

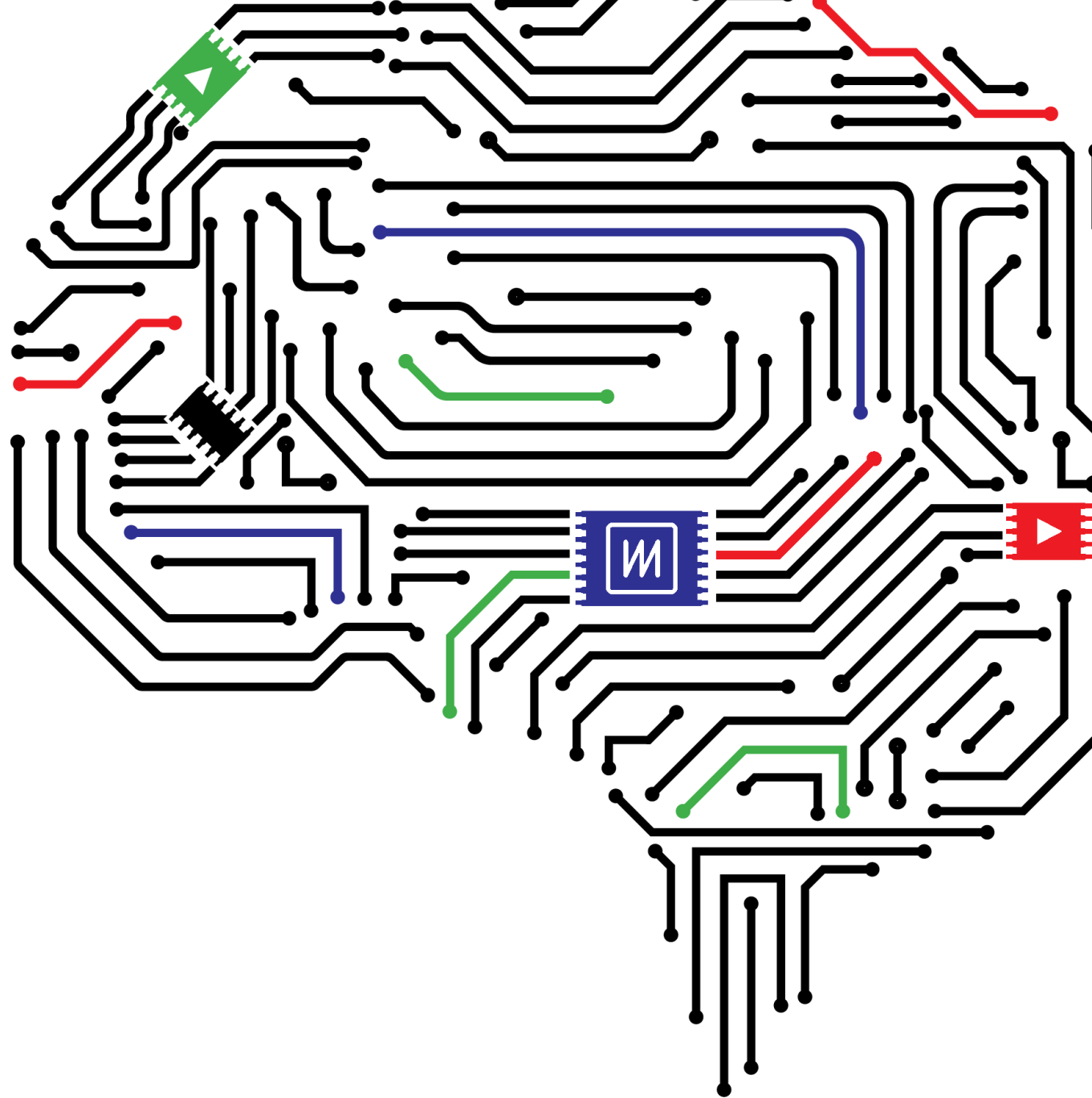


**MEDIA
DISTILLERY**

Applying AI to improve the user
experience of video services

Martin Prins

Dutch Guild – 19 September 2019



| Flashback: 16 Feb 2012: Connected TV

the DUTCH GUILD *of* MULTI-MEDIA ENGINEERS



DUTCH GUILD BIJENKOMST ROND CONNECTED TV IN 'T SPANT IN BUSSUM OP 16 FEBRUARI

Beste Guild leden,

Dit jaar gaat het Dutch Guild of Multimedia Engineers van start met twee bijeenkomsten over respectievelijk Connected TV en HbbTV (Hybrid Broadcast-Broadband Television). De eerste avond zal plaatsvinden op 16 februari in 't Spant in Bussum. De tweede zal naar verwachting op 13 maart plaatsvinden; hierover volgt later meer informatie.

