

# Operational concept FREMOdern-Meeting Penig

FREMOdern in Saxony 7.0 – XXL-Meeting 2.0

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„25 years railway reform – and our neighbours celebrate with us“



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Photo: picture alliance / dpa

## 1. Historical background

Contrary to the popular view amongst railway nostalgics the railway reform 01.01.1994 was the basis for a trend reversal and an increase in railway traffic. Nothing is perfect in detail, but two month delayed we would like to toast to it with you!

If somebody would like to empathize into the grandiose announcements at that time should watch the two minutes news broadcast „Tagesschau“ on the decision off he railway reform.



<https://www.youtube.com/watch?v=hkenmaAHzJU>

Obviously today's railways are different than the earlier ones, but nevertheless still quite exciting. Together with our friend from Austria and Poland we would like to replicate this extensively and we are very happy about your participation!

## **2. Framework data in a nutshell**

**Time reduction:** 1:3,0 → 1 model hour correlates with 20 minutes real time

**Session duration:** One model day is divided into two semi-sessions with 2:40h realtime each:

- Early shift: 03:00 – 11:00 model time
- Late shift: 17:00 – 01:00 model time

We will skip midday and prefer to simulate the morning and evening times when the passenger transport slowly increases and decreases. Thus this leaves a few more gaps for the freight transport during the night hours.

### **Displayed periods:**

#### **1999: Thursday = 1. session and first half of 2. session**

- Only slowly the new traffic red („Verkehrsrot“) replaces the product colors, resulting in quite colorful trains
- Logos of the federal railways west (Bundesbahn) and east (Reichsbahn) might still be discovered on older freight railway cars
- „DB Cargo“ is quite new, however „Railion“ is not yet introduced
- Privat railway undertakings are absolutely seldom
- Exclusively short era 5 numbers!

#### **2007: Friday = termination of 2. session and 3. session**

- Traffic red („Verkehrsrot“) is established, „DB Cargo“ and „Railion“ are common
- Growing competition by privat railway undertakings
- Transition phase between short era 5 and long era 6 numbers

#### **2019 „present time“: Saturday and Sunday = 4. and 5. session**

- Everything what can be discovered on the tracks in these days
- Era 6 UIC numbers with 12-digits are mandatory for locomotives, railway cars are labelled with the country identification „D-DB“, etc.

### **Allocation of jobs:**

When the layout is completed, we will provide a central job list. There the rail operation owners may pre-register who will take over one of the fixed jobs and in which session. The according contact persons for each railway station are noted there. Nobody registers himself without alignment there please!

The dispatcher tasks can be double staffed if interested, as there is plenty of staff available.

For the train driver jobs the common crew caller stack is available in Sbf Plagwitz.

