KEYNOTE
The AI impact on HbbTV-based solutions and business models

Maria Ingold
AI in Media CTO, mireality
2024

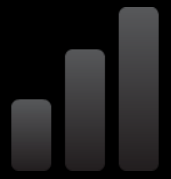
MIREALITY'S SIX STEPS TO SUCCESS

1. Where are we now?

4. Implement

2. Where are we going?

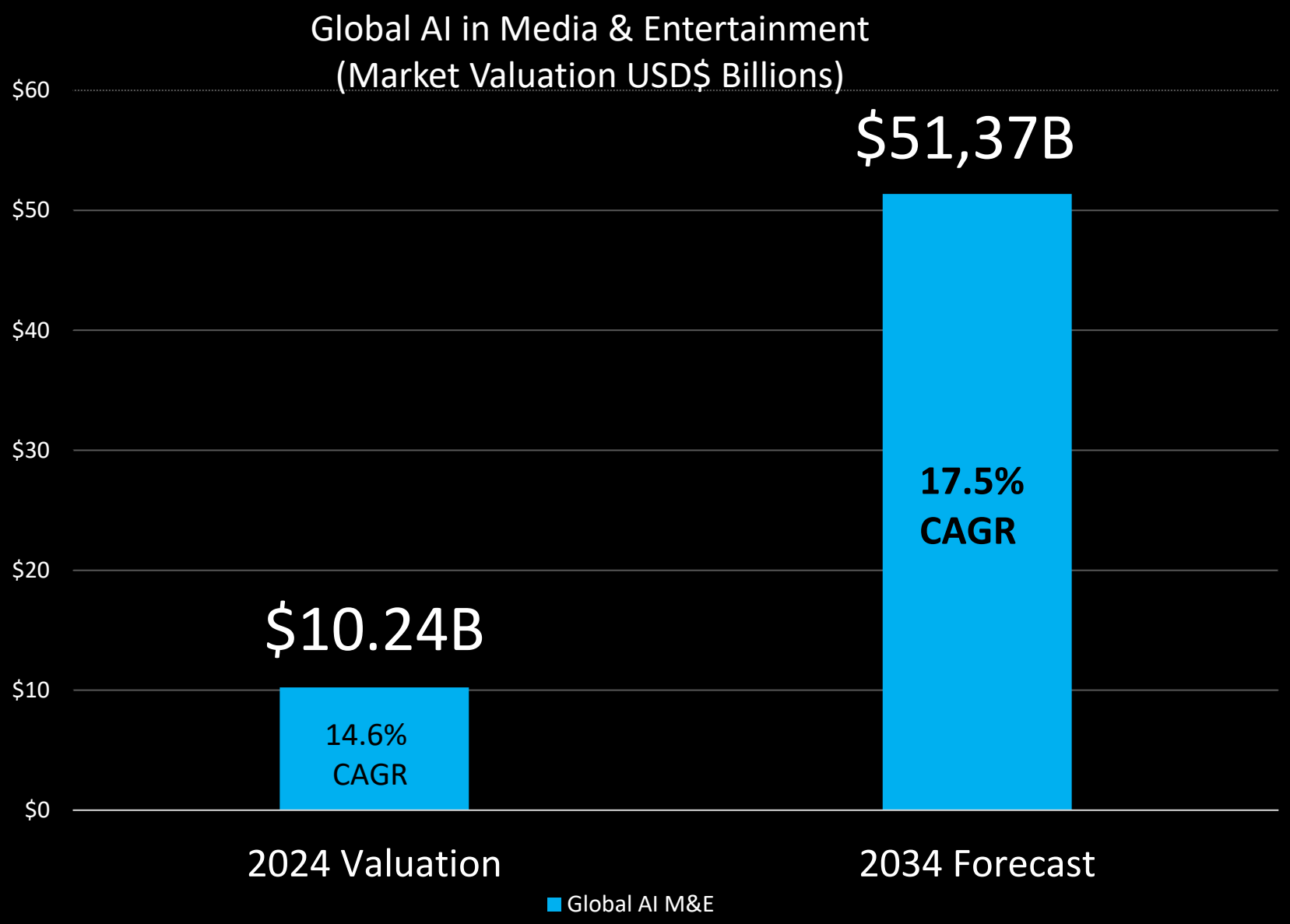
5. Operate



3. How do we get there?

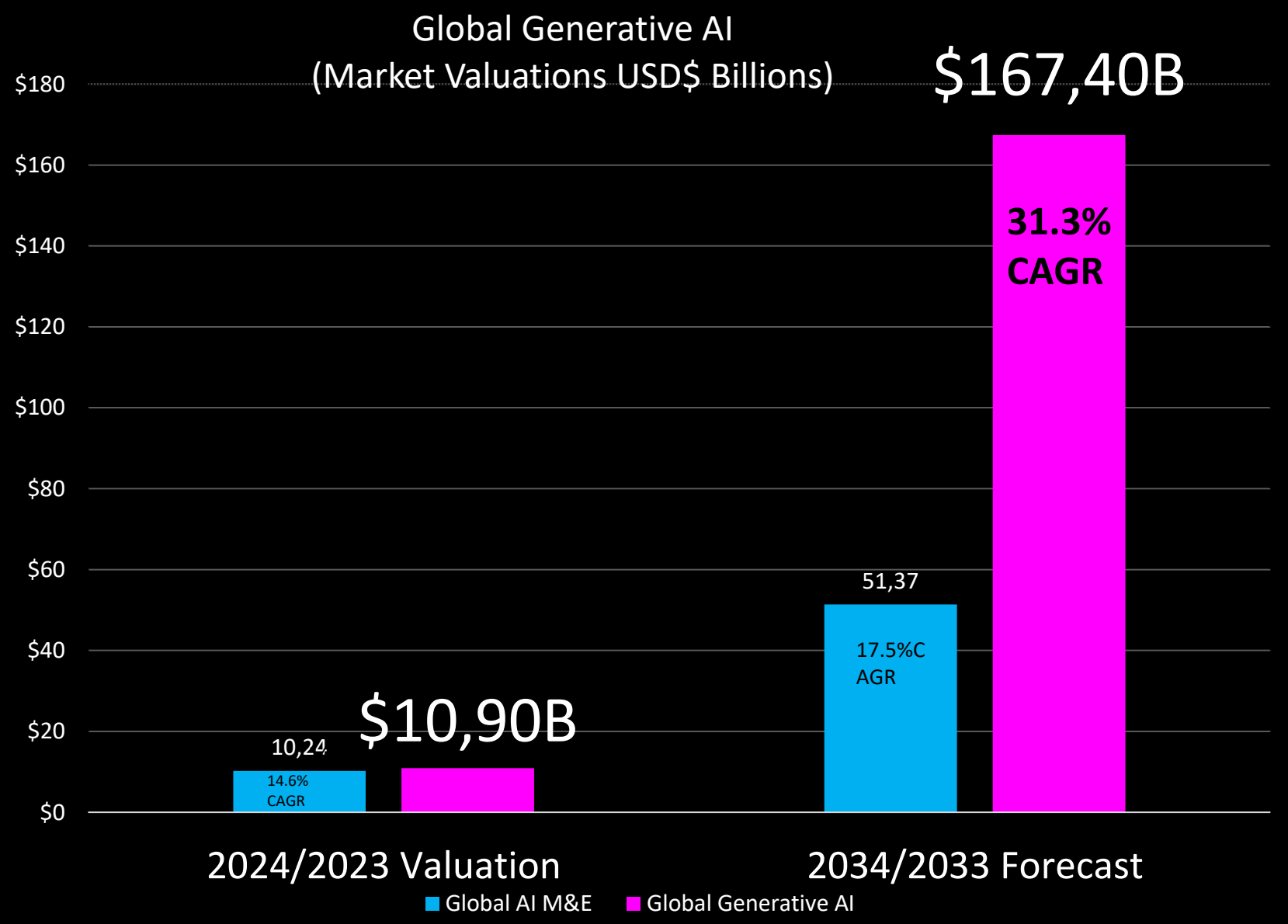
6. Talk about it

GLOBAL AI IN M&E MARKET VALUATION

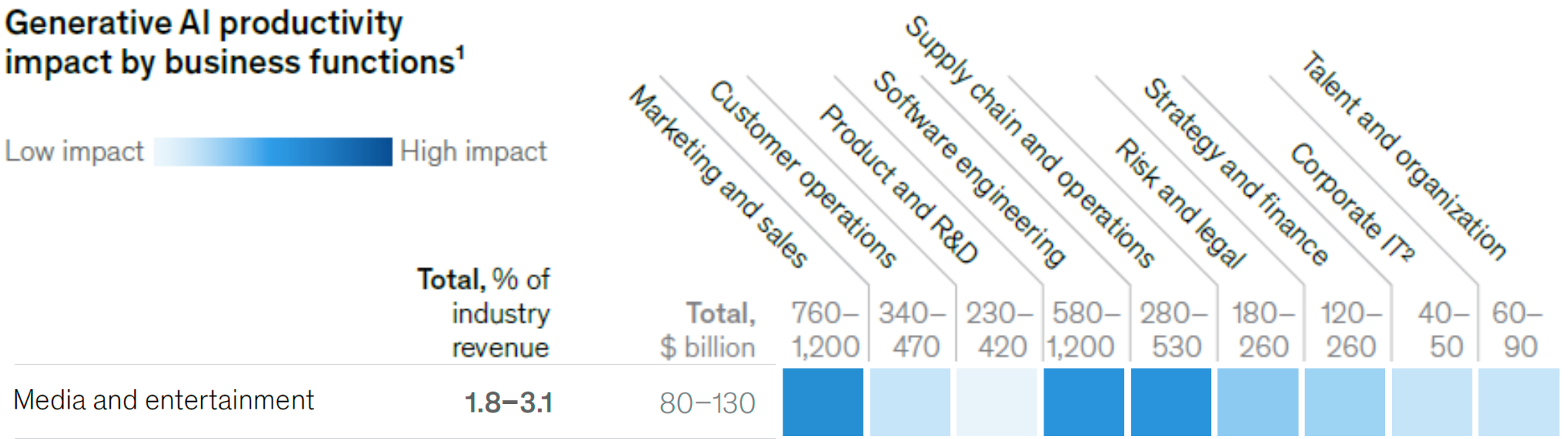


Source: Future Market Insights
April 2024

GLOBAL GEN AI MARKET VALUATION



Source: Future Market Insights
August 2023



M&E GENERATIVE AI PRODUCTIVITY IMPACT

$80-130B globally annually

Source: McKinsey
February 2024

AI IN MEDIA

MACHINE LEARNING

- **Supervised** (predictions: churn, classify)
- **Unsupervised** (patterns: segment)
- **Semi-supervised** (mix: recommendations)
- **Self-supervised** (predictive text)
- **Reinforcement** (agent: ad interaction)

Discriminative (relate/predict)

DEEP LEARNING

NEURAL NETS
(AI CODECs, super-res, Edge AI…)

FOUNDATION MODELS
GENERATIVE AI

Images	Video	Text
DALL-E, Stable Diffusion, Midjourney	Sora, Runway, Pika, KLEENG	ChatGPT, Claude, Perplexity, Gemini, LLaMA

Diffusion Models

Large Language Model (LLM)

Transformer

Generative (create)

CREATE

- **Script Analysis** (Cinelytic, ScriptBook)
- **Box Office Prediction** (Cinelytic, Vault AI)
- **Virtual Production** (Cuebric)
- **Video Creation** (Sora, Runway, Pika, KLING)
- **Editing** (Adobe Firefly)
- **Productivity** (ChatGPT, Copilot)

