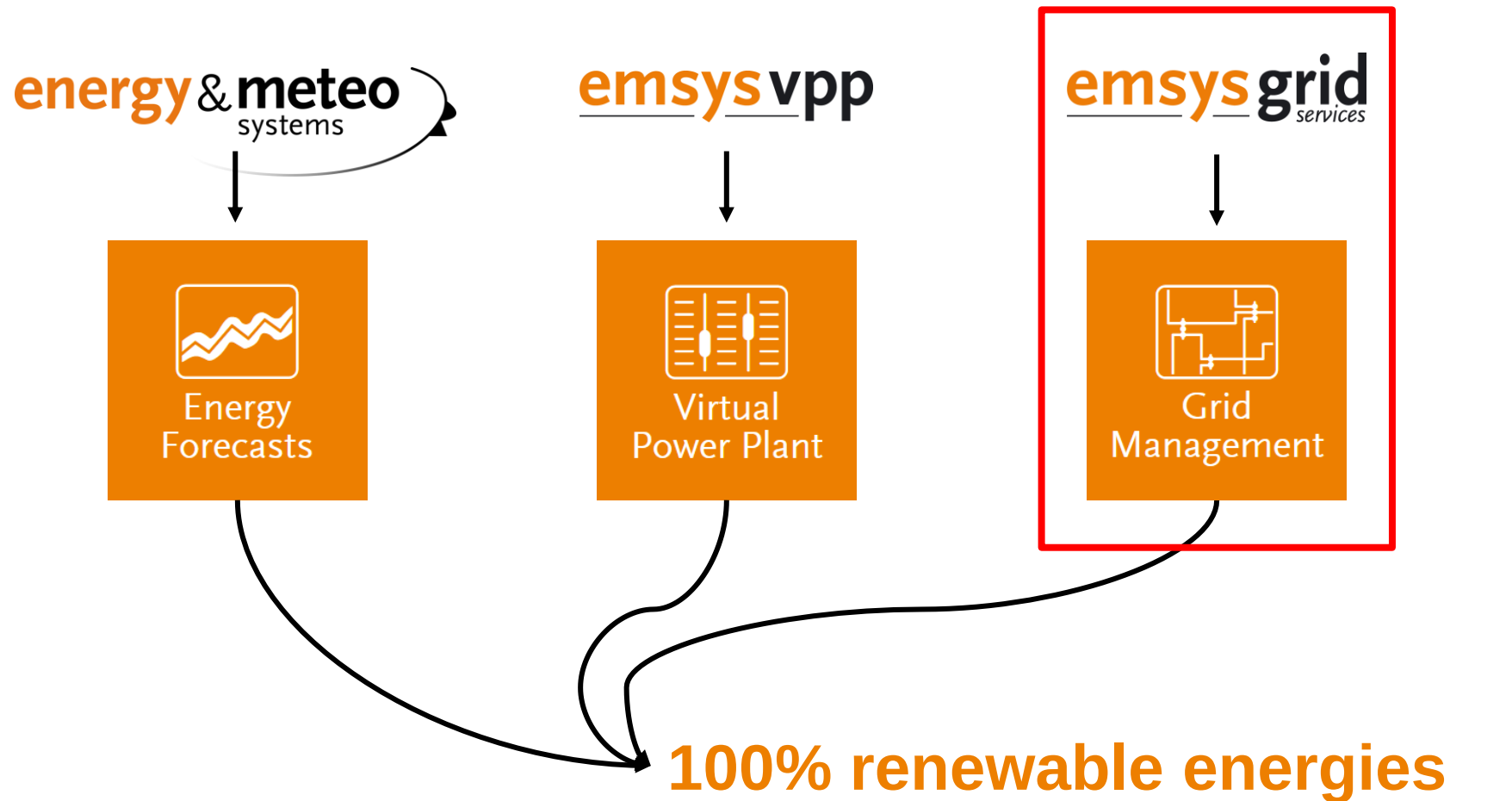


Forecasting for Renewable Energy and Grid Analysis for Congestion Management Redispatch 2.0 in Germany

Lars Rohwer
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ESIG Denver, 06/13/2023

Three Companies, One Goal



The New Redispatch Process In Germany

Redispatch 2.0 in Germany



- published in the Network Expansion Acceleration Act in May 2019
- for the first time integrates renewable energies and distributed producers from 100 kW into the Redispatch process
- creates grid analyses based on forecasts and identifies bottlenecks at an early stage (no longer reacts in real time to grid congestions)
- specifications had to be implemented by grid operators by October 1, 2021



The New Redispatch Process In Germany

Redispatch 2.0 Steps

A high resolute grid network analysis and forecast based on individual plant forecast, schedules, grid states and consumption.



The prediction of load flows and congestion in different variations.

The New Redispatch Process In Germany

Grid Analysis and Forecasting

- starting point is the determination of a vertical load forecast at grid nodes and the calculation of load flow forecasts
- based on the forecast of the vertical grid load, a predictive load flow calculation can be performed
- in addition to the basic case (n-0), a failure variant calculation (n-1) is used
- emsys grid services calculates various scenarios to determine congestion



The New Redispatch Process In Germany

Dynamic Line Rating

- dynamic line rating enables grid operators to further exploit the effects of weather-dependent grid capacity to increase the static grid operating limits
- the maximum current carrying capacity in conductor ropes depends on the weather situation, especially wind speeds
- it is calculated based on numerical weather predictions as well as on further standing data



The New Redispatch Process In Germany

Redispatch 2.0 Steps

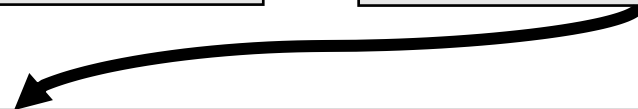
A high resolute grid network analysis and forecast based on individual plant forecast, schedules, grid states and consumption.



