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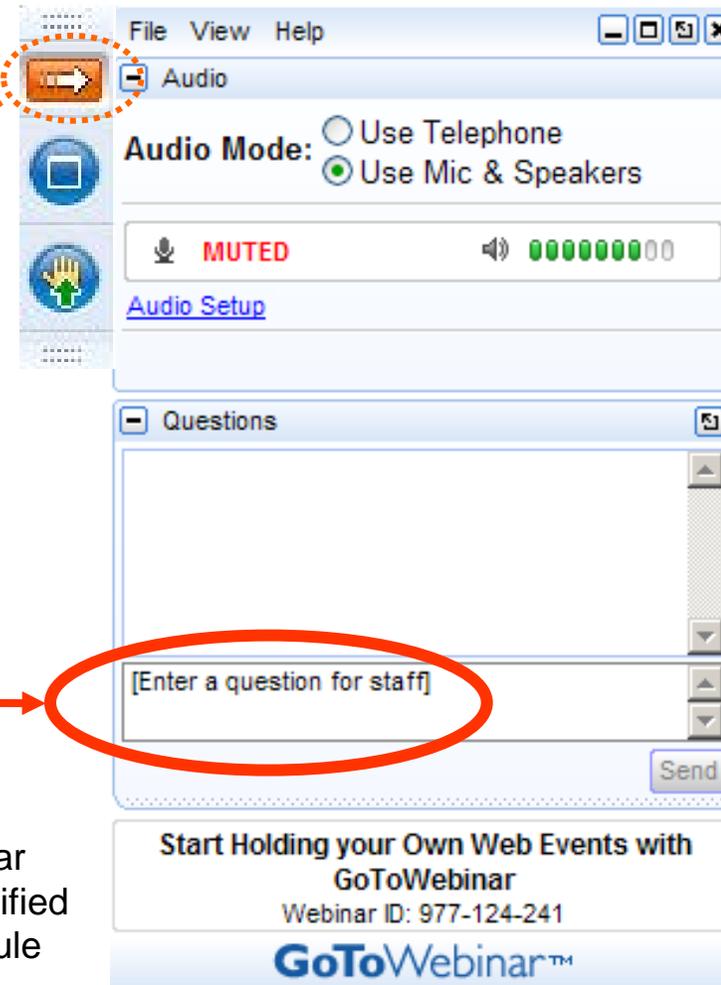
Episode #45

Car Dashboards and Hybrid Radio

Your questions please?

(if you don't see the control panel, click on the orange arrow icon to expand it)

Please enter your questions in the text box of the webinar control panel (remember to press send)



The screenshot shows a GoToWebinar control panel window. At the top, there is a menu bar with 'File', 'View', and 'Help'. Below the menu bar, there is a vertical sidebar with several icons: a blue square, a blue square with a white square inside, a green hand icon, and a blue square with a white square inside. An orange arrow points to the top icon in the sidebar. The main area of the window is divided into two sections. The top section is titled 'Audio' and contains 'Audio Mode' options: 'Use Telephone' (unselected) and 'Use Mic & Speakers' (selected). Below this, there is a 'MUTED' indicator with a microphone icon and a volume level indicator. A 'Send' button is located at the bottom right of the audio section. The bottom section is titled 'Questions' and contains a large text input field with the placeholder text '[Enter a question for staff]'. A red circle highlights this text box, and a red arrow points to it from the text on the left. Below the 'Questions' section, there is a promotional banner for GoToWebinar with the text 'Start Holding your Own Web Events with GoToWebinar' and 'Webinar ID: 977-124-241'.



Remember: The completion of a Nautel webinar qualifies for $\frac{1}{2}$ SBE re-certification credit, identified under Category I of the Re-certification Schedule for SBE Certifications.



Ideas for things to discuss

- **Why is a transmitter company talking about internet stuff?**
 - Because the two go together more and more... we'll discuss how and why
- **Benefits**
 - How can this help me and my station(s)?
- **Learning the things**
 - What you need to know about your existing configuration to enable you to move forward.
- **Other thoughts**
 - Thoughts for future applications?

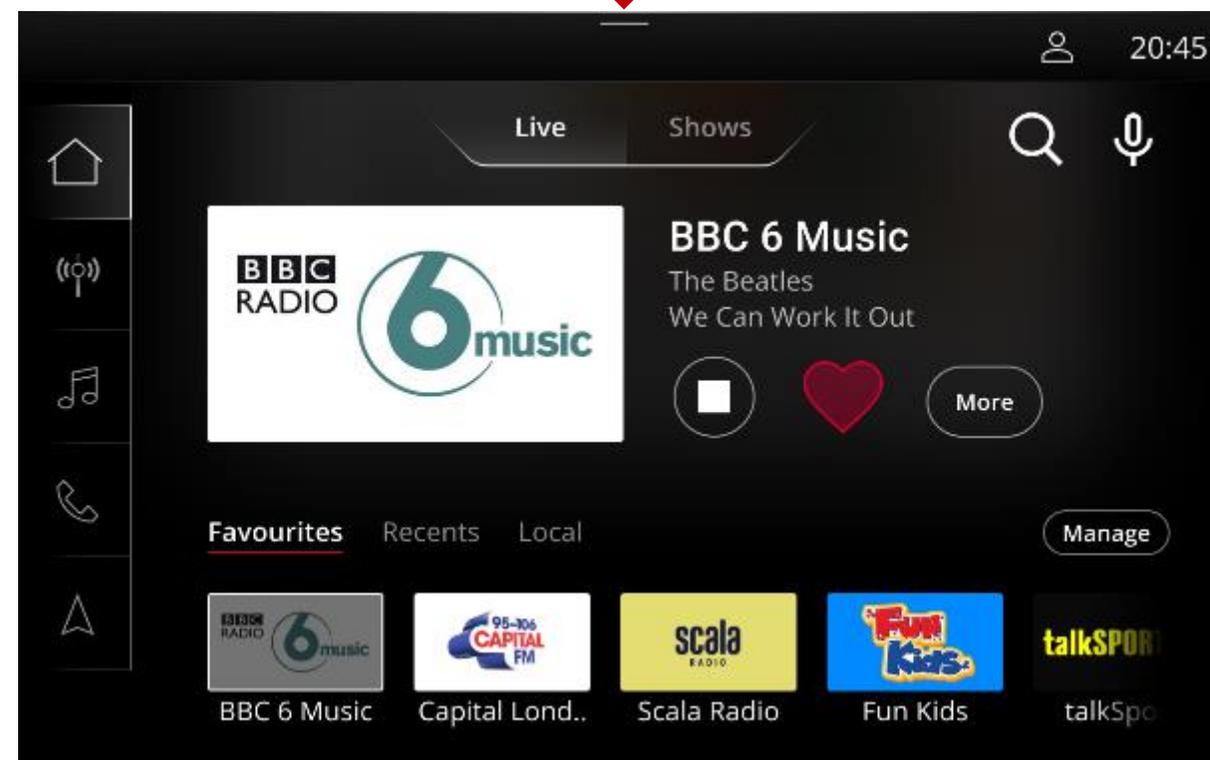
What is Hybrid Radio?