Binnen afzienbare tijd beschikken alle nieuw verkochte TV's over een ethernet- of WiFi aansluiting. Toch zijn er grote verschillen in wat deze smart TV's kunnen en in de diensten die ermee kunnen worden afgenomen. Diensten die je wel kunt benaderen op het ene merk TV zijn niet beschikbaar op een ander merk, en de gebruikte technologieën verschillen per merk. Bovendien is Connected TV veel meer dan alleen een TV met een internet verbinding.

Het is dus tijd om met elkaar in de wereld van Connected TV en de techniek erachter te duiken.



Our Mission

To help you discover relevant video content faster,
with an ultimate user experience.

Key Figures

38	20.000	20M
Team members	Hours video per day	Households reached

Recognitions

 **Cable Congress**
Project Kairos Winner

 **THE CONNIES**
Gold Award Winner

Accenture
INNOVATION AWARDS 

| Who we work with



| The media buffet



| The media buffet

Digitenne

NETFLIX

NLZIET



VIDEOLAND
BY RTL

prime video

hulu



You Tube

Ziggo

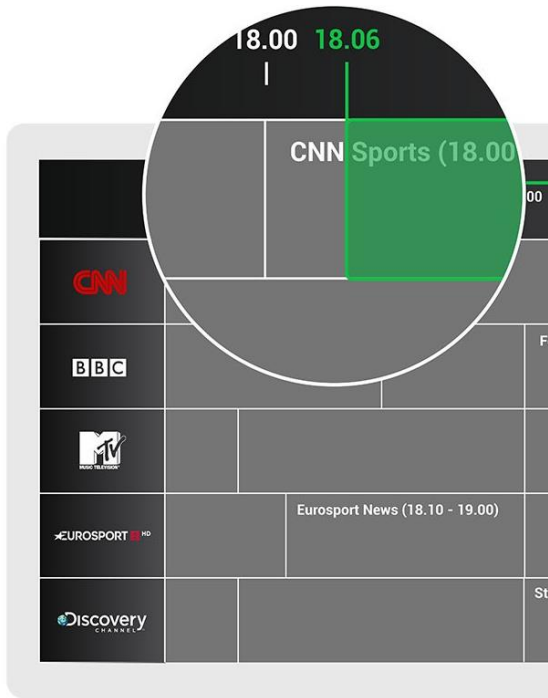


canal digitaal



Google Play
Movies & TV

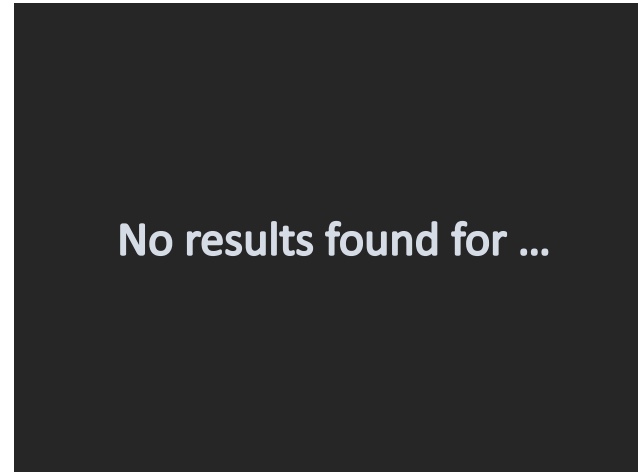
Some user frustrations in TV & video services



