

# Subtitles for 360° Media

Languages & The Media 2018

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# Presentation at M&E IG, TPAC 2018

- **Demonstrate demo**
- Identify Gaps
- M & E?
  - Scope?
  - Activities?

# Im Ac Immersive Accessibility

Ac



Im

[www.imac-project.eu](http://www.imac-project.eu)



rbb



MOTION SPELL

UAB

IRT

University of  
Salford  
MANCHESTER

RNIB

Supporting people  
with sight loss

ANGLATECNIC

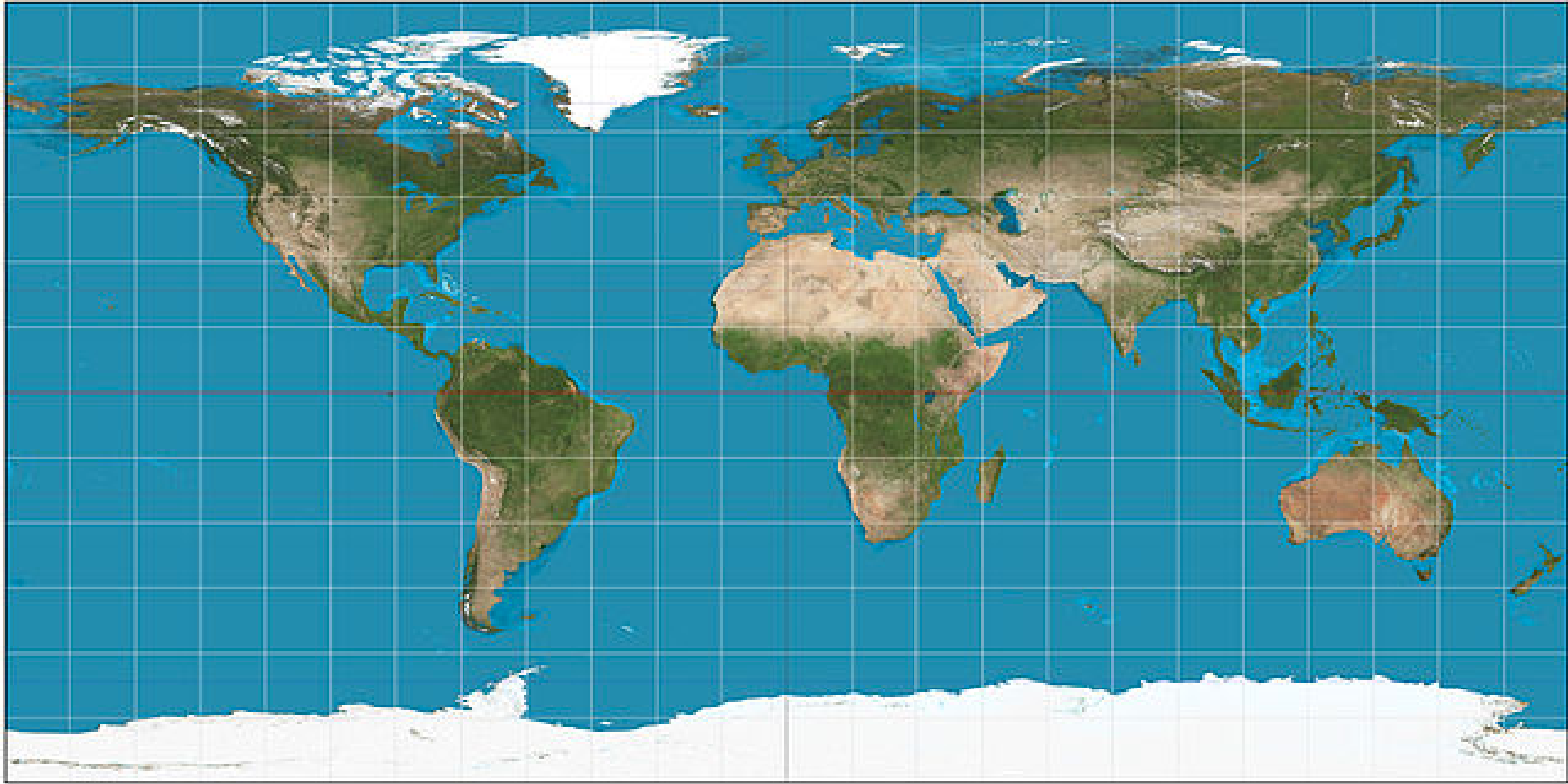
Corporació Catalana  
de Mitjans Audiovisuals, SA



Funded by the Horizon 2020  
Framework Programme of the  
European Union

# Main challenges

- Comfort
- Readability
- Speaker identification



Source: Wikipedia, [https://en.wikipedia.org/wiki/Equirectangular\\_projection](https://en.wikipedia.org/wiki/Equirectangular_projection)

# MODES

Always visible



VR NOT FOUND

always-visible



Always visible  
with speaker identification



84.88.32.46 està a pantalla completa [Sortir de la pantalla completa \(Esc\)](#)

VR NO VR

# Fix Position

# Subtitles in MPEG OMAF – fixed-positioned



# Formats

- **Video and subtitles are streamed using Dash**
  - Video encoded as h264, equirectangular
  - Subtitle format:
    - IMSC, custom ImAc extensions for positional information
- **Example IMSC with extensions**

```
<p xml:id="subtitle1" region="bottom" begin="00:00:01.000" end="00:00:04.000"  
  style="paragraphStyle" imac:equirectangularLong="17" imac:equirectangularLat="-10">  
  <span style="spanStyle">Subtitle one</span>  
</p>  
<p xml:id="subtitle2" region="bottom" begin="00:00:06.000" end="00:00:09.000"  
  style="paragraphStyle" imac:equirectangularLong="-18" imac:equirectangularLat="20">  
  <span style="spanStyle">Subtitle two</span>  
</p>
```

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# Thank you for your attention!

## Experts in audio-visual media

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