Best practice for implementation of SFN DAB+ networks

Norway
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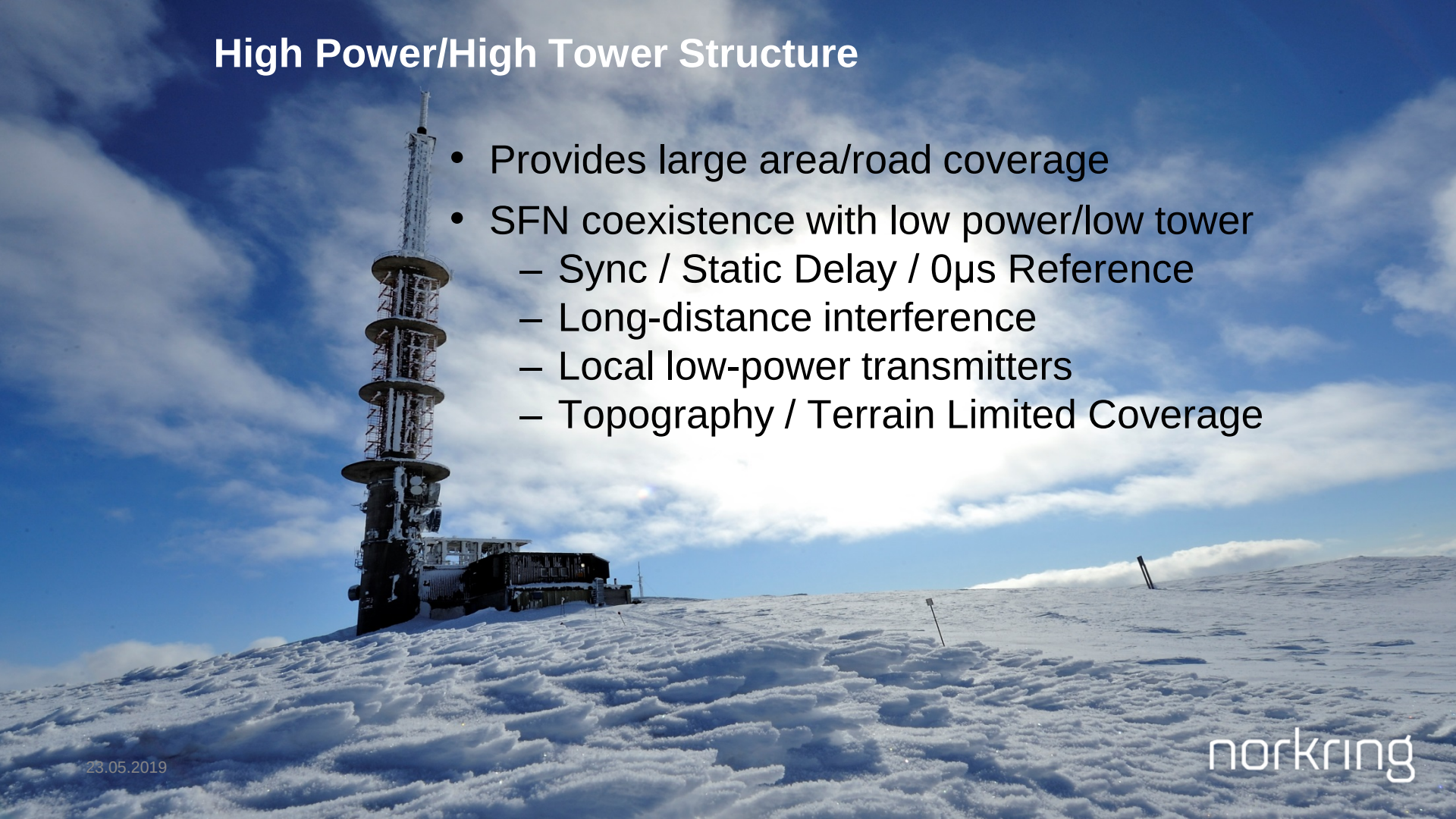
1st WorldDAB Spectrum and Network Implementation Committee seminar, Budapest, 22 May 2019

