



PARTNERSHIP, COLLABORATION & INNOVATION – THE PATH TO RECOMMENDATIONS & PERSONALIZATION

NOVEMBER 2022

WorldDAB Summit



Broadcast Technologies Portfolio



DTS AutoStage

Next-gen hybrid infotainment platform that works directly with broadcasters.



Digital AM & FM

Digital Broadcast Radio. Now shipping AM All-Digital.



Music Metadata

Our high-res images, song connections and content enable you to deliver personalized user experiences



AIM Radio Apps

The World Leader in Smartphone Apps for Radio Stations. Now going beyond mobile: smart speakers, TVs, in-car mirroring technologies



Broadcast Systems

Global Leader in Visual Radio Broadcast Systems

AUTOMOTIVE: PARTNERS, SUPPLIERS, AND SCALE

125+ million

cars on the road with Xperi technologies

20+

years of Automotive, Radio Broadcast and Music partnerships

40+

global OEMs & suppliers partnering with Xperi on world-class solutions

20+

global suppliers working with Xperi to integrate technology & deliver to OEMs

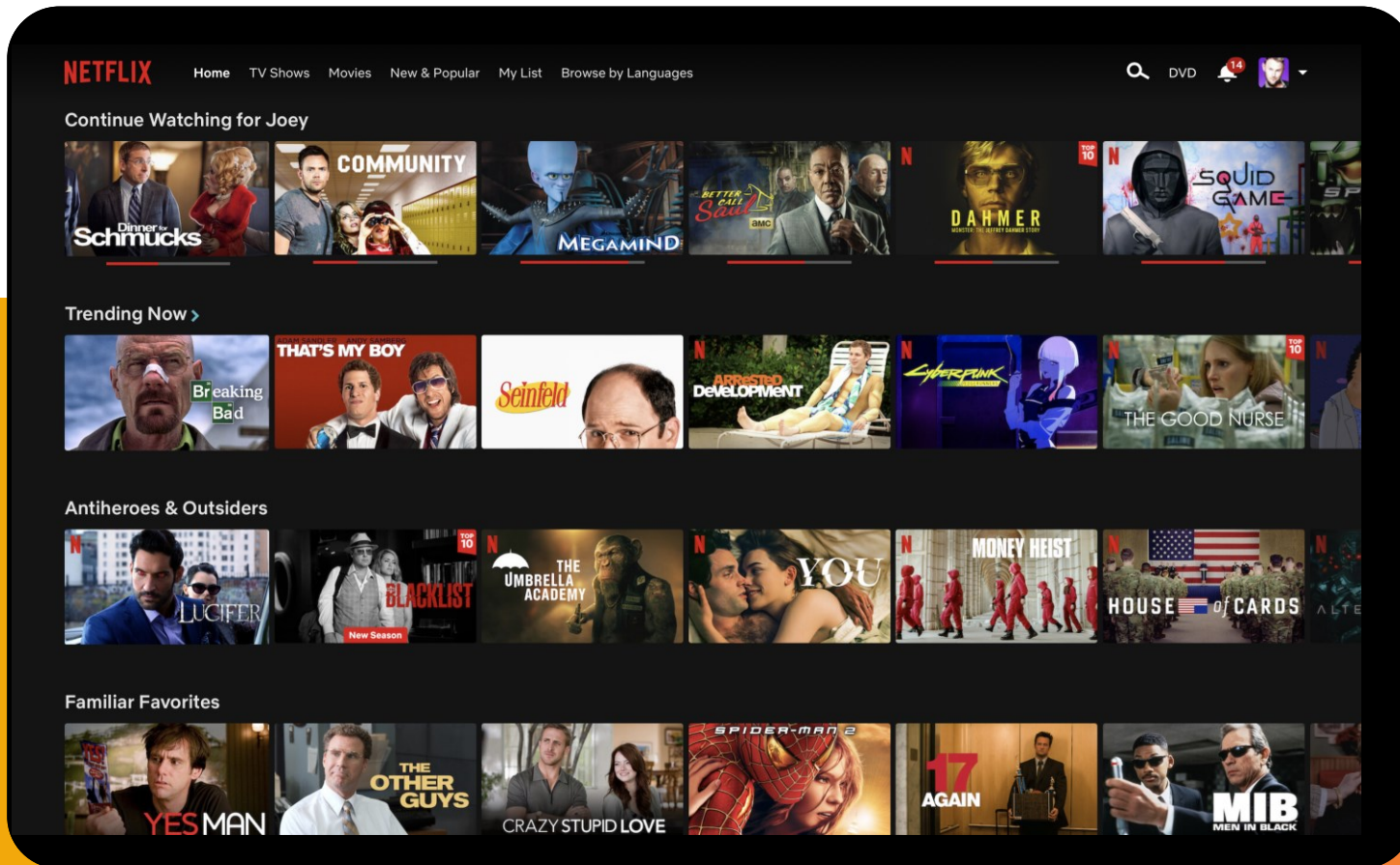
AUTOMOTIVE MANUFACTURERS



TIER 1 SUPPLIERS



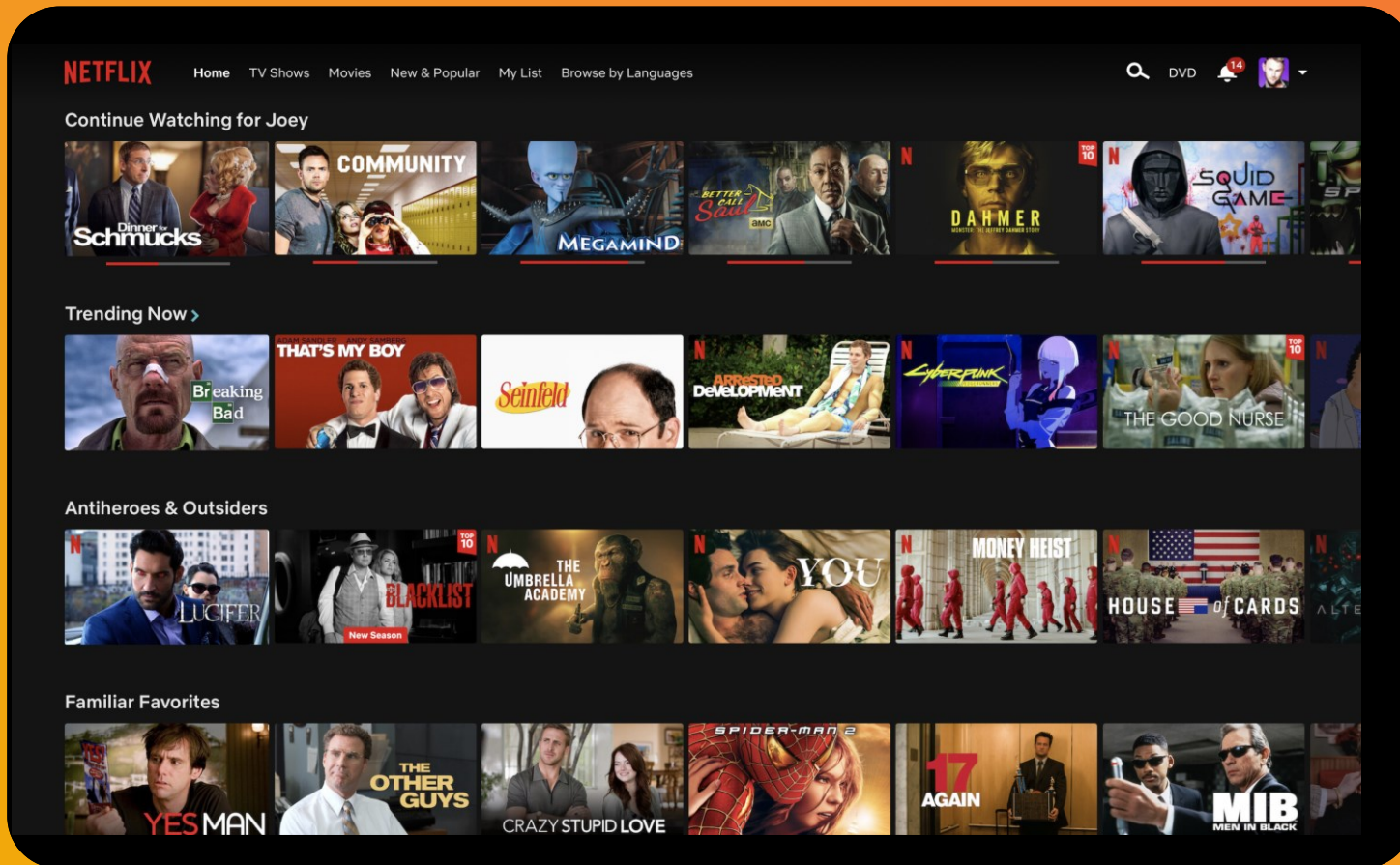
OPPORTUNITY: BRING THE CONVENIENCE, DISCOVERY, AND ENGAGEMENT OF PERSONALIZED VIDEO TO BROADCAST RADIO



“Our brand is personalization”