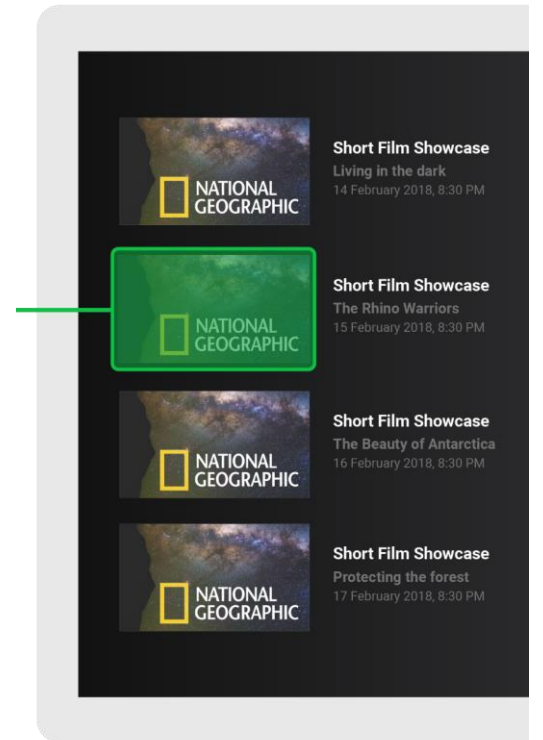
No accurate program start for replay/recordings



