

Small Scale



in the Netherlands

22 temporary small scale DAB allotments

Since early 2020, after experiments in 2017, until September 2024

Ensembles with max 12 licensees

Public local and 'commercial' broadcasters

First come, first served licensing

Broadcasters licensed, not an ensemble operator license



Broadcasters need to cooperate

Licensees need to develop a cooperation contract among themselves

Mandatory condition in the license

Covers: cooperation organization, who will act as ensemble operator, cost distribution, etc.

Variation in solutions used, from complete outsourcing to fully in-house operation

Samenwerkingsovereenkomst tijdelijk lokaal DAB allotment 76

1. Titel

Deze overeenkomst is getiteld 'Samenwerkingsovereenkomst tijdelijk lokaal DAB allotment 76' en wordt in het vervolg aangeduid als 'de Overeenkomst'.

2. Samenwerkende partijen

De Overeenkomst regelt de samenwerking tussen de Samenwerkende Vergunninghouders.

Bij de datum van in werkingtreding van de Overeenkomst zijn dat de volgende partijen:

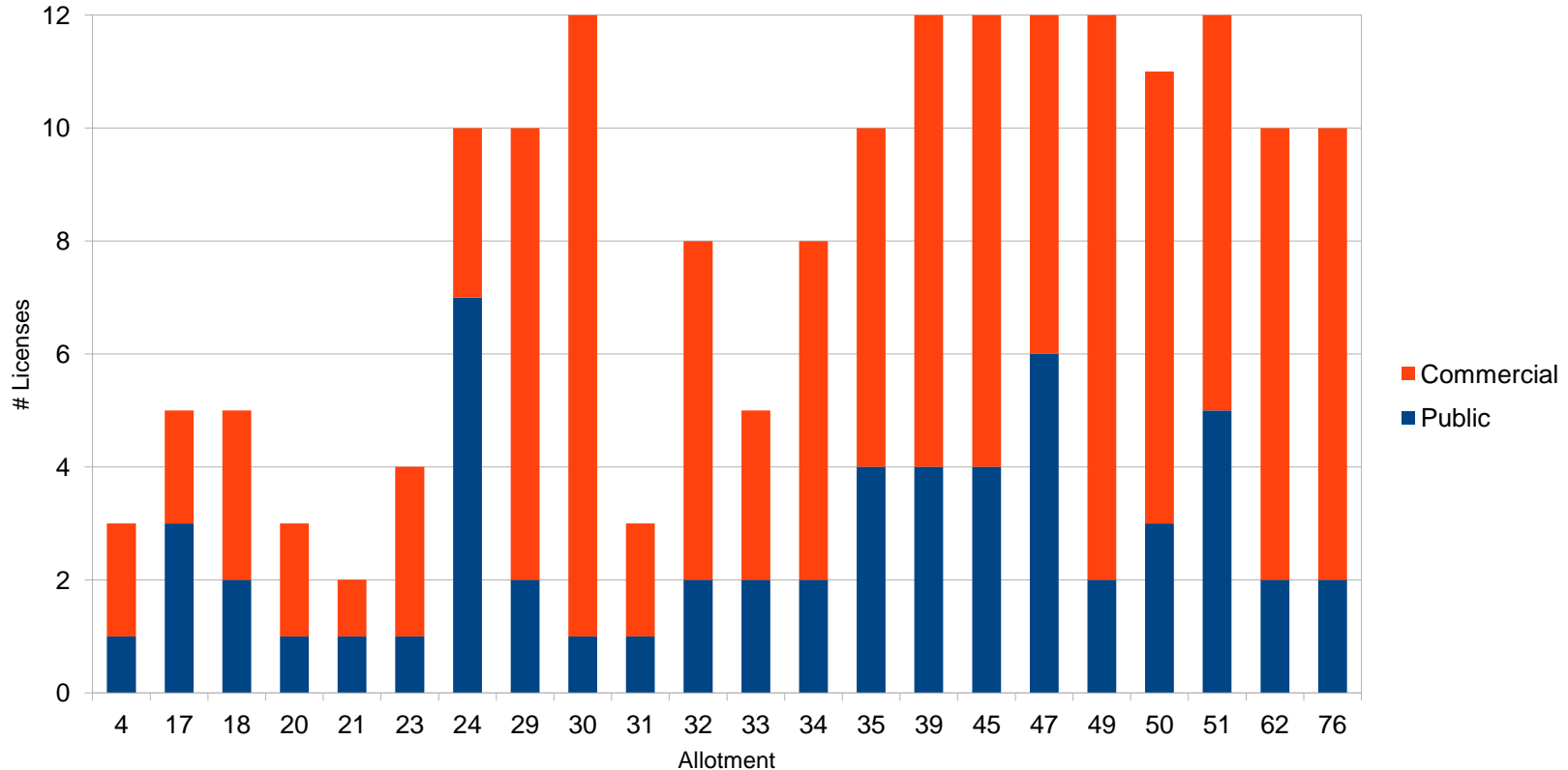
- a) Stichting Euregio Digitaal, KvK nr. 62014641
- b) Stichting Omroep Eindhoven en omstreken, KvK nr. 41092409

