

# LETTER OF AGREEMENT

between

vACC Germany

and

vACC Germany

**München FIR**

**Langen FIR**

Effective: January 31<sup>st</sup>, 2019

## **1 General.**

### **1.1 Purpose.**

The purpose of this Letter of Agreement is to define the coordination procedures to be applied between München FIR and Langen FIR when providing ATS to air traffic (IFR/VFR) on the VATSIM network.

All information and procedures described in this Letter of Agreement shall not be used for real world purposes.

### **1.2 Operational Status.**

All operational significant information and procedures contained in this Letter of Agreement shall be distributed to all concerned controllers by appropriate means. This Letter of Agreement itself constitutes public information.

### **1.3 Validity.**

This Letter of Agreement becomes effective on December 6<sup>th</sup>, 2018 and supersedes the Letter of Agreement between München FIR and Langen FIR dated January 4<sup>th</sup>, 2007.

Revision 2, effective on January 31<sup>st</sup>, 2019

gez. Dietmar Brinschwitz

München FIR, RG Director

gez. Yannic Brodersen

Frankfurt FIR, RG Director

## **2 Areas of Responsibility & Sectorization**

### **2.1 Areas of Responsibility.**

The lateral and vertical limits of the respective areas of responsibility are as follows:

#### 2.1.1 München FIR.

Lateral limits: München FIR as described in AIP Germany

Vertical limits: GND – FL660

#### 2.1.2 Langen FIR.

Lateral limits: Langen FIR as described in AIP Germany

Vertical limits: GND – FL660

### **2.2 Sectorization.**

Any Rhein Radar station can only be staffed if the sector below is covered by another Langen/München Radar station.

#### 2.2.1 München FIR.

##### 2.2.1.1 Sector Allersberg Low (ALB).

Vertical limits: FL 135 – FL 315

Responsible ATS unit (in order of precedence):

1. EDMM\_A\_CTR (München Radar), 129.100
2. EDMM\_R\_CTR (München Radar), 132.550
3. EDMM\_CTR (München Radar), 124.050
4. EURM\_CTR (Maastricht Radar), 135.450 (above FL245)  
Remark: EURM\_CTR is an ATS unit of EuroCenter vACC.

##### 2.2.1.2 Sector Donau Upper (DONU)

Vertical limits: FL 315 – FL 660

Responsible ATS unit (in order of precedence):

1. EDUU\_D\_CTR (Rhein Radar), 128.750
2. EDUU\_S\_CTR (Rhein Radar), 128.975
3. EDMM\_A\_CTR (München Radar), 129.100
4. EDMM\_R\_CTR (München Radar), 132.550
5. EDMM\_CTR (München Radar), 124.050
6. EURM\_CTR (Maastricht Radar), 135.450 (above FL245)  
Remark: EURM\_CTR is an ATS unit of EuroCenter vACC.

### 2.2.1.3 Sector Franken Low (FRKL).

Vertical limits: GND – FL 195

Responsible ATS unit (in order of precedence):

1. EDDN\_APP (München Radar), 129.525
2. EDDN\_F\_APP (München Radar), 119.475
3. EDMM\_F\_CTR (München Radar), 124.825
4. EDMM\_S\_CTR (München Radar), 131.025
5. EDMM\_R\_CTR (München Radar), 132.550
6. EDMM\_CTR (München Radar), 124.050

### 2.2.1.4 Sector Franken High (FRKH).

Vertical limits: FL 195 – FL 315

Responsible ATS unit (in order of precedence):

1. EDMM\_F\_CTR (München Radar), 124.825
2. EDMM\_S\_CTR (München Radar), 131.025
3. EDMM\_R\_CTR (München Radar), 132.550
4. EDMM\_CTR (München Radar), 124.050
5. EURM\_CTR (Maastricht Radar), 135.450 (above FL245)  
Remark: EURM\_CTR is an ATS unit of EuroCenter vACC.

### 2.2.1.5 Sector Füssen (FUE).

Vertical limits: FL 105 – FL 315

Responsible ATS unit (in order of precedence):

1. EDMM\_K\_CTR (München Radar), 134.150
2. EDMM\_R\_CTR (München Radar), 132.550
3. EDMM\_CTR (München Radar), 124.050
4. EURM\_CTR (Maastricht Radar), 135.450 (above FL245)  
Remark: EURM\_CTR is an ATS unit of EuroCenter vACC.