Hybrid radio is where radio receivers add IP as a source alongside AM, FM and HD Radio.

This has numerous advantages including the ability to switch between a station's over-the-air and streaming audio signals as OTA coverage changes, a single A-Z list of stations, out-of-area reception and the integration of live and static metadata delivered over IP to enhance a station's look in the dash.



↓ DATA



How does it work – It's all a matter of numbers

Hybrid Radio relies on the data that you transmit to uniquely identify your radio station.

For FM this means your frequency and your RDS PI code and for HD Radio this means your FCC facility ID number.

The car radio knows these details and a connected car can use the information to find out more about your radio station using bearer data.



97.3

89.1

101.7

102.5

b194

c6b1

382f

Ya' what

Bearers are the heart of a hybrid radio system and connected cars can not work without them.

Bearers are usually referenced through RadioDNS which maintains a directory for finding bearers. The RadioDNS lookup points a car radio to an SI (Service Information) file which holds the bearers for your radio service.

SI files are hosted by a Service Provider and Radioplayer, as a member and proud supporter of RadioDNS, is the biggest Service Provider in the world managing bearers for thousands of radio stations across Europe and North America.



97.3

89.1

101.7

102.5

b194

c6b1

382f

Tell me more

A bearer for a US Station

fm:dA0.d36g.10530

Identifies the service – can be fm, hd, dab, url

Your PI code – for the USA this must start with 1;2;3;4;5;6;7;8;9;A;B;D;E

Your country code – USA is A0 preceded by the first character of your PI code

Your frequency

A bearer for a Canadian Station

fm:ca1.c3da.09310

Your PI code – for Canada this must start with C except for CBC and a few border stations which can use the US code B

Your country code – Canada is A1 preceded by the first character of your PI code

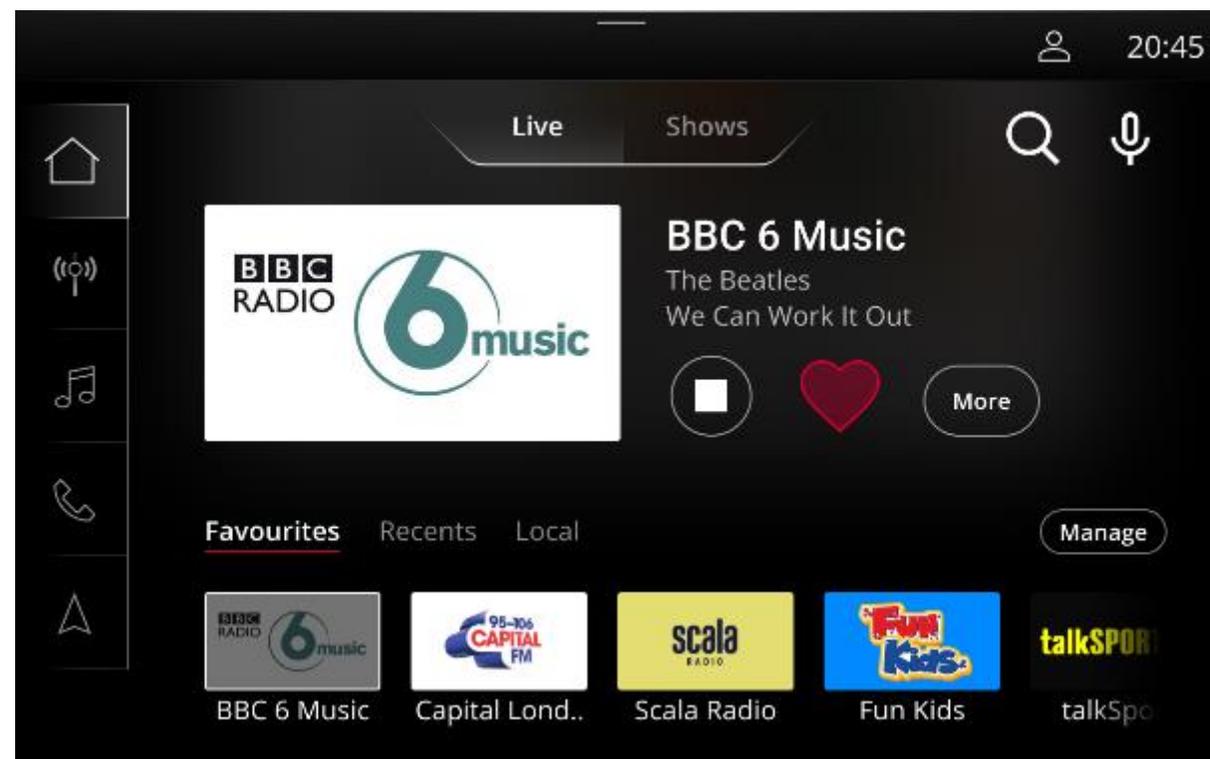
Your frequency



Bingo

The car tells RadioDNS what it knows and the RadioDNS lookup connects the car via the SI file to all the other platforms carrying the same service – so any HD Radio service or, in the case of a car that gets metadata from Radioplayer, the stream URL and any additional metadata from that station.