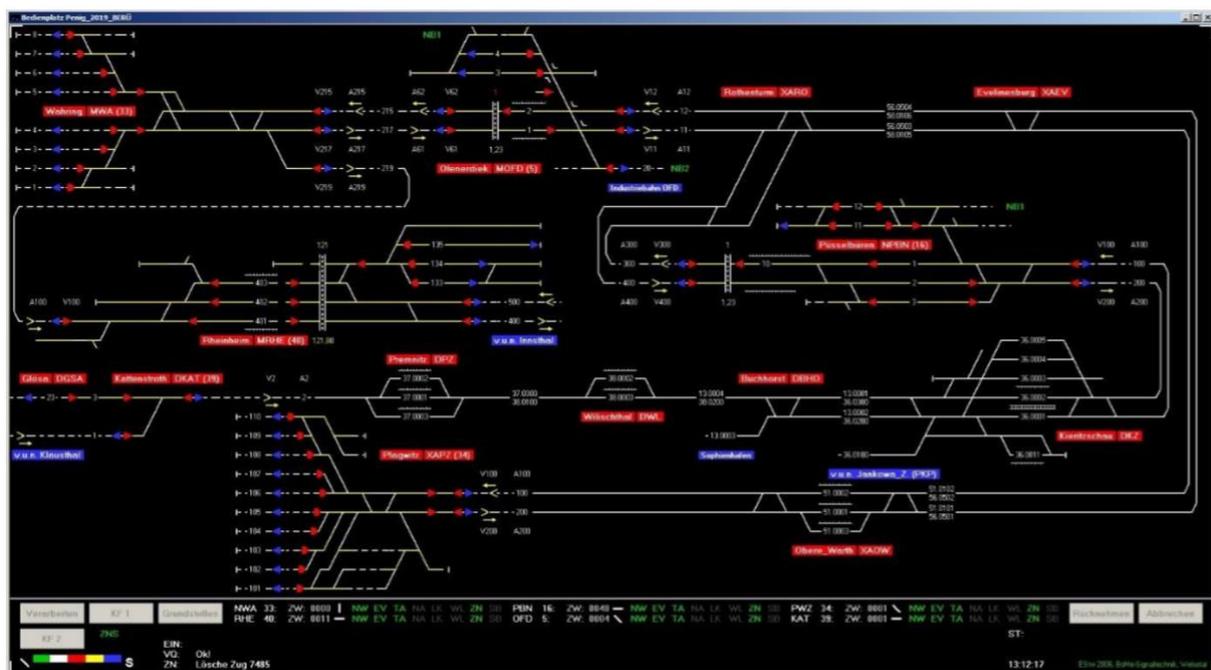
### 3. Operational specifics

#### Safety technology:

Most of the track sections are equipped with **block signaling** and **train number announcement system**. Partially this is set up with conventional technology (e.g. Premnitz, Wilischthal, Kieritzschau), partially there are ESTW controlled areas which also control other rail operation stations from a distance:

- Wahrung → Ofenerdiek
- Obere Warth → Rothenturm/Evelinenburg
- Rheinheim (self-sufficient)
- Prüsselbüren (self-sufficient)
- Junction Kattenstroth (controlled from Premnitz)

In every track section the train ride may be monitored by the train number announcement system then:



Not equipped with block signaling or train number announcement systems are only the following sections:

- Slope section Rheinheim – Innsthal
- Secondary railway Kattenstroth – Rotterode
- PKP section Darsz – Kieritzschau

There train registration books will be in use.

### Train schedule software:

For all railway lines except the PKP line a digital graphic timetable from Bodo Mertins will be in use. More information on the features and the usage of this software named „ZugDispo“ is available in a separately distributed quick guide.

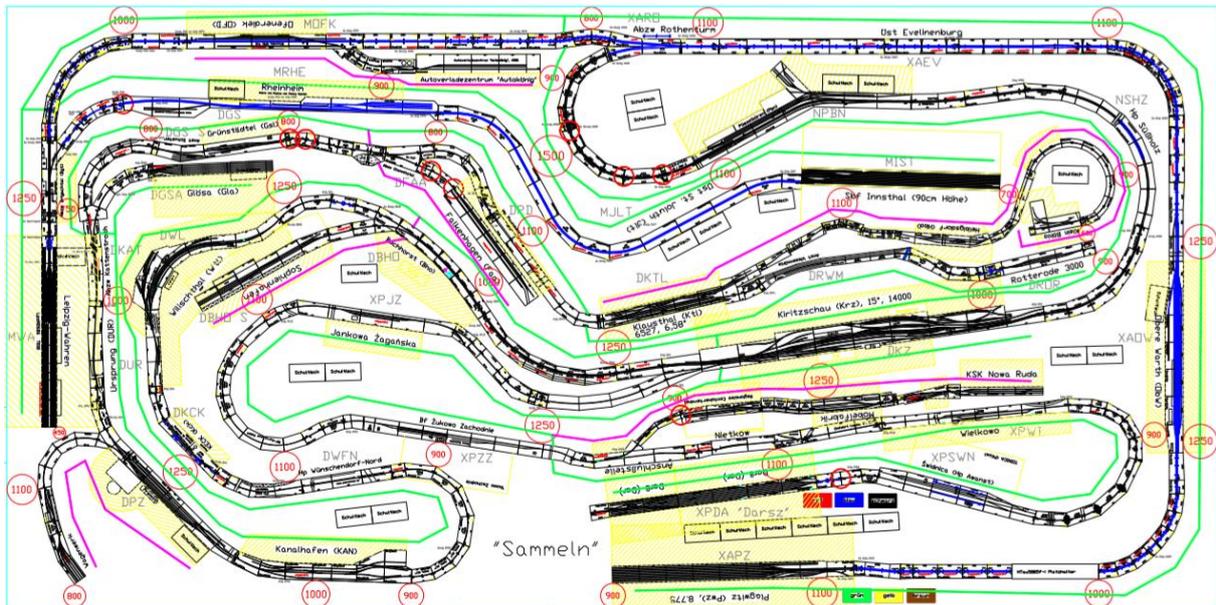
Thus printed graphical timetables and railway station regulations are only available in Poland. Printed timetables will be available for every displayed period separately and will consequently be replaced twice.