ENRICH

- **Sports AI Cameras** (Veo, Pixellot, Trace)
- **Dubbing / Translation** (Papercup)
- **Super Resolution** (AWS)
- **Archive / Tagging / Search** (Eluvio, Intive)
- **News Summary / Highlights** (NHK)

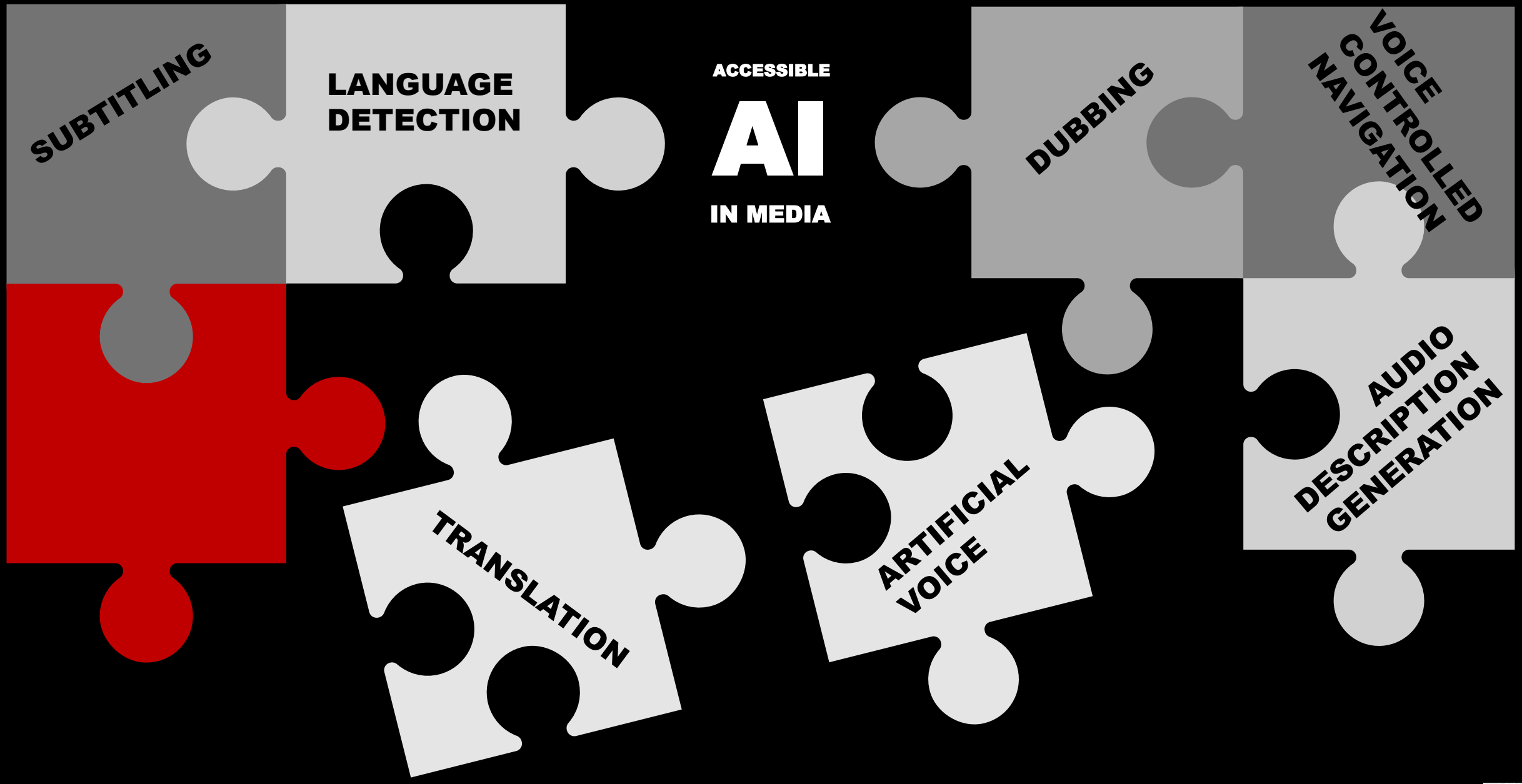
DELIVER

- **Compress / Encode** (iSIZE, Synamedia, Bitmovin)
- **CDN Optimisation** (Akamai, Synamedia)
- **Targeted Advertising** (Amazon, YouTube)
- **Hyper-personalise** (gan.ai, Pika + Eleven Labs)
- **Recommendations** (Netflix, Amazon, YouTube)

ENGAGE

- **Discovery** (Moveme.tv, cineSearch)
- **Shopification / Semantic Segmentation** (Edge Video)
- **Chatbots** (Klarna)
- **NPC Chat** (charisma.ai)

ACCESSIBLITY


SUBTITLING
LANGUAGE DETECTION
ACCESSIBLE
AI
IN MEDIA
DUBBING
VOICE CONTROLLED NAVIGATION
TRANSLATION
ARTIFICIAL VOICE
AUDIO DESCRIPTION GENERATION