The prediction of load flows and congestion in different variations.



An optimized Redispatch dimensioning and the subsequent implementation of a plant scheduling.



The market communication between different players as well as balancing and accounting

The New Redispatch Process In Germany

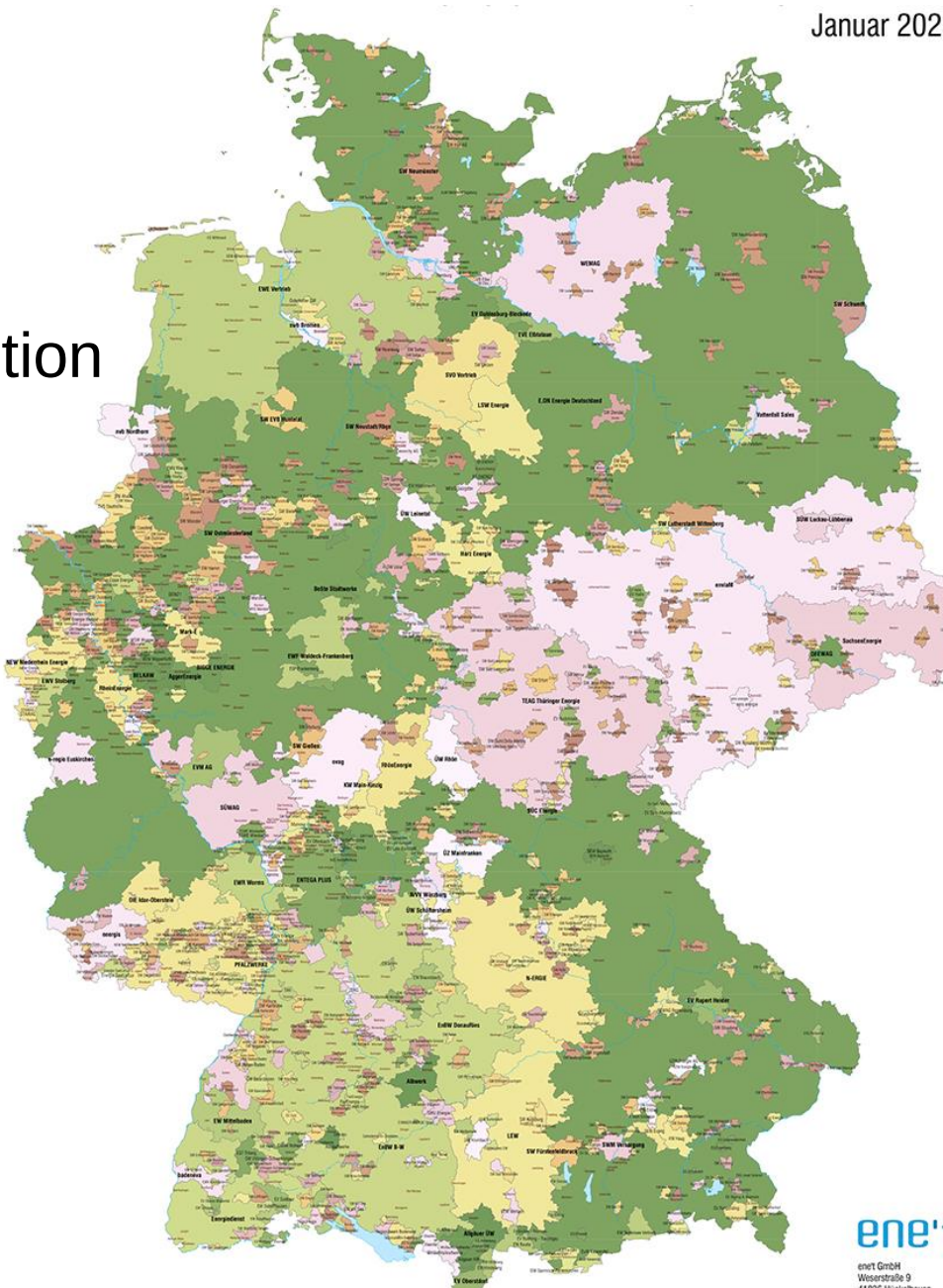
Redispatch 2.0 Lessons Learned

- too complicated processes for too many stakeholders (approx. 900 Distribution Network Operators alone)
- 2,5 years from act to implementation is not enough time
- extremely large data volumes require a very expensive IT-Infrastructure

Januar 2023

Map of Germany

with approx.
900 Distribution
Network
Operators



ene't

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Source:
[https://www.enet.eu/
portfolio/karten](https://www.enet.eu/portfolio/karten)

energymeteo.de

The New Redispatch Process In Germany

Redispatch 2.0 Lessons Learned

- too complicated processes for too many stakeholders (approx. 900 Distribution Network Operators alone)
- 2,5 years from act to implementation is not enough time
- extremely large data volumes require a very expensive IT-Infrastructure

**the idea behind RD 2.0 is good, the
implementation should be simplified**

Thanks for your attention!

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