



KEYNOTE

The AI impact on HbbTV-based solutions and business models

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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?



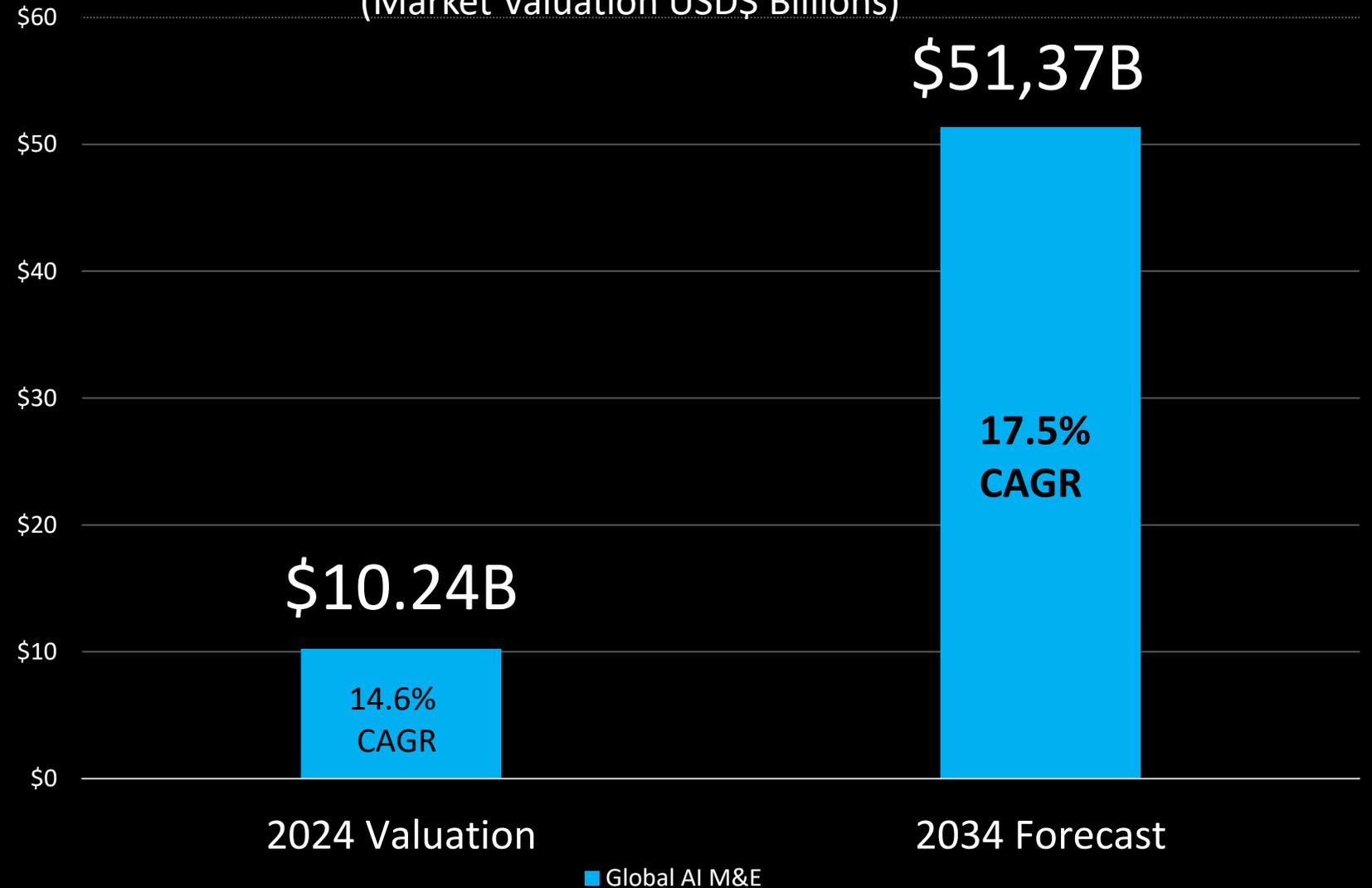