3. Overwegingen

- a) Een Vergunninghouder is volgens de vergunningsvoorwaarden wettelijk verplicht om binnen 6 weken na verlening van de vergunning een schriftelijke samenwerkingsovereenkomst te sluiten;
- b) De eerste vergunningen voor allotment 76 zijn verleend op 31 maart 2020;
- c) De Samenwerkende Vergunninghouders dienen een Vergunninghouder aan wie op een later moment een vergunning wordt verleend op non-discriminatoire voorwaarden toe te laten tot de Overeenkomst;
- d) Een Vergunninghouder dient binnen 6 maanden na verlening van de vergunning de frequentieruimte in gebruik te nemen en te houden;
- e) De Samenwerkende Vergunninghouders onderschrijven het belang van een goede samenwerking om een efficiënt en effectief DAB distributienetwerk te realiseren tegen voor iedere Vergunninghouder te dragen kosten, rekening houdend met de intentie van de regeling om (vooral) kleinschalige lokale radiostations een DAB distributiemogelijkheid te bieden;
- f) Tijdens de experimenteperiodes in 2017 is reeds apparatuur ontwikkeld en

License distribution

Small Scale DAB Licenses (NL)
(as of 2022-08-22)



New audiences: local DAB can add diversity

Though many licensees broadcast popular music formats, local DAB also provides opportunities for stations aiming to reach more diverse audiences or testing new formats



Community broadcasters limitations

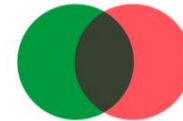
Dutch Telecommunications law has no 'community broadcaster' category

Due to limited reach many local DAB stations have little opportunity to generate income from advertisement sales

The cost of licenses/contributions (media watchdog, radio communications agency, advertisement watchdog and music right societies) are a heavy burden on these stations



