

The Facts Behind the DAB Radio Failure in Sweden

Background

The DAB radio technology was introduced in Munich, Germany 1986. Alongside BBC, the public radio Sveriges Radio (SR) introduced DAB on a trial basis in Sweden in 1995. In 2005 the government rejected a proposal for a transition from FM to DAB. Despite this SR continued unofficial "pilot" DAB broadcasting covering of 35 % of the population in four regions in cooperation with the state owned broadcast provider Teracom. However, very few people (< 1 percent) bought receivers to listen to these transmissions.

In December 2014 a *Digital Radio Coordinator* assigned by the government presented a roadmap on how to digitize terrestrial radio. The plan consisted of a concurrent launch of DAB+, a temporary extension of the FM licenses for commercial radio companies and a step-by-step regional shutdown of FM transmissions. It was proposed that a transition from FM to DAB+ should be implemented in the 2016-2024 period.

In June 2015, after an extensive consultation process, the government rejected the proposal after an overall negative response by relevant authorities, academics and organizations. Adding to this, the National Audit Office presented a critical report on the (former) government's process for a proposed transition to DAB+. The case was formally closed by a unanimous Parliament decision February 3, 2016 confirming the government assessment of the National Audit report.¹ No political bridges have been burned regarding a possible future terrestrial digital network. But neither the government nor any political party in the Parliament has expressed support for a particular technical standard (such as DAB/DAB+).

There has been a lot of disinformation about why Sweden rejected the DAB+ proposal. In this paper you will find the true story with the most important factors listed. These are of course quite negative facts for any promoter of the DAB+ technology. For their story we recommend that you contact the EBU or the WorldDAB organization.

The position of the National Audit Office

In its report *Digital Radio - why and for whom?* (see Annex) the National Audit concluded that

¹ <http://data.riksdagen.se/fil/EF795E34-1318-4960-B240-1C75B495F8E8>

1. The government is not properly prepared for a transition.
2. Listeners' perspective is lacking.
3. Technical assessments are inadequate.
4. Economic aspects are ignored.

The government position

According to the government's assessment in the budget proposal for 2016 the outcome of the consultation shows that *there are too many objections and unsolved questions and that the government and the Parliament cannot take a decision on such a decisive and radical change as a digital transition and an FM network switch-off.*

Underlying the government assessment is the total consultation round outcome, and the fact that among the referral bodies there is no wide and clear support for closing down the FM network in favor of a transition to DAB+ technology.

Here are some major objections issued by the government to the proposal:

- Ten million FM receivers must be scrapped and consumers will be forced to replace those with new DAB+ compatible receivers.
- The Total Defense system and Emergency Alert system will be put at risk.
- Lack of coverage. Digital radio may not reach the whole country.
- No consensus between the two commercial network companies how to allot broadcast permits.
- Public demand highly unclear.

Other uphill factors for DAB radio in Sweden

Adding to the objections mentioned in the government decision there are several other arguments against a transition from FM to DAB+. These can be found in the consultation round responses and in the National Audit report.

Some arguments against the DAB+ technology and a close down of FM have also been presented in news media and the public debate 2012-2015. Notably there has been not been any support for the DAB+ proposal at any level in any newspaper editorial or op-ed.

- *FM is still the world standard for terrestrial broadcast radio* in more than 200 countries.²
- Internet is the widely accepted alternative platform for radio in most countries. The smartphone boom has led to a rapid increase for radio on fixed and mobile broadband.

² The International Telecommunications Union (ITU) has not indicated any need to replace terrestrial analogue radio (AM/FM) with any of the present four digital terrestrial systems *technically approved* by ITU in 2012 (DAB/DAB+, DRM30/DRM+, HD Radio (IBOC) and ISDB-Tbs). Adding to this the television standard DVB-T2/DVB-T2 Lite today presents the highest performance for audio terrestrial broadcasting. For mobile broadband transmission for mass audiences LTE Broadcast is also being developed.