### 2.2.1.6 Sector Alpen (ALPU).

Vertical limits: FL 315 – FL 660

Responsible ATS unit (in order of precedence):

1. EDUU\_L\_CTR (Rhein Radar), 127.300
2. EDUU\_D\_CTR (Rhein Radar), 132.725
3. EDUU\_S\_CTR (Rhein Radar), 128.975
4. EDMM\_K\_CTR (München Radar), 134.150
5. EDMM\_R\_CTR (München Radar), 132.550
6. EDMM\_CTR (München Radar), 124.050
7. EURM\_CTR (Maastricht Radar), 135.450 (above FL245)  
Remark: EURM\_CTR is an ATS unit of EuroCenter vACC

#### 2.2.1.7 Sector Nördlingen (NDG)

Vertical limits: GND – FL 315

Responsible ATS unit (in order of precedence):

1. EDMM\_N\_CTR (München Radar), 126.450
2. EDMM\_K\_CTR (München Radar), 134.150
3. EDMM\_R\_CTR (München Radar), 132.550
4. EDMM\_CTR (München Radar), 124.050
5. EURM\_CTR (Maastricht Radar), 135.450 (above FL245)  
Remark: EURM\_CTR is an ATS unit of EuroCenter vACC.

#### 2.2.1.8 Sector Isar (ISA)

Vertical limits: FL 315 – FL 660

Responsible ATS unit (in order of precedence):

1. EDUU\_L\_CTR (Rhein Radar), 127.300
2. EDUU\_D\_CTR (Rhein Radar), 132.725
3. EDUU\_S\_CTR (Rhein Radar), 128.975
4. EDMM\_N\_CTR (München Radar), 126.450
5. EDMM\_K\_CTR (München Radar), 134.150
6. EDMM\_R\_CTR (München Radar), 132.550
7. EDMM\_CTR (München Radar), 124.050
8. EURM\_CTR (Maastricht Radar), 135.450 (above FL245)  
Remark: EURM\_CTR is an ATS unit of EuroCenter vACC.

#### 2.2.1.9 Sector Thüringen Low (TRGL)

Vertical limits: GND – FL 195

Responsible ATS unit (in order of precedence):

1. EDDP\_APP (München Radar), 126.175
2. EDMM\_T\_CTR (München Radar), 133.575
3. EDMM\_S\_CTR (München Radar), 131.025
4. EDMM\_CTR (München Radar), 124.050
5. EDWW\_B\_CTR (Bremen Radar), 123.225

#### 2.2.1.10 Sector Thüringen High (TRGH)

Vertical limits: FL 195 – FL 315

Responsible ATS unit (in order of precedence):

1. EDMM\_T\_CTR (München Radar), 133.575
2. EDMM\_S\_CTR (München Radar), 131.025
3. EDMM\_CTR (München Radar), 124.050
4. EDWW\_B\_CTR (Bremen Radar), 123.225
5. EURM\_CTR (Maastricht Radar), 135.450 (above FL245)

#### 2.2.1.11 Sector Erlangen (ERL)

Vertical limits: FL 315 – FL 660

Responsible ATS unit (in order of precedence):

1. EDUU\_D\_CTR (Rhein Radar), 132.725
2. EDUU\_S\_CTR (Rhein Radar), 128.975
3. EDUU\_E\_CTR (Rhein Radar), 128.075
4. EDMM\_F\_CTR (München Radar), 124.825
5. EDMM\_S\_CTR (München Radar), 131.025
6. EDMM\_R\_CTR (München Radar), 132.550
7. EDMM\_CTR (München Radar), 124.050
8. EURM\_CTR (Maastricht Radar), 135.450 (above FL245)

#### 2.2.1.12 Sector Sachsen High (SALH)

Vertical limits: FL 315 – FL 660

Responsible ATS unit (in order of precedence):

1. EDUU\_E\_CTR (Rhein Radar), 128.075
2. EDUU\_S\_CTR (Rhein Radar), 128.975
3. EDMM\_T\_CTR (München Radar), 133.575
4. EDMM\_S\_CTR (München Radar), 131.025
5. EDMM\_CTR (München Radar), 124.050
6. EDWW\_B\_CTR (Bremen Radar), 123.225
7. EURM\_CTR (Maastricht Radar), 135.450 (above FL245)

## 2.2.2 Langen FIR

### 2.2.2.1 Sector Hersfeld (HEF)

Vertical limits: GND – FL 245

Responsible ATS unit (in order of precedence):

1. EDGG\_E\_CTR (Langen Radar), 127.720
2. EDGG\_Z\_CTR (Langen Radar), 120.570
3. EDGG\_CTR (Langen Radar), 135.720

### 2.2.2.2 Sector Gedern (GED)

Vertical limits: GND – FL245

Responsible ATS unit (in order of precedence):

