

Approaching Media Production and Distribution with 5G

Dr. Jordi J. Gimenez - 5G-MAG Project Manager



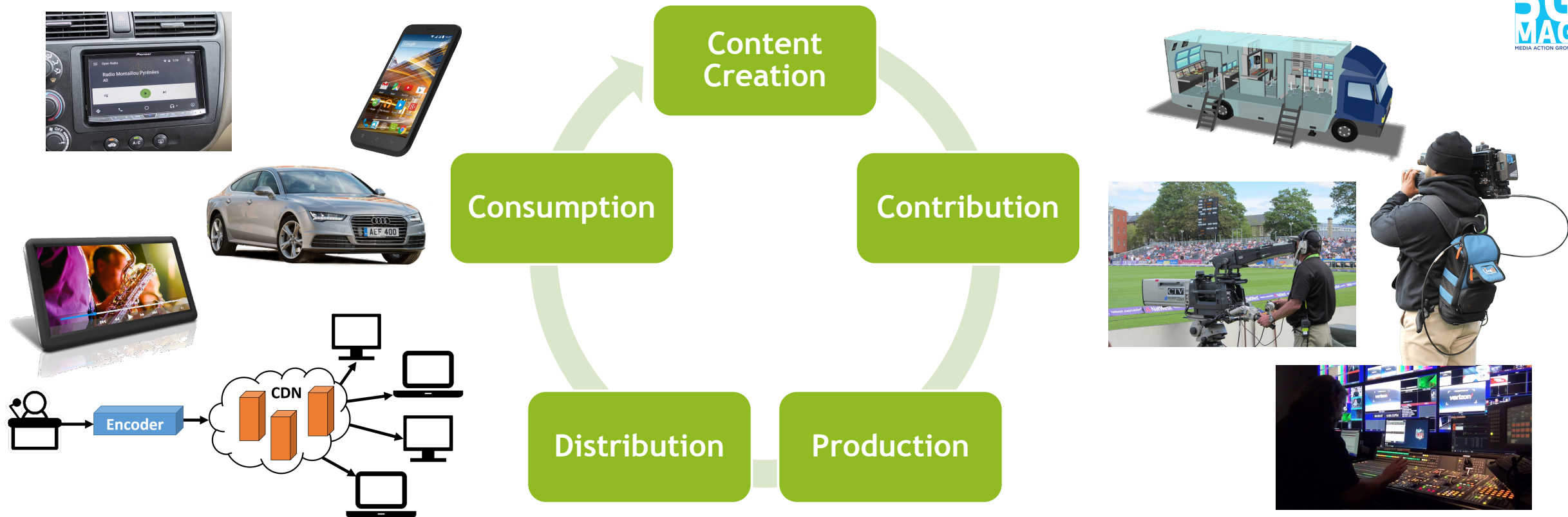
MEDIA ACTION GROUP

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FLAME: Bringing Media and Telco together in the 5G Value Chain










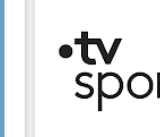








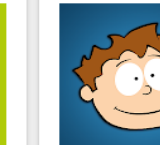







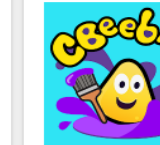

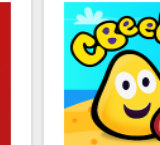


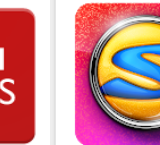
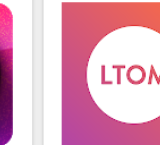