Agenda

1. Network Topology
2. Low Power/Low Cost Transmitter Concept
3. Service Following
4. Adjacent Channel Interference

Network Topology

High Power/High Tower Structure



- Provides large area/road coverage
- SFN coexistence with low power/low tower
  - Sync / Static Delay / 0µs Reference
  - Long-distance interference
  - Local low-power transmitters
  - Topography / Terrain Limited Coverage

Medium Power/Urban Coverage

- Indoor coverage for cities and small towns

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Low Power / Rural Coverage

- Indoor coverage for small villages
- Roads
- 99,5% Population Coverage

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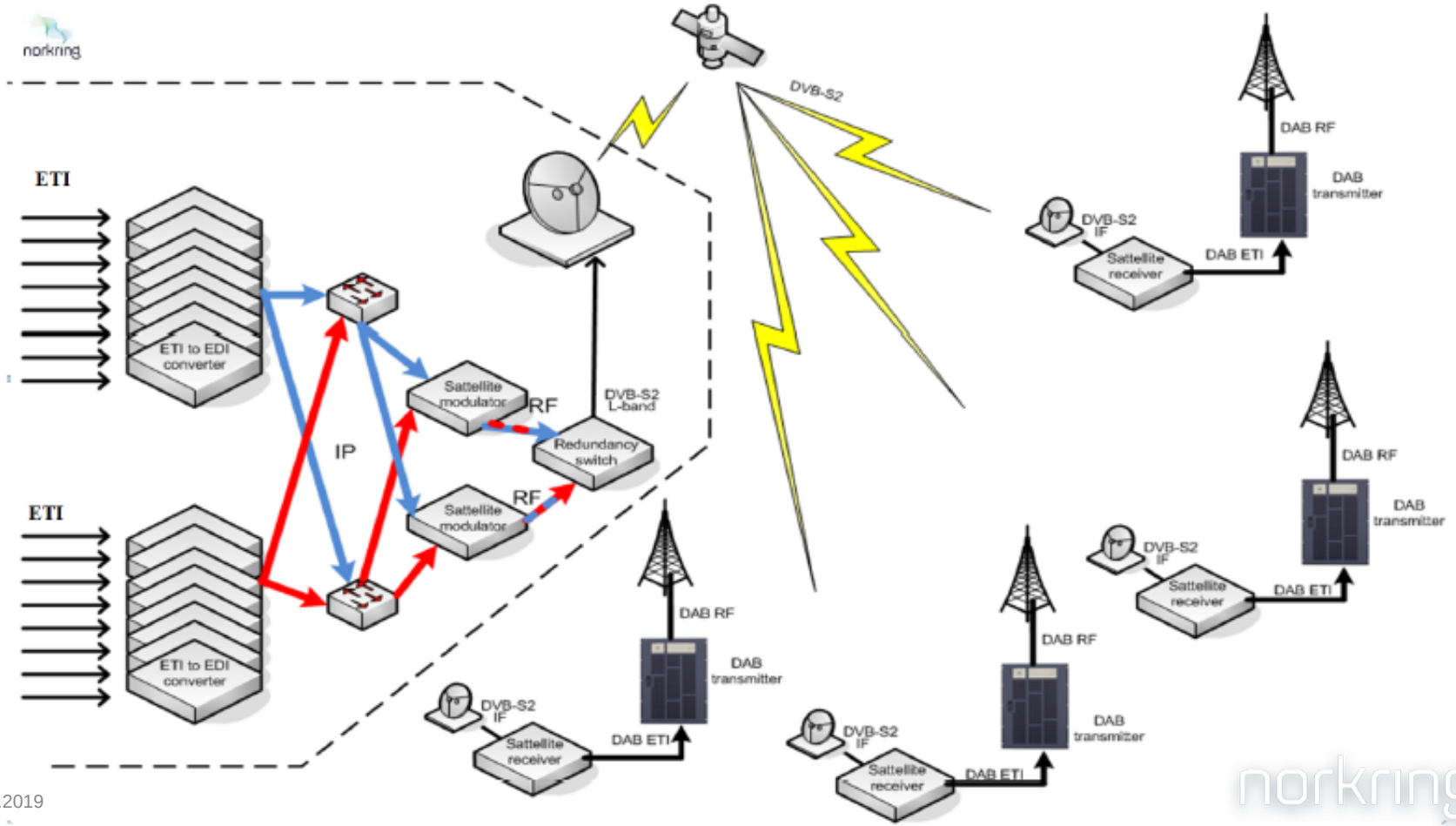
Low Power/Low Cost Transmitter Concept

