

# The mobile Workforce Management System by Netze BW We create connections

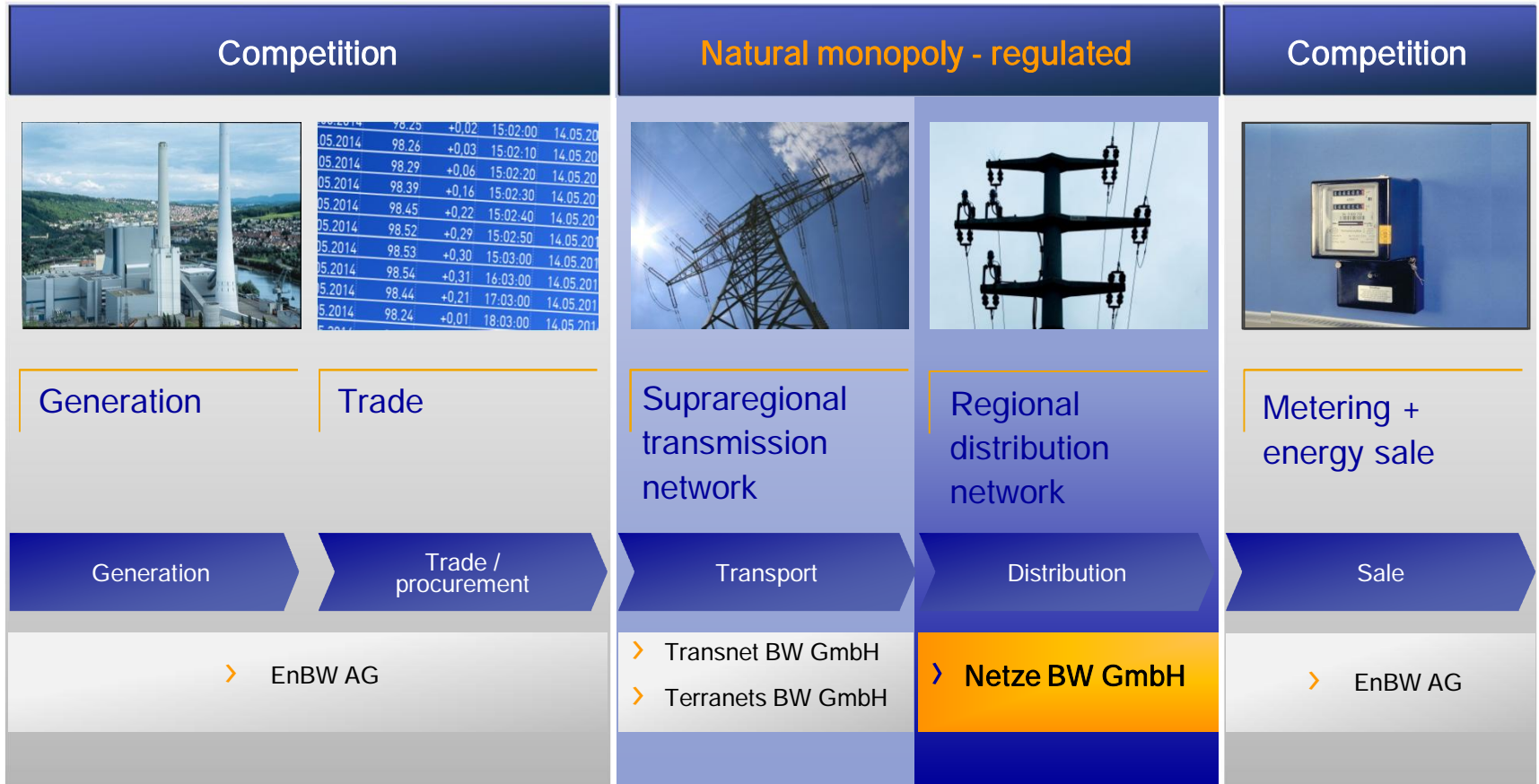
Netze BW GmbH  
Schelmenwasenstraße 15  
71567 Stuttgart