Radioplayer has agreements with a growing number of car companies that allow them to supplement the RadioDNS data to offer an enhanced service to radio stations.



Yeah but this is years in the future

Auto manufactures are making these cars now and they are already on the road.

Many more companies are in the design stages and will have cars on the road in the next two or three years.

If radio is not ready with great looking content in the dash and easy to access services, our listeners will go elsewhere.

The competition is now greater than ever and all our stations need to be able to compete or we will lose listeners and revenue.







NAB Digital Dashboard Best Practices Report

- Authors:
 - Fred and Paul Jacobs (Jacobs Media)
 - Glynn Walden (Audacy)
 - NAB staff
- Describes metadata “audits” undertaken in 3 cities (and results)
- Explains what broadcasters need to do, good metadata practices



Example of results from metadata audit

Philadelphia Audit: HD Radio Vehicle, Afternoon Drive

Score	Number of stations	Percent of total
Green	7	14%
Yellow	25	49%
Orange	8	16%
Red	11	22%

Charlotte Audit: RDS Radio Vehicle, Midday

Score	Number of stations	Percent of total
Green	9	33%
Yellow	5	18%
Orange	8	30%
Red	5	18%

- Green** The station utilized the full display functionality of the system (RDS or HD Radio) and information was displayed properly
- Yellow** The station did not properly utilize all of the display functionality
- Orange** The station's display functionality was poor or there were errors
- Red** There was no display functionality



Example of results from metadata audit

Philadelphia Audit: HD Radio Vehicle, Afternoon Drive

Score	Number of stations	Percent of total
Green	7	14%
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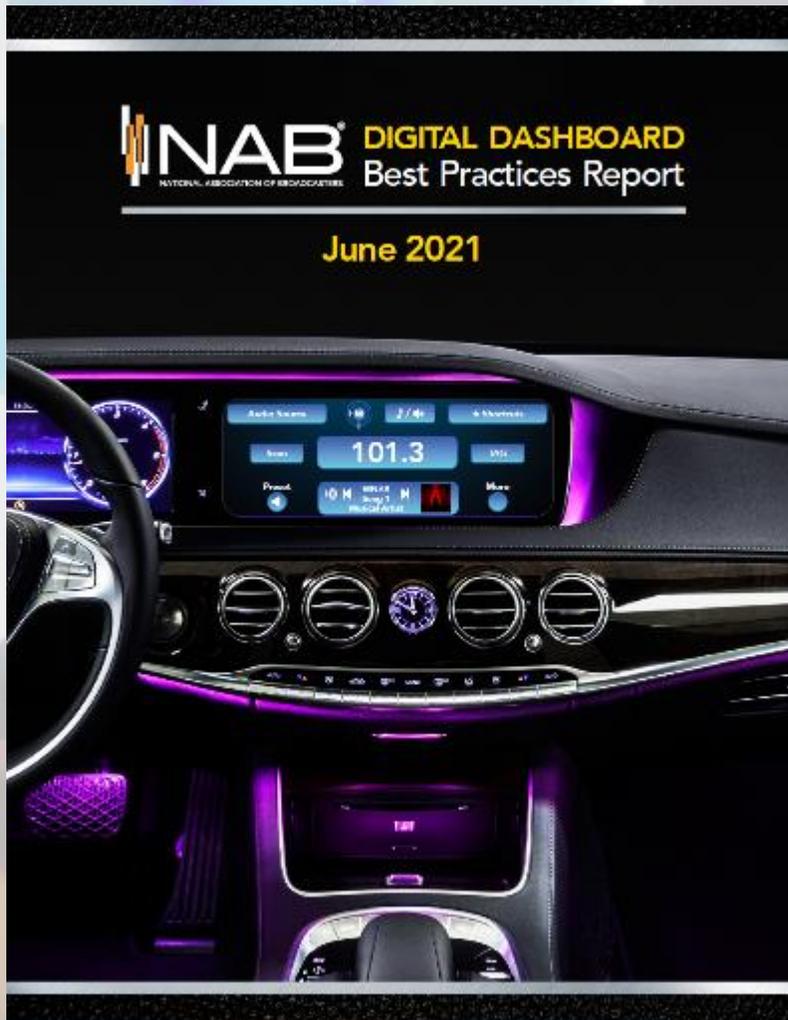
NAB Digital Dashboard Best Practices Report

- Report has been updated and was re-released in June
- New information on hybrid radio receivers, metadata service providers
- Part of NAB's ongoing effort to help broadcasters improve their metadata usage



https://www.nab.org/innovation/NAB_DigitalDash_RecommendedBestPractices_0621.pdf

3 pages



29 pages



Below is a summary of recommended best practices for radio stations which, when followed, should result in a dashboard appearance that is useful and pleasing to listeners and will support a more consistent user experience across the radio dial. This let is divided into separate sections for the programming and engineering departments, with the understanding that some recommendations apply to both.

Programming

1. For FM stations that don't currently have Radio Data System (RDS) equipment, obtain an RDS encoder and set it up to support transmission of station information using Program Service (PS) and Radio text (RT) fields.
2. Make sure that someone on staff uses daily a car now pped with an RDS-capable radio and an HD Radio for digital stations. For HD Radio stations, both RDS and HD Radio displays need to be monitored. Be aware that hybrid radios are entering the marketplace and if possible, monitor how the station looks on hybrid radios, too.
3. Install an RDS monitoring system and an HD Radio system in the on-air studio to allow air staff to view the textual information that is broadcast.
4. For music stations, song titles and artist fields should maintain the following standards:
 - Contain only the actual artist name, song title, etc. without metadata notes (e.g. "edited version").
 - Artists should be expressed as first name, last name.
 - Capitalization of proper nouns (artist, song), but no all caps for entire words.
 - For HD Radio systems, resolve all artwork. Album artwork is optimal; artist photos are acceptable. Generic format artwork/graphics are discouraged. The station logo should be the default.
5. For spoken word stations and/or personality/program/dj/hosts on music stations, the following standards are recommended:
 - During programs, display text with name of show, and with HD Radio, a graphic logo.
 - Use capitalization standards as specified above for music stations.
 - Other content display options include a program topic, guest, call-in number, etc. Stations might also want to consider additional enhancements (weather, traffic alerts, sports scores, etc.).
6. Radio programs on both music and spoken word stations should be identified with text and logos during their real-time broadcasts. Show/DJ/Host logos should be created and deployed.
7. Logos should be created and deployed for each HD Radio-multiple channel. Program formats should be properly identified in the PS data text field.
8. During commercial breaks, consider displaying advertise information (phone number, URL), and for HD Radio using Artist Experience to display advertiser logos.
9. Programming and engineering staff should conduct a quarterly audit of dashboard displays using vehicles with both RDS and HD Radio with Artist Experience receivers, observing and noting your station's metadata appearance for both RDS and HD Radio.
10. Conduct a quarterly review of how well your station's music library successfully matched to clear metadata, also noting the unmatched songs which need to be corrected.