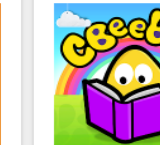


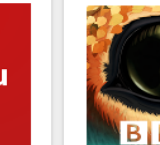









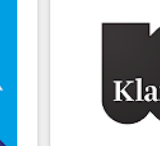



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23rd September 2020



The Media Industry and 5G

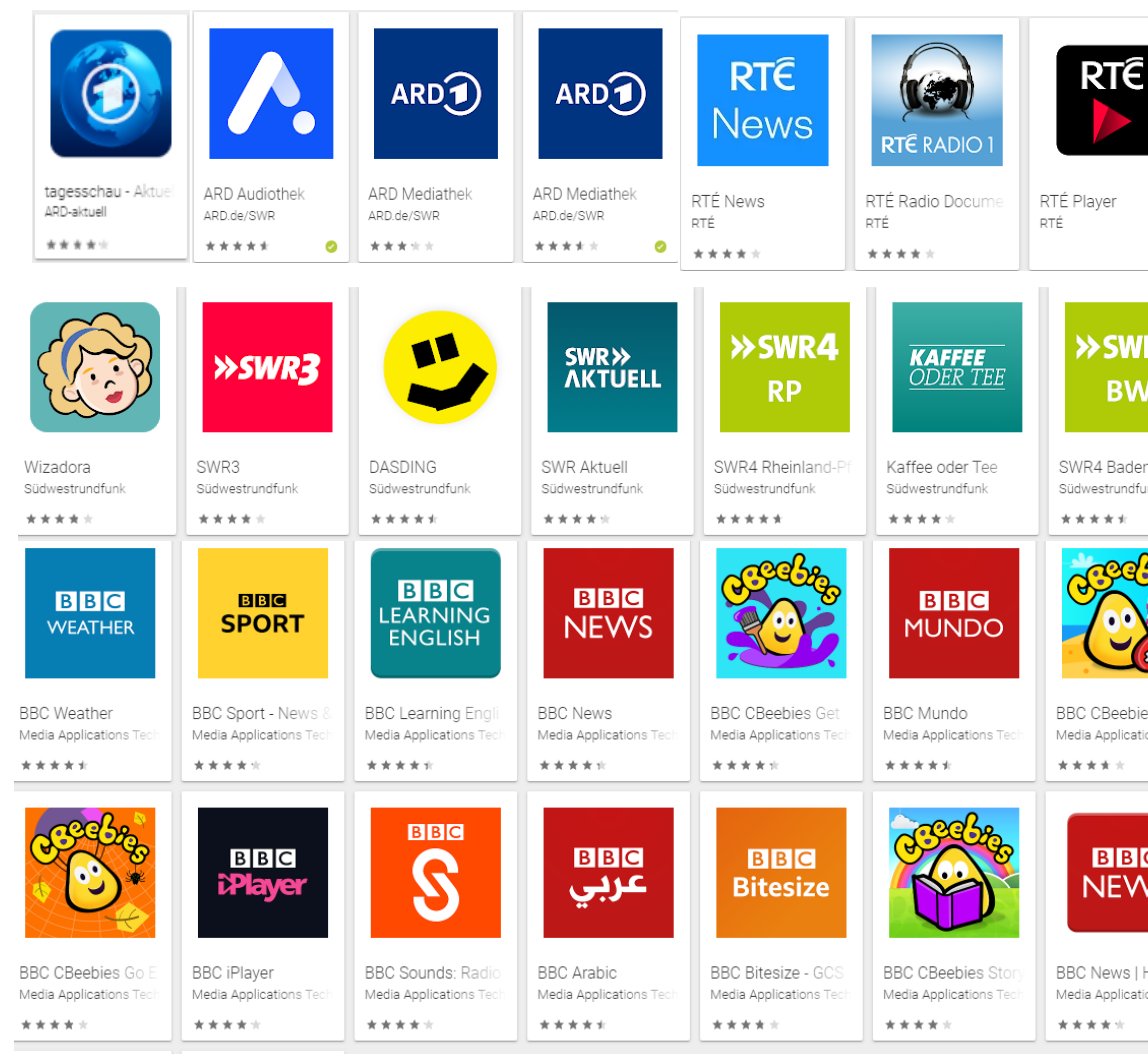
Opportunities across the entire value chain