Ted Sarandos,
Netflix Chief Content Officer

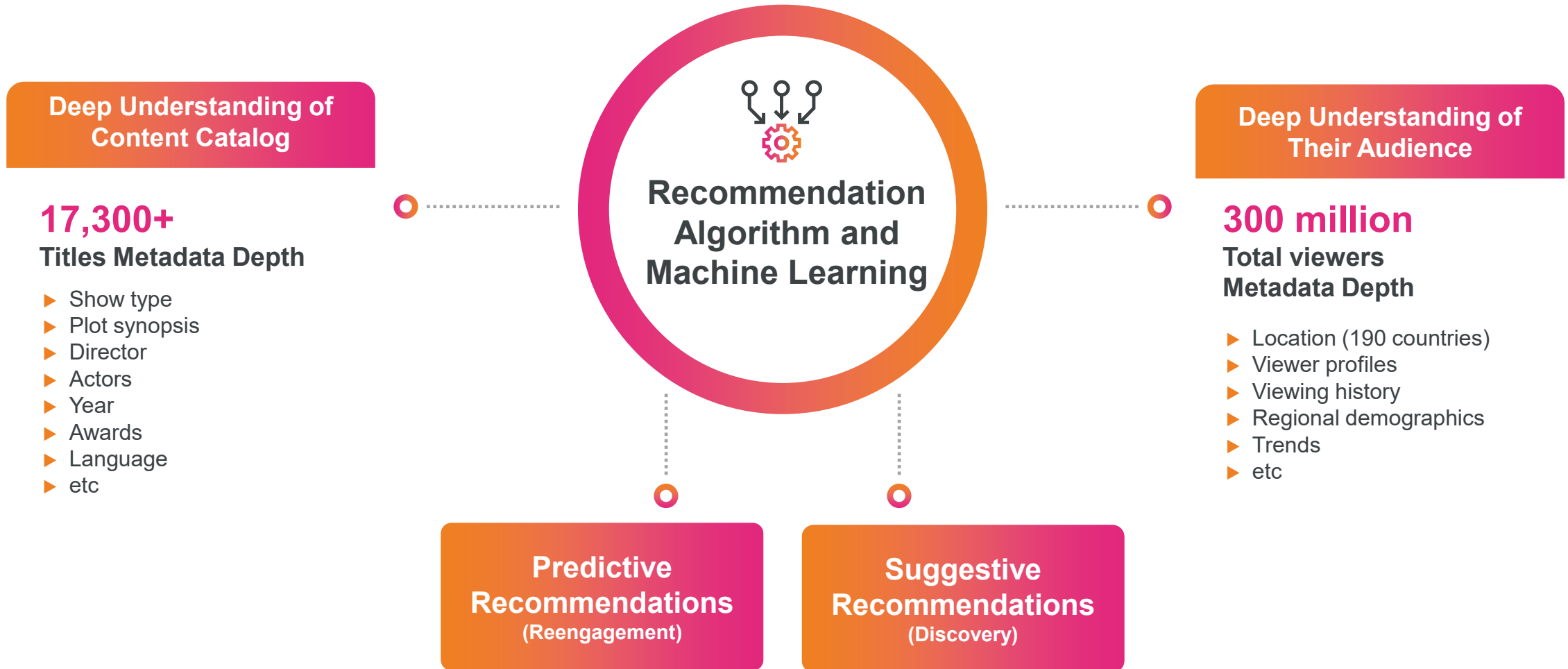
NETFLIX IS THE GOLD STANDARD



Currently over 80% of Netflix members choose to watch their recommendations:
Up from just 2% in 1992

Netflix has **90-seconds** to help viewers find content before they leave the platform for another service

HOW DO THEY DO IT?



CAN RADIO DO IT?



Challenges for Personalization

- Global system of localized, independent services
- Decentralized infrastructure
- Live, unscripted dynamic content
- Anonymous, disconnected audience

YES, BUT...



The Connected Car Makes Personalized Radio Possible, but Requires...

- Connectivity
- Centralization
- Understanding
- Expertise
- Scale
- Regulatory/Privacy Compliance
- and, More

DTS AUTOSTAGE

A GLOBAL INDEPENDENT MEDIA PLATFORM FOR AUTOMOTIVE



INNOVATE

Digital Broadcast + Internet

DTS AutoStage

Content | Discovery | Experience

LAUNCHED IN 2020

Coverage in 150+ countries supporting over 85,000 radio stations – free to broadcasters



Combines digital broadcasting and internet services



Your radio station is the hero of the dashboard story: powered by rich, consistent metadata, advanced services and broadcast content protection



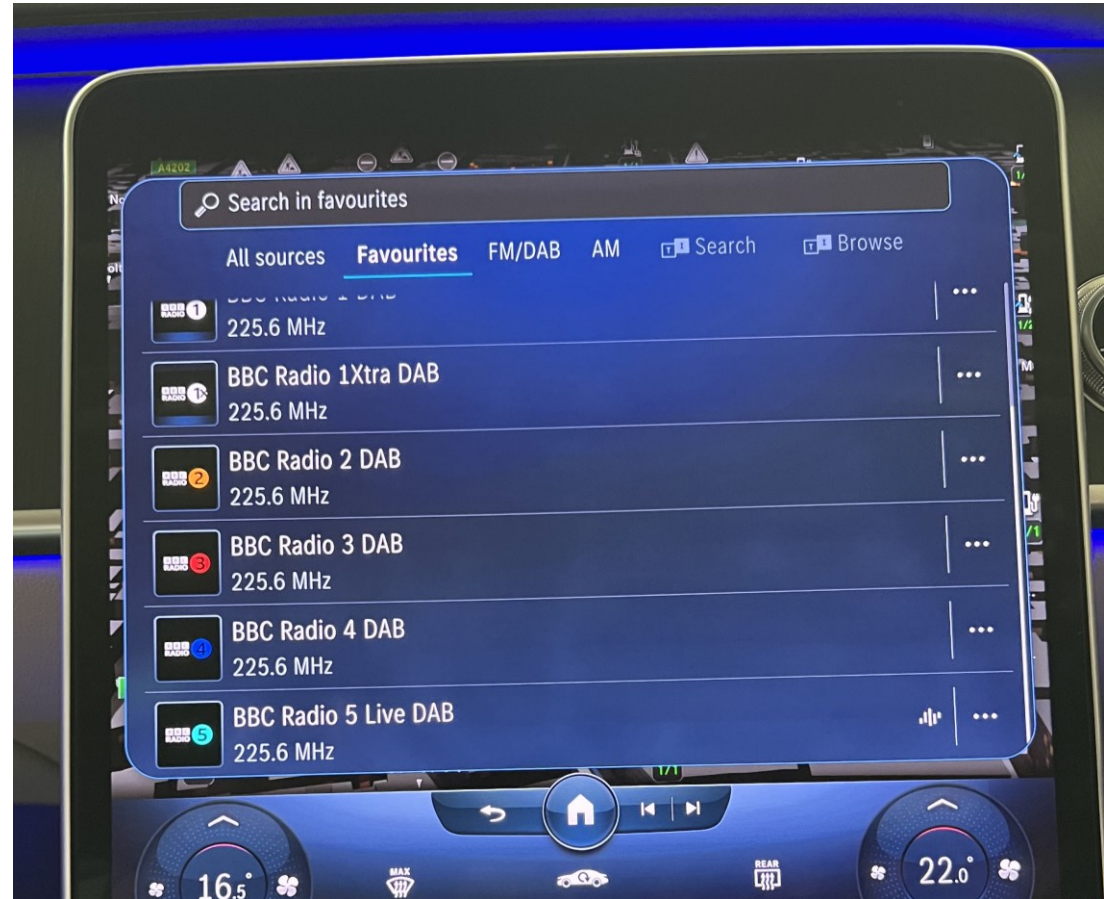
Delivers basic analytics and metrics to broadcasters at no cost

