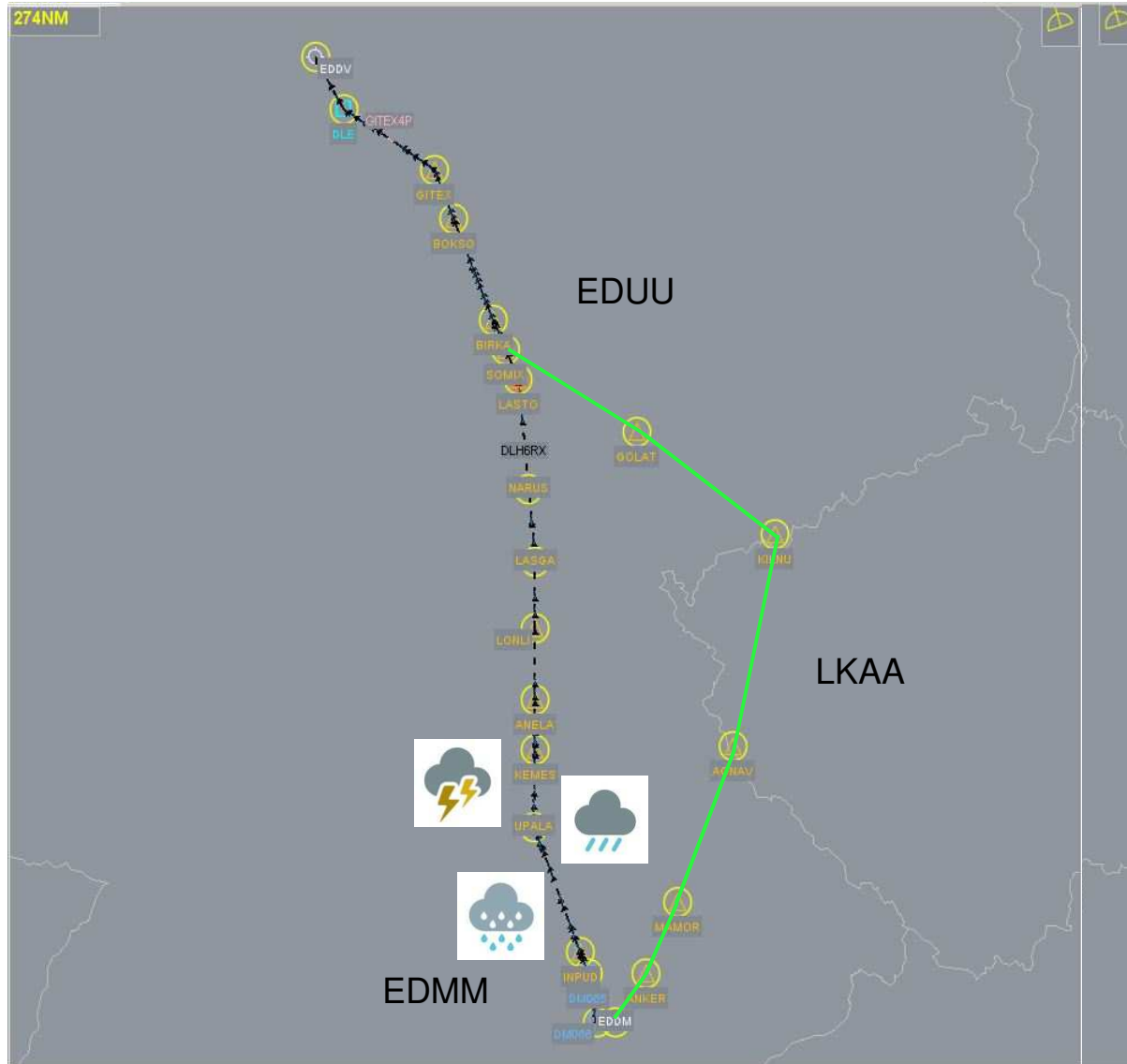
## Introduction

- Adverse weather has a big influence on Air Traffic, especially ATC Sectors and Aerodromes are reduced in capacity to a large extent. The FABEC Initiative of “Weather Induced Delay” is an approach to find flexible and common solutions in order to reduce delay.
- A trial was initiated by DFS for the EDDM Departures and has been conducted in 2016 and 2017 in close cooperation with NM.
- The operational goal is to increase predictability of flight profiles and sector workload, whilst reducing coordination workload and delay during periods of adverse weather.
- 2016: Fixed routes to destination and limited participants
- 2017: Departure flows and all AO’s could participate