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 <p>BBC Weather Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC Sport - News & Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC Learning English Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC News Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC CBeebies Get Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC Mundo Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC CBeebies Play Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC iPlayer Kids Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC News हिन्दी आ Media Applications Technology</p> <p>★★★★★</p>	 <p>Speed Quizz France Télévisions</p> <p>★★★★★</p>	 <p>LTOM - Les témoins France Télévisions</p> <p>★★★★★</p>
 <p>BBC CBeebies Go E Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC iPlayer Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC Sounds: Radio Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC Arabic Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC Bitesize - GCS Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC CBeebies Story Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC News Hobo Media Applications Technology</p> <p>★★★★★</p>	 <p>BBC Cymru Fyw Media Applications Technology</p> <p>★★★★★</p>	 <p>The Turning Forest Media Applications Technology</p> <p>★★★★★</p>	 <p>All 4 Channel 4 Television Company</p> <p>★★★★★</p>	 <p>The Circle TV Channel 4 Television Company</p> <p>★★★★★</p>
 <p>VRT NWS VRT</p> <p>★★★★★</p>	 <p>Switch VRT</p> <p>★★★★★</p>	 <p>sporza VRT</p> <p>★★★★★</p>	 <p>VRT Radio 2 VRT</p> <p>★★★★★</p>	 <p>sporza voetbal VRT</p> <p>★★★★★</p>	 <p>VRT NU VRT</p> <p>★★★★★</p>	 <p>MNM VRT</p> <p>★★★★★</p>	 <p>Klara VRT</p> <p>★★★★★</p>	 <p>Ketnet VRT</p> <p>★★★★★</p>	 <p>NPO NPO</p> <p>★★★★★</p>	 <p>NPO 3 NPO</p> <p>★★★★★</p>

5G for Media Distribution

- Distributing Media
 - Linear Content
 - TV, Radio, Live events, sports,...
 - Non-Linear Content
 - Catch-up, on-demand, personalised services
- Increasing the reach of media content to users

Anywhere
Anytime
Using any Device



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5G for Media Distribution

- But there are issues...
 - Lack of scalability
 - Coverage
 - No free access for users
 - No guaranteed QoS
 - Dependence on network congestion
 - Distribution cost

What can 5G offer for Media Distribution?



5G for Media Distribution



SCALABLE DISTRIBUTION WITH UNICAST/MULTICAST & 5G BROADCAST

- 5G includes capabilities to address the lack of **scalability** for IP-based media distribution.

MOBILITY AND UBIQUITY FOR MEDIA SERVICES

- Distribution to **audiovisual content** with unprecedented **user device** reach.



TERRESTRIAL AND SATELLITE ARCHITECTURES

- Opportunities to integrate **terrestrial and satellite networks** for content distribution.
- **Cloud-based** architectures, software network functions for **cost-effective network** deployment.



EDGE CACHING, MEDIA NETWORK FUNCTIONS, NETWORK SLICING,...

- Exploring the **benefits** that the 5G **architecture components** may offer to improve media distribution.

3GPP Standardisation

- 3GPP makes available technologies to address media distribution

RELEASE 14



LTE Broadcast - FeMBMS (EnTV)