https://www.nab.org/innovation/NAB_DigitalDash_BestPractices_0621.pdf



Hybrid radio metadata sources

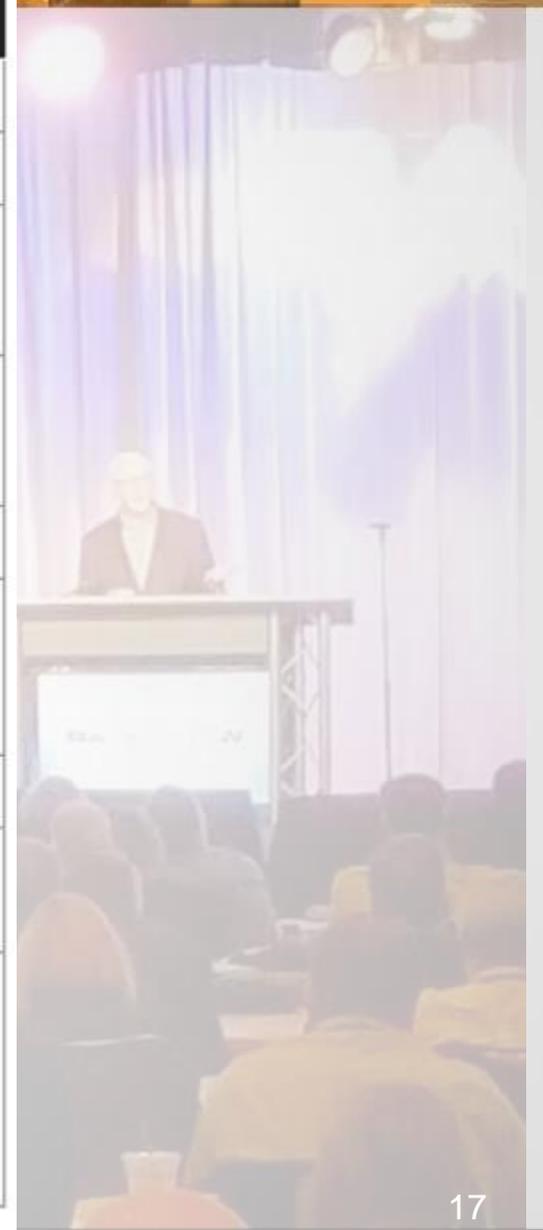
Metadata source/provider by auto manufacturer (May 2021)

Manufacturer	Metadata Source/Provider	
	Static	Dynamic
Audi	RadioDNS	Radioplayer
BMW	RadioDNS	n/a
Mercedes	Various (including RadioDNS, direct integration with Xperi is recommended)	Various (direct integration with Xperi is recommended)

Metadata Service Providers

This information is provided for informational purposes only. Please contact David Layer at NAB, dlayer@nab.org, if you want your company's services to be included.