DTS AUTOSTAGE

Complementing and Enhancing DAB Services



Carousel of Available Stations



Sequential Engaging Favourites Listing

DTS AUTOSTAGE

Complementing and Enhancing DAB Services



High Resolution Station Logos



Licensed High Resolution Cover Art

DTS AUTOSTAGE

Complementing and Enhancing DAB Services



Multimedia Now Playing Information



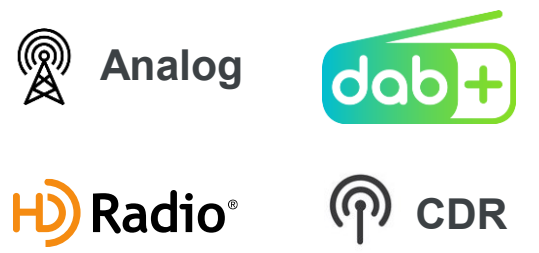
Licensed Song Lyrics

DTS AUTOSTAGE SUPPORTING BROADCAST RADIO AROUND THE WORLD – PARTNERSHIP & COLLABORATION



DTS AutoStage
Content | Discovery | Experience

Supporting all global broadcast standards



DTS AUTOSTAGE SUPPORTING BROADCAST RADIO AROUND THE WORLD – PARTNERSHIP & COLLABORATION



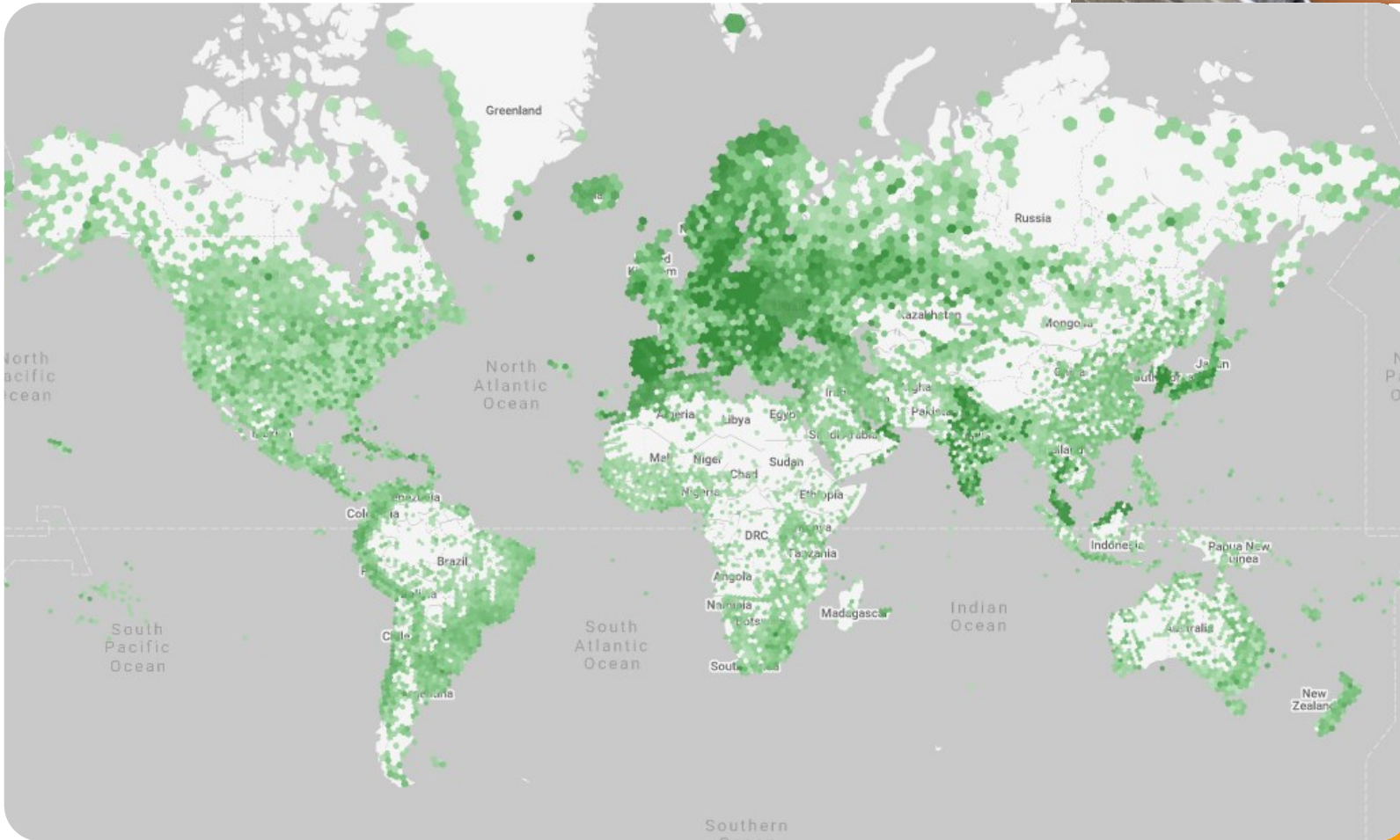
DTS AutoStage
Content | Discovery | Experience