### Train operations:

- Strictly assignment of fixed locomotive circulations with **locomotive ID cards**. Enough blank cards are available, however prepared own locomotive ID cards would be much nicer!
  
- For all scheduled trains there is **fixed rolling stock** based on the preregistrations. This will be planned by Florain Leibfahrt who will announce it to the respective owners.
  
- As there where some misunderstandings: The **wheelset norms NEM and RP25** are accepted. However „fine“ rolling stock will preferably be take into account – not at all meant here is the H0fine norm...
  
- All **pantographs** must comply with the FREMO-E-Norm section 9.3.12:  
[http://www.zababov.cz/uploads/media/Norm\\_Fremo-E\\_20150823.pdf](http://www.zababov.cz/uploads/media/Norm_Fremo-E_20150823.pdf)  
More precisely the contact pressure towards the overhead line must not exceed 6 gram. This this requires mandatory adjustment of every (!) pantograph. It is not sufficient to adjust only one pantograph of a locomotive, as the train drivers will toggle them depending on the direction of travel.
  
- **Individual railway cars** are of course not planned fix. Please provide sufficient rolling stock for a diversified freight transport!

## 4. Railway lines

Our rail network ranges between the borders Germany/Austria and Germany/Poland. This time our motto is „diversity instead of absolute realism“, thus there are no separated sections – have a look at the arrangement:



On the arrangement plan given are also the railway station abbreviations according to the rail operation station folder (DS 100) of German rail network (DB Netz AG). Their code letters stand for the former directorates of federal railways west (Bundesbahn) and east (Reichsbahn) or foreign countries:

- **M...** for „Munich“, thus for upper bavaria at the northern fringe of the alps
- **N...** for „Nuremberg“, thus for the corridor through Lower Bavaria and Upper Franconia direction towards Saxony
- **D...** for „Dresden“, thus Saxony between the border of Bavaria and Poland
- **XA...** for „foreign country Austria“
- **XP...** for „foreign country Poland“

### Electrified lowland line Wahrung a.d. Donau (on the Danube) – Plagwitz im Innkreis (river Inn district)

- Roughly orientated at the original near the border crossing Passau
- Consistent bi-directional line operation with 120 km/h
- High track load in the section Rothenturm – Plagwitz many times with 4 trains per hour and direction → We tested that capacity successfully in 2017 😊
- ÖBB multi section signaling: Every main signal is at the same time distant signal for the following main signal.

### **Electrified uphill line Rheinheim – Wahrung a.d. Donau**

- Inner German railway line in the alps border located to Tirol, thus also ÖBB locomotives are in operation
- Real height difference of 40 cm between Rheinheim and Innsthal!
- Railway line in test operation, as the railway station Rheinheim as well as the uphill line face their initial operation. Therefore, only the operating test will show, which traction method proves itself (propulsion or double traction)!
- **First session 1999:**
  - o Almost only shuttle trains in passenger transport, which can be cancelled if necessary
  - o Freight trains in test operation without fixed schedule (propulsion or double traction)
- **Further sessions 2007/2019:**
  - o Long-distance trains uninterrupted to Plagwitz
  - o Freight trains foreseen in schedule – propulsion / double traction upon requirement by additional propulsion train drivers, permanently on standby in Innsthal

### **Diesel main line Glösa – Kieritzschau – Rothenturm (-Plagwitz)**

- Double track section max. 120 km/h leading through Upper Franconia to Kieritzschau; speed restricted section 80 km/h between Prüsselbüren and Rothenturm.
- Single track section leading further into the Saxony hinterland towards north / Berlin with max. 80 km/h
- As of 2007 the single track section will be used heavily due to the regional rail transport on hourly bases, therefore punctual operation is essential.
- In the rail operation stations mostly the conventional technology is still in operation.

### **PKP line Darsz – Kieritzschau**

- Single track section on the boarder leading from Saxony to Dolny Śląsk (Lower Silesia) with max. 80 km/h, in sections 60 km/h
- As long as there is no electrified boarder crossing between Saxony and Poland (construction site in Horka), a part of the freight and passenger traffic is lead via this former proud main line, which is in a rather come down condition in these days.
- In combination with the regional traffic and the freight traffic to the rail sidings (cole mine, container terminal, gravel plant) a heavy utilization of the railway line arises.

