

DAB Economics and Environment

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Norway ASO in 2017,
moving from FM to DAB

Listeners

Broadcasters

Environment



For listeners

- More content, more choice, more relevancy – for free!





NRK SPORT

P24-7
MIX

NRK P1

ENERGY
P2

RADIO
TOPP
40

NRK SÁMI RADIO

NRK P13

1
RADIO1

6 Rock

NRK P2

10 Country

NRK TRAFIKK

NRK FOLKEMUSIKK

RADIO
ROCK
EKTE ROCK

8 Pop

Alltid nyheter

NRK Nyheter

9 Retro

NRK P3

NRK JAZZ

NRK VÆR

4 Lyden
av Norge

5 Hits

Vinyl



NRK P1+

NRK KLASSISK

7 Klem

Radio
Norge

2000
NORSK
POP

A man with glasses and a light-colored jacket is sitting on a balcony. In front of him is a small round table with a portable radio on it. The background shows a view of trees through a window. The image has a dark, semi-transparent overlay on the left side where the text is located.

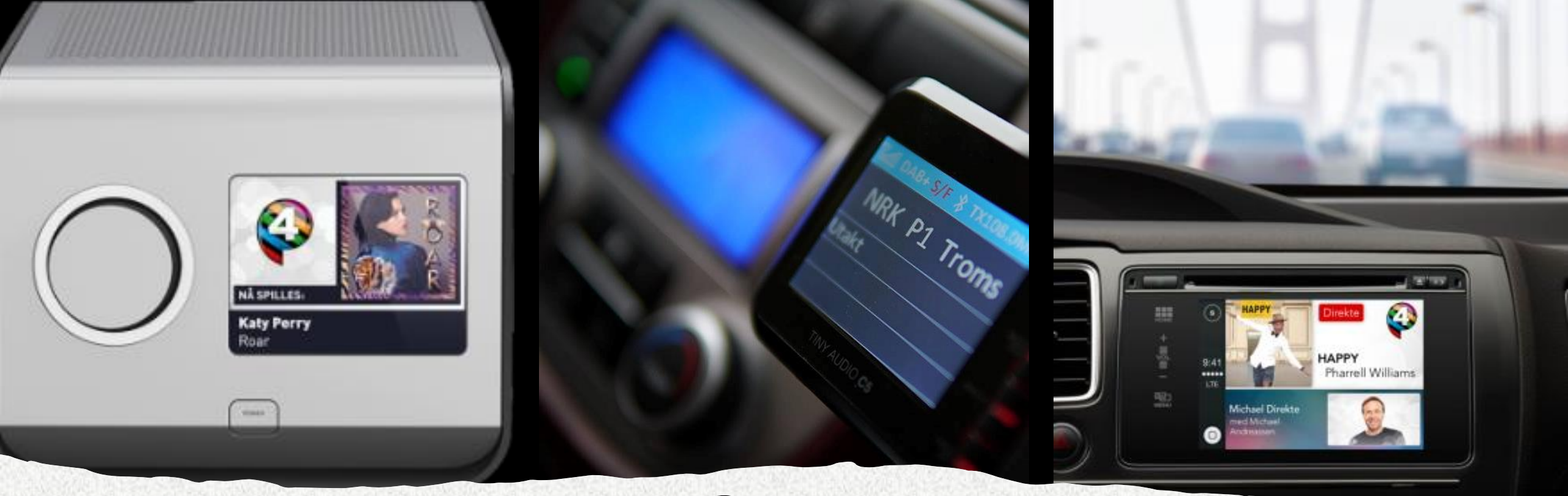
50%

OF NORWEGIANS LISTENS WEEKLY TO NEW DIGITAL CHANNELS THAT
COULD NOT BE CARRIED ON FM

For listeners

- More content, more choice, more relevancy
- Easier to find content





EPGs, slideshows and extra information

For listeners

- More content, more choice, more relevancy
- Easier to find content
- Better reception



Car reception

Excellent reception, no atmospheric noise - in car as well as at home

Congested FM frequency band



For broadcasters

- More content = more business



More content = more business

- New revenue streams
- Targeted advertisement



For broadcasters

- More content = more business
- Larger coverage



A silver SUV is parked on a gravel area in a mountainous landscape. The SUV has a radio tower mounted on its roof and a blue logo on its side. The background shows a steep, forested mountain with a waterfall and a cloudy sky.