No support for Binge Viewing



No (relevant) search results



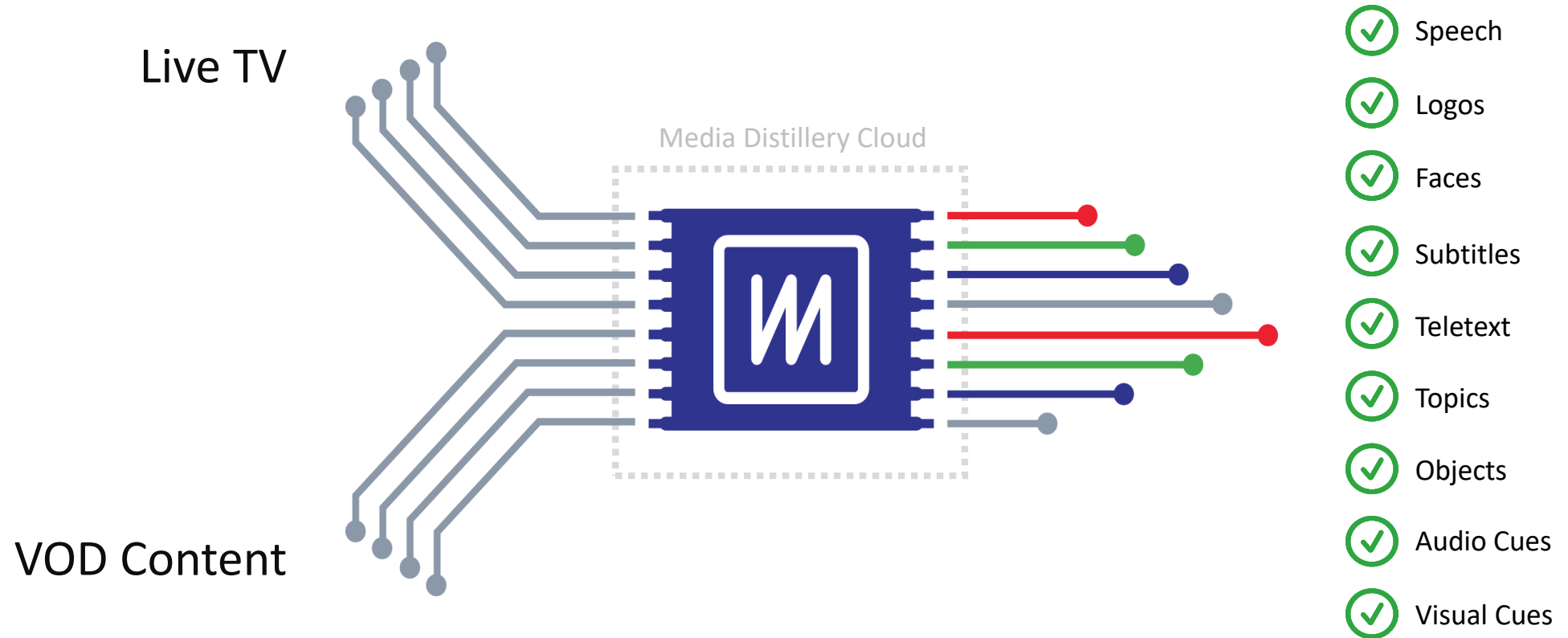
Stock thumbnails

| Don't give the viewer a reason to leave your service

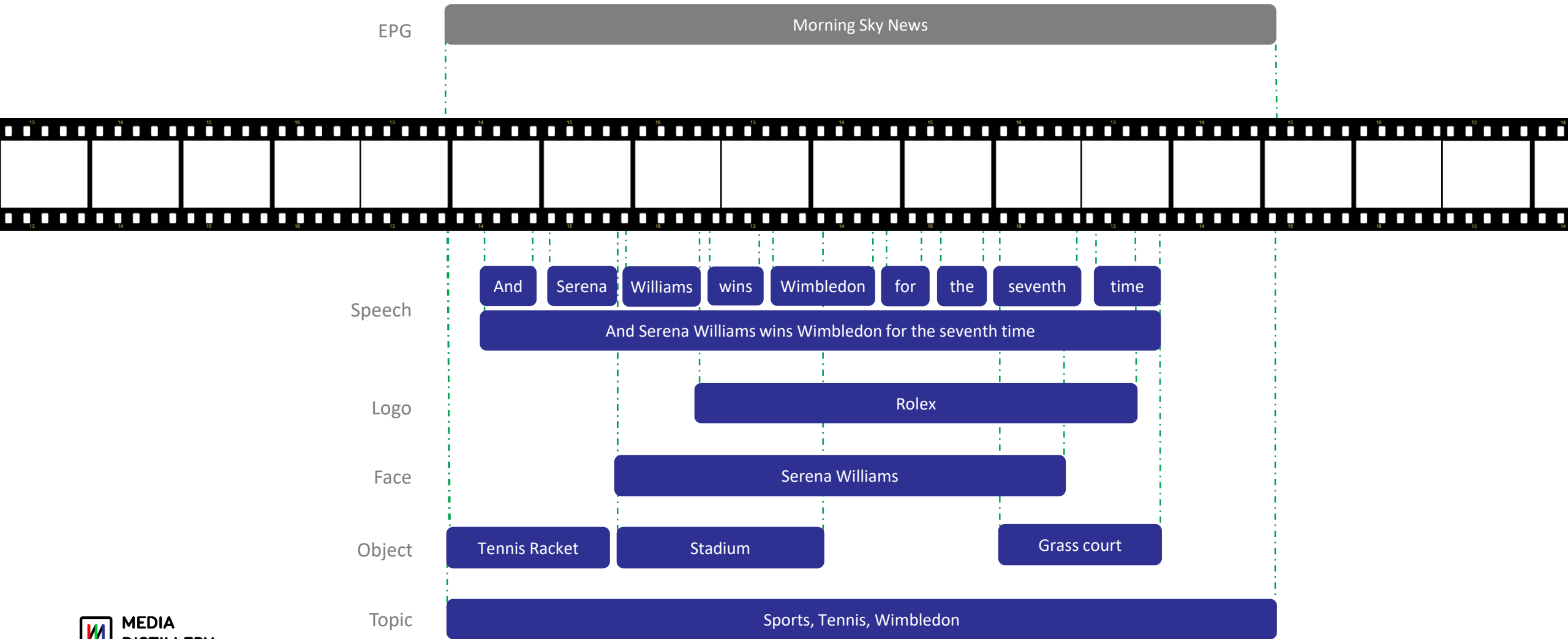
- Make sure a recorded program starts at the start of the program (*especially if you have trick play restrictions*)
- When a viewer searches something, make sure that:
 - a) results are provided to the viewer
 - b) relevant results are provided
- Make sure the viewer can find the part he is interested in.