### **Secondary railway Rotterode – Kattenstroth (-Premnitz)**

- Kattenstroth – Klausthal: train announcing regulations without block signalling with max. 60 km/h
- Klausthal – Rotterode: train announcing regulations as single train operation with max. 50 km/h
- In Klausthal connection to narrow-gauge railway to Klein Böhla.
- The rail siding Falkenhagen can only be reached as movement in closed section whereas the dispatcher in Klausthal operates the key lock available there.
- The rail sidings Schuster, Grünstädtel and Wiesenmühle are also operated as movement in closed section whereby you cannot lock yourself there. The rail siding Grünstädtel is key locked as well and has a key lock operated in Klausthal.

### **750 mm narrow-gauge railway line Klausthal – Klein Böhla**

- Until today, financed by a budget for public transport of the free state of Saxony, daily operation is offered. The dispatcher is located in Klausthal.
- There is a diverse operational concept, whereby the operated vehicles are strictly orientated on the displayed years. Therefore our thanks to Micha Funke!
- Session 1999:
  - o Passenger trains according to the Döllnitzbahn (railway line in Saxony)
  - o Freight trains still with single railway cars on dollies
- Session 2007:
  - o Section Helbigsdorf – Klein Böhla is still blocked due to flood damages in 2002, thus mostly work trains are in operation.
  - o Furthermore there is touristic shuttle train service in the lower section, whereby also railway enthusiasts arrive with their standard gauge special train with an era 6 steam locomotive, in order to support the reconstruction ideational.
- Session 2019:
  - o Modern regular train operation with former ÖBB railcars of the Döllnitzbahn
  - o As part of a funding project a private wood transport is operated.

## **5. Passenger traffic**

The offered passenger traffic partially changes between the sessions. Who would like to know more should please check the graphical timetables and thereby reads the following explanations:

### **Long-distance traffic:**

- Two-hour intervals between Plagwitz and Wahrung:
  - o 1999: two locomotive operated EC-/IC train sets
  - o 2007: one ICE circulation plus two EC-/IC train sets
  - o 2019: one ICE, one Railjet and one IC2 (double-deck)
- Two-hour intervals on the uphill line:
  - o 1999: InterRegio push-pull train toggles
  - o As of 2007: Train through service from the lowland line
- Day trains in the Diesel area:
  - o 1 pair of trains DB/PKP Darsz – Plagwitz: 1999 as express train, As of 2007 as EC
  - o Only 1999: 1 InterRegio train set „Rennsteig“ Glöse – Plagwitz
  - o Only 2007: private „Vogtland-Express“ Kieritschau – Glösa – Berlin
- Night trains:
  - o 1 train set DBB/ÖBB Innsthal – Plagwitz
  - o 1 train set DB/PKP Darsz – Plagwitz
  - o Only 1999 and 2007: through coach exchange in Plagwitz!

### **Electrified regional traffic:**

- REX (regional express) between Plagwitz and Wahrung:
  - o Daily two-hour interval with ÖBB trains
  - o Connection to regional trains / suburban trains in Wahrung
- Regional trains on the uphill line:
  - o 1999/2007: German regional trains in two-hour intervals
  - o 2019: Transition to suburban trains with rental train cars of Central Germany. Enrichment to one-hour intervals in the section Innsthal – Rheinheim. During the peak time the trains will be strengthened to double traction and then reduced afterwards again.

## Regional traffic Diesel:

- Regional express Plagwitz and Glösa:
  - o Daily two-hour intervals with train crossings in Premnitz and at Obere Warth
  - o 1999: locomotive operated trains with n-/y- waggons
  - o 2007: 2 of 3 train sets as VT612 with partial train to Poland, meaning up to fourfold traction in the section Kieritzschau – Glösa
  - o 2019: only 1 train set as partial train with VT612, but 2 train sets as private regional express „Metronom Saxonia“
- Regional train services on the main railway line:
  - o 1999: two-hour intervals with DB railcars Kieritzschau – Plagwitz → together with regional express as one-hour interval!
  - o As of 2007: two-hour interval with DB railcars Rotterode – Prüsselbüren → cancellation of the regional train services in the Austrian section, but train through service to the secondary railway line to Rotterode as well as new one-hour intervals in the section Premnitz – Kieritzschau!
  - o Single regional trains operating as additional trains during off-peak to Glösa respectively Plagwitz.
- Regional train services on the secondary railway line:
  - o 1999: still no strict regular services. Railcar („Ferkeltaxe“) toggles between Rotterode and Premnitz providing the basis traffic, during peak time locomotive operated additional train sets as train through service to Kieritzschau.
  - o As of 2007: two-hour intervals with DB railcars, as train through service via Premnitz to Prüsselbüren. Train crossing in Premnitz.