6. Talk about it



GLOBAL AI IN M&E MARKET VALUATION

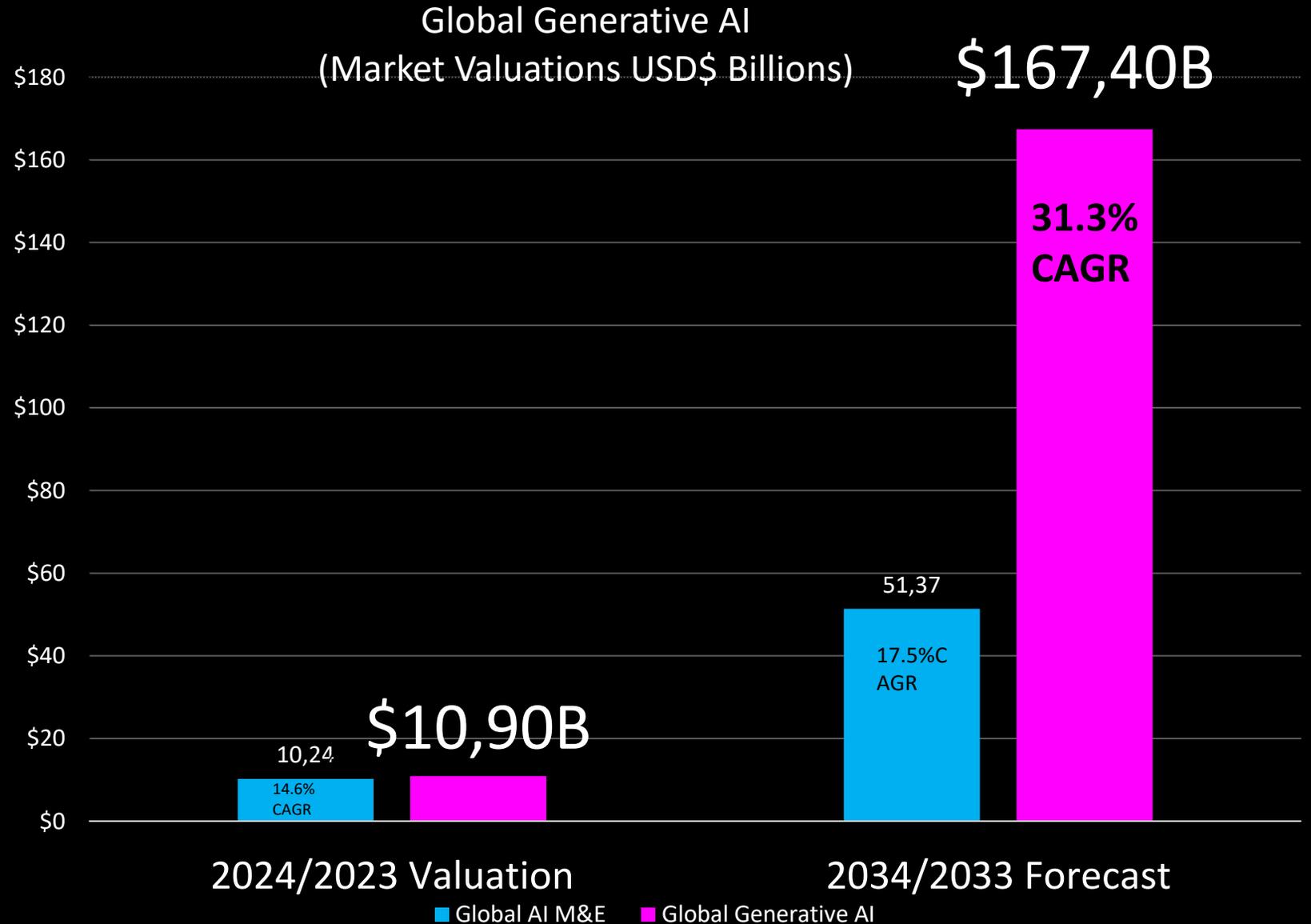
Source: Future Market Insights
April 2024

Global AI in Media & Entertainment
(Market Valuation USD\$ Billions)