1. EDGG\_G\_CTR (Langen Radar), 124.420
2. EDGG\_E\_CTR (Langen Radar), 127.720
3. EDGG\_Z\_CTR (Langen Radar), 120.570
4. EDGG\_CTR (Langen Radar), 135.720

### 2.2.2.3 Sector Hammelburg (HAB)

Vertical limits: GND – FL245

Responsible ATS unit (in order of precedence):

1. EDGG\_H\_CTR (Langen Radar), 134.200
2. EDGG\_Z\_CTR (Langen Radar), 120.570
3. EDGG\_E\_CTR (Langen Radar), 127.720
4. EDGG\_CTR (Langen Radar), 135.720

### 2.2.2.4 Sector Kitzingen (KTG)

Vertical limits: GND – FL245

Responsible ATS unit (in order of precedence):

1. EDGG\_Z\_CTR (Langen Radar), 120.570
2. EDGG\_E\_CTR (Langen Radar), 127.720
3. EDGG\_CTR (Langen Radar), 135.720

### 2.2.2.5 Sector Dinkelsbühl (DKB)

Vertical limits: GND – FL245

Responsible ATS unit (in order of precedence):

1. EDGG\_D\_CTR (Langen Radar), 125.200
2. EDGG\_Z\_CTR (Langen Radar), 120.570
3. EDGG\_E\_CTR (Langen Radar), 127.720
4. EDGG\_CTR (Langen Radar), 135.720

#### 2.2.2.6 Sector Stuttgart (STG)

Vertical limits: GND – FL145

Responsible ATS unit (in order of precedence):

1. EDDS\_N\_APP (Langen Radar), 125.050
2. EDDS\_S\_APP (Langen Radar), 119.200
3. EDDS\_F\_APP (Stuttgart Director), 119.850
4. EDGG\_L\_CTR (Langen Radar), 131.300
5. EDGG\_Z\_CTR (Langen Radar), 120.570
6. EDGG\_R\_CTR (Langen Radar), 124.470
7. EDGG\_E\_CTR (Langen Radar), 127.720
8. EDGG\_CTR (Langen Radar), 135.720

#### 2.2.2.7 Sector Reutlingen (REU)

Vertical limits: GND – FL145

Responsible ATS unit (in order of precedence):

1. EDDS\_S\_APP (Langen Radar), 119.200
2. EDDS\_N\_APP (Langen Radar), 125.050
3. EDDS\_F\_APP (Stuttgart Director), 119.850
4. EDGG\_L\_CTR (Langen Radar), 131.300
5. EDGG\_Z\_CTR (Langen Radar), 120.570
6. EDGG\_R\_CTR (Langen Radar), 124.470
7. EDGG\_E\_CTR (Langen Radar), 127.720
8. EDGG\_CTR (Langen Radar), 135.720

#### 2.2.2.8 Sector Luburg (LBU)

Vertical limits: FL145 – FL245

Responsible ATS unit (in order of precedence):

1. EDGG\_L\_CTR (Langen Radar), 131.300
2. EDGG\_Z\_CTR (Langen Radar), 120.570
3. EDGG\_R\_CTR (Langen Radar), 124.470
4. EDGG\_E\_CTR (Langen Radar), 127.720
5. EDGG\_CTR (Langen Radar), 135.720

#### 2.2.2.9 Sector Fulda (FUL)

Vertical limits: FL245 – FL660

Responsible ATS unit (in order of precedence):

1. EDUU\_W\_CTR (Rhein Radar),
2. EDGG\_E\_CTR (Langen Radar), 127.720
3. EDGG\_CTR (Langen Radar), 135.720
4. EURM\_CTR (Maastricht Radar), 135.450

#### 2.2.2.10 Sector Würzburg (WUR)

Vertical limits: FL245 – FL660

Responsible ATS unit (in order of precedence):

1. EDUU\_T\_CTR (Rhein Radar), 132.400
2. EDUU\_W\_CTR (Rhein Radar), 133.650
3. EDGG\_Z\_CTR (Langen Radar), 120.570
4. EDGG\_E\_CTR (Langen Radar), 127.720
5. EDGG\_CTR (Langen Radar), 135.720
6. EURM\_CTR (Maastricht Radar), 135.450

#### 2.2.2.11 Sector Tango (TGO)

Vertical limits: FL245 – FL660

Responsible ATS unit (in order of precedence):