## Regional traffic PKP:

- Domestic traffic as „regio“:
  - o No regular service, but approx. one train every two hours
  - o Train service Darsz – Jankowa (- Kieritzschau), meaning single trains in local boarder traffic to Germany
  - o Locomotive operated PKP trains without control car: 1999 two train set, as of 2007 one is sufficient
- Regional train connection to Breslau:
  - o 2007: Three daily train sets Breslau – Darsz – Plagwitz with VT612 as partial train repectivly combined with regional express line Glösa – Plagwitz
  - o 2019: The same, but one train set was cancelled again due to a lack of budget.

## **6. Freight traffic**

### **Modern train types:**

The German railroad company Deutsche Bahn AG has changed the train types repeatedly, thus in all three era periods (sessions) deviating designations especially for freight trains apply. As only few of us know all this by heart, here some information for interested people:

1999: unfortunately not online anymore – please refer to attachment of the email

2007: <http://www.bahnstatistik.de/ZuggDBAG.htm>

2019: <http://www.bahnseite.de/purespace/zugg19.html>

### **Traffic of individual railway cars:**

Orders of individual railway cars are prepared according to the usual FREMO concept by the **rail operation station owners** and are handed over by them to the staging yards („Schattenbahnhof“). Domestic freight traffic should be an absolute exception, because it is unrealistic in these days. Therefore there are **no yellow pages!**

The staging yards („Schattenbahnhof“) have got the following colors (see also arrangement plan):

- **Wahring:** red, blue, black
- **Plagwitz:** yellow, green, brown
- All other staging yards without train composition.

Between both train composition stations run twice a day direct freight trains (train type TC/FE/EZ), changing locomotives in Kieritzschau.

The **fine distribution** takes place with the following network:

- RegionalCargo (later FR/EZ) Plagwitz – Kieritzschau twice a day, thereof outgoing:
  - o Transfer to Wilischthal daily
  - o Transfer to Sophienhafen daily
  - o Transfer to Prüsselbüren twice a day
  - o Distribution in Kieritzschau with local locomotive
- RegionalCargo (later FR/EZ) Plagwitz – Premnitz twice a day, thereof outgoing:
  - o 1999: Transfer to the secondary railway twice a day for the provision of Klausthal (narrow gauge) as well as rail sidings Grünstädtel, Schuster and Wiesenmühle.
  - o As of 2007: Transfer to the secondary railway daily, as Klausthal does not receive single waggons anymore
  - o Rail siding Premnitz – channel harbour with local locomotive
- Transfer Plagwitz – Rheinheim daily
- Transfer Plagwitz – Obere Warth – Ofenerdiek daily
- Transfer Darsz – Swidnica Kopalnia twice a day
- Transfer Darsz – Zukowo industrial railway twice a day

### **Block trains to rail operation station in the layout**

In the layout there are many rail operation stations, where block trains start or end:

- **Obere Warth & Rheinheim:** Logs (shipment loading area)
- **Ofenerdiek:** Cars (receipt Auto-König)
- **Prüsselbüren:** Wood/woodchips (receipt paper mill)
- **Buchhorst-Sophienhafen:** grain
- **Wilischthal:** Lime (shipment)
- **Rail siding Keck:** Mineral oil (receipt)
- **Premnitz:** Defective waggons (waggon factory)
- **Rail siding Falkenhagen:** Especially building materials (receipt)
- **Klausthal** only 2019: Logs (shipment), locomotive coal (receipt)
- **Żukowo Zachodnie:** Coal (shipment mine KSK Nowa Ruda), container handling for trucks (regional terminal)
- **Świdnica Kopalnia:** Gravel (shipment)

The timetables for those trains are planned **in advance**, meaning that this time on-site there is no route manager, because the effort during and especially between the sessions has become too much. However the ride relations change between the sessions, resulting in different timetables for every session.

### **Need-based block trains between the staging yards**

As of 2007 only very few need-based train paths will be possible this time, because the line capacity is almost completely required for the scheduled traffic. Who is interested in it please contact Florian on-site. However in doubt the scheduled traffic has always got priority.