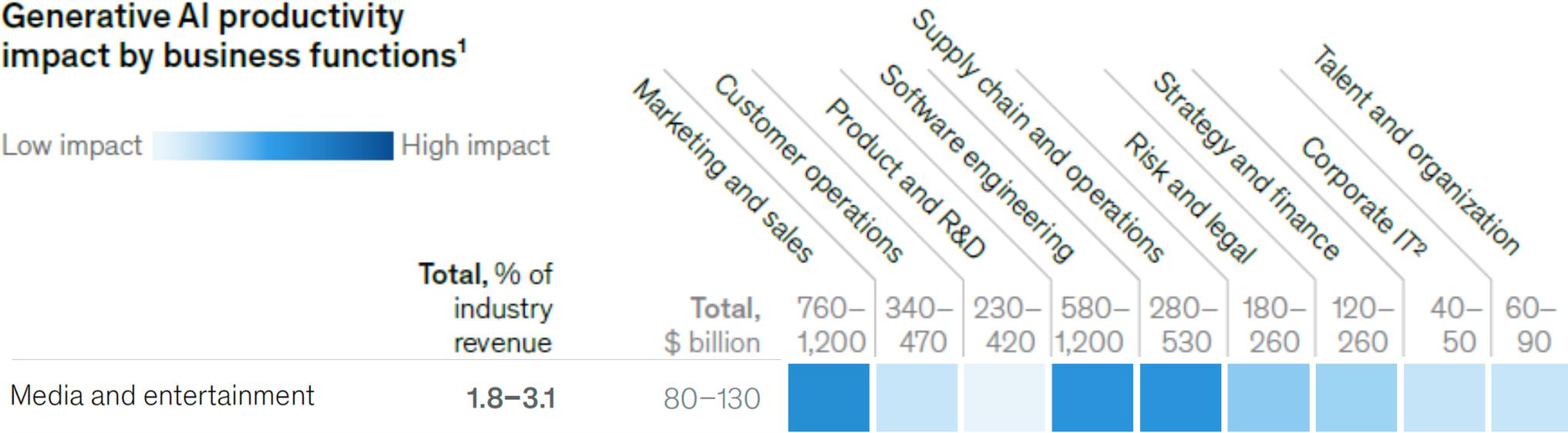
GLOBAL GEN AI MARKET VALUATION

Source: Future Market Insights
August 2023



Generative AI productivity impact by business functions¹

Low impact  High impact



M&E GENERATIVE AI PRODUCTIVITY IMPACT

\$80-130B globally annually

Source: McKinsey
February 2024



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)