## Principle / Procedure

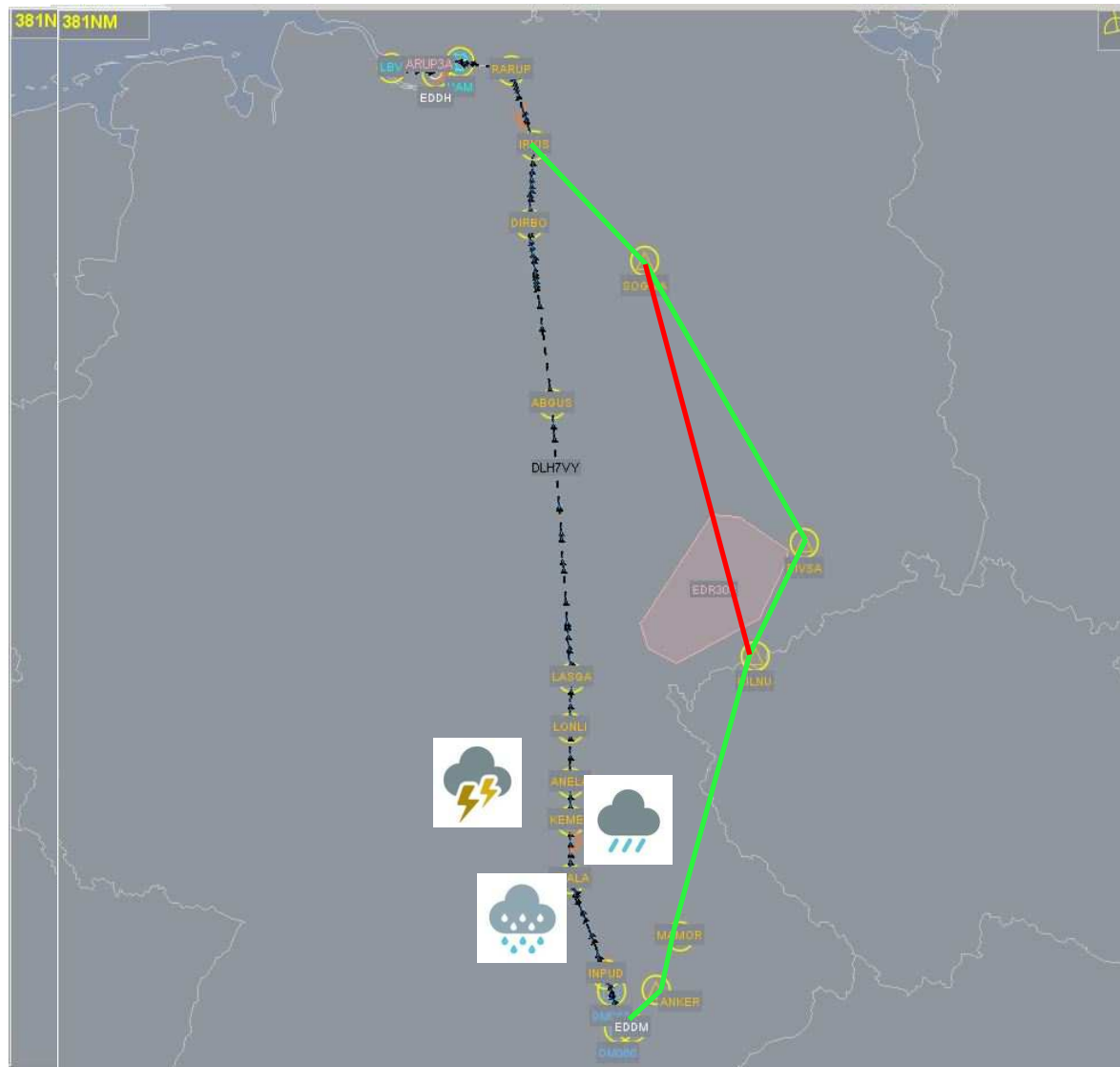
- Multiple Alternate WX departure flows from EDDM were coordinated, set up by DFS and validated in NMOC. These departure routes are only up to a particular point, allowing more flexibility to the AO's to file according to company policies after.
- As the routes are fully coordinated between the different participating ACC/UAC's, NM created Error Management Restrictions which automatically IGNORE errors triggered on the coordinated departure routes each time the trial is activated by EDMM FMP. Errors after the last point of the coordinated departure route were not ignored.
- A specific designator “EDDMWX” needed to be inserted by the AO in the F18 of the re-filed message to indicate the participation in the trial.