A company of EnBW

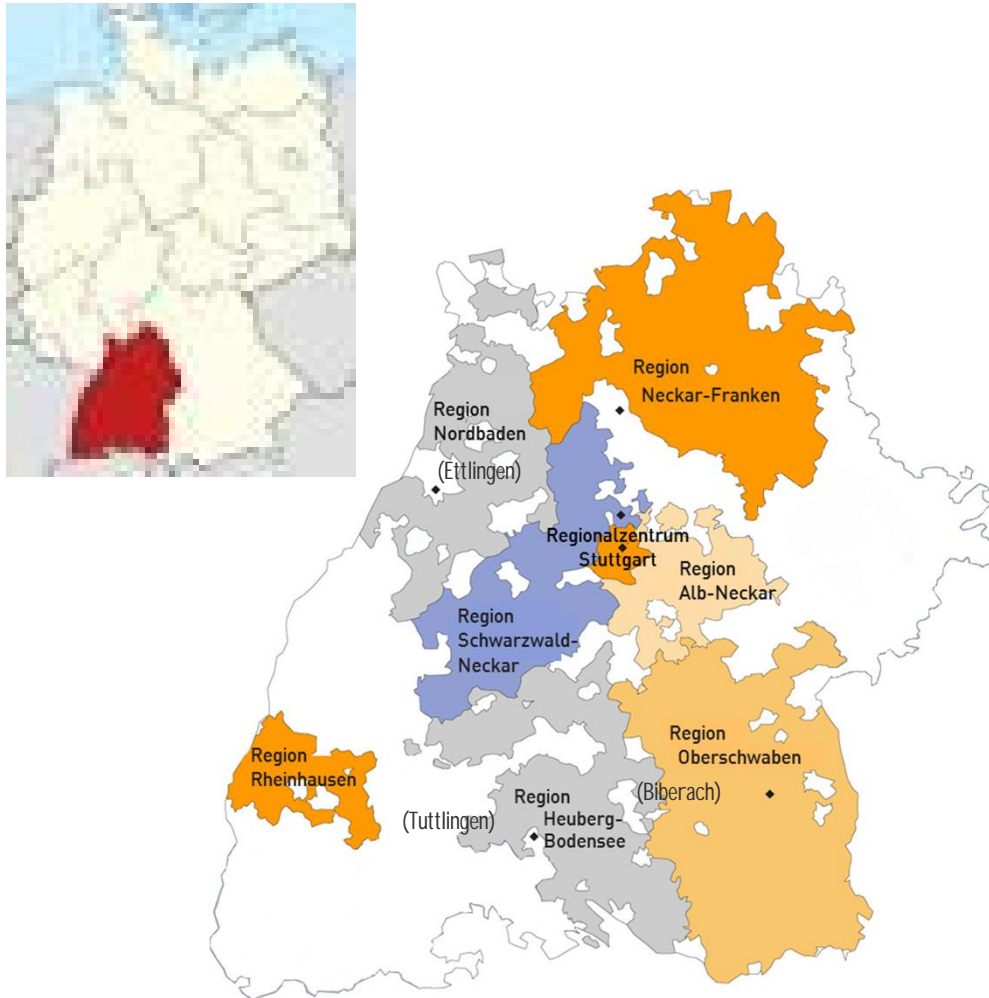


- 
- An overview of Netze BW
  - Initial state before Workforce Management (WFM)
  - Workforce Management System 2.0
  - Benefits from WFM
  - Future trends

# Netze BW as a part of the energy industry value chain



Netze BW is the main operator of the distribution network in Baden  
Württemberg (south-west Germany)



### Some facts:

Employees: 3.150

Operator for different resources:

