



### MPEG Roadmap

Dutch Guild 44

28 November 2019

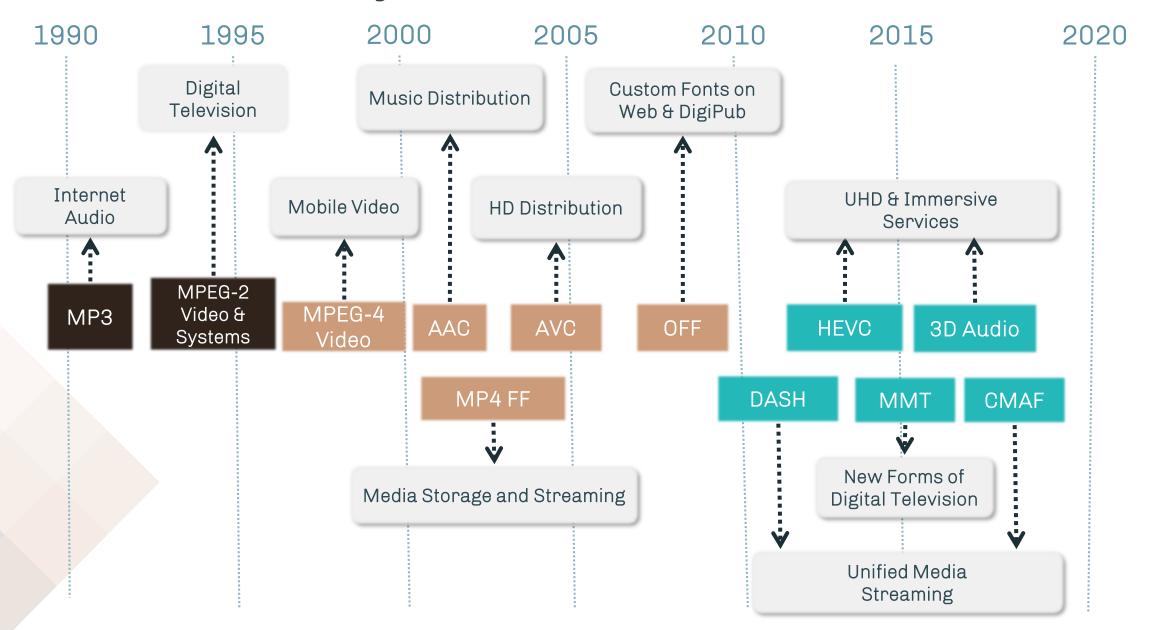
Rob Koenen CBO, Tiledmedia



## A Brief History of MPEG



### Major MPEG Standards



# MPEG's Areas of Activity

Technologies for

content

e-commerce

MPEG-

21

Multimedia **Platform Technologies** MPEG-U,V MPEG-E,M MPEG-B, DASH IoMT MPEG-A Device & application interfaces systems & Multimedia Application transport Formats (combinations of content formats)

Compression of media

(and genomes & neural networks)

