

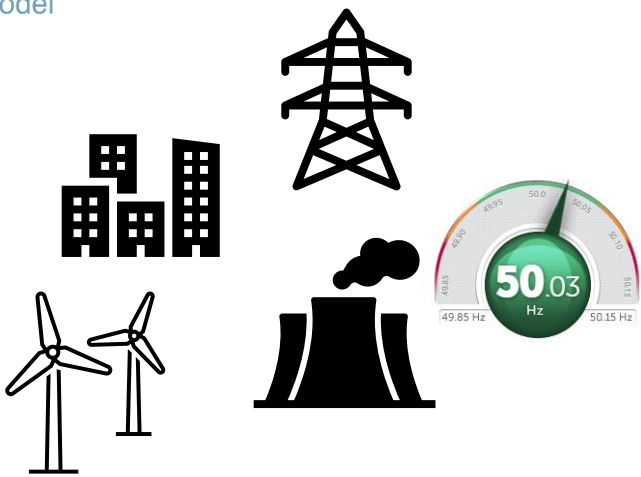
# Preliminary results from “shadow operation” of the new mFRR energy activation market

14.09.2021

Visit [nordicbalancingmodel.net](http://nordicbalancingmodel.net)



Observations



Existing TSO balancing



Send regulations to BSPs



*"Shadow operation"*

Real-life observations

New TSO processes

Analyse the results. Compare with existing

# Benefits of Shadow operation

## For the TSOs

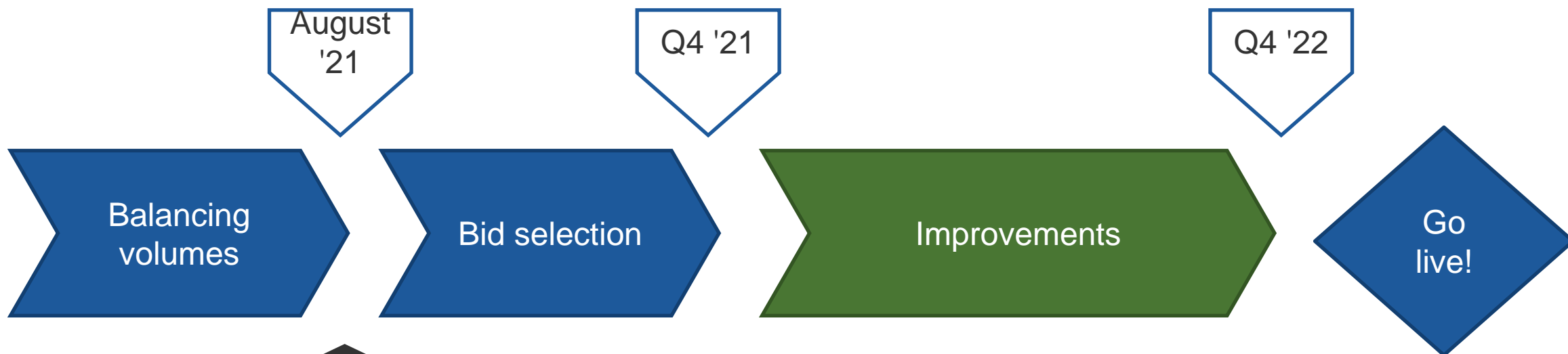
- Enables stepwise implementation
- Test with real data
- Build trust in new systems before go-live