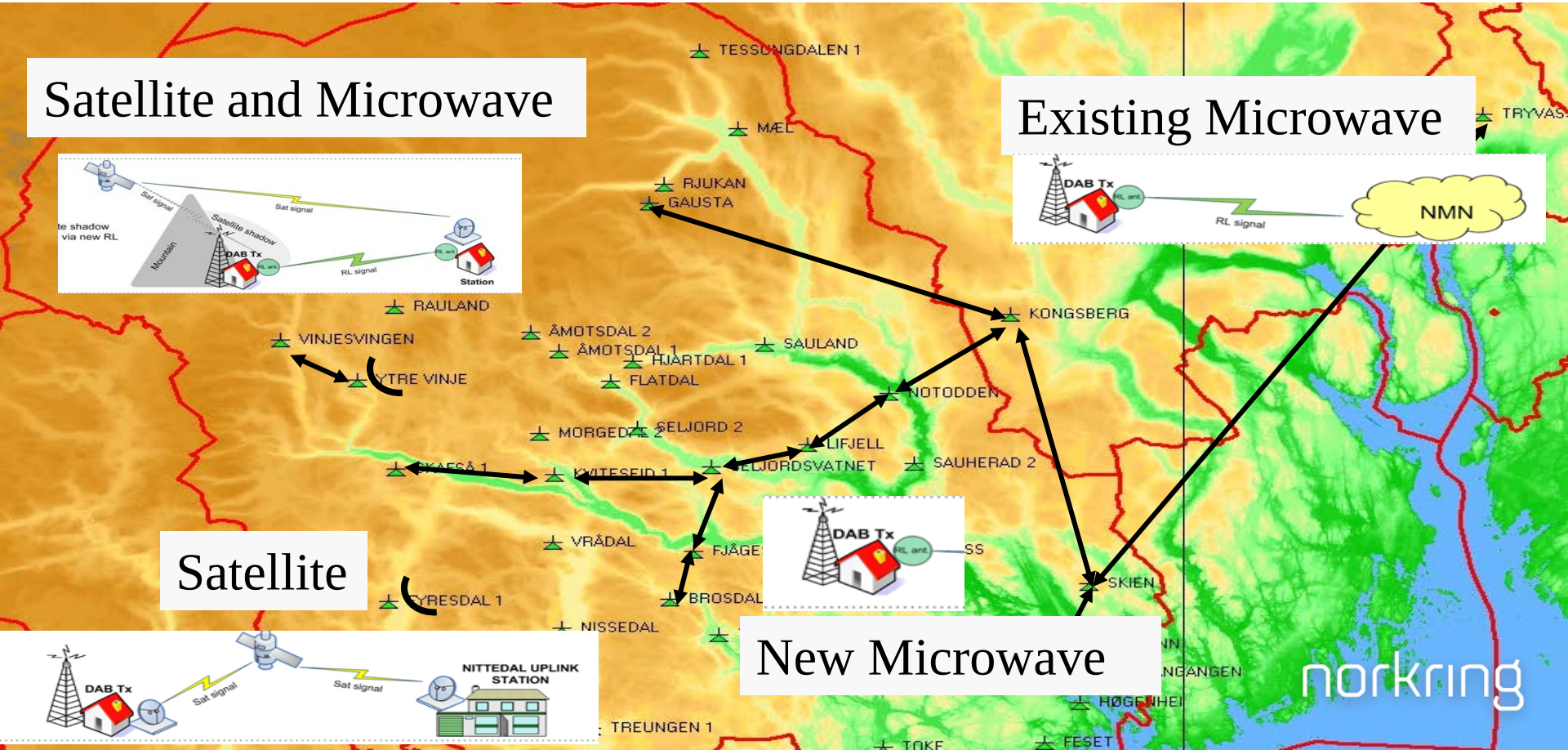
Programme Feed is the main challenge for Cost Optimization in sparsely populated areas