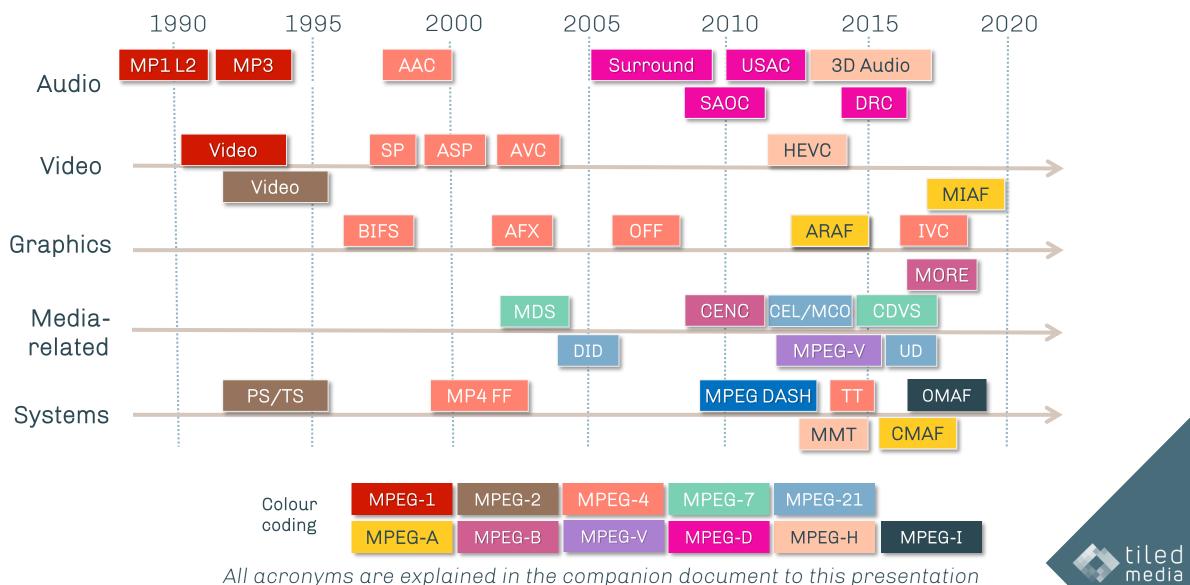
MPEG-7

MPEG-1,2,4,5 C,D,G,H,I

Description of video, audio and multimedia for content search



#### Detailed Overview of MPEG Standards





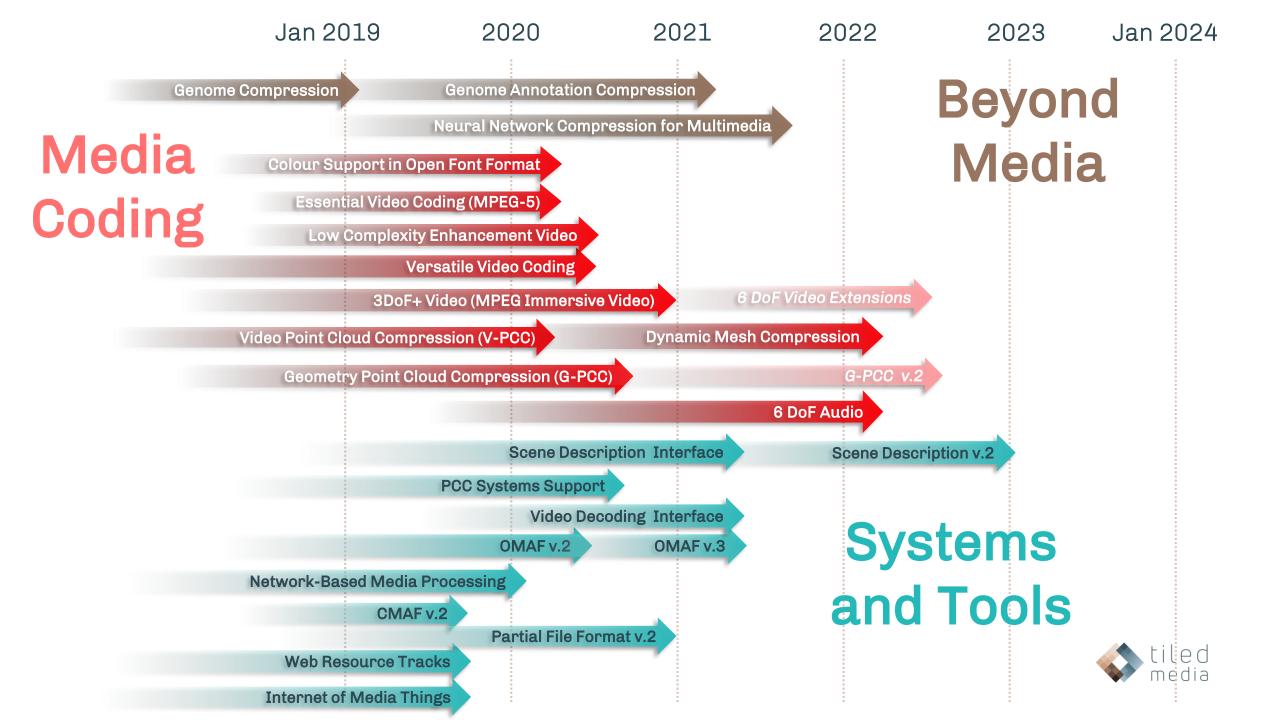
#### Significant Developments Shape MPEG's Roadmap

- The relentless increase of IP-distributed and Mobile media
- Higher quality media
- More immersion (UHD, VR, AR)
- Cloud-based media processing, storage and delivery
- New, high-speed networks including fibre and 5G mobile
- The Internet of Media Things & Wearables



## 5-Year Planning





### MPEG-I (ISO/IEC 23090)

#### Coded Representation of Immersive Media

#### Parts:

- 1. Architectures for Immersive Media (Technical Report)
- 2. Omnidirectional MediA Format (OMAF)
- 3. Versatile Video Coding
- 4. Immersive Audio
- 5. Video-based Point Cloud Compression (V-PCC)
- 6. Metrics for Immersive Services and Applications
- 7. Metadata for Immersive Services and Applications
- 8. Network-Based Media Processing
- 9. Geometry-based Point Cloud Compression (G-PCC)
- 10. Carriage of Video Point Cloud Data
- 11. Implementation Guidelines for Network-based Media Processing
- 12. MPEG Immersive Video (working title)
- 13. Video Decoding Interface for Immersive Media
- 14. MPEG-I Scene Descriptions



Jan 2019 2020 2021 2022 2023 Jan 2024

## Media Coding

## MPEG-I Phase 2a MPEG Media for 6DoF

**Versatile Video Coding** 

3DoF+ Video (MPEG Immersive Video)

**Video Point Cloud Compression (V-PCC)** 

**Geometry Point Cloud Compression (G-PCC)** 

Scene Description Interface

**PCC Systems Support** 

Video Decoding Interface

OMAF v.2

OMAF v.3

**Network-Based Media Processing** 



2021 2023 Jan 2019 2020 2022 Jan 2024 Media Coding & Media Systems for 5G Coding **Versatile Video Coding** 6 DoF Video Extensions 3DoF+ Video (MPEG Immersive Video) Video Point Cloud Compression (V-PCC) **Dynamic Mesh Compression** G-PCC v.2 **Geometry Point Cloud Compression (G-PCC)** 6 DoF Audio Scene Description Interface Scene Description v.2 **PCC Systems Support** Video Decoding Interface OMAF v.2 OMAF v.3 **Network-Based Media Processing** 

**Internet of Media Things** 



#### Thanks!

- I'll make some background info available on the Dutch Guild Website
- To understand the MPEG Alphabet Soup, See <a href="https://mpeg.chiariglione.org/standards">https://mpeg.chiariglione.org/standards</a>

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