AI can help tackle these issues

| The Distillation process



Traditional vs. Next Generation Metadata



| Explanation in a video



| Some real-life cases

Visual Cue detection for
EPG Correction

Identify people & topics of interest
with Overlay Text Detection

Detection of relevant clips for
Snackable Content

Enable Advanced Advertising
Applications

Example: EPG Corrections using visual Cue detection



Channel logo



Bumpers



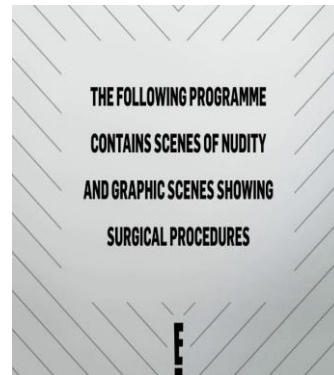
Ad breaks



Now / Next



Intro sequence



Warning







Program Specific cues

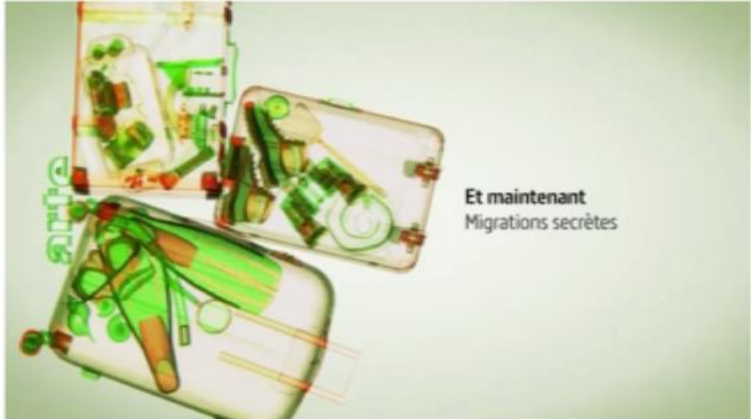


Age rating /
Accessibility info

EPG Correction in practice

Channel: Event Type: Date Range: From: To: [Refresh with Date Range](#)

Title	EPG Start Time	Detected Start Time	Play
Arte journal	18-09-2019 19:45:00	18-09-2019 19:45:05	
Migrations secrètes	18-09-2019 19:00:00	18-09-2019 18:59:58	
Un jour en Allemagne	18-09-2019 18:05:00	18-09-2019 18:05:40	
Paysages d'ici et d'ailleurs	18-09-2019 17:35:00	18-09-2019 17:37:23	



Example: Identifying persons & topic of interest

- We typically use speech-to-text and face recognition to find relevant people
- Sometimes the person is not mentioned or the face not recognized, while (s)he appears in the video and a name tag is shown.
- With text-in-the-wild detection we can now extract name tags, topics and other textual information.



Example: Snackable Content

CNN Sports
FACE 18.09 - 18.20

Formula 1: BBC Sports
19.07 - 19.26 FACE

Eurosport News
SPEECH 18.28 - 18.30

Street Outlaws
19.24 - 19.37 TOPIC: Sport
TOPIC: Auto racing TOPIC: Formula 1

Searched for: Max Verstappen
Media Distillery selects clips about Max Verstappen from various TV channels based on Deep Content Understanding™