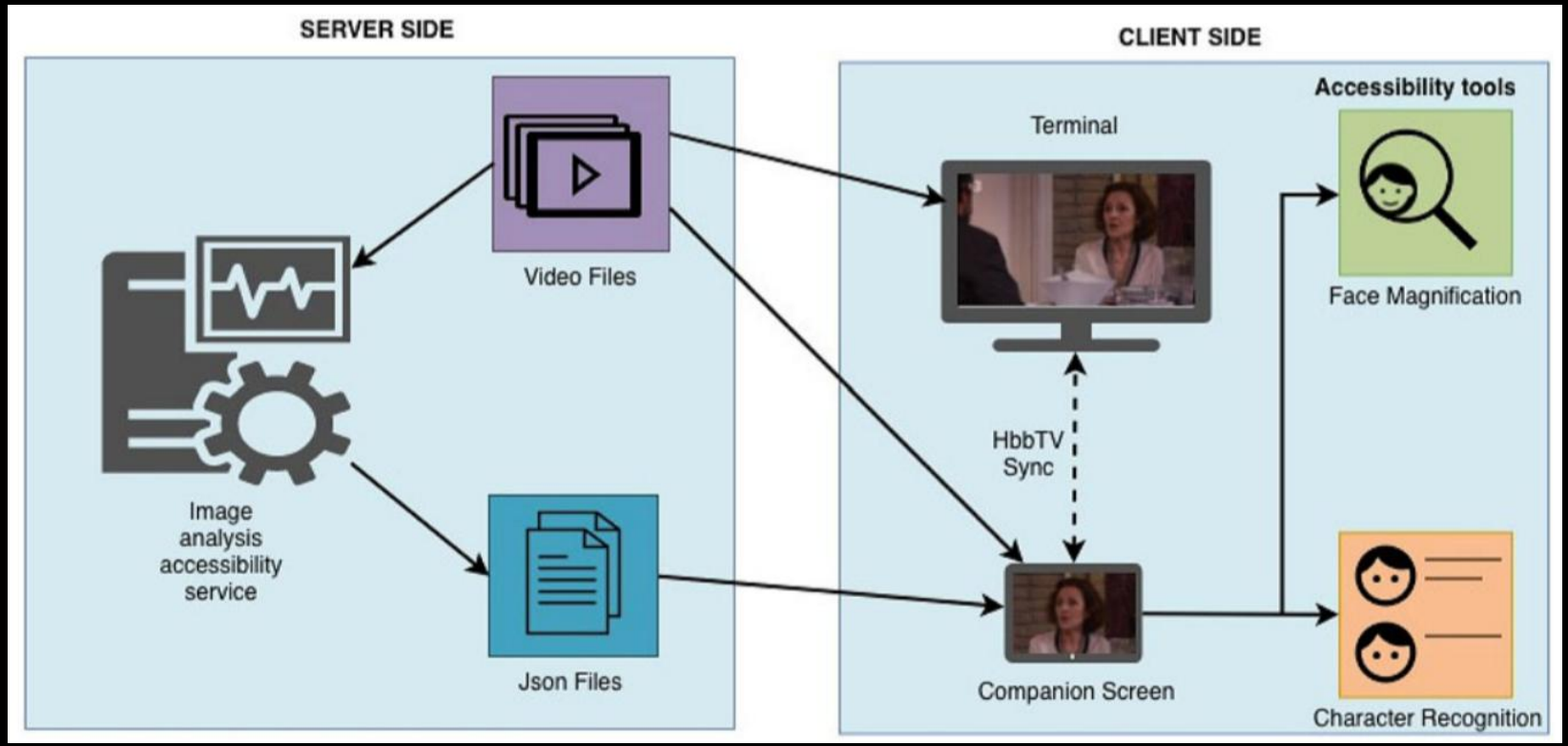
New access services in HbbTV based on a deep learning approach for media content analysis