ACCESSIBILITY

SUBTITLING

**LANGUAGE
DETECTION**

ACCESSIBLE

AI

IN MEDIA

DUBBING

**VOICE
CONTROLLED
NAVIGATION**

TRANSLATION

**ARTIFICIAL
VOICE**

**AUDIO
DESCRIPTION
GENERATION**



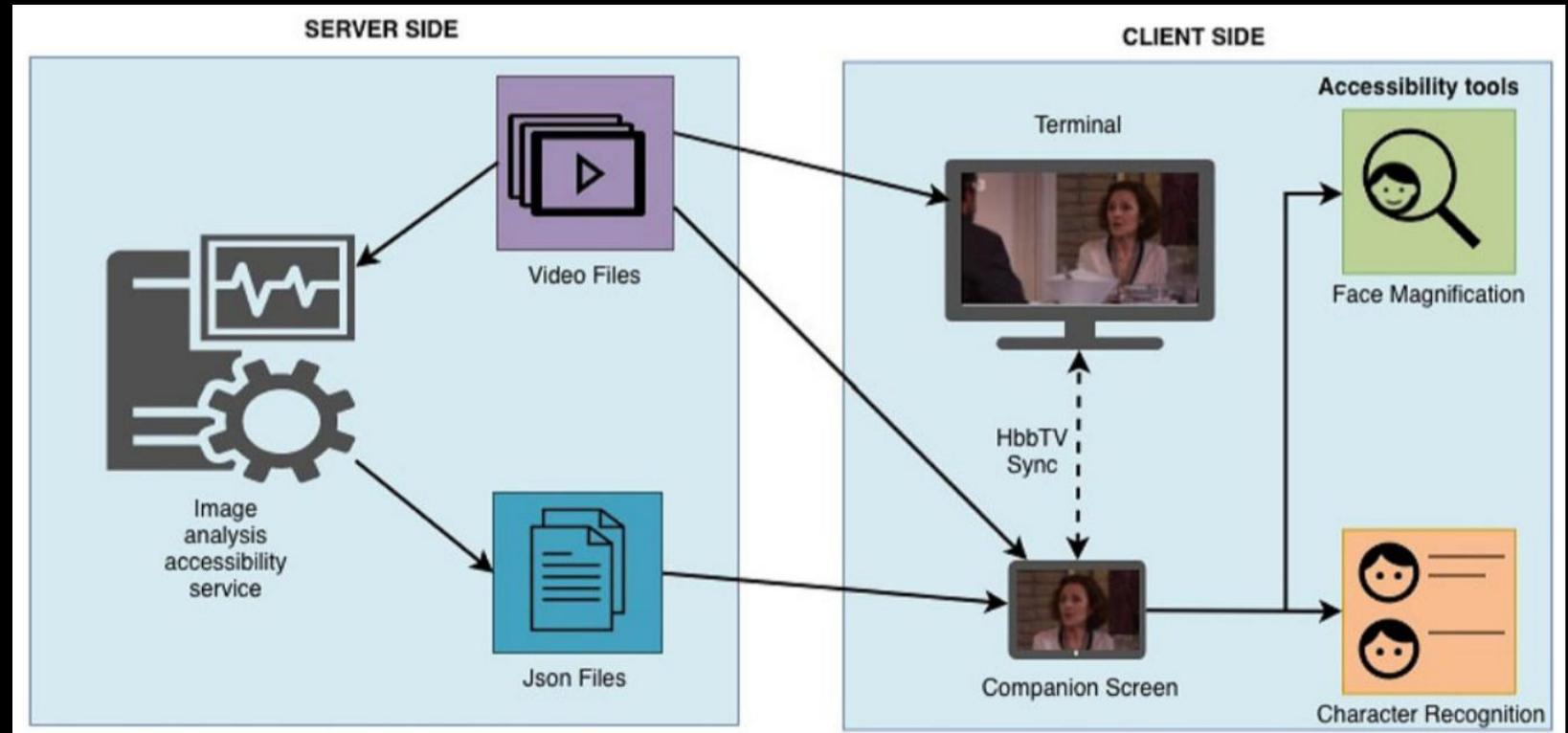
New access services in HbbTV based on a deep learning approach for media content analysis

