# Monitoring the Quality
# of Quality-Controlled Radar Moments
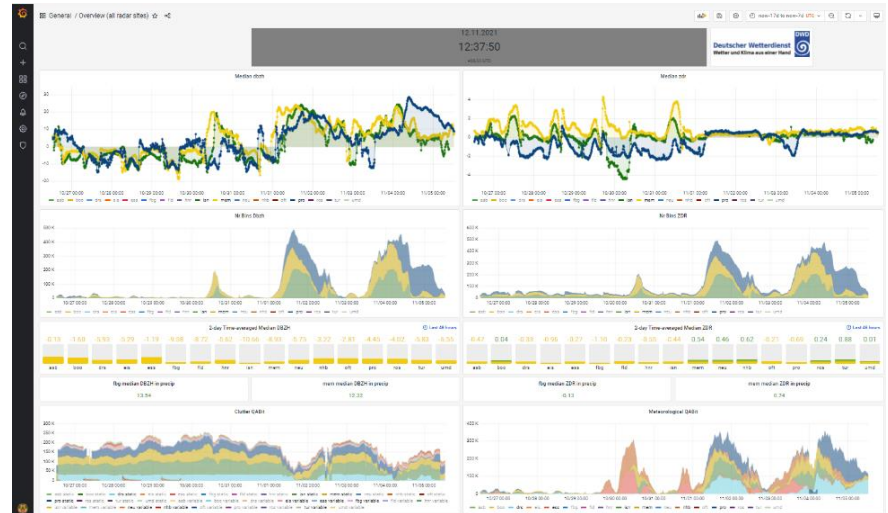
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Motivation

- Many applications build on quality-controlled radar moments
- High-quality, consistent data across the network are required