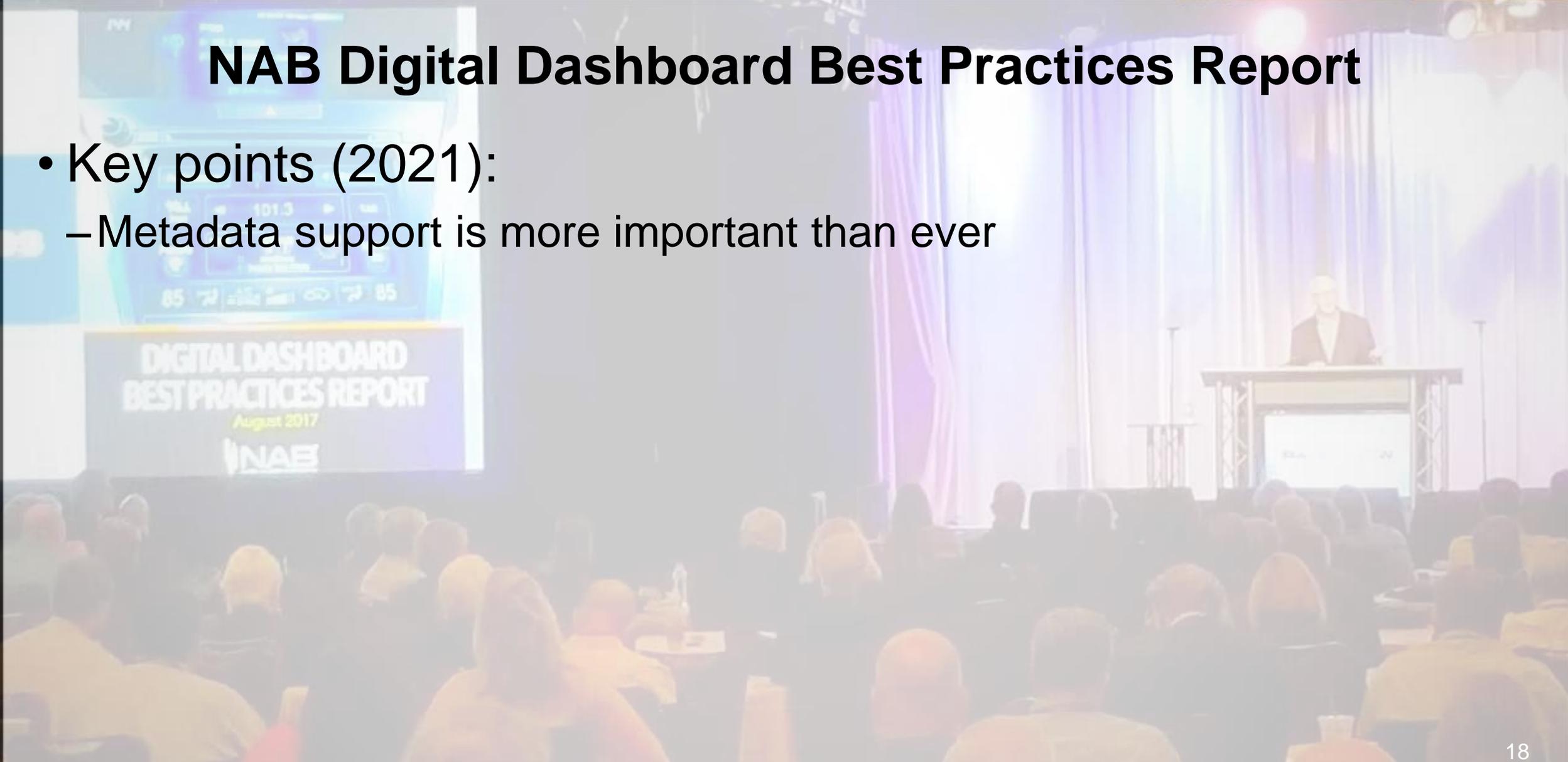
Service Provider	List of services	Comments
Aiir https://aiir.com/	<ul style="list-style-type: none"> RadioDNS registration, service information (SI) file creation 	Currently offered for free to U.S. broadcasters
Arctic Palm https://arcticpalmapps.com/	<ul style="list-style-type: none"> Radio station production software for metadata management 	Evolving into the Rapid Xperi platform (see below)
Pluxbox https://pluxbox.com/	<ul style="list-style-type: none"> RadioDNS registration, service information (SI) file creation (https://metadata.radio/) Full-service dynamic metadata including song title and artist, artist images and synchronized ad display messages 	Currently offered for free to U.S. broadcasters
Quu Interactive https://myquu.net/	<ul style="list-style-type: none"> RadioDNS registration, service information (SI) file creation Full-service dynamic metadata including song title and artist, artist images and synchronized ad display messages 	Acquired Jump2Go in 2019
Radioline http://business.radioline.co/	<ul style="list-style-type: none"> Full-service dynamic metadata including song title and artist, album art 	Have developed a hybrid radio platform for Android Automotive OS
Radioplayer https://radioplayer.org/	<ul style="list-style-type: none"> RadioDNS registration, service information (SI) file creation Full-service dynamic metadata including song title and artist, album art Exclusive dynamic metadata service provider for Audi and BMW hybrid radio solutions 	Not currently available in the U.S.
Rapid https://www.aimrapid.com/	<ul style="list-style-type: none"> Radio station production software for metadata management 	Predecessor system is Arctic Palm
TRE https://www.bdcast.com/products/studio-products/tre-the-radio-experience/	<ul style="list-style-type: none"> Radio station production software for metadata management Full-service dynamic metadata including song title and artist, artist images 	
Xperi AutoStage, https://dts.com/autostage/	<ul style="list-style-type: none"> Acquire service information (SI) using RadioDNS standards Full-service dynamic metadata including song title and artist, artist images and synchronized ad display messages Analytical information on listener behavior shared with the broadcaster Exclusive service provider of broadcast metadata for Mercedes hybrid radio solution 	AutoStage is an amalgam of TiVo metadata services and the DTS Connected Radio platform





NAB Digital Dashboard Best Practices Report

- Key points (2021):
 - Metadata support is more important than ever







NAB Digital Dashboard Best Practices Report

- Key points (2021):
 - Metadata support is more important than ever
 - Many automakers are using in-vehicle databases