Published online by Cambridge University Press: 04 December 2019

CONTENT ANALYSIS

Face detection
Face tracking
Information extraction

➔ Face magnification for visual impairment



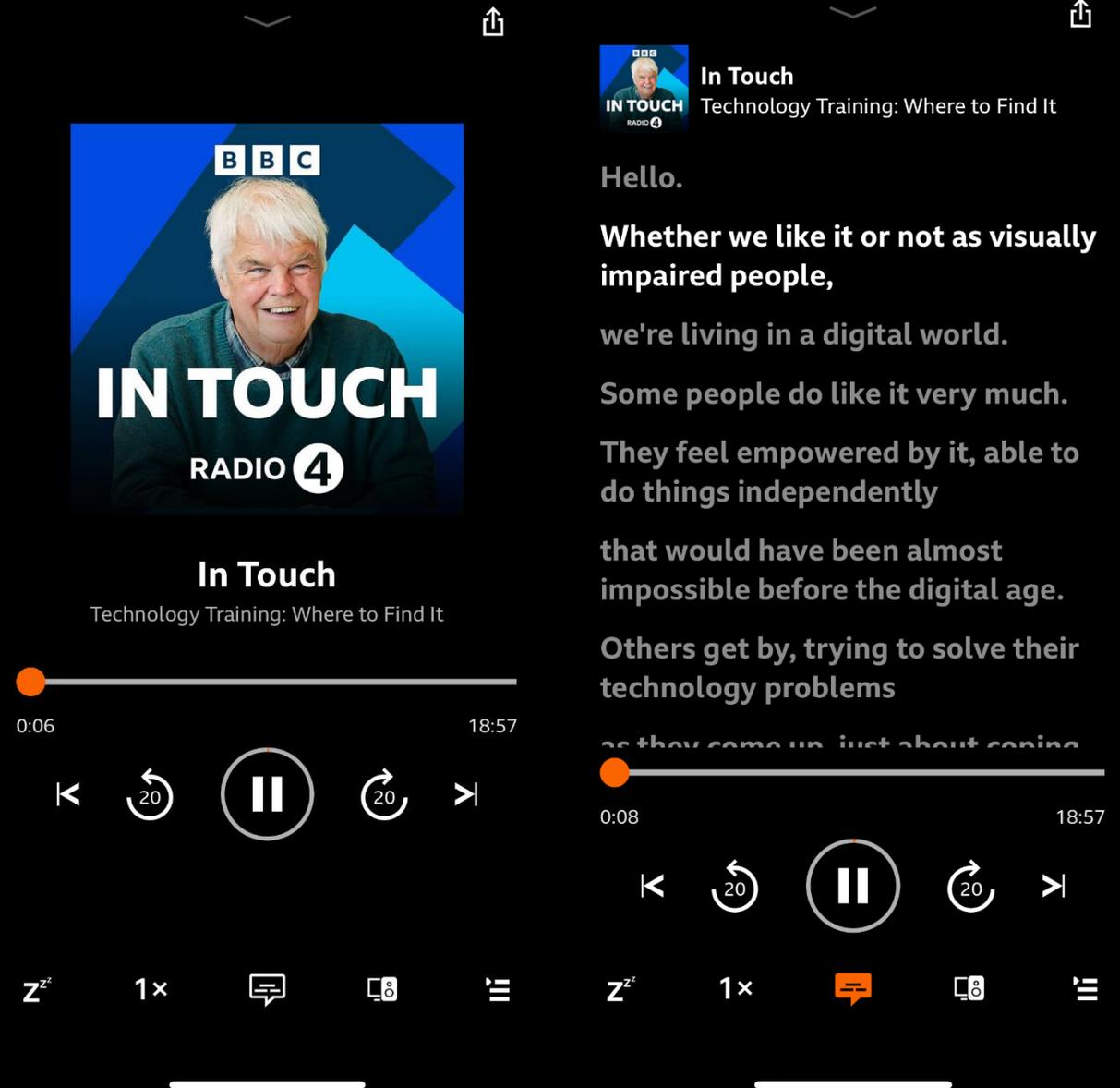
AI SUBTITLING



TRIAL: Sep-Nov 2024

 OpenAI Whisper

Cost and time prohibitive
27,000 hours monthly content
18M deaf / hearing impaired in UK



The screenshot shows a mobile music player interface for a BBC Radio 4 podcast titled "In Touch". The podcast cover features a man with white hair and the text "BBC IN TOUCH RADIO 4". The player shows the title "In Touch" and the subtitle "Technology Training: Where to Find It". The audio progress bar is at 0:06 of 18:57. The player controls include a play/pause button, skip back (20s), skip forward (20s), and volume (1x). Below the player, there are icons for lyrics, a chat bubble, and a QR code. The chat bubble is highlighted in orange, indicating it is active. The chat content is as follows:

In Touch
Technology Training: Where to Find It

Hello.

Whether we like it or not as visually impaired people,
we're living in a digital world.
Some people do like it very much.
They feel empowered by it, able to do things independently
that would have been almost impossible before the digital age.
Others get by, trying to solve their technology problems
as they come up, just about coping