Requirements for broadcasting are addressed

2017

2018

RELEASE 16

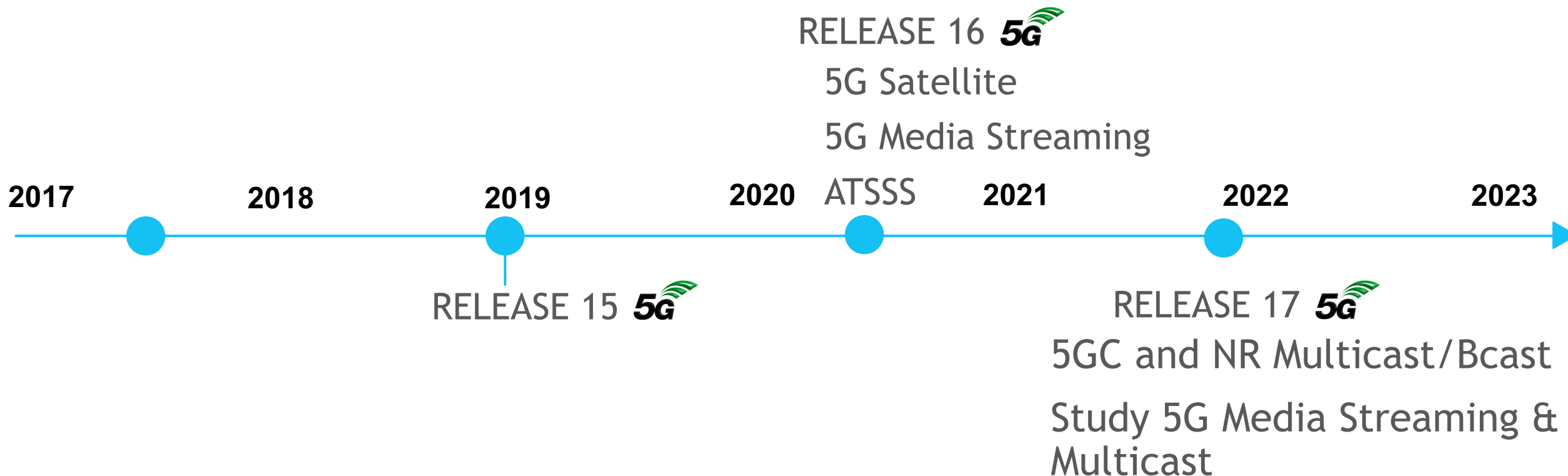


LTE-based 5G Terrestrial Broadcast

Requirements for broadcasting are met

3GPP Standardisation

- 3GPP makes available technologies to address media distribution



5G for Media Production



A NEW DIMENSION FOR REMOTE PRODUCTION

Higher **bandwidth**, low **latency**, **synchronization**, edge **computing** are key features for enhanced production workflows and flexible **wireless** deployments.



NEWSGATHERING & OUTDOOR BROADCAST

Quick response to events with a new approach to newsgathering and outdoor broadcast leveraging **network slicing** and the connection of media production equipment to **5G networks**.



NON-PUBLIC NETWORKS AND MEDIA CAMPUS

Leveraging the development of non-public networks to integrate **wireless production equipment** into **media premises**, **TV studios** as well as on **third-party networks**. **Security** over public and non-public networks is also a key **issue** for media production applications.

From Standardization...

5G-MAG members actively involved in Standardisation

Content Distribution

LTE-based 5G Broadcast
5MBS & NR Multicast/Broadcast
5G Media Streaming
Non-Terrestrial Networks

Audio-Visual Production

AVPROD, VIAPA
ProSE, Network Slicing
Non-Public Networks

3GPP TR 36.776 V16.0.0 (2019-03)

Technical Report

3rd Generation Partnership Project;
Technical Specification Group Radio Access Network;
Evolved Universal Terrestrial Radio Access (E-UTRA);
Study on LTE-based 5G terrestrial broadcast
(Release 16)



3GPP TR 36.276 V0.2.0 (2019-11)

Technical Report

3rd Generation Partnership Project;
Technical Specification Group Radio Access Network;
LTE-based 5G terrestrial broadcast;
Overall Description;
(Release 16)



ETSI TS 103 720 V0.1.0 (2020-05)



5G Broadcast System for linear TV and radio services

The TS (TSR Technical Specification) is the preferred deliverable when the document contains normative provisions and shall be used to "implement" solutions and requirements are essential.
A TS may later be converted to an ES or an ES may be used to publish the contents of a draft ES being sent for vote or a draft ES being sent for Public Enquiry or vote.
The guidance text (green) shall be removed when no longer needed or the document without guidance text also available on the website should be used.

3GPP TR 22.827 V17.1.0 (2019-12)

Technical Report

3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects;
Study on Audio-Visual Service Production
Stage 1
(Release 17)



3GPP TS 22.263 V17.0.0 (2019-12)

Technical Specification

3rd Generation Partnership Project;
Technical Specification Group Technical Specification Group
Services and System Aspects;
Service requirements for video, imaging and audio for
professional applications (VIAPA);
Stage 1
(Release 17)



Market certainty for successful implementation

- Identify the **business models** and **commercial arrangements** required among stakeholders and associated **economic** and **regulatory implications**