Agentschap Telecom
Ministerie van Economische Zaken



STICHTING
RECLAME CODE



Sena

Service ID confusion

There is no authority issuing Service-IDs, broadcasters select these themselves

This can lead to identical Service-IDs, causing confusion in overlap areas

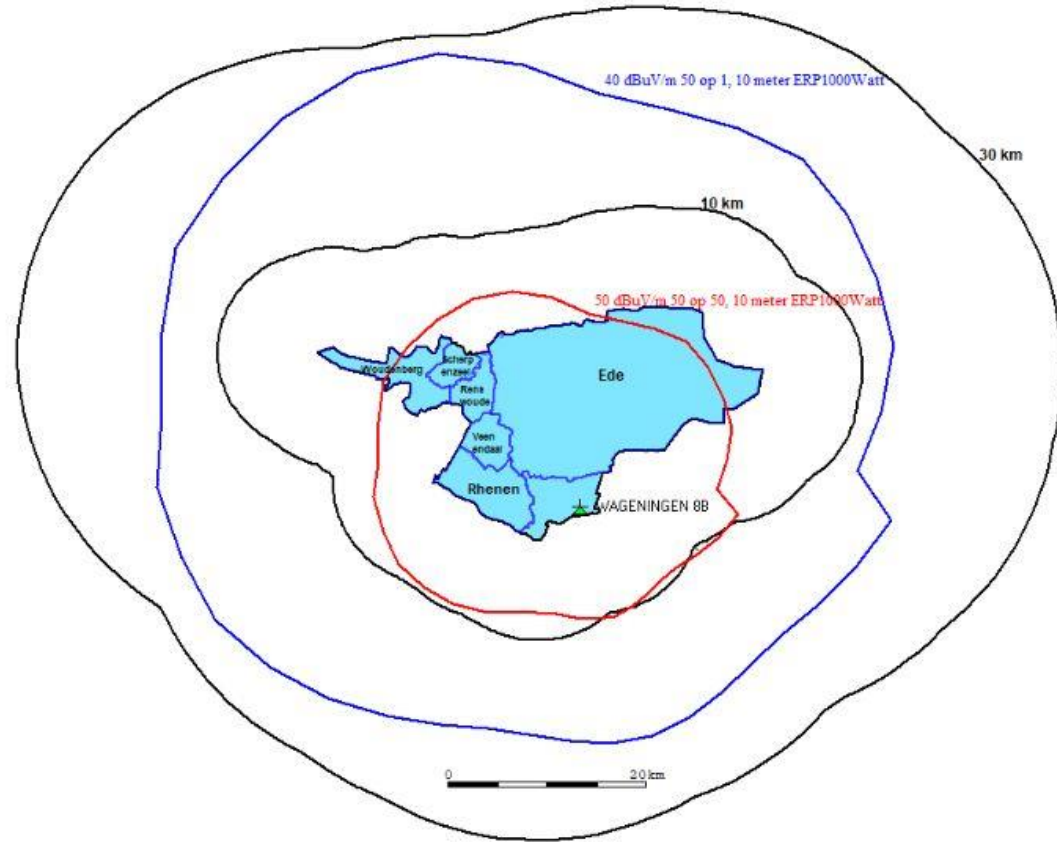
Also, Service-ID recognition in cars is not well supported, causing incorrect logos to be shown on the dashboard

FIG1 Label (Short label) FIG2 Label	SIId
Radio4Brainport (Brainprt)	0x8b01
Studio040 (Studi040)	0x8440
Glow FM (Glow FM)	0x8441
ARROW BLUESBOX (BLUESBOX)	0x8ab1
JustMusicWaaazin (JWaaazin)	0x8b06
GLXY home of rap (GLXY)	0x8dad
POLDERPOP RADIO (POLDRPOP)	0x8b02
NASHVILLE FM (NASHVILL)	0x8b03
Rivierenland (Riverlnd)	0x8b05
RADIO 121 (RADIO121)	0x8121

Network design

The license defines a maximum field strength at 10 and 30 km contours of the allotment.

Operators can design the transmission network within those limits: i.e. free to select locations, transmission power, antenna diagram etc.



Main hurdle for in house projects: TX locations

In house projects may not have access to existing transmitter locations

Experience shows that antennas should be placed high enough (at least 50~60 meters above street level) for an adequate service area

Transmission power increase may not always provide a solution to overcome coverage problems