DIGITAL DASHBOARD
BEST PRACTICES REPORT
August 2017
NAB

Music Recognition for Radio in the Car

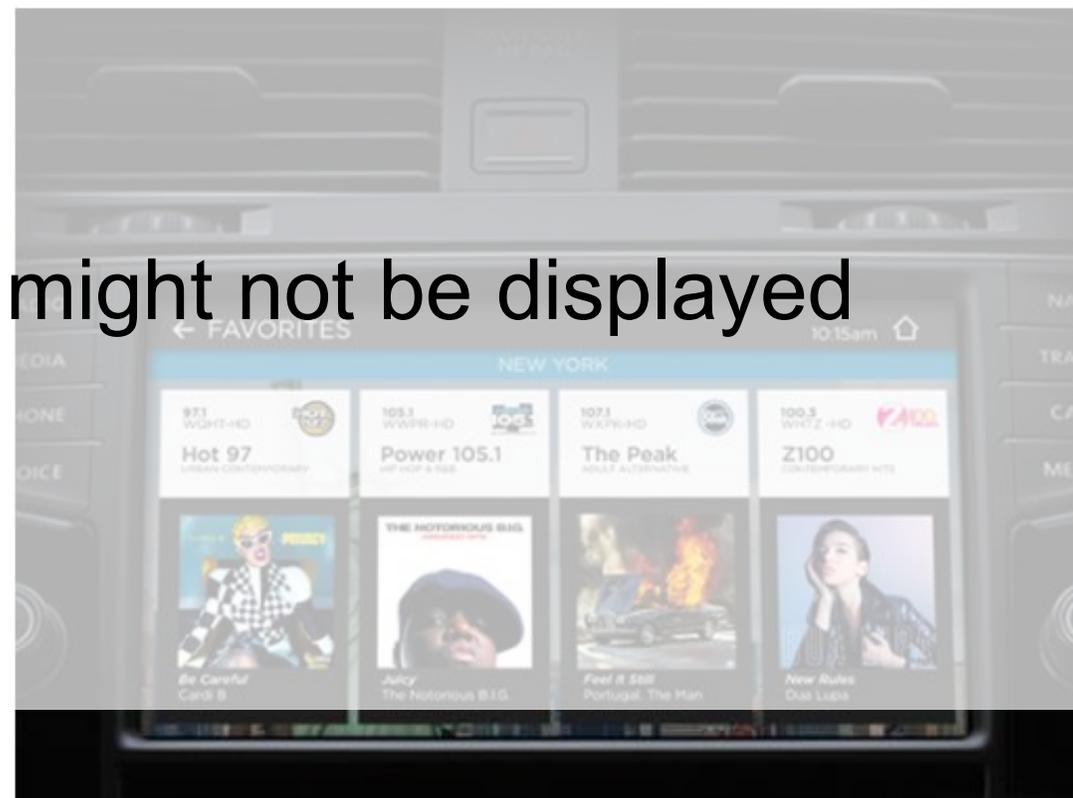
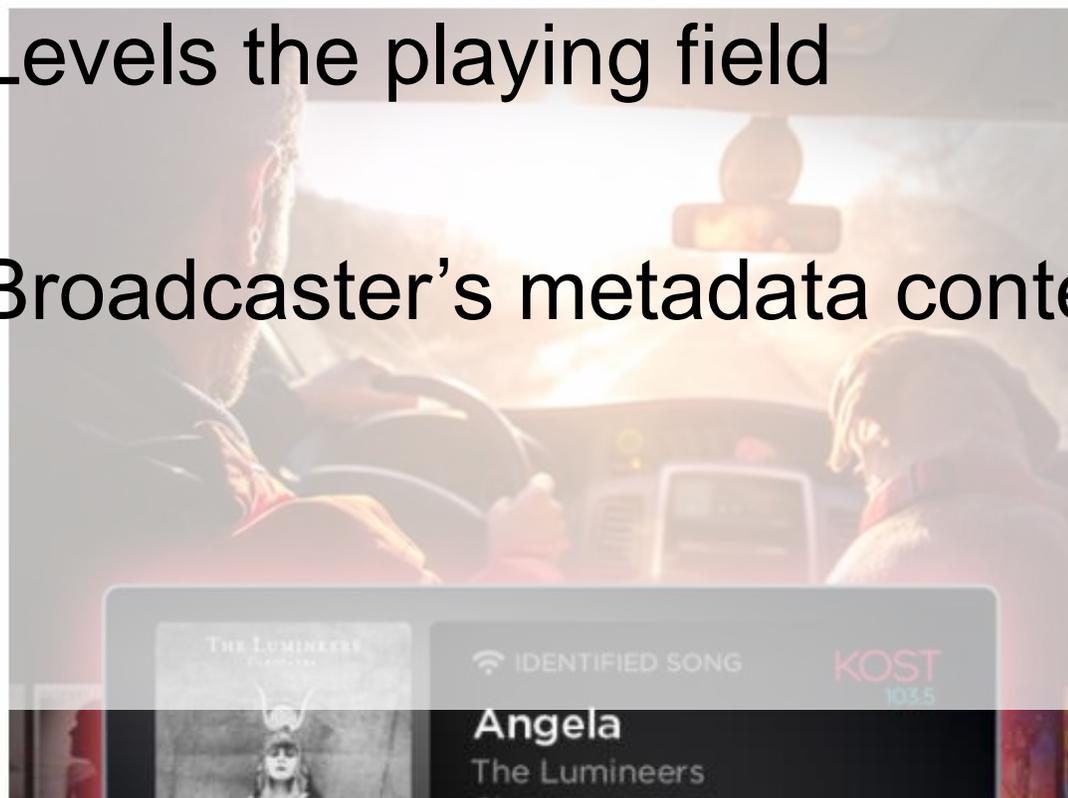
Drivers have a dizzying array of music options to choose from. Gracenote MusicID Radio

- **Raises consumer expectations**

bringing order to the chaos by identifying music playing from every possible radio source and delivering consistent metadata, Album Cover Art and relational links to the driver's dashboard.

- **Levels the playing field**

- **Broadcaster's metadata content might not be displayed**





Audi A4 testing – metadata examples

- Broadcaster-provided
- NPR example using MetaPub story-level metadata





Audi A4 testing – metadata examples

- Gracenote-provided
- Logo stored in receiver, no metadata on story being broadcast