1. EDUU\_T\_CTR (Rhein Radar), 132.400
2. EDUU\_W\_CTR (Rhein Radar), 133.650
3. EDGG\_Z\_CTR (Langen Radar), 120.570
4. EDGG\_R\_CTR (Langen Radar), 124.470
5. EDGG\_E\_CTR (Langen Radar), 127.720
6. EDGG\_CTR (Langen Radar), 135.720
7. EURM\_CTR (Maastricht Radar), 135.450

### **2.3 Delegation of the Responsibility for the Provision of ATS.**

#### 2.3.1 General

- 2.3.1.1 The airspace **below FL135** and **east** of  
N50.30.00 E010.31.18 – N50.13.37 E010.17.20 – N49.51.07 E010.18.00 –  
N49.38.20 E010.18.20 – N49.19.20 E010.22.20 – N49.10.43 E010.35.16  
is **permanently delegated** from EDFF to EDMM and handled by **EDDN\_APP**.



## **3 Procedures for Coordination**

### **3.1 Definitions**

A release is an authorization for the accepting ATS unit to climb, descend and/or turn (by no more than 45°) a specific aircraft before the transfer of control point. The transferring ATS unit remains responsible for separation within its Area of Responsibility unless otherwise agreed.

Wherever VATSIM callsigns are used to describe the terms of a certain procedure, this procedure is also applicable for all higher stations that take over the responsibilities of said station. E.g., procedures for an APP-station are also applicable for the respective CTR station fulfilling the duties of said APP station.

The use of VATSIM callsigns in this document includes any variation of said callsigns. E.g. any procedure applicable for EDMM\_CTR may also be used by EDMM\_X\_CTR or EDUU\_X\_CTR.

### **3.2 General Conditions**

Coordination of flights shall take place via the agreed coordination points (COP).

Coordinated flights shall be handed off via a valid COP. Any deviation shall be coordinated verbally, by text or by EuroScope inter-sector coordination.

Traffic shall be handed off at the levels, defined in the regulations below. If a specified level restriction cannot be met due to a lower RFL, traffic shall be handed off at RFL, if this does not cause a conflict with any other traffic. Otherwise traffic shall be coordinated.

If a traffic situation is not covered herein, individual coordination between the concerned sectors shall be made.

After Transfer of communications, traffic is NOT released for climb, descent or turns until Transfer of control or otherwise specified in this Letter of Agreement.

↓FLxxx / ↑FLxxx means „descending / climbing to a specified FL“, without any further restriction. Any required crossing/speed restriction shall be added separately.

### 3.3 IFR flights from München FIR to Langen FIR

Destination	COPX	Level Allocation	Special Conditions
EDFH EDRZ EDSB EDDR ELLX	ALAXA	FL300	
EDDF	ASPAT	FL270	Clearance for ASPATxW / xE (W if 25 ops, E if 07 ops) by EDMM
EDDK EDL*	VELIS	FL300	
EDDF	ERSIL	FL240	
EDDK EDDL ELLX EDSB EDTY EDDR EDF* EDL* EDK* EDR*	ESEGU	FL200	
EDDF	GAPLA	FL180	
EDFM	GORKO	FL220	
EDDR EDFH EBLG EHBK ELLX	INBED	FL320	
LFST	KUNOD	FL280	
EDDS	LUPOL	FL180	
EDDF	PETIX	FL270	Clearance for PETIXxW / xE (W if 25 ops, E if 07 ops) by EDMM
EDDR EDFH EBLG EHBK ELLX	PETIX	FL320	
EDDS	RASPU	FL280	
EDDK EDLW EDLP	SULUS	FL260	
EDFM	SULUS	FL200	
EDDF EDDK EDDL EDF* EDK* EDL*	TAMEB	FL240	
EDDS EDSB EDDR EDR* EDTY EDTL EDM* EDJA ETS*	TAMEB	FL320	
EDDS	TEKSI	FL110	Handoff 15 NM before
EDLP	GASKA	FL270	
EDDS EDSB	GUDOM	FL240	
EDDS EDSB	KEGOS	FL220	
EDDF	VAGAB	FL220	
EDLP EDL*	VAGAB	FL270	

<b>Departure</b>	<b>COPX</b>	<b>Maximum Level Allocation</b>	<b>Special Conditions</b>
LKPR	ALAXA	FL320	
EDDP EDDE EDAC	AMOSA	FL310	
EDDN	DKB	FL130	
EDDE	ERSIL	FL190	
EDDM	GORKO	FL300	
EDDN EDQ*	GORKO	FL190	
EDDN	IBAGA	FL130	
EDDM EDMA EDMO	INBED	FL280	
LOWI	KUNOD	FL340	
EDJA	PELOG	FL80	
EDDE	RASPU	FL260	
EDAC EDDP	ROBEL	FL280	
EDJA	SUDEN	FL80	
EDDN	SUKAD	FL130	
EDDP	TAMEB	FL260	
EDQ*	VAGAB	FL180	