AI DUBBING

**MORE VIEWS
FOR AI DUB
THAN SUBTITLE**

28X SPANISH

5X GERMAN

< Audio track

Spanish

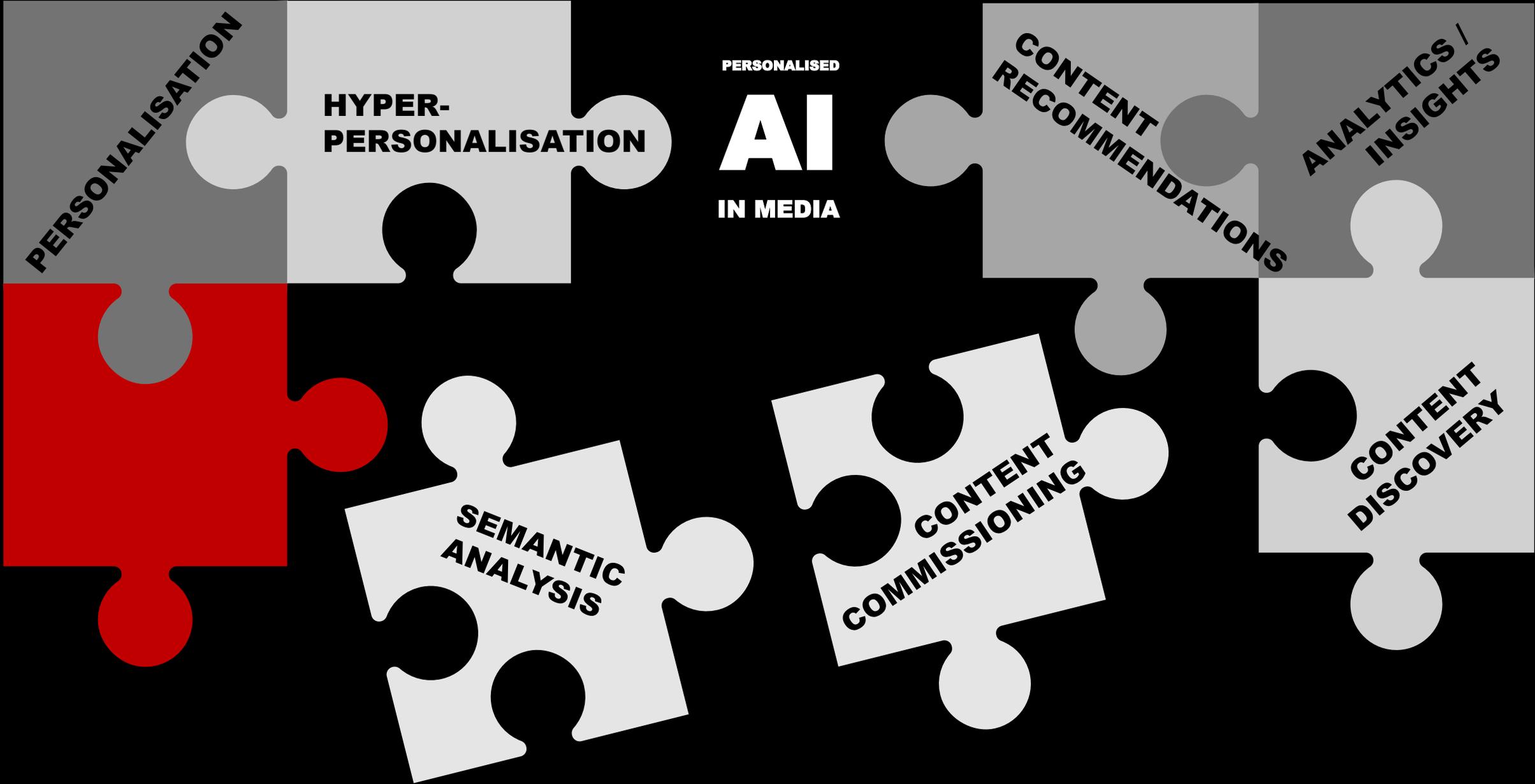
German

English original

Brazilian



PERSONALISATION



RECOMMENDATIONS

N FILM

TIME CUT

TOP 10 No.3 in Films Today

CD players. Uggs. Dial-up internet. A 2024 teen time-travels to 2003, where jeans are low, phones flip — and a masked slasher is about to kill her sister.



Play



More Info

LANGUAGE MODELS

Traditional Models
(e.g. N-gram, Word2Vec)

Pre-trained Language Models (PLMs)
(e.g. BERT, GPT-2)

Large Language Models (LLMs)
(e.g. GPT-4)

RECOMMENDER SYSTEMS

Collaborative Filtering & Content-based
(e.g. SVD, MF)

Deep Learning and PLM-based
(e.g. CNN, RNN, GNN, GAN)
(e.g. BERT)

LLM-based
(e.g. Chat-Rec)

ERA TIMELINE

My List



HYPER PERSONALISATION

Select clip to adjust
Change name
Generate voice
Lip-sync



Hey **Ashley**, I'd love to go over how...