Audi A4 testing – metadata examples

- Online content example
- With ONLINE
ADDITIONAL DATA
deselected





Audi A4 testing – metadata examples

- Online content example
- With ONLINE
ADDITIONAL DATA
selected





Audi A4 testing – metadata examples

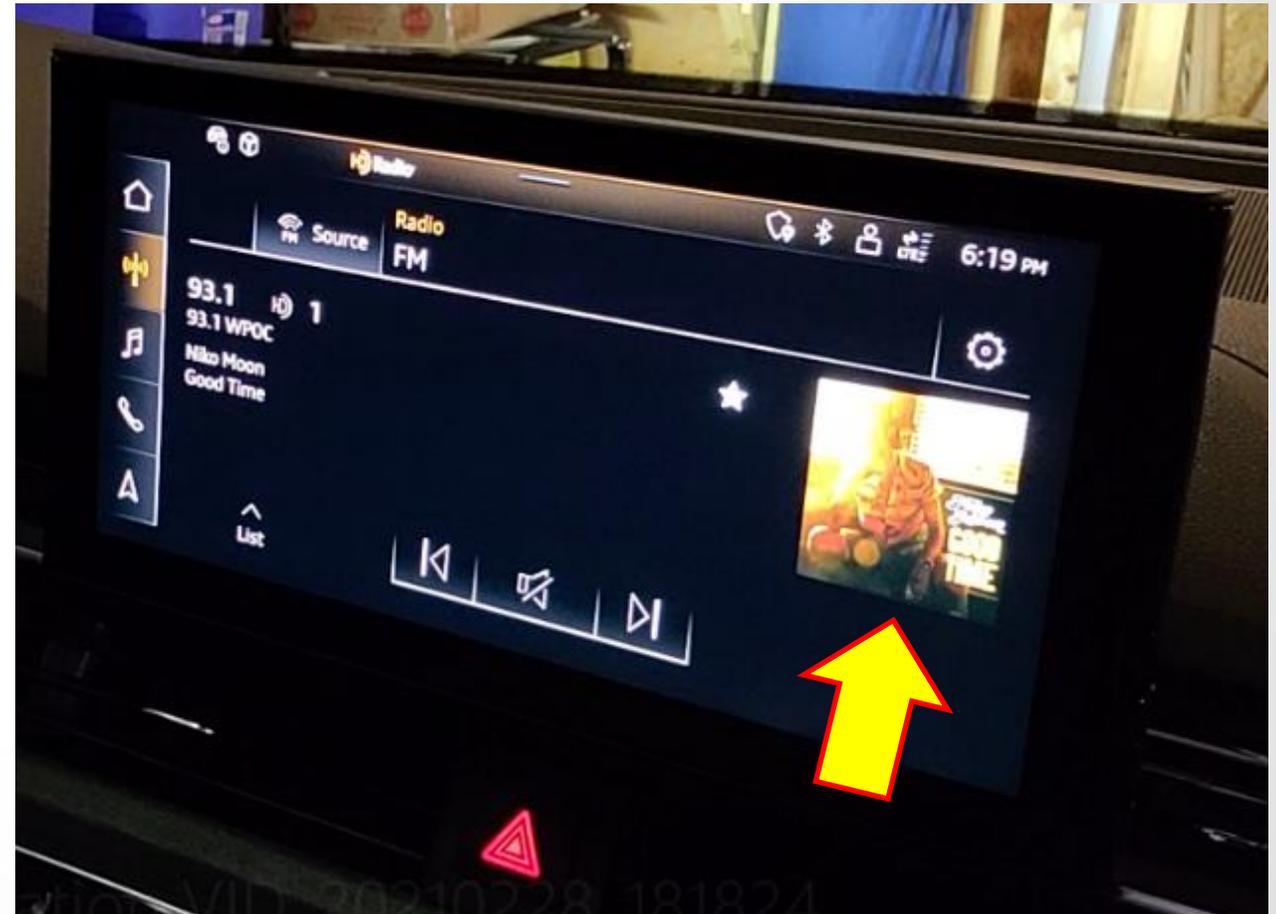
- Different artwork example
- Broadcaster-provided – this metadata appeared a few (2-5) seconds before song began, during announcer intro





Audi A4 testing – metadata examples

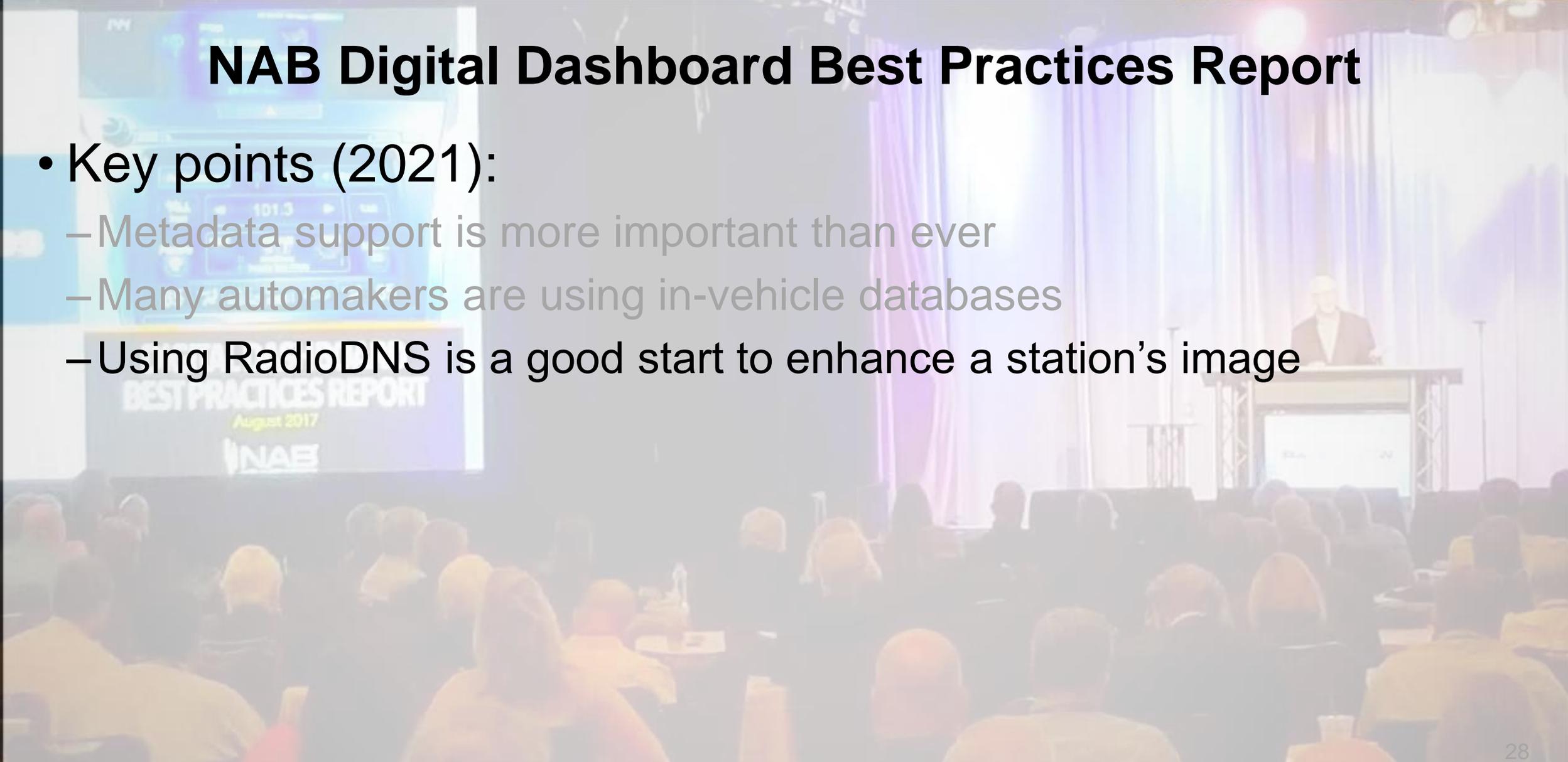
- Different artwork example
- Gracenote-provided – this will not appear until song starts, takes 2-5 seconds for recognition process to complete