It is hard to find suitable locations



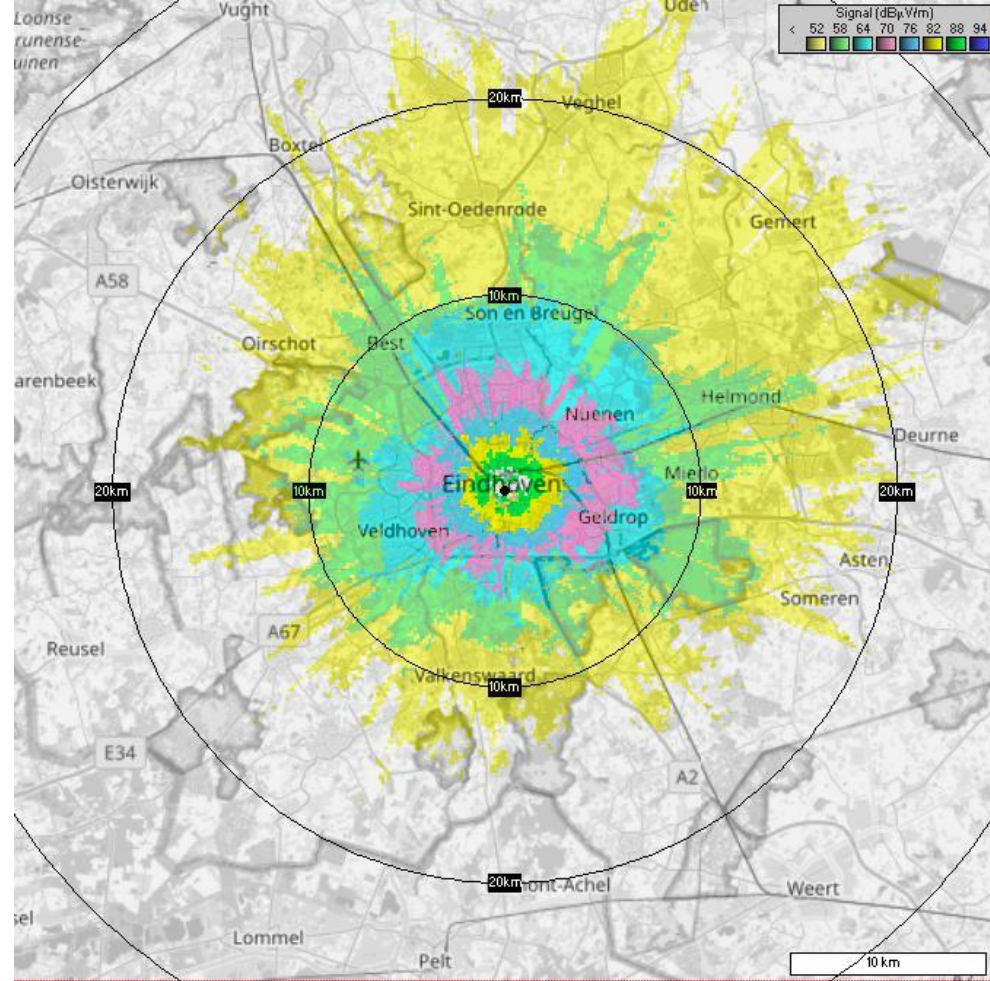
Example: DAB+ 4 Brainport

Local ensemble for Eindhoven and surrounding municipalities

2 public, 7 'commercial' stations

One of the licensees also acts as 'In house' ensemble operator

Transmitter co-located with FM transmitter of local public broadcaster



DAB+ 4 Brainport technology

Audio encoding, PAD encoding and multiplexing based on Open Digital Radio open source software

Transmitter based on open source EasyDAB v2 design

Filter and antenna system combination of commercially available components

Audio and PAD encoding at central location, multiplexing at transmitter site with fiberglass connection between them



Conclusion

It is possible to operate a small scale DAB ensemble for local broadcasters

The rather open licensing model used in the Netherlands until now is beneficial to enable local optimization of technology

Various technological solutions are possible, one should carefully consider what configuration to use

Broadcasters should not expect to reach a large market share: the success of DAB is to be shared with many !



We share our experiences on LocalDAB.org - quality information for small scale DAB projects