# Principle / Procedure

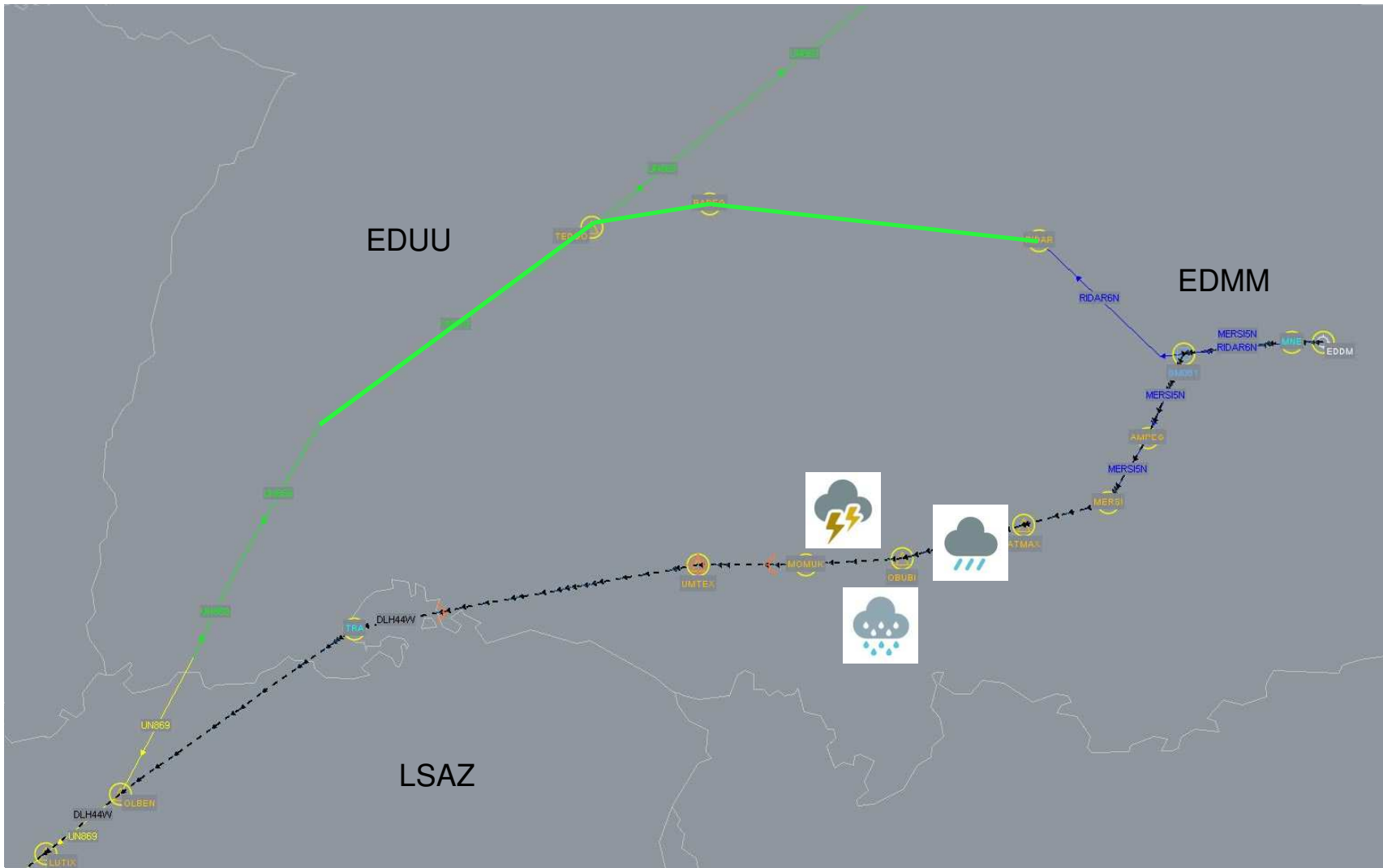


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Alternate Route Segments Dep EDDM	Destination / conditions	IFPS Errors Triggered	EM IGNORE
ANKER Y104 MAMOR L132 KILNU	ENGM EKCH	NONE	N/A
ANKER Y104 MAMOR L132 KILNU/ <b>F340</b> UL132 RIVSA DCT SOGMA	EDDH only, TRA308 active	RUDNO L132 AGNAV does not exist FL. RIVSA DCT SOGMA too long	EM7000A
ANKER Y104 MAMOR L132 KILNU/ <b>F340</b> DCT SOGMA	EDDH only, TRA308 not active	RUDNO L132 AGNAV does not exist FL. KILNU DCT SOGMA too long	EM7001A
<b>F300</b> ANKER Y104 MAMOR L132 AGNAV DCT KILNU DCT GOLAT DCT BIRKA	EDDV only, TRA308/208A not active	RUDNO L132 AGNAV does not exist FL. AGNAV DCT KILNU too long KILNU DCT GOLAT too long GOLAT DCT BIRKA too long	EM7002A
TURBU	LEPA LEBL	NONE	N/A
TURBU Y107 ASVUT	LEMD LEBB	NONE	N/A
<b>F200</b> RIDAR L173 DODIL DCT BABEG DCT ETAGO/ <b>....F...</b> DCT HAREM	EDDL only, TRA107/207 active	DODIL DCT BABEG too long BABEG DCT ETAGO too long	EM7003A
<b>F220</b> RIDAR DCT BABEG/ <b>....F...</b> DCT ETAGO DCT HAREM	EDDL only, TRA107/207 not active	RIDAR DCT BABEG too long BABEG DCT ETAGO too long	EM7004A
<b>F220</b> RIDAR DCT BABEG/ <b>....F...</b> DCT TEDGO	LEMD LEBB G* LP* TRA107/207 not active	RIDAR DCT BABEG too long BABEG DCT TEDGO too long	EM7005A
<b>F200</b> RIDAR L173 GUPIN/ <b>F220</b> DCT ETASA	EDDF only, TRA107/207 active	ED3044A	EM7006A
<b>F200</b> RIDAR L173 GUPIN/ <b>F220</b> L173 LBU	EDDK only	ED3044A	EM7007A

Other ACC/UACs involved in the trial:

EDUU – LSAZ – LKAA – LOVV - LIPP

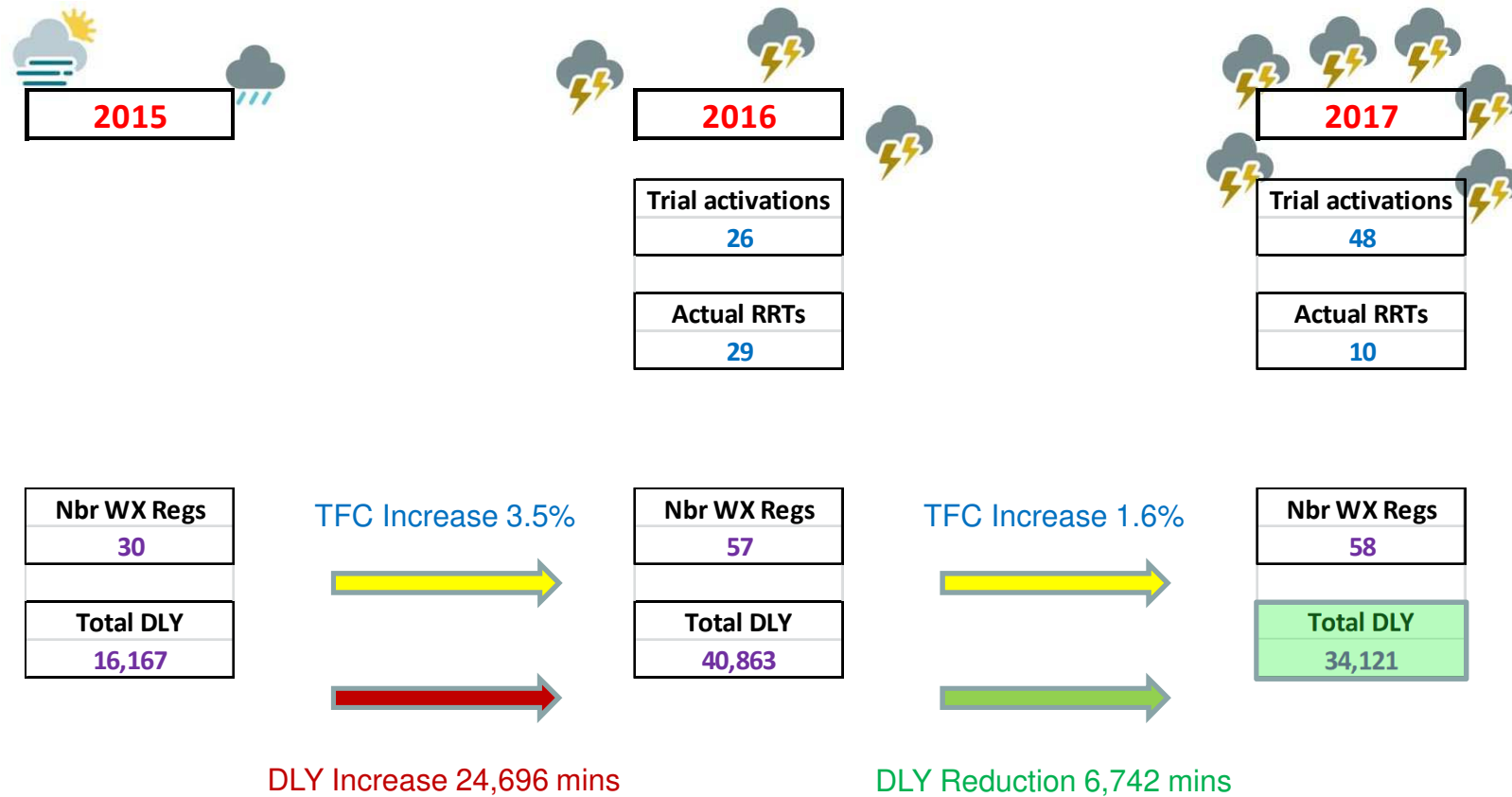
## Workflow

- EDMM FMP activates the trial by email to NM in case of adverse weather during the period of the trial (AIRAC May. to AIRAC Sep.)
- NM informs the community via the NOP Headline News and enables the specific Error Management Restrictions
- EDMM FMP coordinates the flights to take the alternative route with the ACC/UACs concerned and proposes to the AO
- If the AO accepts, they send a CHG or new FPL to IFPS with the indication RMK/EDDMWX
- IFPS processes and distributes the CHG or FPL updating the counts and informing all concerned



# Result

- Comparison over the trial periods May to September:



## Pro's and Con's

### ■ PRO :

- Improved predictability and sector counts
- Reduced delay
- Improved awareness and planning by AO
- Few rerouted flights benefit all
- Reduced workload as the alternate route is pre-determined and communicated prior to the flight departure.

### ■ CON :

- Overall workload is still quite high
- Uptake of the proposed reroutes by the AO's is too low
- Current set-up can be subject to human error
- The late change/update can lead to pro-active participants to be “punished” as LF/LU

## Outlook

- Improve the automation to reduce workload further :
  - Explore system changes to enable the FMP to activate or de-activate the trial (similar to STAM)
  - Explore system changes to allow enabling/disabling all the relative Error Management Restrictions in a single go.
  - Regulation exemption for LF/LU taking up a WX alternate route
- Explore means to increase the uptake of the reroute proposals by the AO's
- Implement the procedure / set-up on a permanent basis to be used all year round in case of adverse weather
- Implement this coordinated approach to other WX sensitive areas