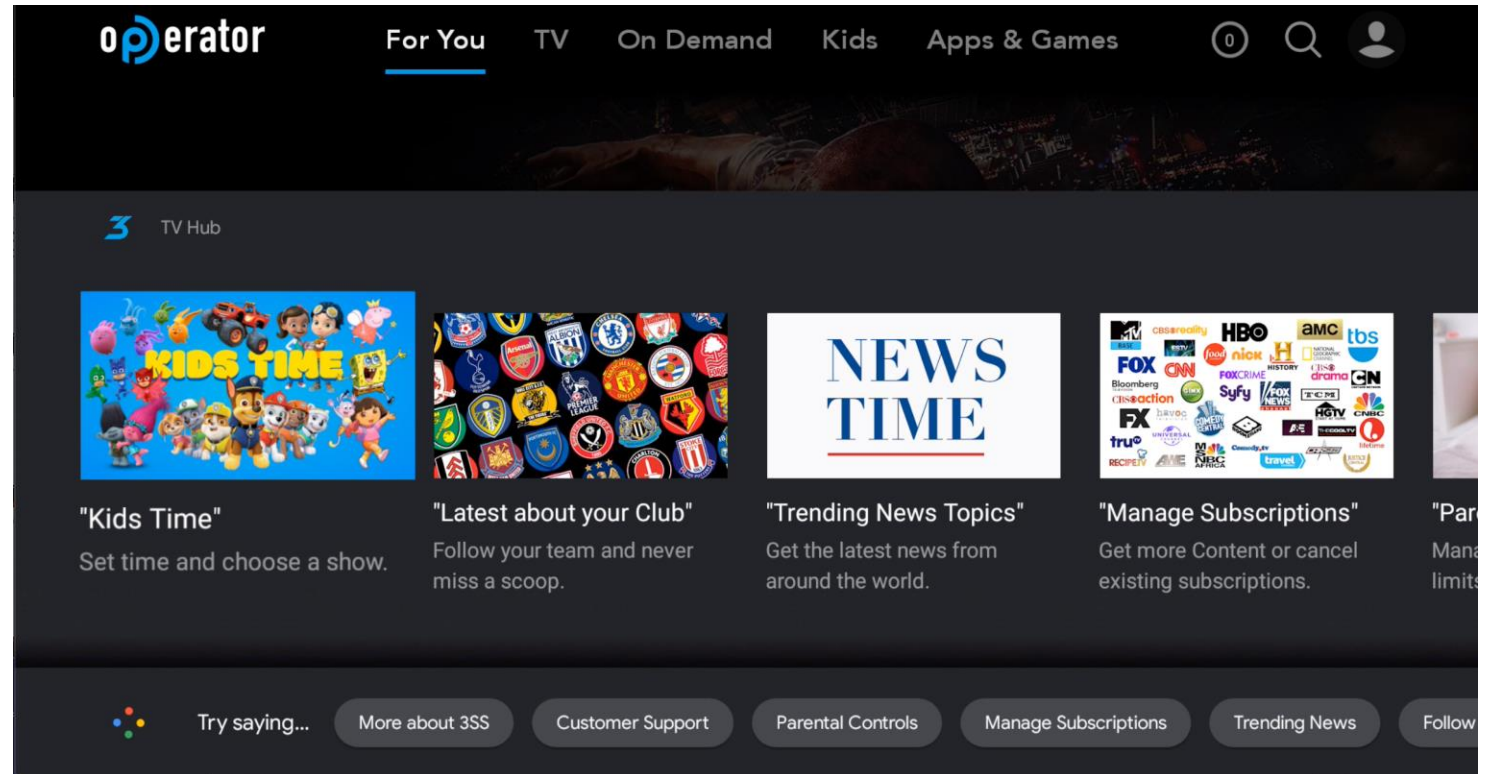
"Max Verstappen apologised to me after the race and we spoke one on one away from media or anyone."

Channel	Start Time	End Time
CNN	18.00	19.40
BBC	19.00	20.00
Eurosport News	18.10	19.00
Street Outlaws	19.00	20.00