- There are estimated *6 billion FM receivers* in the world vs. 40 million DAB receivers. There are 44.000 terrestrial radio stations; most are FM and few are DAB.
- The FM band is not "full". In Sweden there are *approximately 200 vacant frequencies for new FM channels*. Still more channels can be released by a re-planning procedure. Alleged demand for additional on-air channels has not been specified by DAB+ promoters.
- There is enough *and increasing capacity* on mobile broadband for radio. The Swedish 4G/LTE network now has a full national geographical coverage. WiFi is also common in homes and public places/transports. Smartphones and tablets are widely used for watching video and television. As audio takes 30-45 times less bandwidth, audio - i.e. radio - can be regarded more as a bonus for mobile or fixed broadband subscribers.
- Swedish public service radio (SR) today has a very successful on-line operation with SR Play and pod radio. The volume is increasing, especially in mobile and on smartphones.
- There is *no demand anywhere to use the FM band (87,5-108 MHz) for any other kind of electronic transmission* than audio broadcasting. For technical limitations frequencies below 450 MHz will not be of interest for mobile broadband.
- In step with increasing mobile broadband demand for space in the UHF band, on frequencies higher than 450 MHz, digital terrestrial broadcast television (DVB-T2) will increasingly need relocation back to the VHF band III (174-240 MHz). Allotment for DAB (T-DAB) in this band will partly block such future measures.
- A future *broadcast convergence is highly possible on mobile broadband with LTE Broadcast*.
- DAB+ was selected by the major stakeholders in Sweden without prior tests and evaluation of *alternative systems* (such as DRM and DVB-T2 Lite) for terrestrial broadcasting.
- The market is limited. After 21 years DAB/DAB+ has a recognized position (including listeners) only in a few European countries plus Australia. The prospects for other significant markets are minimal. In the U.S. the choice is HD Radio and for Asia, Africa and Brazil DRM has a stronger position.
- *No significant consumer demand in any country*. No comprehensive market research reports or analyzes have been published anywhere. No consumer complaints regarding FM radio performance have been recorded.
- *Few listeners*. Only five European countries have a weekly DAB-listening quota exceeding 10 %. In some countries with full national DAB coverage (as Germany and Netherlands) total weekly listening is still below 5 %. European listening figures are sparsely published by DAB promoters.

- DAB/DAB+ is *not incorporated into mobile and smartphones*³ (as FM radio and online radio are). Sales of stand-alone radio receivers are on a continuous decline.
- *The energy savings* in transition from FM are disputed. Full transmission effect savings will only be possible if all channels in a DAB+ multiplex are utilized. Research has not confirmed that a DAB+ receiver is more energy efficient than an FM receiver. Replacement of all FM transmitters as well as all receivers in homes and cars is an environmental challenge.
- *No open market introduction*. In the countries where the DAB+ system has been established so far *the financing of the transmission structure has been made possible only by official funding* (state subsidies or via public service financing) and not on commercial terms.
- The DAB system, promoted by the EBU and WorldDAB, is *not* sanctioned by any European Union institution and cannot be regarded as a “European standard” for terrestrial broadcasting. The Commission has stated (2012) that the EU does not currently have a common policy on radio broadcasting.⁴
- A state subsidy scheme for the DAB+ radio platform runs a high risk to be contested by an European competition authority or the EU/EFTA body ESA as there are several competing technical system for radio broadcasting.
- Few countries have presented a specific plan for an eventual FM switch-off and Norway is so far the only country in the world with a set switch-off date⁵.
- *An FM switch-off has been strongly opposed by community and local radio associations in Norway and Sweden*. The retention of FM radio for small-scale broadcasting has been strongly endorsed by the two European organizations for community radio; *AMARC Europe* and *Community Media Forum Europe* as well as *The Association of European Radios (AER)*⁶
- *A premature switch-off is rejected by motorist organizations*. Today in Norway there are two million cars bought in recent years with only FM radio installed. Some new vehicles cannot be delivered with in-car DAB+, especially buses and trucks.