➜ **Monitor the Quality Control System and its Output**
  - Surveil the performance of individual components of the quality control system
  - Quantify the effect of changes to the quality control system
  - Check the consistency across the radar network
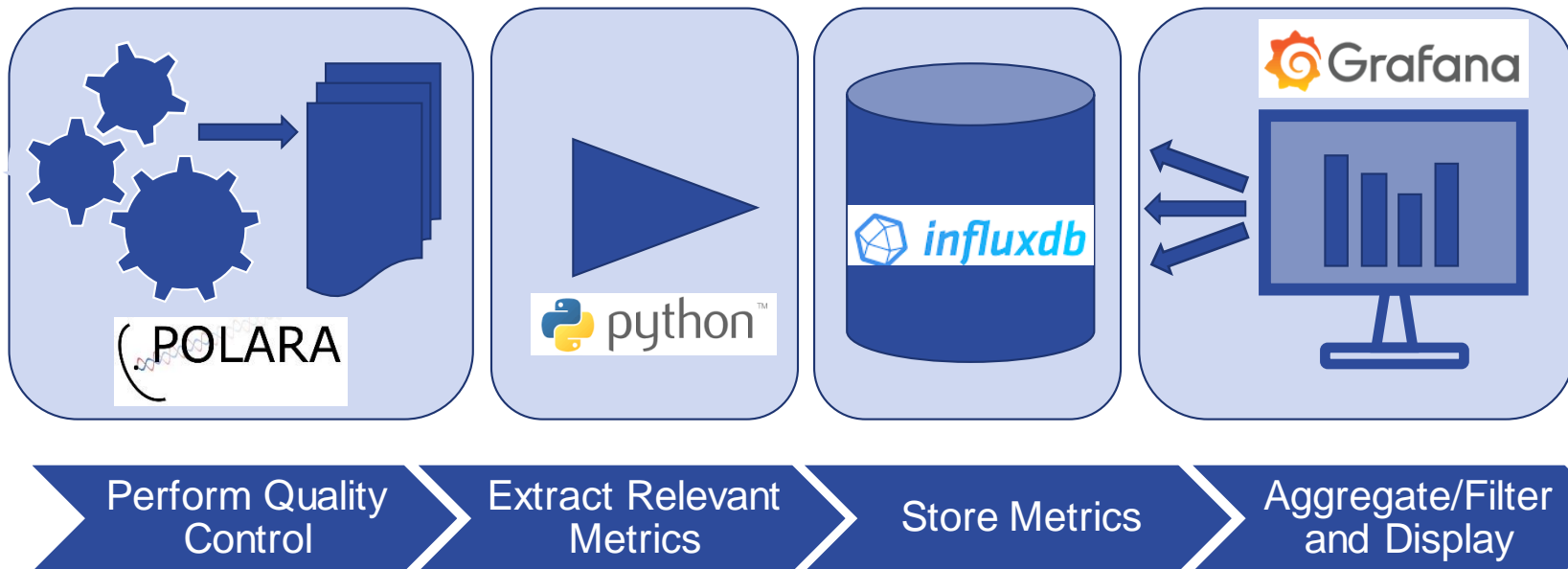 - Uncover longterm trends
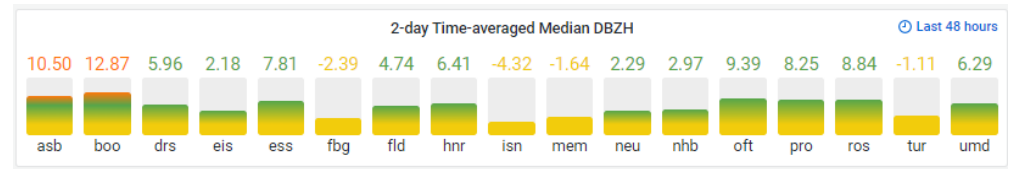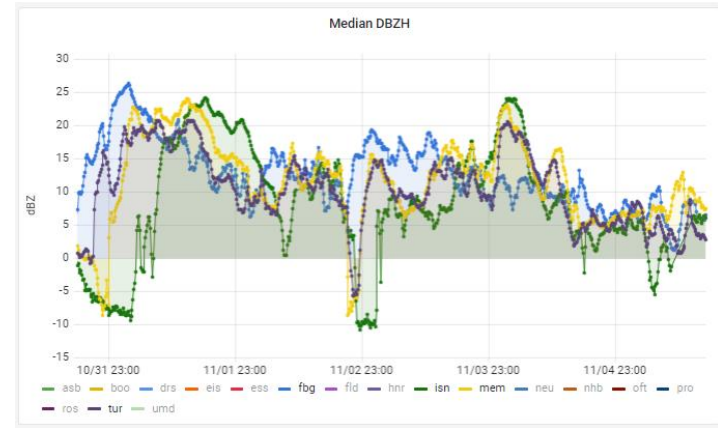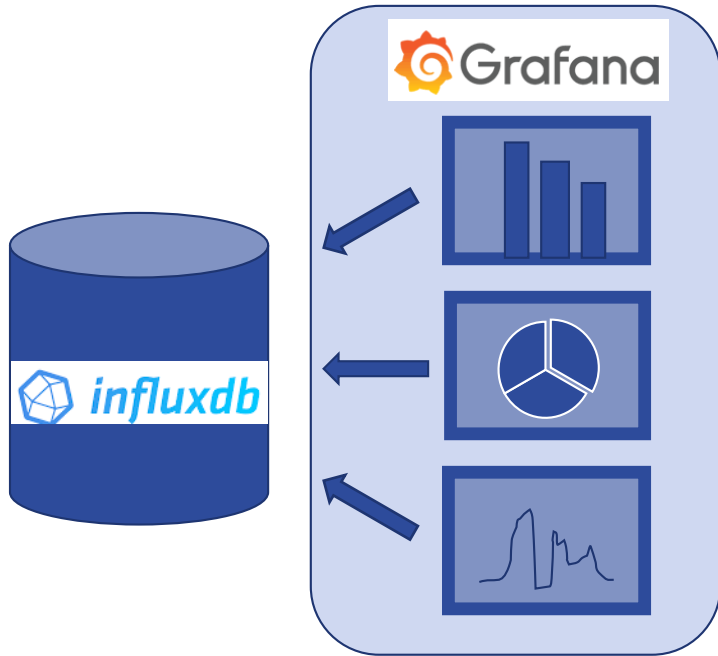 - Spot problems early on
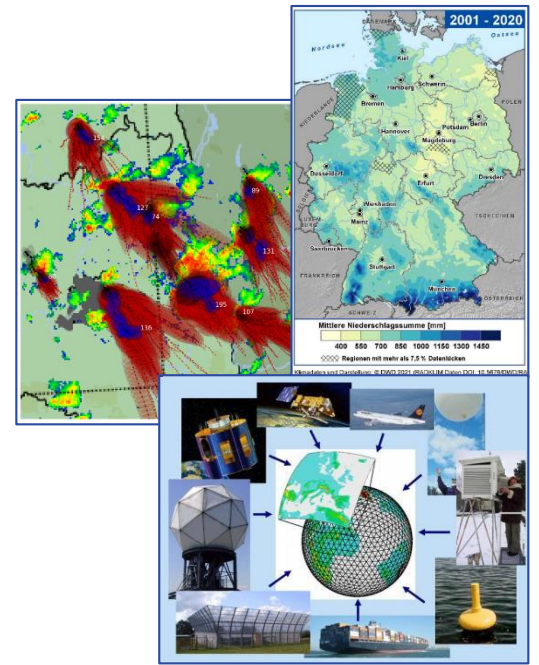
Outline