Michael

James

 Ashley



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*
76%
tatil *yaz*
vacation *beach*

increase in click-through rate
on Turkish smart TVs

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...

Results



Cinch High School Rodeo Tour



Big Week Bull Riding



Bull Riding



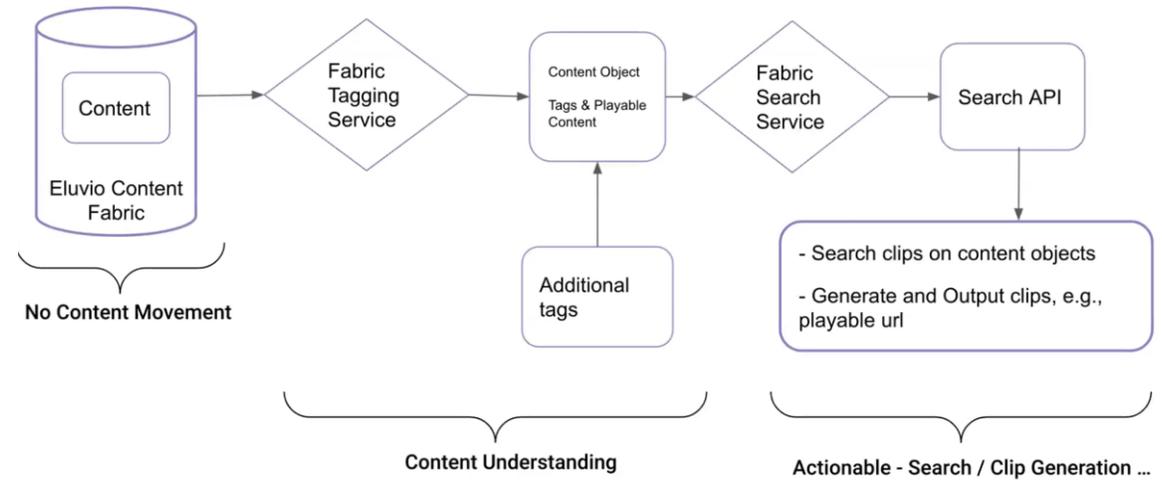
Stetson Wright Invitational Bull Riding 2024



MONETISING ARCHIVE VIA AI / ML TAGGING & SEARCH

The Cowboy Channel + Eluvio

The Pipeline





If 1m people



watch 1 hour per day



at 1 GB of data per hour (2.4Mbps)

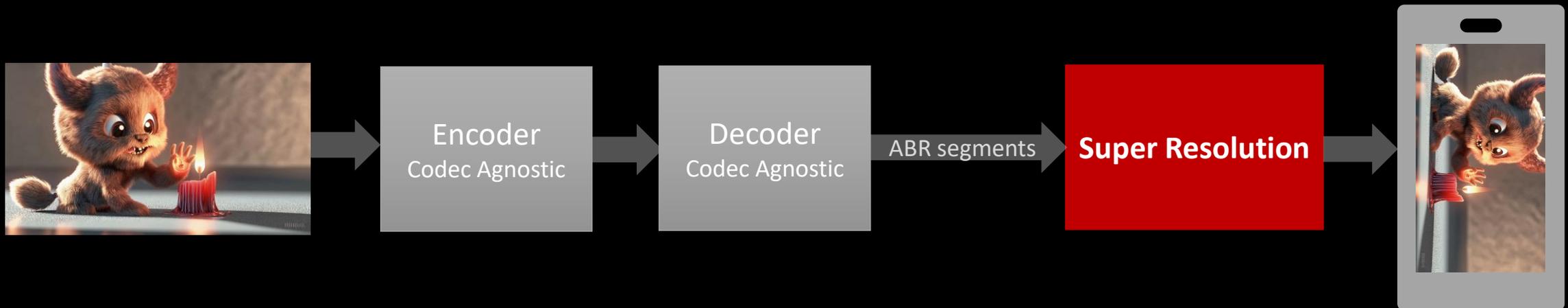
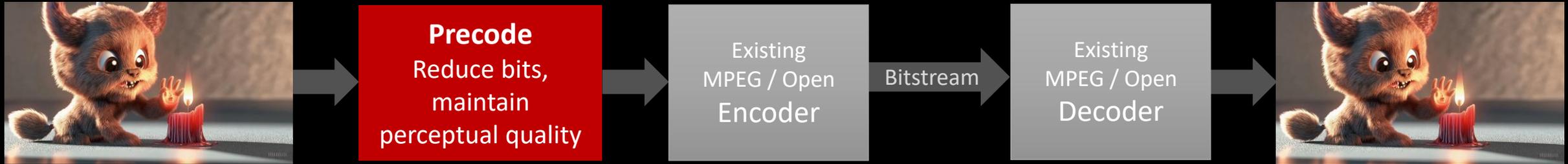