- ✓ **30 Countries**
- ✓ **2,696 - Services**
- ✓ **6,147 - Broadcasts**

DELIVERING VALUE & INSIGHTS

WORLDWIDE AUDIENCE ANALYTICS



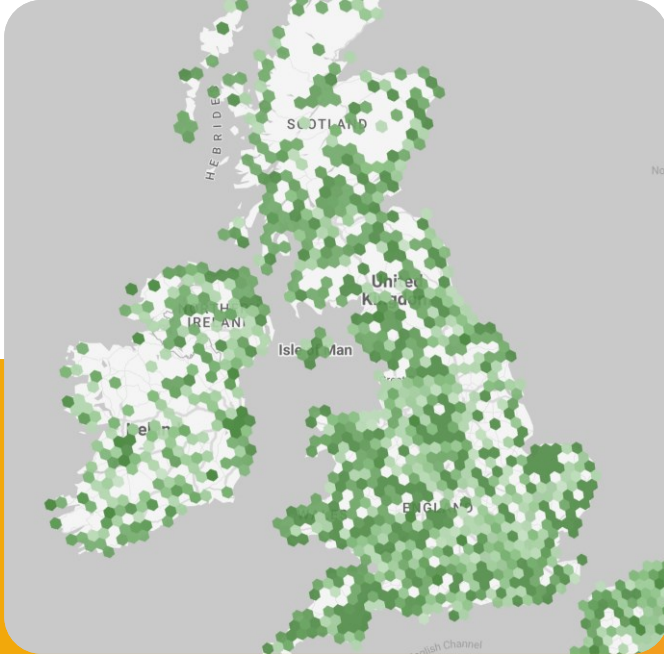
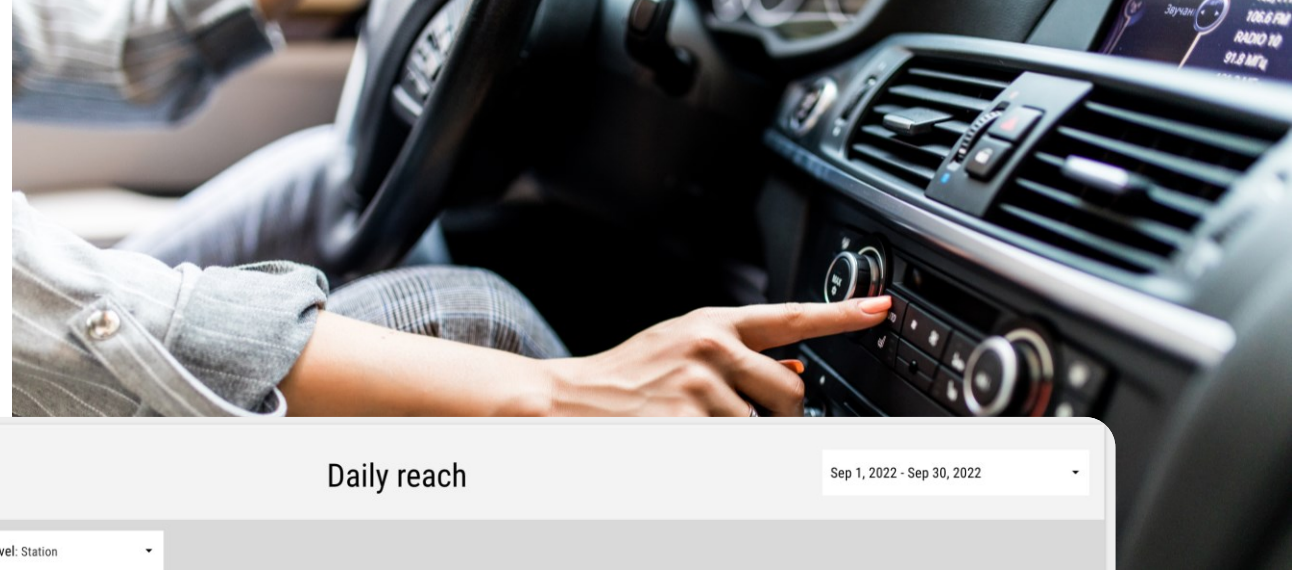
3.7 billion
Tuning / location events

88,354
Frequencies

1	Germany	567,027,855
2	South Korea	499,424,008
3	United States	348,802,406
4	Russia	170,890,958
5	Japan	142,789,937
6	Poland	73,423,758
7	France	59,779,211
8	Belgium	58,415,556
9	Switzerland	57,549,608
10	Italy	57,047,587
11	Netherlands	46,458,621
12	United Kingdom	39,095,160
13	India	37,935,786
14	United Arab Emirates	31,325,457
15	Czechia	29,542,110

INSIGHTS & ANALYTICS:

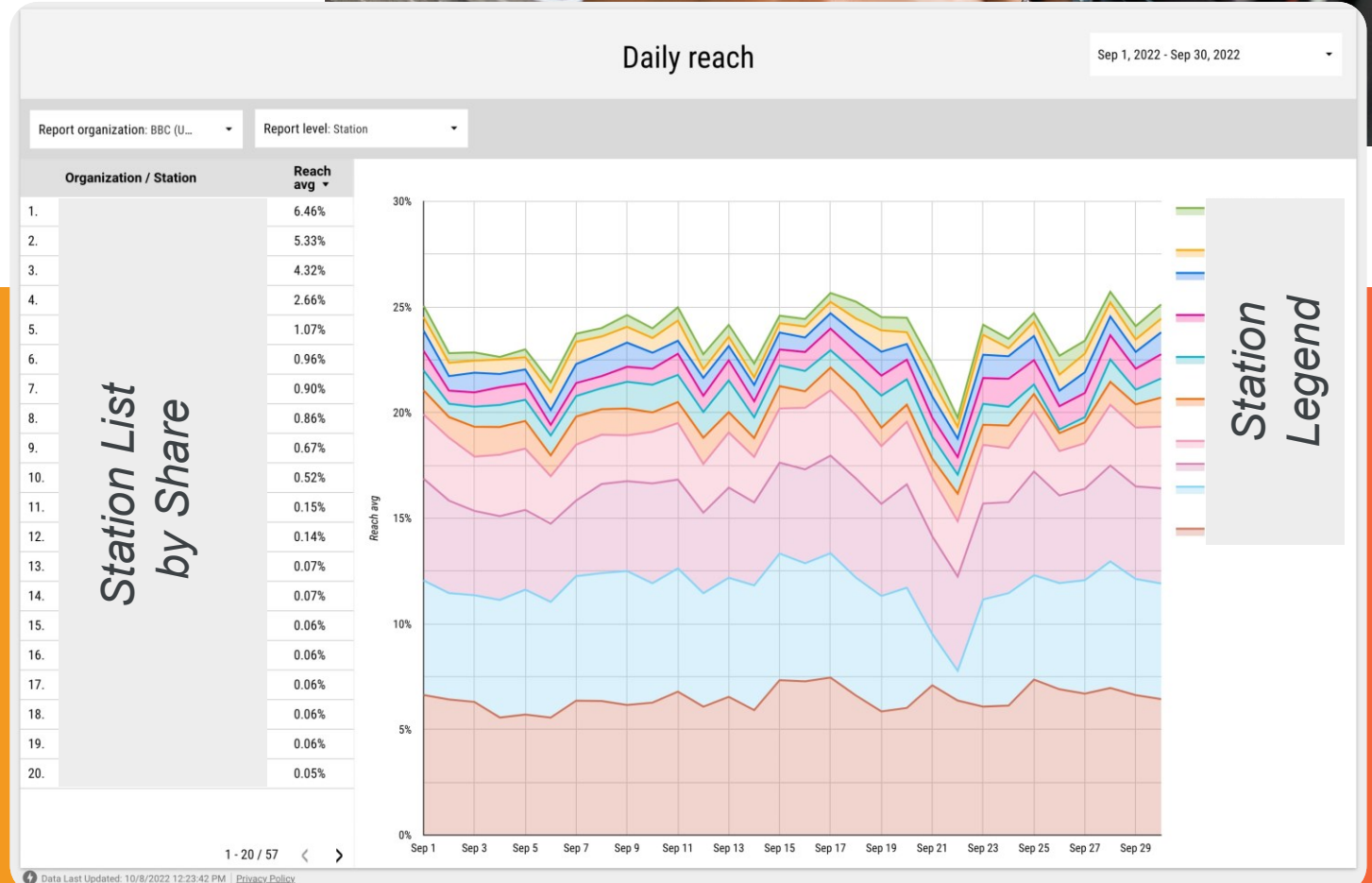
UNDERSTANDING AND CONNECTING WITH YOUR AUDIENCE



39.1 million
Tuning / location events

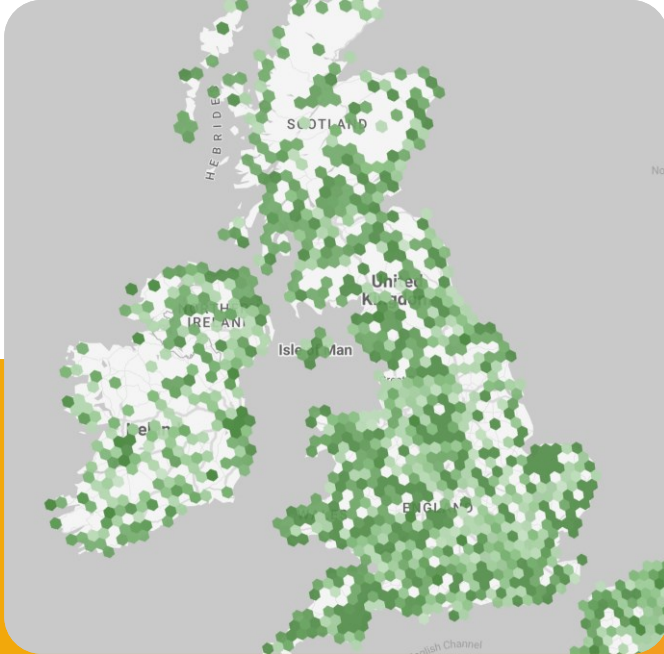


~600
Stations



INSIGHTS & ANALYTICS:

UNDERSTANDING AND CONNECTING WITH YOUR AUDIENCE



39.1 million

Tuning / location events



~600

Stations

	country	name	BID	band	count ▾	count
1.	United Kingd...	Station List by Events	84186	DAB	2.3M	<div style="width: 100%; height: 10px; background-color: #007bff;"></div>
2.	United Kingd...		141519	DAB	2M	<div style="width: 95%; height: 10px; background-color: #007bff;"></div>
3.	United Kingd...		84475	DAB	1.4M	<div style="width: 70%; height: 10px; background-color: #007bff;"></div>
4.	United Kingd...		84511	DAB	1.3M	<div style="width: 65%; height: 10px; background-color: #007bff;"></div>
5.	United Kingd...		84673	DAB	1.1M	<div style="width: 55%; height: 10px; background-color: #007bff;"></div>
6.	United Kingd...		138936	DAB	1.1M	<div style="width: 55%; height: 10px; background-color: #007bff;"></div>
7.	United Kingd...		85066	DAB	1.1M	<div style="width: 55%; height: 10px; background-color: #007bff;"></div>
8.	United Kingd...		84247	DAB	1M	<div style="width: 50%; height: 10px; background-color: #007bff;"></div>
9.	United Kingd...		84136	DAB	957.4K	<div style="width: 45%; height: 10px; background-color: #007bff;"></div>
10.	United Kingd...		74994	DAB	778.1K	<div style="width: 40%; height: 10px; background-color: #007bff;"></div>

INSIGHTS & ANALYTICS:

UNDERSTANDING AND CONNECTING WITH YOUR AUDIENCE – ANALOG vs. DAB+



	country	name	BID	band	count ▾	count
1.	Germany	SWR3	77962	DAB	386.9K	<div style="width: 100%;"></div>
2.	Germany	SWR3	77963	DAB	172K	<div style="width: 44%;"></div>
3.	Germany	SWR1 Baden-Württemberg	76678	DAB	162K	<div style="width: 42%;"></div>
4.	Germany	SWR3	77961	DAB	151.5K	<div style="width: 39%;"></div>
5.	Germany	DASDING	77797	DAB	131.1K	<div style="width: 34%;"></div>
6.	Germany	SWR1 Baden-Württemberg	76679	DAB	71.8K	<div style="width: 18%;"></div>
7.	Germany	SWR1 Rheinland-Pfalz	77557	DAB	67.9K	<div style="width: 18%;"></div>
8.	Germany	DASDING	77798	DAB	61K	<div style="width: 16%;"></div>
9.	Germany	SWR3	77960	DAB	55.1K	<div style="width: 14%;"></div>
10.	Germany	SWR3	140759	DAB	37K	<div style="width: 10%;"></div>
11.	Germany	DASDING	77796	DAB	36K	<div style="width: 9%;"></div>
12.	Germany	SWR Aktuell	77845	DAB	25.4K	<div style="width: 7%;"></div>
13.	Germany	SWR3	77950	FM	23.7K	<div style="width: 6%;"></div>
14.	Germany	SWR4 Baden-Württemberg	112334	DAB	22.1K	<div style="width: 6%;"></div>
15.	Germany	SWR1 Baden-Württemberg	140754	DAB	20.5K	<div style="width: 5%;"></div>
16.	Germany	DASDING	140751	DAB	17K	<div style="width: 4%;"></div>
17.	Germany	SWR2	77841	DAB	16.2K	<div style="width: 4%;"></div>
18.	Germany	SWR1 Baden-Württemberg	76665	FM	11.3K	<div style="width: 3%;"></div>
19.	Germany	SWR3	77943	FM	11.3K	<div style="width: 3%;"></div>
20.	Germany	SWR3	77948	FM	11K	<div style="width: 3%;"></div>
21.	Germany	SWR4 Karlsruhe	75795	DAB	10.9K	<div style="width: 3%;"></div>
22.	Germany	SWR4 Tübingen	76703	DAB	10.5K	<div style="width: 3%;"></div>
23.	Germany	DASDING	77780	FM	10.4K	<div style="width: 3%;"></div>
24.	Germany	SWR4 Südbaden	76699	DAB	9.9K	<div style="width: 3%;"></div>
25.	Germany	SWR4 Ulm	76711	DAB	9.7K	<div style="width: 3%;"></div>
26.	Germany	SWR4 Baden-Württemberg	112335	DAB	9.6K	<div style="width: 3%;"></div>
27.	Germany	SWR4 Heilbronn	75803	DAB	9.2K	<div style="width: 3%;"></div>
28.	Germany	SWR3	221690	FM	8.8K	<div style="width: 2%;"></div>

»» SWR3

INSIGHTS & ANALYTICS:

UNDERSTANDING AND CONNECTING WITH YOUR AUDIENCE – ANALOG vs. DAB+



	country	name	BID	band	count	count
1.	Germany	SWR3	77962	DAB	386.9K	
2.	Germany	SWR3	77963	DAB	172K	
3.	Germany	SWR1 Baden-Württemberg	76678	DAB	162K	
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6.	Germany	SWR1 Baden-Württemberg	76679	DAB	71.8K	
7.	Germany	SWR1 Rheinland-Pfalz	77557	DAB	67.9K	
8.	Germany	DASDING	77798	DAB	61K	
9.	Germany	SWR3	77960	DAB	55.1K	
10.	Germany	SWR3	140759	DAB	37K	
11.	Germany	DASDING	77796	DAB	36K	
12.	Germany	SWR Aktuell	77845	DAB	25.4K	
13.	Germany	SWR3	77950	FM	23.7K	
14.	Germany	SWR4 Baden-Württemberg	112334	DAB	22.1K	
15.	Germany	SWR1 Baden-Württemberg	140754	DAB	20.5K	
16.	Germany	DASDING	140751	DAB	17K	
17.	Germany	SWR2	77841	DAB	16.2K	
18.	Germany	SWR1 Baden-Württemberg	76665	FM	11.3K	
19.	Germany	SWR3	77943	FM	11.3K	
20.	Germany	SWR3	77948	FM	11K	
21.	Germany	SWR4 Karlsruhe	75795	DAB	10.9K	
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23.	Germany	DASDING	77780	FM	10.4K	
24.	Germany	SWR4 Südbaden	76699	DAB	9.9K	
25.	Germany	SWR4 Ulm	76711	DAB	9.7K	
26.	Germany	SWR4 Baden-Württemberg	112335	DAB	9.6K	
27.	Germany	SWR4 Heilbronn	75803	DAB	9.2K	
28.	Germany	SWR3	221690	FM	8.8K	