### 3.4 IFR flights from Langen FIR to München FIR

Destination	COPX	Level Allocation	Special Conditions
EDQ*	BOKNI	FL170	
EDMA EDMO EDJA ETS*	DKB	FL100	
EDDM	DKB	FL230	Departure EDFF
EDDM	NOMBO	FL230	Departure EDFF
EDDM	DKB	FL250	
EDDM	ELMOX	FL350	Clearance ELMOXxC by EDGG
EDDN (runway 28 in use) EDQ*	ERTES LETKU VELIS WUR	FL150	
EDDN (runway 10 in use)	ERTES LETKU VELIS WUR	FL130	
EDDE	GORKO MADET ROBEL	FL150	
EDDM EDDN EDQ*	GUPIN	FL190	
EDAC EDDP EDPP	NOMKA	FL250	
EDJA	REUTL	FL90	
EDAC EDDP EDPP	ROBEL	FL250	
EDDB EDDC EDDP	SULUS	FL290	
EDQ*	SULUS	FL190	
LOWI		FL310	

<b>Departure</b>	<b>COPX</b>	<b>Maximum Level Allocation</b>	<b>Special Conditions</b>
EDDS	ABTAL	FL140	
EDDS EDSB EDFM	AMOSAS	FL230	
EDDF EDFF	BARSU	FL230	
EDDF EDFF	ERSIL	FL290	
EDDR EDRZ EDSB	GUPIN	FL230	
EDDS EDSB	KEGOS	FL230	
EDDF EDFF	NOMBO	FL290	
EDDF EDFF EDDS EDSB	SULUS	FL310	

### **3.5 VFR flights from München FIR to Langen FIR**

For controlled VFR flights and VFR at night flights above 2500 feet GND coordination, transfer of control and transfer of communication shall take place as for IFR flights. Uncontrolled VFR flights shall be transferred to the appropriate sector if in radio contact. If online, EDGG\_F\_CTR (Langen Information), 128.950, shall be the primary sector for uncontrolled VFR flights.

### **3.6 VFR flights from Langen FIR to München FIR**

For controlled VFR flights and VFR at night flights above 2500 feet GND coordination, transfer of control and transfer of communication shall take place as for IFR flights. Uncontrolled VFR flights shall be transferred to the appropriate sector if in radio contact. If online, EDMM\_I\_CTR (München Information), 120.650, shall be the primary sector for uncontrolled VFR flights.

## 4 Special Procedures

No special procedures in use.

## 5 Transfer of Control and Transfer of Communications

### 5.1 Transfer of Control

Transfer of Control shall take place at the boundary of AoR.

1. If the downstream sector in EuroScope is set to *>.break<*, the procedure 5.4 is suspended and transfer of communication can only take place after the downstream sector has assumed the flight via the appropriate function of the radar client.
2. If it becomes necessary to reduce or suspend transfers, a 5 minute prior notification" is required.
3. When transfers are suspended, the hand-off procedure 5.4 is suspended.

### 5.2 Silent transfer of control

The following values for silent transfer of control strictly apply for aircraft on same flight level. If possible, they shall also be met between aircraft on different flight levels, but with same destination:

1. If preceding aircraft is on same speed or faster: **10nm**
2. If succeeding aircraft is faster by **20kts/M0.05** or less: **20nm**
3. If succeeding aircraft is faster by **40kts/M0.10** or less: **30nm**

### 5.3 Transfer of Communications

Transfer of Communications shall take place no later than Transfer of Control.

### 5.4 Hand-Off procedure:

Unless otherwise agreed between stations online, the following hand-off procedure, called Silent transfer of control, shall apply:

1. The upstream sector initiates a transfer via the appropriate function of the radar client.
2. The upstream sector sends the aircraft to the frequency of the downstream sector by voice or text.
3. Upon initial call, the downstream sector assumes the flight via the appropriate function of the radar client.

The transfer of communications shall be initiated early enough so that the pilot will call the downstream controller before or shortly after reaching his sector.

### 5.5 SSR Code Assignment

Both ATS units shall transfer flights on verified discrete SSR codes. Any change of SSR code by the accepting ATS unit may only take place after the transfer of control point.