Grid length water: 2.500 km

Grid length gas: 4.800 km

Grid length energy: 103.000 km

Supplied area (energy): 8.600 km<sup>2</sup>

Network availability (energy):  
99,996 %

### User of the Workforce Management:

Mobile Crew: ~ 500

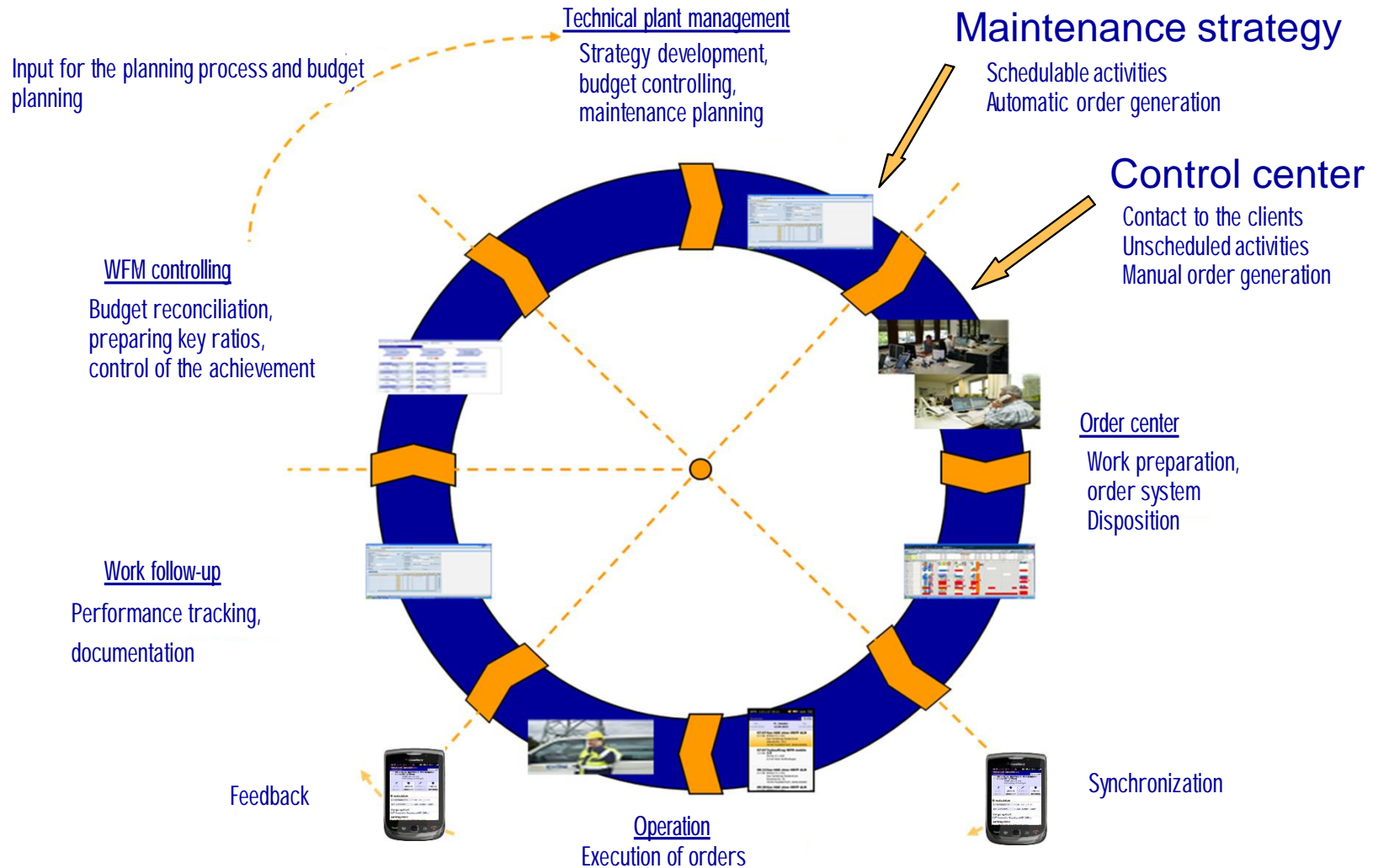
Dispatcher and work planner with deputies:  
~ 80

Situation

- Mobile crew was organized in lots of short centres, with different processes.
- The scheduling in short centres aimed only a local optimum for 3-4 fitters and one gaffer.
- Fitters were not able to work in another centre, because of different processes. Each centre needed deputies.
- There was little transparency about the grid as a whole.
- It was necessary to improve the efficiency because of increasing cost pressure.
- These were the starting signals for WFM in 2008.

# Workforce Management System 2.0

## WFM-Cycle





# Workforce Management System 2.0

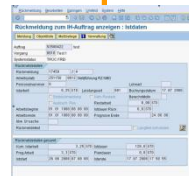
## WFM system architecture

### Disposition



Dispatching Tool: VisiTour

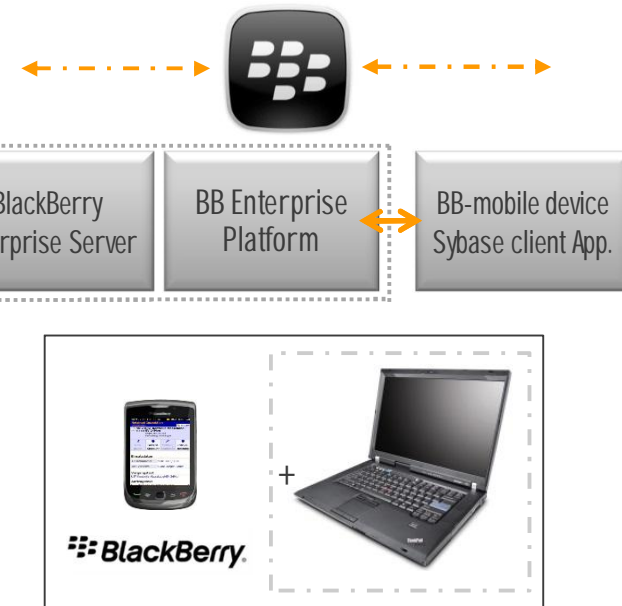
### Mobile Connection



SAP IS-U  
(RBN)  
Network customer  
system

MAKO interface

### Mobile Devices



# Workforce Management System 2.0

## Screenshots of the mobile screens

WFM - 1.0.1.13 10:11 3G

Einsatzliste

Do.	Fr. (heute)	Sa.
11.04.2013	12.04.2013	13.04.2013

**07:07 Gas HAK ohne HRFP ALN**  
0.5 Std BONLD-G-1-001  
Gas Verteilung Niederdruck  
Oberdorfstr. 57/1  
70794 FILDERSTADT, BONLANDEN