Published online by Cambridge University Press: **04 December 2019**

CONTENT ANALYSIS

Face detection
Face tracking
Information extraction

➔ Face magnification for visual impairment



AI SUBTITLING

BBC SOUNDS

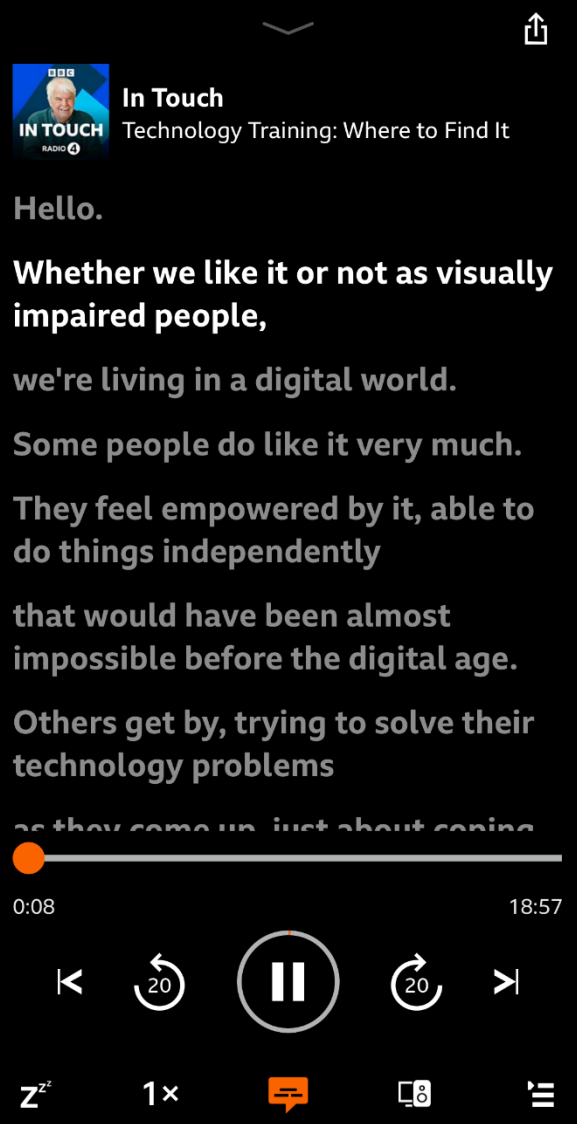
TRIAL: Sep-Nov 2024

OpenAI Whisper

Cost and time prohibitive

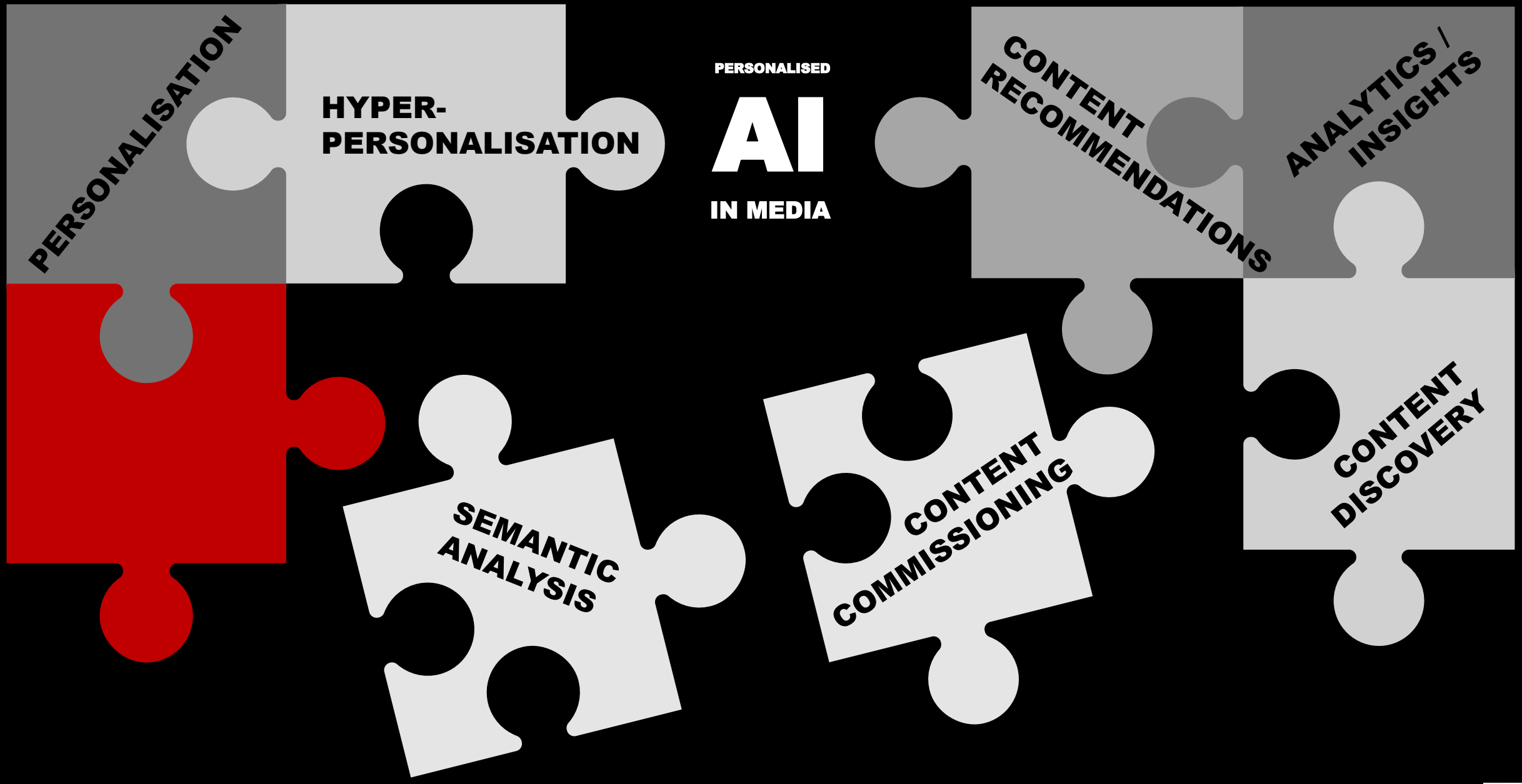
27,000 hours monthly content

18M deaf / hearing impaired in UK