Use content understanding to create personalized content

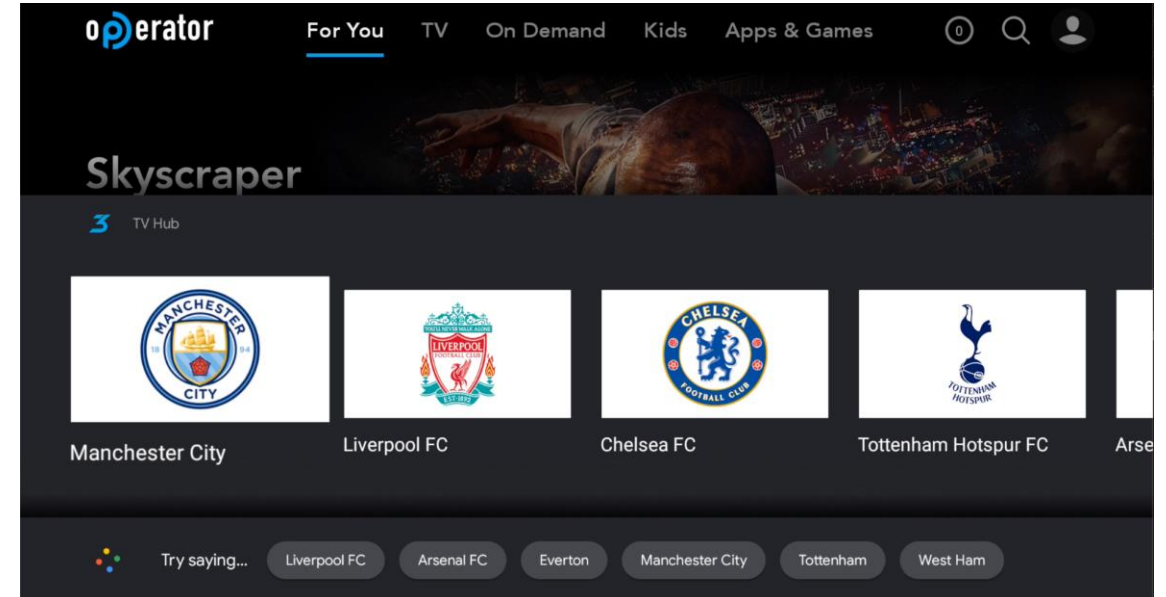
Snackable Content Operator application

- Together with tv front-end developer [3SS](#) we created the first Snackable Content application for TV Operators which we launched at IBC.
- In the 3SS Android Operator frontend viewers can quickly find the latest snacks they are interested in, via voice search or the remote.



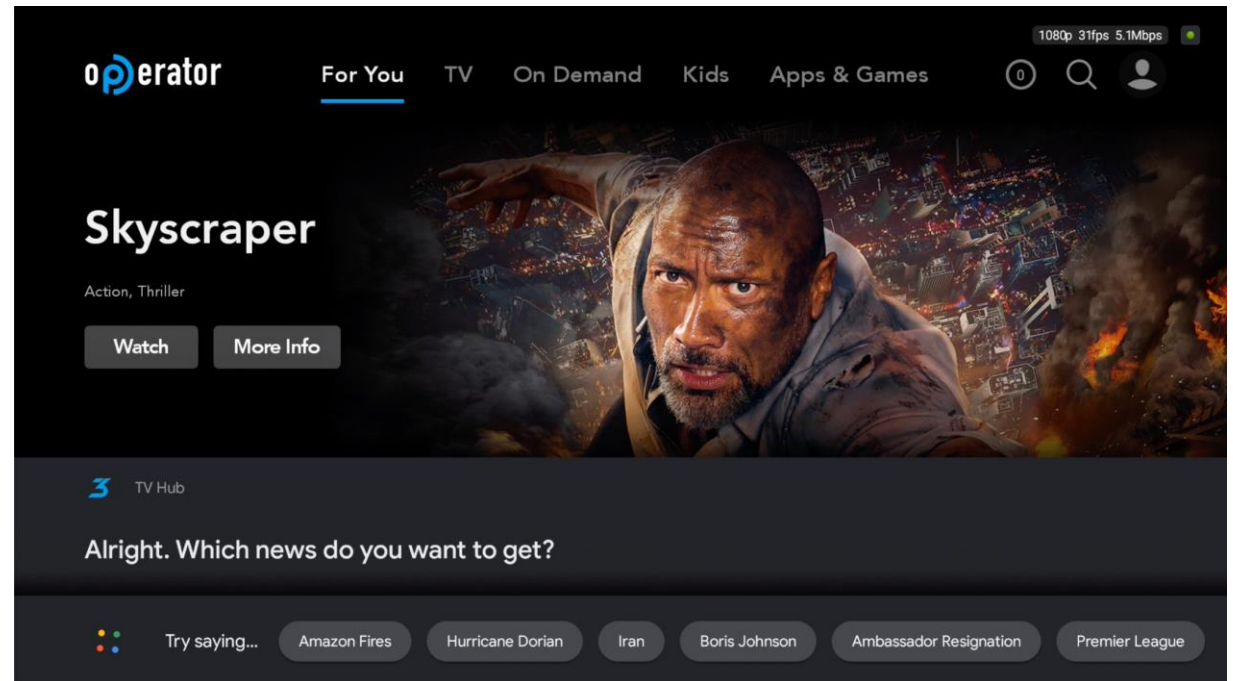
Use Case: find the latest about your club

- The viewer selects his club and automatically gets the latest most relevant video across all tv channels and VoD assets
- Video playback starts at the most relevant part instead of program start.
- Via a a thumbnail-bar the viewer can easily select other clips



Use Case: find me the latest news

- Based on metadata analysis we can identify trending news topics.
- That means the viewer can jump right to the latest about the topic he is interested in, without needing to search for it in a program.