**07:07 Testauftrag WFM mobile 2.0**  
1.0 Std WLFSL-E-1-NSP  
0,4-kV-Netz Wolfschlugen

**08:22 Gas HAK ohne HRFP ALN**  
0.5 Std BONLD-G-1-001  
Gas Verteilung Niederdruck  
Rainäckerstr. 46  
70794 FILDERSTADT, BONLANDEN

**09:30 Gas HAK ohne HRFP ALN**  
0.5 Std BONLD-G-1-001

WFM - 1.0.1.13 10:15 3G

Externe Veranlassung: Sonstige

Einsatzdetails

**07:07 Testauftrag WFM mobile 2.0**  
1.0 Std WLFSL-E-1-NSP  
0,4-kV-Netz Wolfschlugen

Navi-gation Fahrzeit Stoppuhr Meldung bearbeiten Zeitrück-meldung

**Einsatzdaten**

Einsatznummer 94427041/0010

Arb-Verantw. VORNAME B-AEAFDACBCHCM

**Vorgangstext**  
Testauftrag WFM mobile 2.0

**Auftragstext**

WFM - 1.0.1.13 10:19 3G

Fahrzeit Stoppuhr

Start Ende

10:18 10:19

Zurück Reset

Zeit übernehmen als:

Anfahrt Rückfahrt

WFM - 1.0.1.13 10:24 3G

UST Inspektion Zyklus

Meldungsdetails

**Meldungsdaten**

Einsatznummer 94425820/0010

Meldungsnummer 162255

Technischer Platz KEMNA-E-UST-417

TP-Bezeichnung Kemnater Hof, Kemnat

M-Beschreibung Inspekt. Meldg. Kemnat, Kemnater Hof, In

Zurück Weiter

Checkliste

WFM - 1.0.1.13 10:25 3G

**Zustandsbewertung**

Zustand-Grundstück

☒ Nicht vorhanden

☐ Zustand in Ordnung

☐ Kleinere Mängel ohne Maßna...

☐ Mittelfristige Maßnahme

☐ Sofortige Maßnahme

Zustand-Ölwanne

WFM - 1.0.1.13 10:28 3G

Kleinere Mängel ohne Maßnahme

**Messpunkte**

1. Höchstablesewert in Ampere 100

1. Wandlerfaktor 1

1. Höchstlastwert in Ampere 100

Zurück Weiter

WFM - 1.0.1.13 10:28 3G

UST Inspektion Zyklus

Aktionsrückmeldung

**Aktionsrückmeldung**

Aktion Inspektion Umspannstation

Tätigkeit IN-UST Insp. gemCL

Ausführender BADERC

Startdatum 12.04.2013

Startuhrzeit

Enduhrzeit

Aktionslangtext



- WFM reduced the number of centers from more than 100 to 5 order centers.
  - There are no more gaffer in the mobile crew.  
Some of them became dispatcher in the order centers, but the number is reduced.
  - More consistent processes, so the fitters are more and more able to work in different centers. Therefore more flexibility and saving of deputies.
  - The scheduling now tends to an optimum over the whole grid.
  - The dispatching system „VisiTour“ is able to calculate an automatic route-optimization for the mobile crew (traveling salesman).
  - More transparency over the whole grid because of the central storage of all data in SAP. Therefore we are able to create valide key ratios for further optimization.
  - Automatic order generation in SAP (easier work preparation).
  - Reduction of the use of paper and media disruption because of the mobile device.
- Result: More cost efficiency and more transparency.



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# Thank you for your attention!

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# Backup

# The management of Netze BW



**Walter  
Böhmerle**

Personnel and meter  
management,  
labour director

NETZ P



**Dr. Martin  
Konermann**

Technology

NETZ T



**Dr. Christoph  
Müller**

Commercial Affairs

NETZ K

# Netze BW GmbH – more than an electricity grid operator



Electricity grid



Gas grid



Water grid



Services



## > General data

Headquarters:	Stuttgart
Employees*:	3.150
Trainees/Students:	500

## > Grid operator gas

Number of concessions:	100
Number of exit points:	141.000
Grid length:	4.800 km

## > Grid operator electricity

Number of concessions :	620
Number of exit points :	3 Mio.
Grid length :	103.000 km
Connected EEG-plants:	150.000

## > Grid operator water

Grid length :	2.500 km
Connections:	75.000

all figures rounded, situation 30. June 2014, \* excluding trainees and students