➔ **How** do we monitor our quality control system?

➔ **What** do we monitor?

How do we monitor?

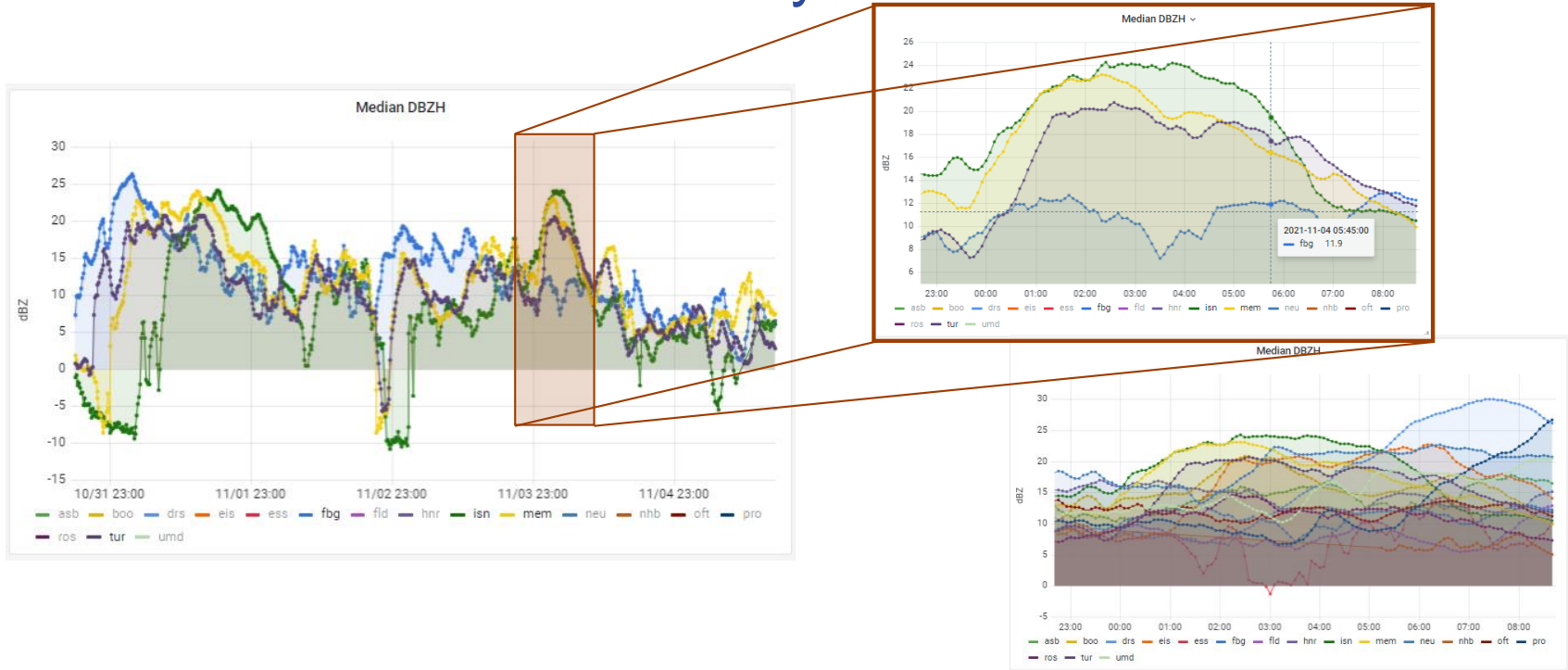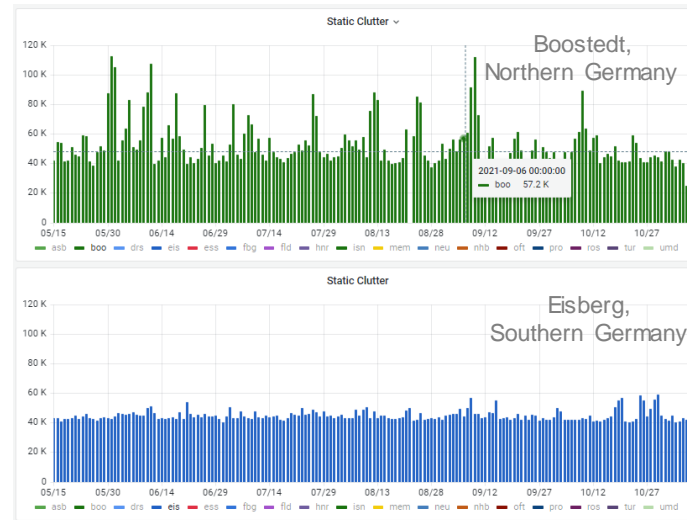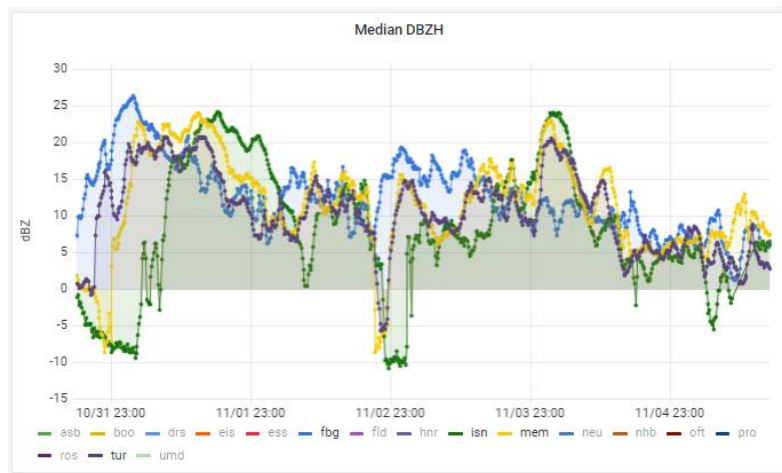| Perform Quality Control | Extract Relevant Metrics | Store Metrics | Aggregate/Filter and Display |

Flexible Visualization

Interactive Real-Time Analysis

What do we monitor?

➔ **Basic statistics per sweep: average quality-controlled ZH and ZDR**

➔ **Individual components of the quality control system**

What do we monitor?