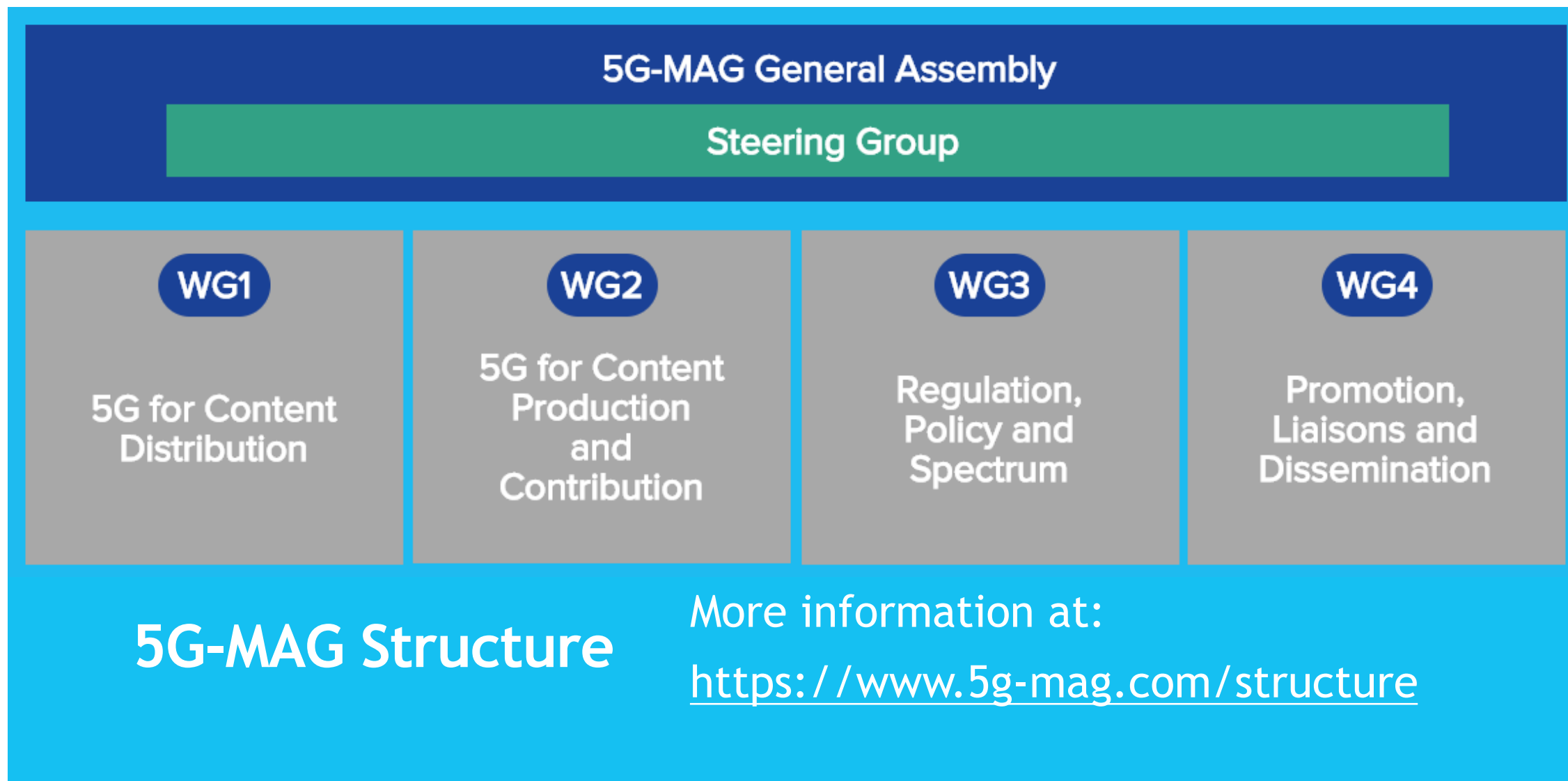
Equipment availability and market size

- Analyse the requirements in terms of **network equipment**, **terminals** and **infrastructure** that could foster global deployments

The role of policy makers

- Supporting a long term vision for the media sector as one of the important verticals
- Providing certainty to stimulate investment on equipment, networks and services

... to the Market



Our Members

5G-MAG invites all stakeholders to raise the awareness of 5G as a key technology for the media industry



Many Thanks!

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