Larger coverage

-
- In Norway, DAB > FM (given same NW size)
 - Compete on content, not technology or coverage
 - Increased service and advertisement reach

For broadcasters

- More content = more business
- Larger coverage
- Robustness





Robustness

Shared infrastructure means affordable redundancy

- Reserve power
- Redundancy transmitters
- Programme feed
- Disaster Recovery
- Synchronization

For broadcasters

- More content = more business
- Larger coverage
- Robustness

much
For lower per-channel cost than
FM transmission



For the environment

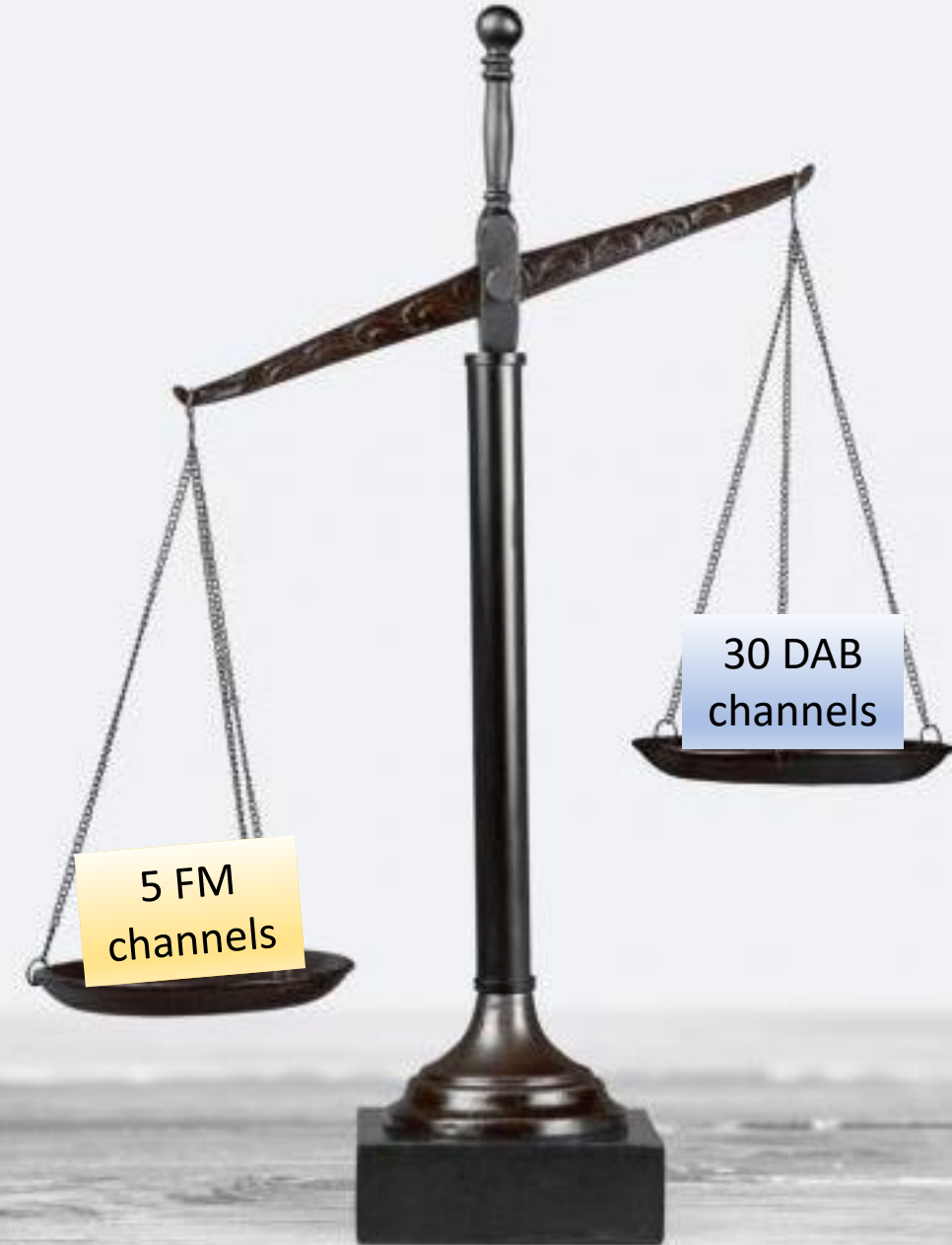
- Energy efficiency
- Smaller footprint
- Co-location of services



Energy consumption

- 5 FM-networks use 70% more energy than 2 DAB networks
- Per channel, FM uses 10 times more energy than DAB

Going from FM to DAB, energy use has decreased



Footprint

- More channels in less physical space
- DAB 2 Dual Drive transmitters < 5 FM transmitters



Co-location

- FM; each distributed radio channel can have its own transmitter network



Co-location

- DAB; the mux concept



DAB vitalizes radio

- More and better services for the listener
- The Broadcasters remain relevant in the competition for listeners' attention
- Better environmental footprint



Thank you!

Questions?

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