➔ Radar-Radar-Comparison

    ➔ Analyze the radar reflectivity in
    areas of overlapping radar coverage

    ➔ For each collocated voxel ingest
    one datapoint into the database

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 'alt': 1912.913,
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 'diff_lat': -0.000125,
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 'diff_reflectivity': 0.117,
 'lat': 48.562,
 'lon': 11.053,
 'reflectivity': 28.497,
 'scan_nr': '5',
 'scan_type': 'vol',
 'site': '[isn, mem]'}
```

Radar-Radar Reflectivity Comparison

{'time': '2021-10-19T08:20:00Z',
 'alt': 1912.913,
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 'diff_lat': -0.000125,
 'diff_lon': 0.000494,
 'diff_reflectivity': 0.117,
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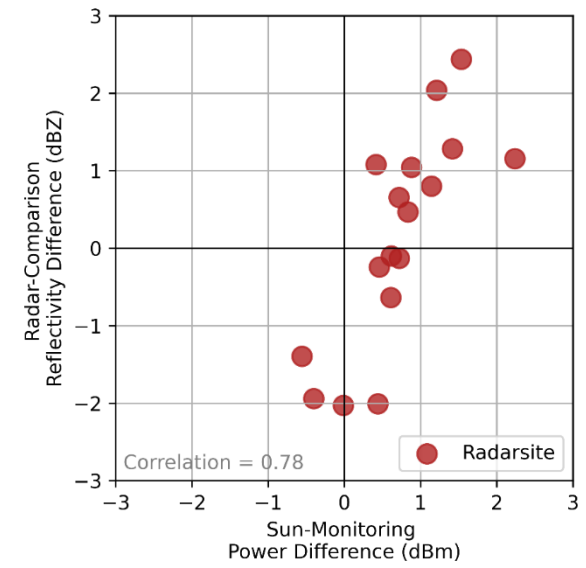 'scan_nr': '5',
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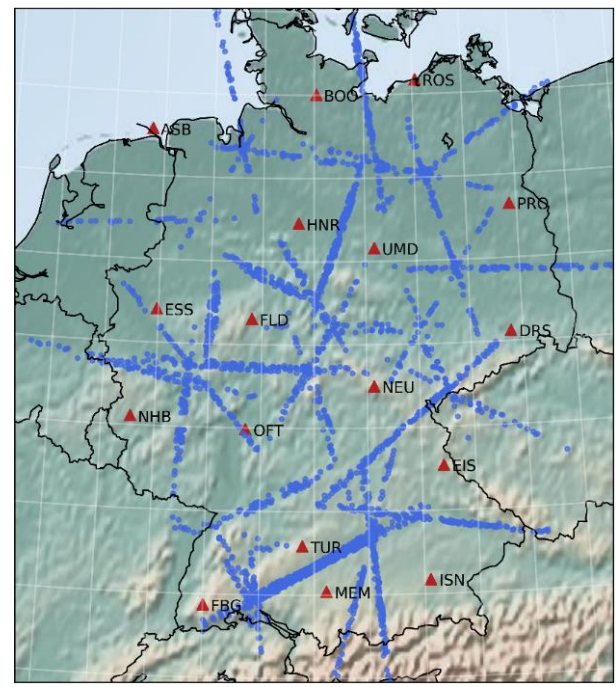
Sanity Check

➔ For each radar compare the histograms of all neighboring radars
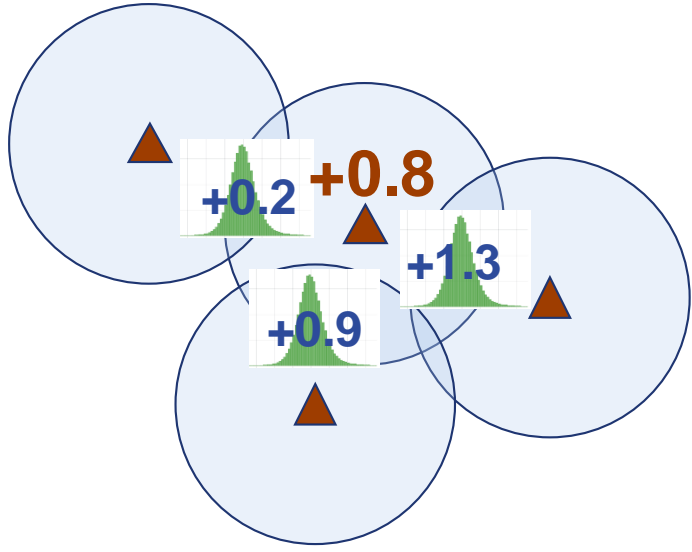
➔ Compare with Sun-Monitoring

Conclusions and Outlook

➔ Interactive Dashboards are great tools to monitor and analyze the quality control system and its output

➔ Radar-Radar Comparison complements other monitoring approaches and aids to check the data quality and consistency across the radar network

➔ Next steps:

➔ Extend the number of monitored radar moments

➔ Implement alerting

➔ Thoroughly evaluate the radar-radar-comparison