»» **SWR3**

DTS AUTOSTAGE PROJECTED TUNING/LOCATION EVENT GROWTH



3.6 billion measurement events captured YTD in '22

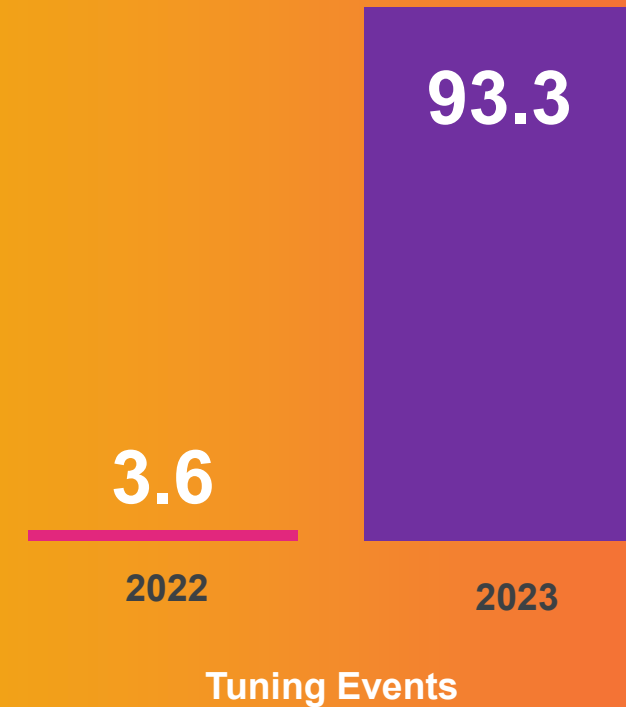


93.3 billion events projected for '23



~30x increase

GROWTH IN AUDIENCE MEASUREMENT AND INSIGHTS (in Billions)



DTS AUTOSTAGE: AUTO MANUFACTURER GROWTH

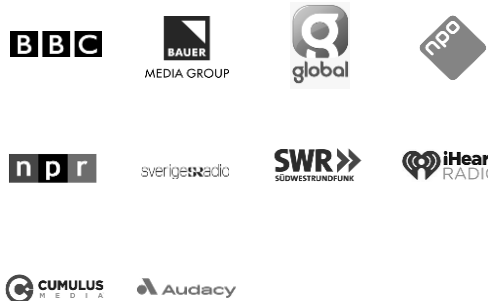


DTS AUTOSTAGE

Delivering Competitive Advantage to Broadcast Radio – Personalization & Recommendations

+85,000 Stations
+150 Countries
+3 years of station analysis

Live Broadcast Radio Analysis



On-Demand Audio Analysis

4,011,290 Titles
100+ million episodes

DTS
AutoStage

3.6 billion tuning events
140 countries
84,225 frequencies

Audience Listening & Behavioral Metrics

- ▶ Location/market
- ▶ Station/frequency
- ▶ Time of day
- ▶ Duration
- ▶ Events
- ▶ Behavior

DTS AutoStage
 Station Analysis
 and Data
 Unification

2.3 billion hours
 of station
 programming analysis

- ▶ Characterization
- ▶ Classification
- ▶ Prioritization
- ▶ Correlation

DTS AutoStage
 Machine Learning
 & AI
 Recommendation
 Engine

- ▶ Behavioral/listener analysis
- ▶ Market dynamics and engagement
- ▶ Content analysis and matching

Recommendations

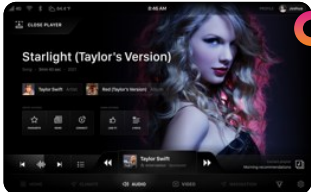
**Predictive
 Recommendations**
 (Reengagement)

**Suggestive
 Recommendations**
 (Discovery)

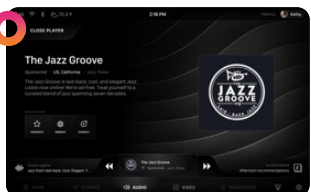
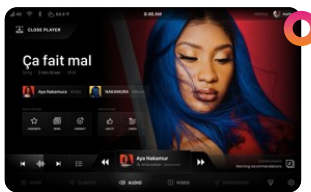
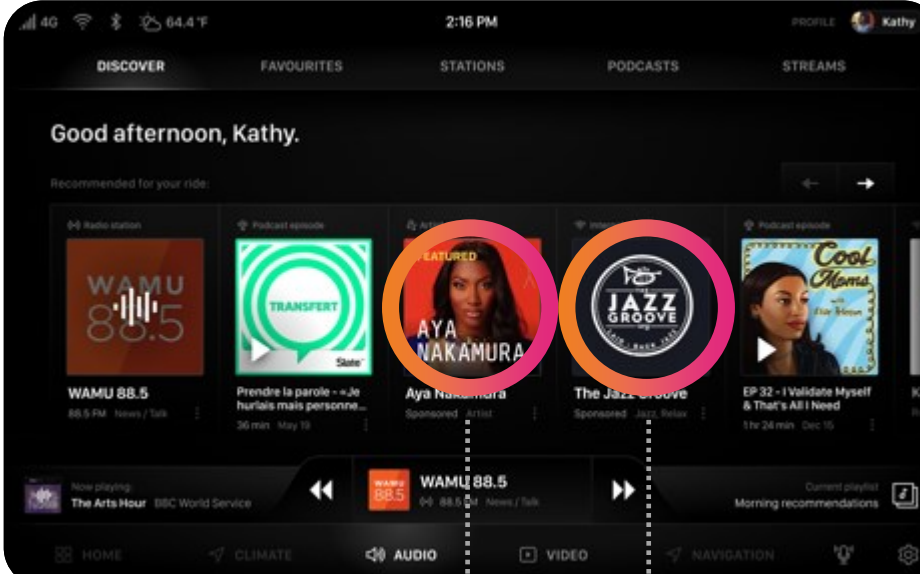
PERSONALIZATION AND RECOMMENDATIONS FOR RADIO



PERSONALIZED FOR JOSHUA



PERSONALIZED FOR KATHY





**JOIN US –
ON THE ONLY GLOBAL
INDEPENDENT MEDIA
PLATFORM DESIGNED FOR
BROADCAST RADIO AND
AUTOMOTIVE**