## For the BSPs

TSOs can share concrete results with BSPs on

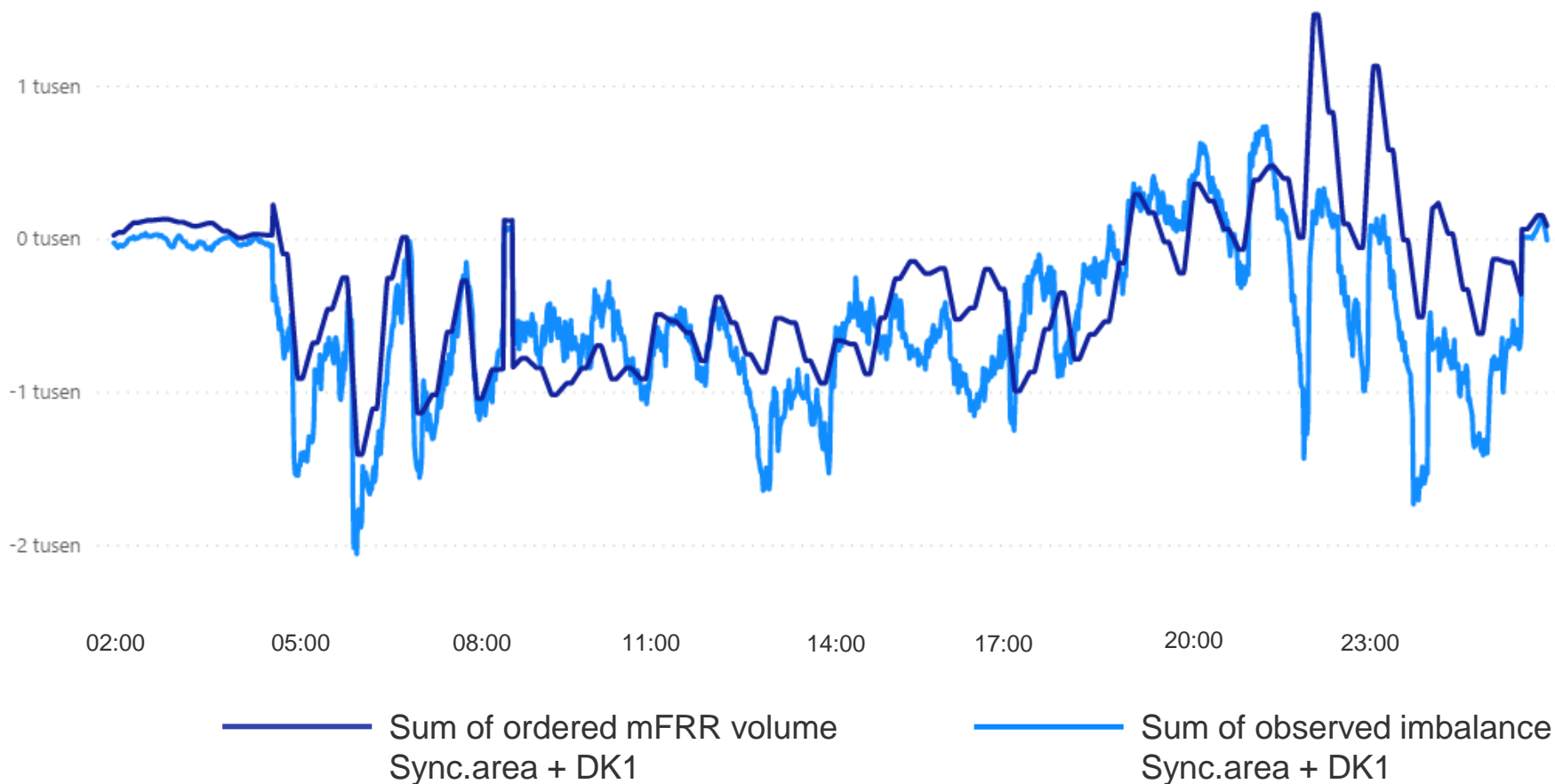
- TSO progress
- Difference between existing and new balancing

# New functionality added to shadow operation step-wise



What can we see now?