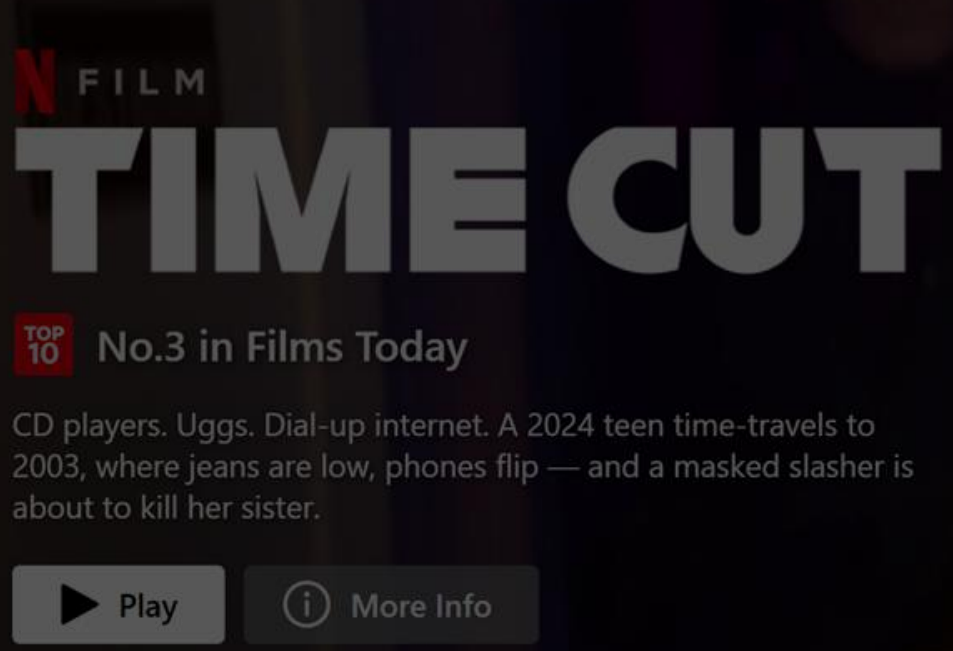


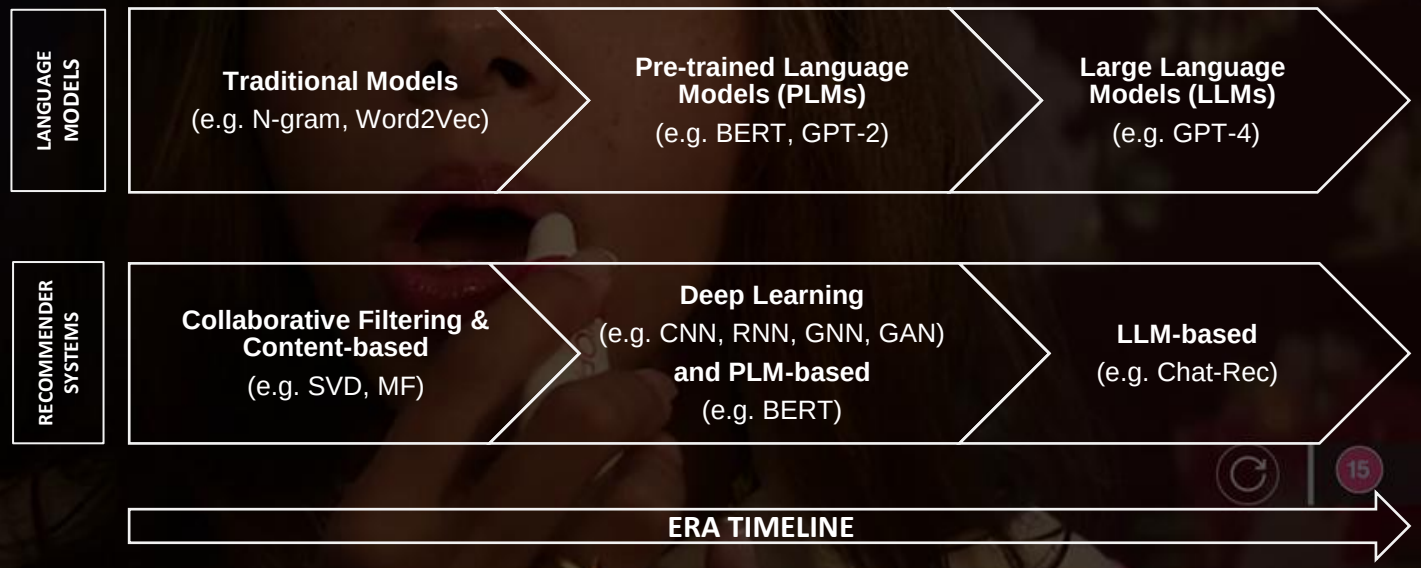
AI DUBBING
MORE VIEWS
FOR AI DUB
THAN SUBTITLE
28x SPANISH
5x GERMAN
Audio track
Spanish
German
English original
Brazilian

PERSONALISATION


PERSONALISATION
HYPER-
PERSONALISATION
PERSONALISED
AI
IN MEDIA
CONTENT
RECOMMENDATIONS
ANALYTICS /
INSIGHTS
SEMANTIC
ANALYSIS
CONTENT
COMMISSIONING
CONTENT
DISCOVERY