and it costs \$0.0025 USD to stream 1 GB to 1 person

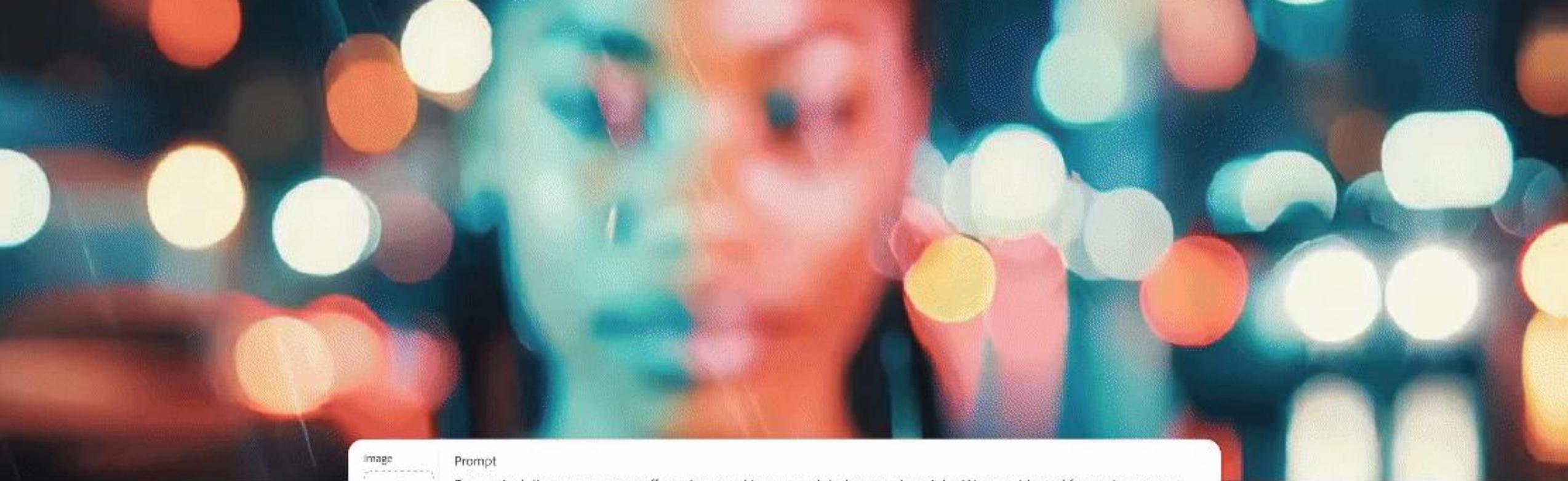


~\$1m per year

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



CONSIDER



image



Prompt

Dramatic dolly zoom camera effect, the mood is eery and dark on a rainy night. Woman, blurred focus sharpens as she puts on the glasses. cinematic closeup and detailed portrait of a woman in the middle of a street, rain dripping off her face, she is putting on glasses. the woman is in the middle of a street in new york at night the lighting is moody and dramatic, dark green and red light on her face. The woman is extremely realistic with detailed skin texture lens frame and fitting glasses to see, vision and eyesight. Prescription, blurred and fitting for optometry.



 Generate

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/>

CONNECT

Be part of MSc AI thesis:
**Making and Saving Money
in Media using AI, Ethically**



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