- Micro Wave/Fiber Backhaul
- On-Channel Gapfillers
- Transposers
- Satellite Feed

Satellite Feed

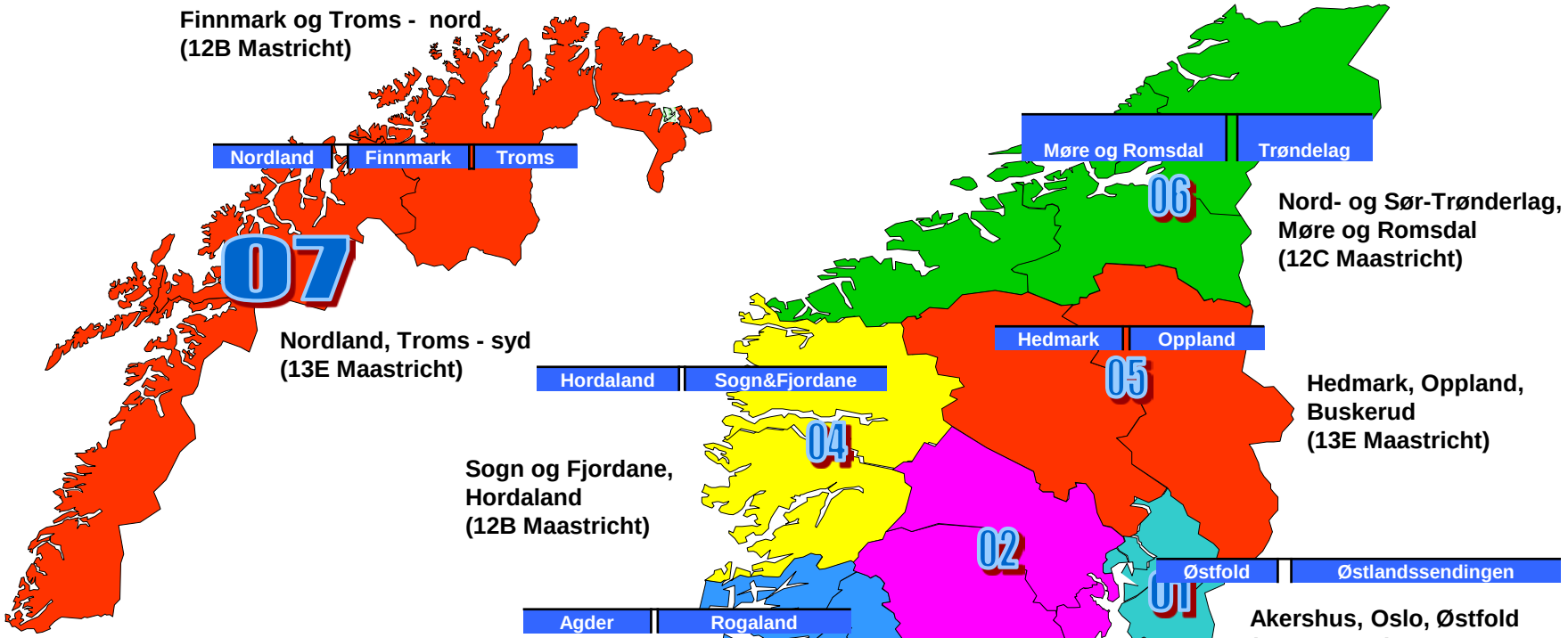


Hybrid programme feed

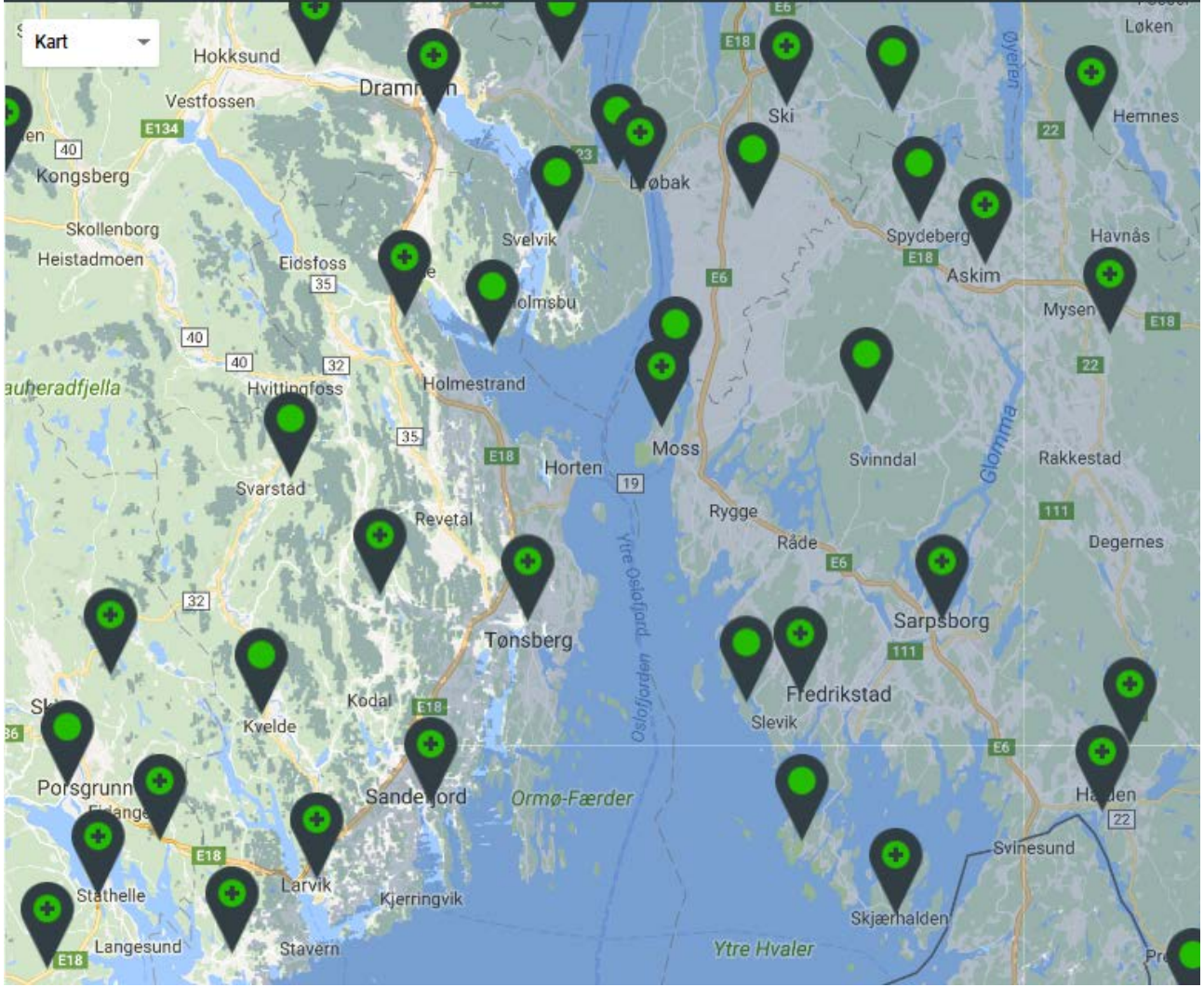


Service Following

DAB Frekvensblokker i Norge



Norge RIKS
Riksblokk, 12D Maastricht
Riksblokk, 11A RRC06



Østfold / Vestfold

Which network are you listening to?