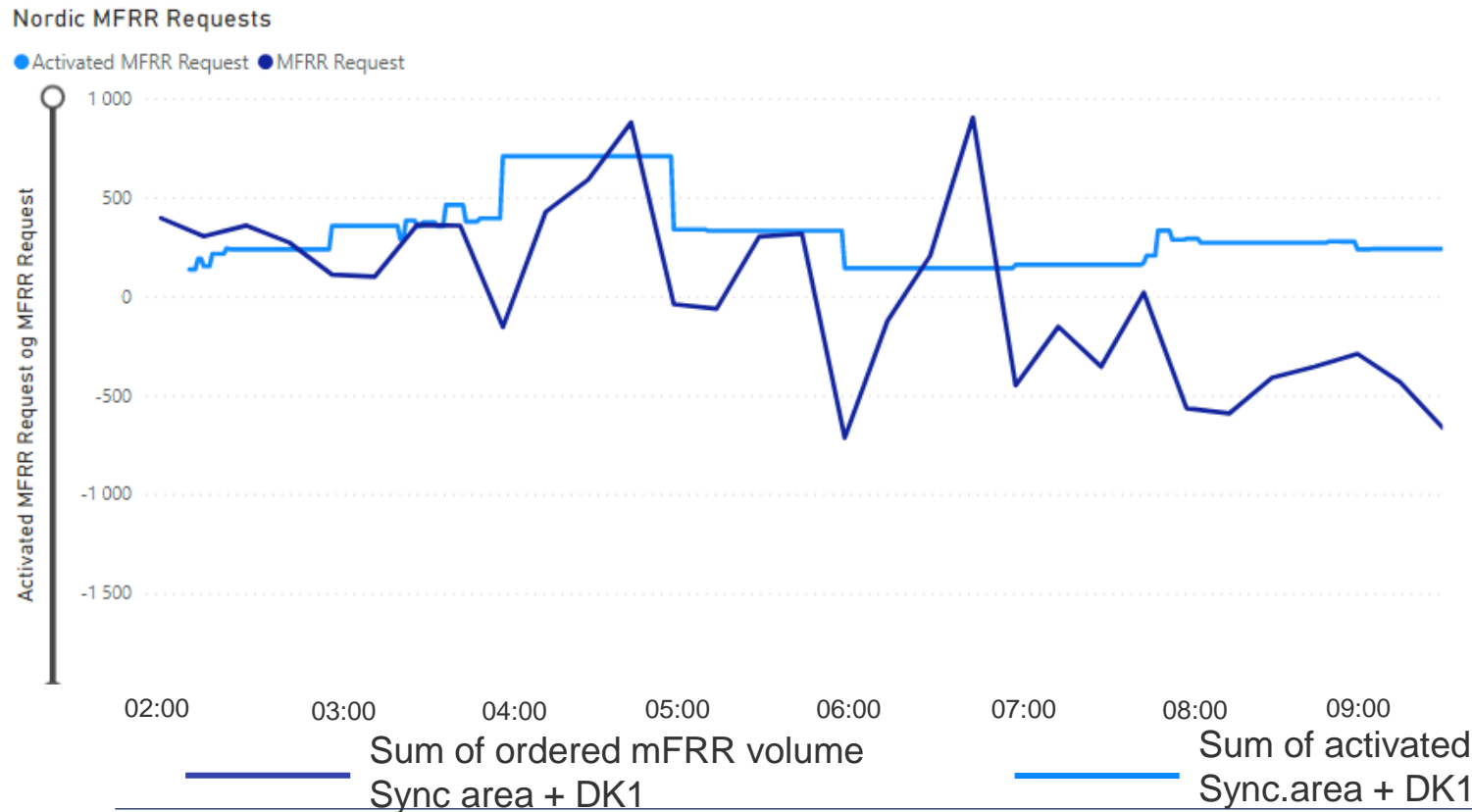
# The TSO are able to forecast the required balancing volumes *quite* well



The **balancing error** or **rest imbalance** is below the sum of FCR and aFRR volumes – most of the time

Still room for improvements, and we are working on that going forward

# More aggressive balancing – accurate, but different

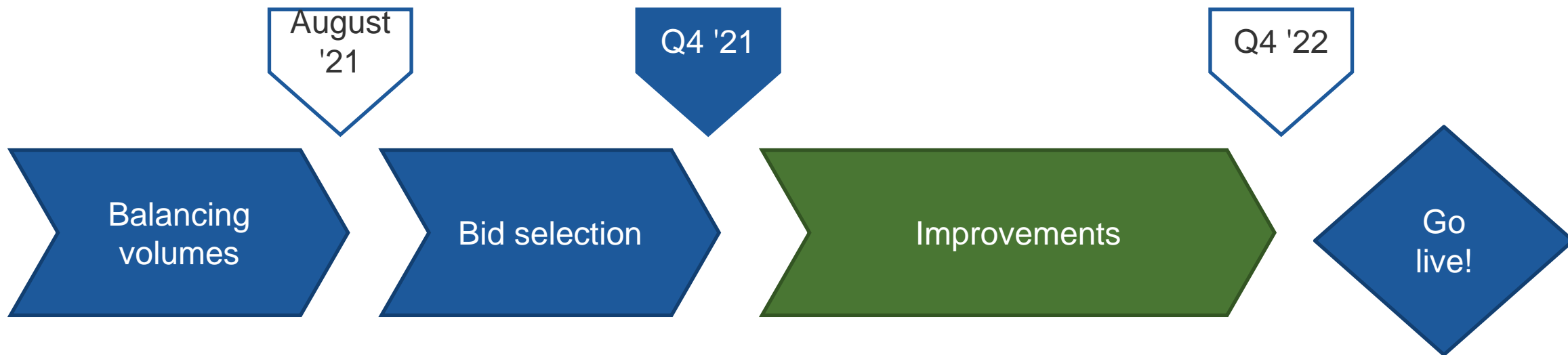


Comparing **activated volumes in today's balancing**, the **sum of balancing volumes in shadow operation** – the activations follows the quarter-by-quarter imbalances more closely

The balancing volumes follows the imbalances well, but the pattern is different from today

BSPs must prepare for this

# More information from shadow operation will be available later



Observations from shadow operations can be shared transparently



Please let us know what is most interesting to you