NAB Digital Dashboard Best Practices Report

- Key points (2021):
 - Metadata support is more important than ever
 - Many automakers are using in-vehicle databases
 - Using RadioDNS is a good start to enhance a station's image





Introducing Hybrid Radio

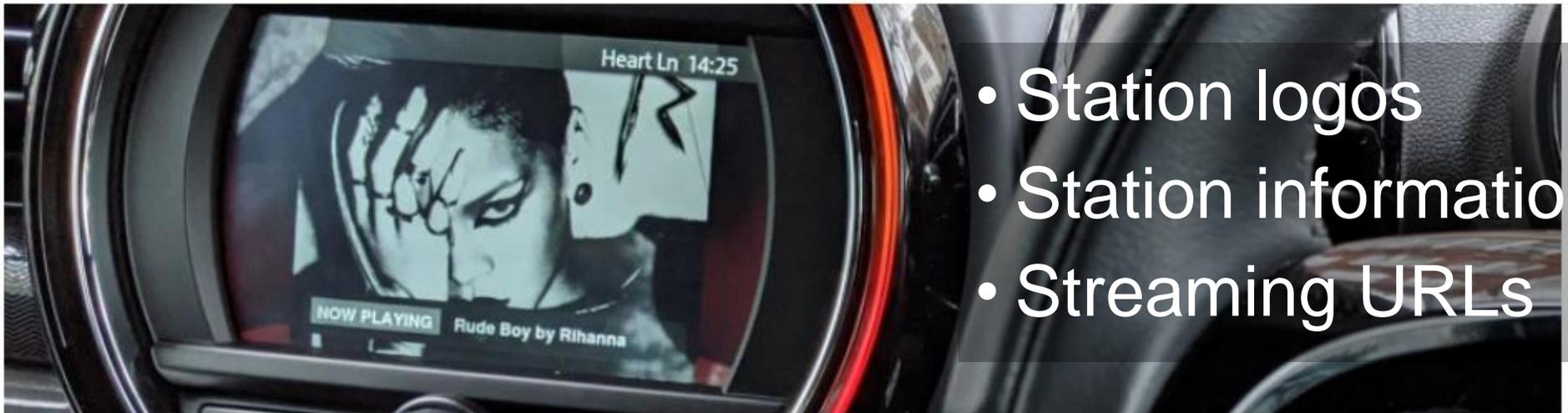
News & Campaigns

Technical Information

Policy & Organisation

Documentation & How To Guides

Search.. **GO** **CONTACT**



- Station logos
- Station information
- Streaming URLs

These documents are here to help developers of RadioDNS Hybrid Radio systems and receiver implementations



NAB Digital Dashboard Best Practices Report

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 - Metadata support is more important than ever
 - Many automakers are using in-vehicle databases
 - Using RadioDNS is a good start to enhance a station's image
 - Broadcasters should sign up for DTS AutoStage



- ▶ Get in touch:
juan.galdamez@xperi.com
- ▶ Join us in revolutionizing the future of broadcast radio in the connected car
- ▶ Enabling partners:
 - Quu Interactive
 - RCS
 - Plubox
 - Radio.com
 - Broadcast Electronics
 - Arctic Palm/All In Media



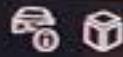
▶ Learn More @ www.dts.com/autostage



NAB Digital Dashboard Best Practices Report

- Key points (2021):

- Metadata support is more important than ever
- Many automakers are using in-vehicle databases
- Using RadioDNS is a good start to enhance a station's image
- Broadcasters should sign up for DTS AutoStage
- Broadcasters must develop strategies for supporting non-linear content and interactivity



radio.net

8:55 AM



Source

Radio
Online



How Bruce Lee Worked



Bruce Lee may have introduced more Westerners to Asian culture than any person in history. And, because he died...

22:18 | -33:52



List





NAB Digital Dashboard Best Practices Report

- NAB continues to work with automakers and others to enhance broadcast radio in the vehicle
- Getting broadcasters on-board with improved metadata is a marathon not a sprint



NAB Digital Dash Survey

- Please complete the NAB Digital Dash Survey for your radio station or group
- On the nab.org web page

Please fill out the survey for your station or group. This information will not be public except in the aggregate along with similar information from other stations/groups. No identifiable information will be released. **Please provide an estimated number of stations for each category.**

1. Song Title and Artist:

Skip this step if your station(s) do not have a music format.

	Now	Within 6 Months	Not Planned
RDS	<input type="text"/>	<input type="text"/>	<input type="text"/>
HD Radio	<input type="text"/>	<input type="text"/>	<input type="text"/>
Streaming Audio	<input type="text"/>	<input type="text"/>	<input type="text"/>



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NAB Digital Dash Survey

Important: please be sure to review this information prior to taking the survey below:

- Read the [NAB Digital Dashboard Best Practices Report](#) to familiarize yourself with the contents of the survey
- Review the categories below to see the data being requested
- Please compile this data in advance of filling out the survey. You may find it helpful to print out [this page](#) for use as a worksheet.
- Any questions? Please contact dlayer@nab.org

When ready, completely fill out the survey and click on Submit. Page will reload if refreshed and your data will be lost.

Thank you for your help with this brief survey.

<https://www.nab.org/innovation/digitalDashSurvey.asp>

Have Questions? Need Help?

If you have questions or need help with this survey, please contact David Layer by email: dlayer@nab.org.

Online Information



Webinars

<https://www.nautel.com/resources/webinars/>



Nautel Waves Newsletter

<https://www.nautel.com/newsletters/>



YouTube

<http://www.youtube.com/user/NautelLtd>



Online Info, such as the Broadcasters' Desktop Resource

<https://www.thebdr.net/>



THANK YOU!