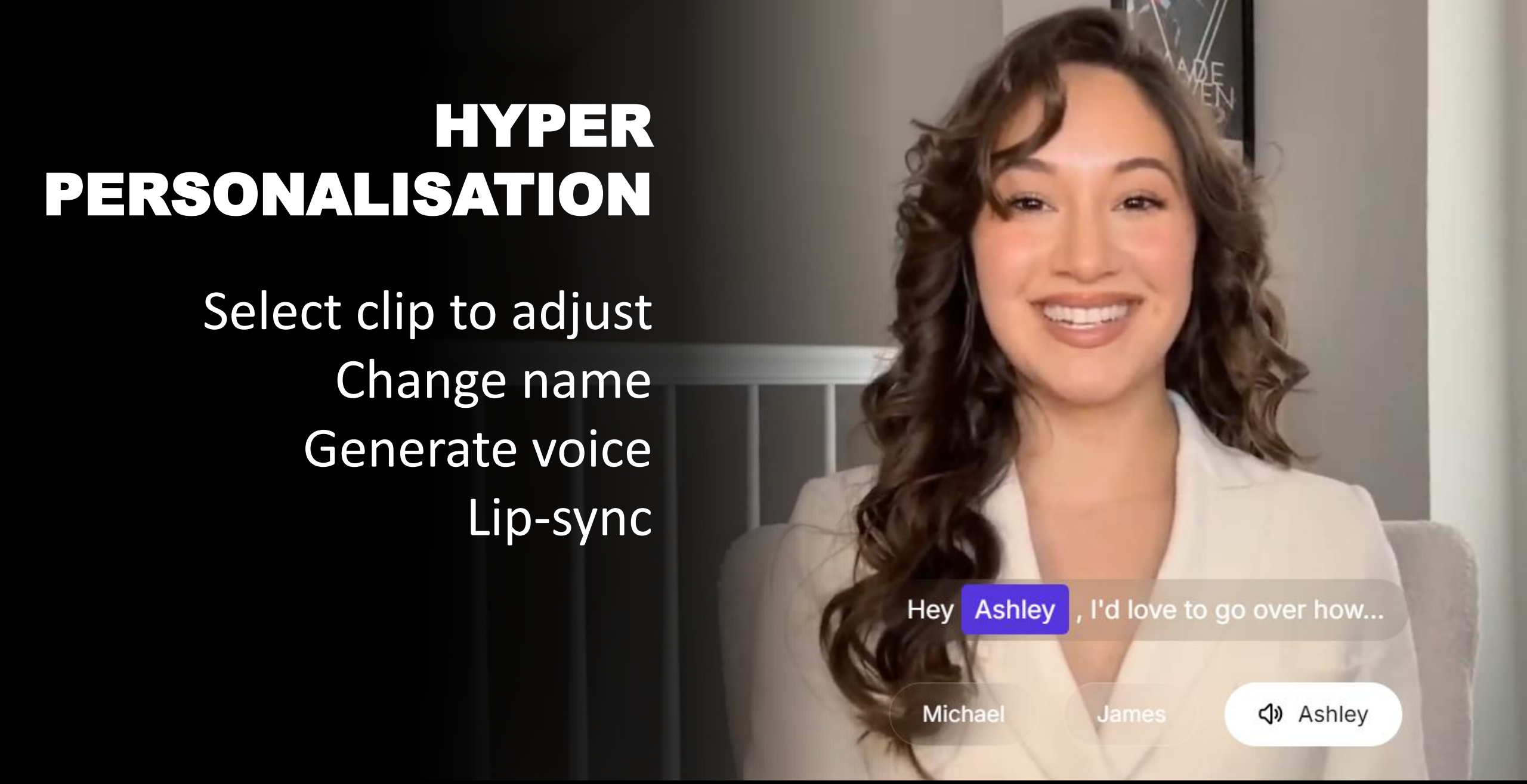
RECOMMENDATIONS



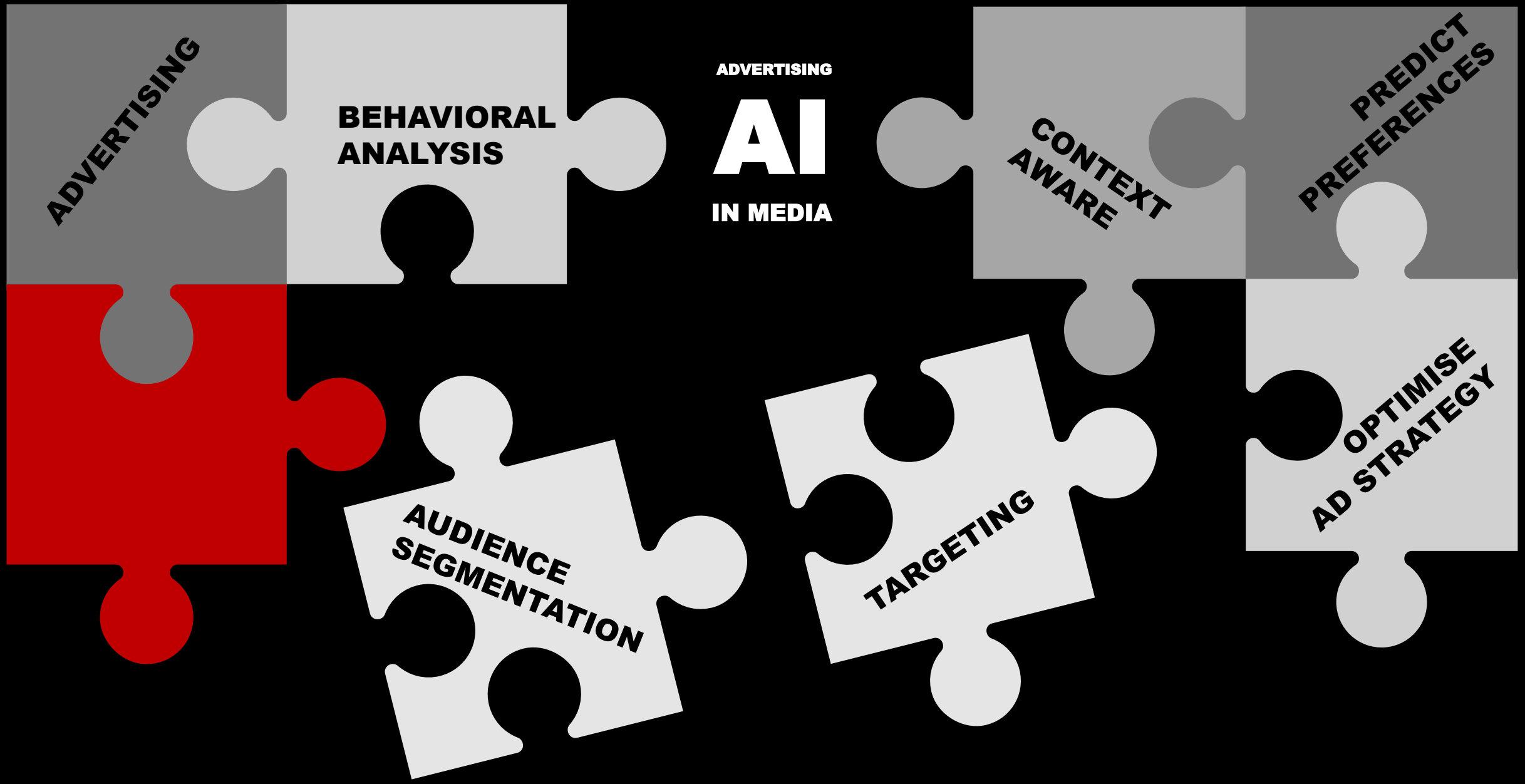


HYPER PERSONALISATION

Select clip to adjust
Change name
Generate voice
Lip-sync



ADVERTISING


ADVERTISING
BEHAVIORAL ANALYSIS
ADVERTISING
AI
IN MEDIA
CONTEXT AWARE
PREDICT PREFERENCES
AUDIENCE SEGMENTATION
TARGETING
OPTIMISE AD STRATEGY

CONTEXTUAL ADVERTISING

REAL TIME LIVE
Object recognition
People recognition
Sentiment analysis
Context analysis

Source: Mediaset España
October 2024

AUDIO CONTENT RECOGNITION (ACR)