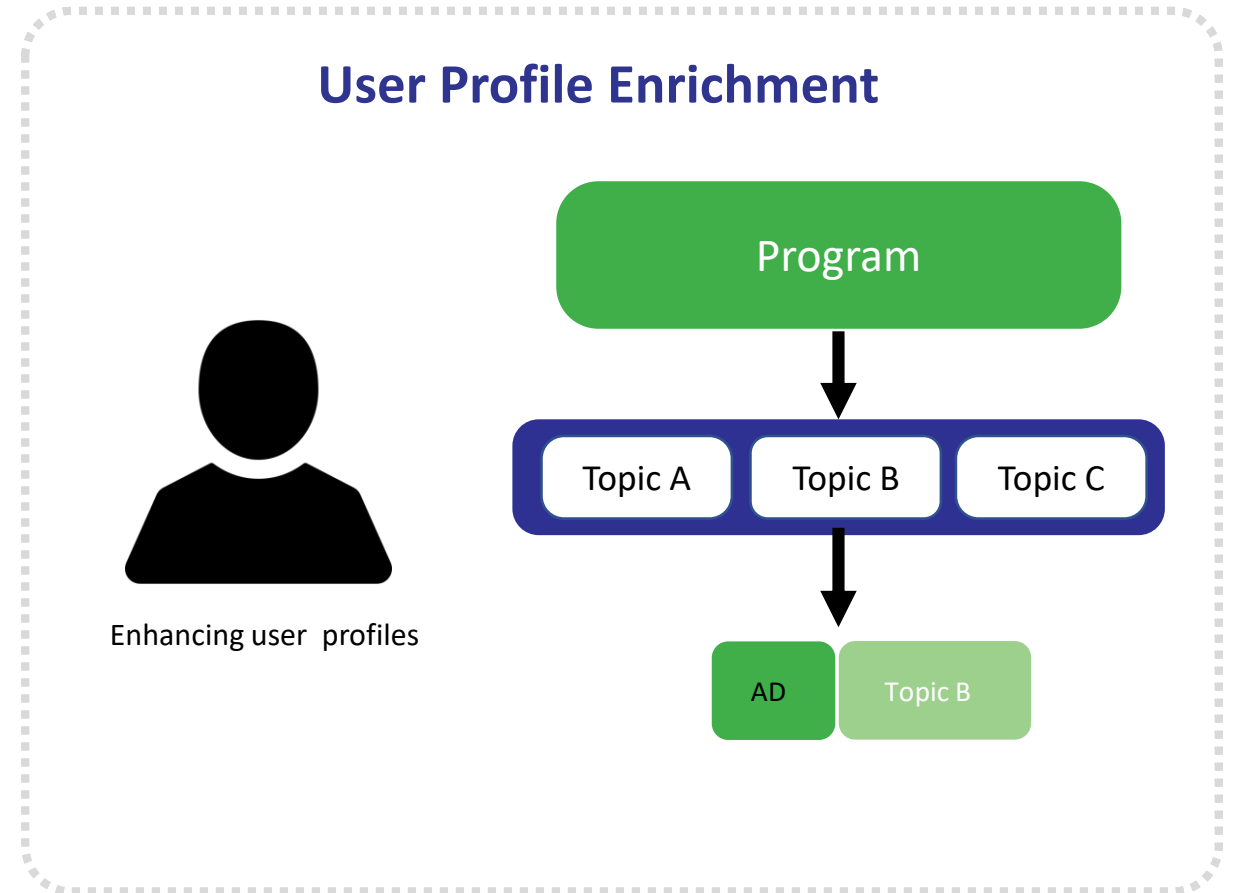
Advanced Advertising

“Don’t show me irrelevant ads”

User Profile Enrichment

- By Deep Content analysis, we can provide insights in the program allowing TV operators to build better user profiles and audience segments.
- By correlating viewing behavior with the actual content, we improve targeted advertising.

Enrich your user profiles



| Contextual Advertising

Scenario

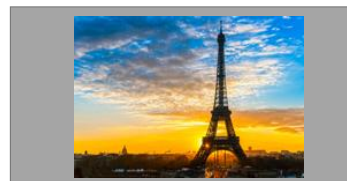
Base advertising on the program contents.

Challenge

Content is often a black box to TV Operators. Ad-decisioning can not leverage full potential of context.

How AI can help

Base Ad Decisioning on mood, location, topic or specific parts of the program.



Location: Paris



Topic: Food






Object: Car
Brand: Audi



Mood: uplifting

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 822247