Coverage from Vestfold

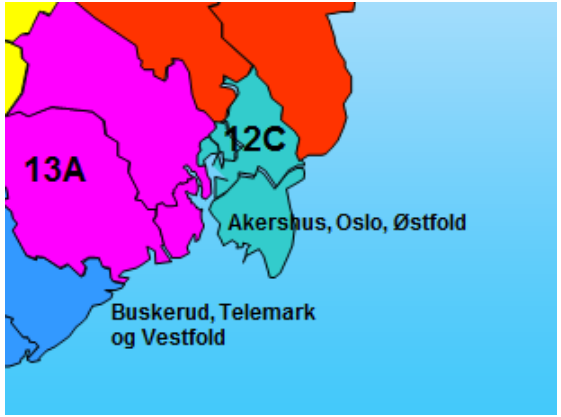
Coverage from Vestfold

Drammen

Coverage

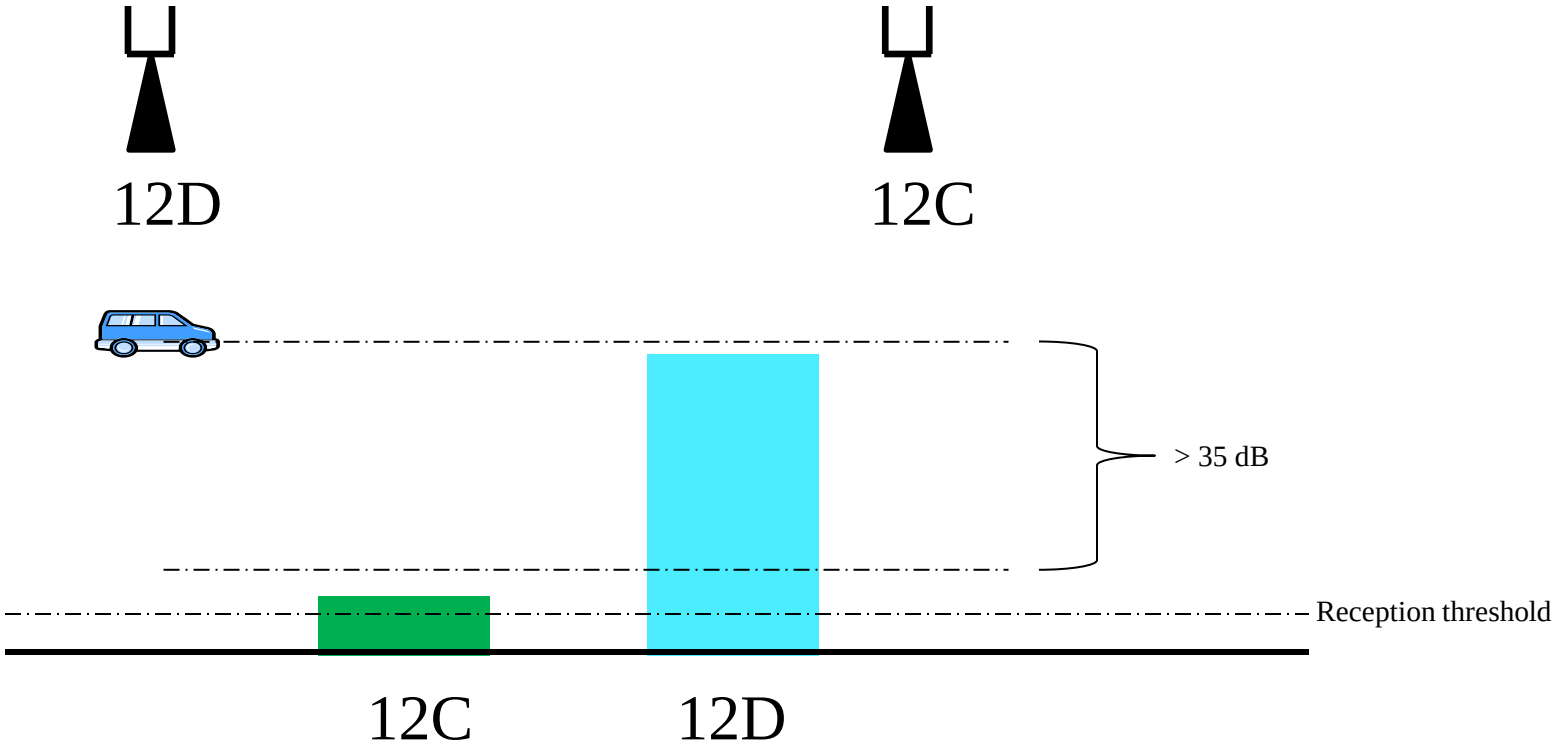
Ch «12C» with good receiver

Ch «12A» with sub-optimal receiver

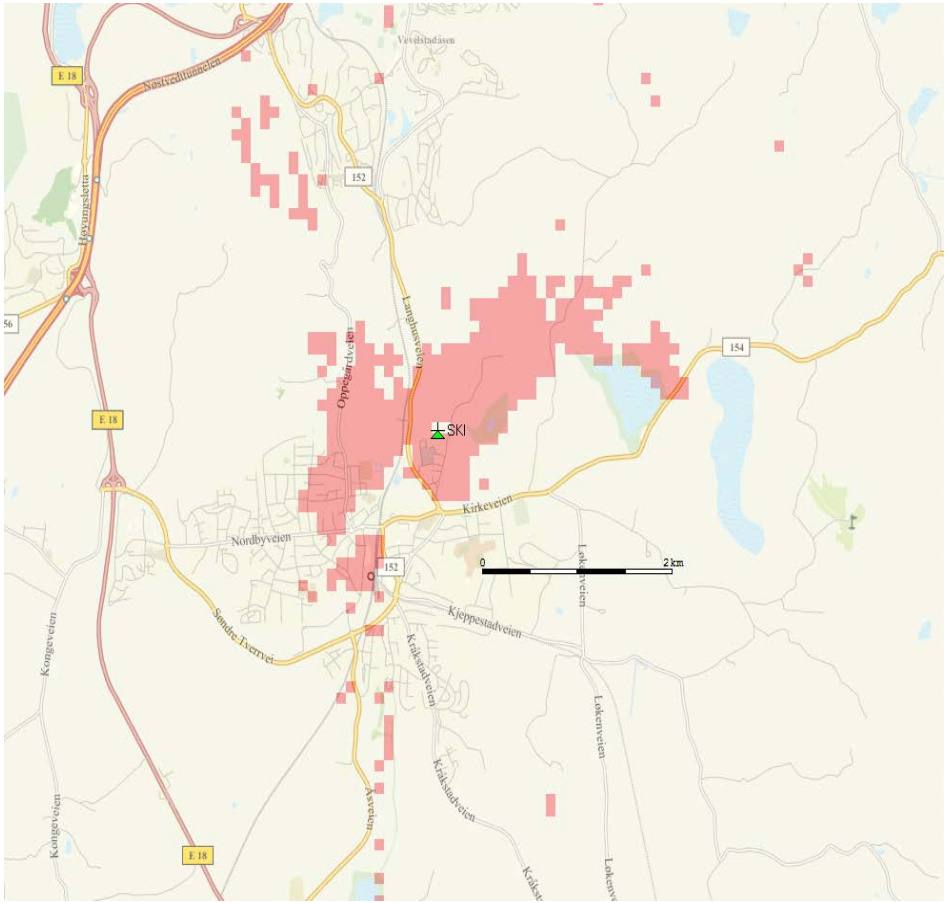


Adjacent Channel Interference

Adjacent Channel Interference



Adjacent Channel Interference



Adjacent Channel Interference

- Solutions
  - Co-location of transmitters
  - Transmitter power reduction
  - Filters with Critical Mask

Thank you!

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