REAL TIME AUDIO
Words identified
Triggered
addressable ads

plaj

summer

tatil

76%

increase in click-through rate on Turkish smart TVs

yaz

vacation

beach

Source: TVekstra 2024

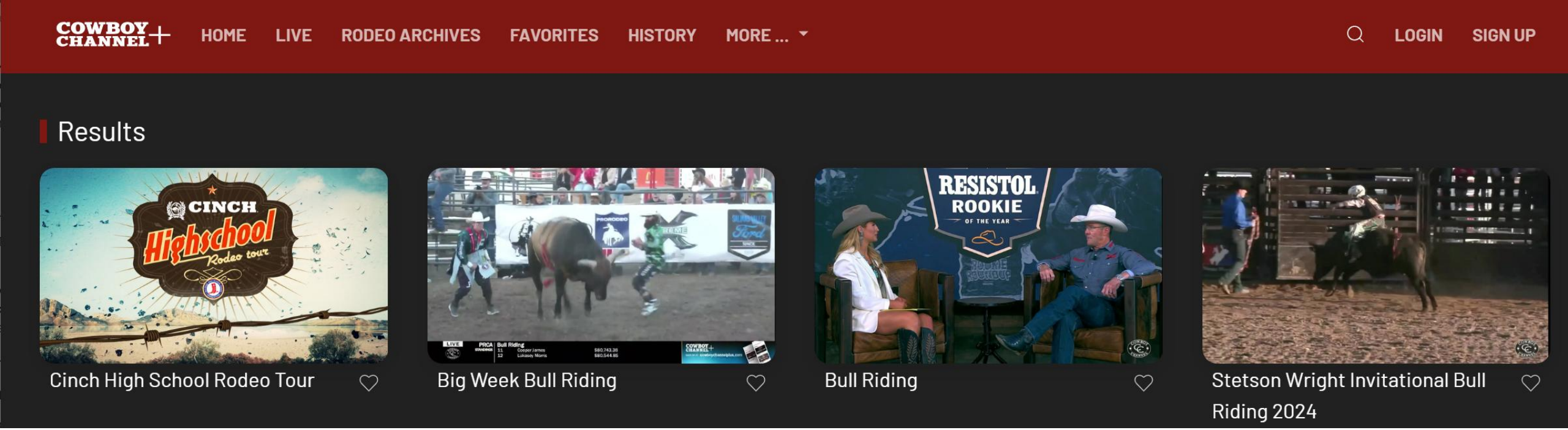
ITV: MONETISE SME ADVERTISING ON TV

TRAVEL HOUSE

SHEEPBRIDGE INTERIORS

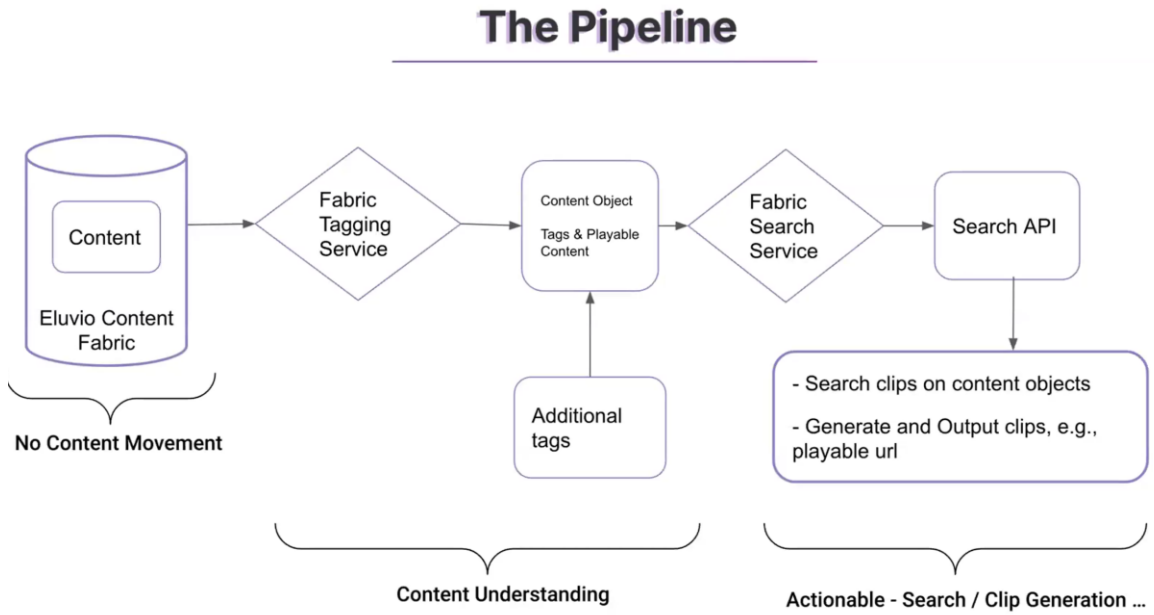
- New-to-TV brands
- Niche regional ads
- Accessible to SME
- TV-production value
- ClearCast approved
- ITV in-house production
- Runway ML

BEYOND...



MONETISING ARCHIVE VIA AI / ML TAGGING & SEARCH

The Cowboy Channel + Eluvio



If 1m people

watch 1 hour per day

at 1 GB of data per hour (2.4Mbps)

and it costs $0.0025 USD to stream 1 GB to 1 person

= ~$1m per year

25% ON 1M | >100M (NETFLIX) | 1B (YOUTUBE) HOURS DAILY = $250K | $25M | $250M

Precode
Reduce bits, maintain perceptual quality

Existing MPEG / Open Encoder

Bitstream

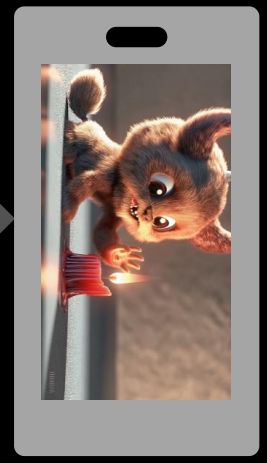
Existing MPEG / Open Decoder

Encoder
Codec Agnostic

Decoder
Codec Agnostic

ABR segments

Super Resolution



CONSIDER

Source: Adobe Firefly Video

ENTERPRISE, ETHICS, BIAS

REGULATION: NO GLOBAL STANDARD

- EU: Risk-based approach (EU AI Act – 1 August 2024)
- UK: Pro-innovation (AI regulation whitepaper)
- USA: Decentralised industry-driven (NIST AI Risk Management Framework)
- China: Centralised, prescriptive and state-focused

AI IN MEDIA

CAN MAKE AND SAVE YOU MONEY

https://www.linkedin.com/in/mariaingold/

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