³ A mobile phone LG Stylus 2 – a phablet – was presented at the Radiodays Europe conference in Paris 2016-03-14. It has a unique feature being able to receive online and DAB radio in a seamless mode.

⁴ The European Commissioner for the Digital Agenda, Ms Neelie Kroes in a letter to AMARC Europe and CMFE has recognized *that the future of radio distribution will be multi-platform. It is stressed that public policy should be technology-neutral and open to adapt to future evolutions.*

⁵ Neighboring Finland rejected DAB on a permanent basis already 2007. Today the commercial broadcasting radio sector (on FM only) is the most profitable in the Nordic area.

⁶ *FM on band II remains an efficient, simple-to-use and free-to-air technology for the vast majority of radio stations across Europe. This efficiency relates to the business-model: it is actually an essential part of the main business model for commercially funded radio.* (AER policy document 2014).

- A premature switch-off of FM will also leave *foreign motorists in Norway without radio and possible traffic and emergency alerts*. In Sweden millions of cars with FM receivers only will still be in use in ten years from now.

Conclusions

It is highly unlikely that DAB+ will become a world standard on the global market. Taking into account all the arguments presented in this document it is quite impossible to expect that this technology ever will be relevant for future broadcasting in Sweden.

Contacts:

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Reference

National Audit report for the Parliament.

Major risks in transfer to digital radio (RiR 2015:5) Summary in English.
http://www.riksrevisionen.se/PageFiles/22056/summary_2015_05.pdf

Listing of consultation letters to the Ministry of Culture

All letters can be downloaded from

<http://www.regeringen.se/remisser/2014/12/remiss-sou-201477-fran-analog-till-digital-marksand-radio---en-plan-fran-digitalradiosamordningen/>

Negative overall response or reservation on decisive issues:

KTH Royal Institute Of Technology
University of Gothenburg: Department of Journalism, Media and Communication
Royal Swedish Academy of Engineering Sciences (IVA)
Stockholm Academy of Dramatic Arts (SADA)
Swedish Post and Telecom Authority (PTS)
Swedish Armed Forces
Swedish Defence Materiel Administration, FMV
Swedish Better Regulation Council
Swedish Transport Administration
Swedish Transport Agency
Competition Authority
Ericsson AB

Digital Radio Sweden (DRS)
Internet Infrastructure Foundation (IIS)
Swedish Network Users Society (SNUS)
Public Service Council (PSR)
Society of Sound Engineering
Community Radio Association (NRO)
Network Community Radio in Sweden (NNIS)

Swedish Association of Local Authorities and Regions (SKL): Green party Board reservation
Swedish Television (SVT) (*rejecting the proposed planning*)
BIL Sweden (motorcar organisation) (*rejecting the proposed planning*)

No objections/Positive response:

The Radio and TV Authority
Swedish Civil Contingencies Agency
Mittuniversitetet
Swedish Agency for Accessible Media
Swedish Agency for Participation

Swedish Agency for Youth and Civil Society
Three County Administrative Boards

Swedish Association of Local Authorities and Regions (SKL): Majority board decision.
SPF Seniorerna (senior citizen organisation)
Motormännen (a car owners association)
Swedish Association of Communication Agencies
The Swedish Union of Journalists (SJF)
Swedish Newspaper Publishers Organisation (TU)
Ifpi Sverige (music rights)
SAMI (music artists rights)
Swedish Village Action Movement
Radioproduktionsbolagen (RPB)

Positive DAB stakeholders:

Teracom AB
Sveriges Radio AB (SR)
MTG
SBS Discovery Radio/NRJ (now Bauer)
Factum Electronics, Paneda AB, ElektronikBranschen and Mediamobile Nordic Ltd

Notable abstainees from the consultation round were the Swedish Consumer Agency KO, Swedish Trade Union Confederation LO, Swedish Confederation of Professional Associations SACO, Administrative Foundation of Public Service (formal owner of the public service companies) and the Radio Academy.