Updates from 5G-MAG: The Media Connectivity Association

By Jordi J. Gimenez

5G-MAG is a neutral, international, not-for-profit association driving standards into deployments to boost current and future connected media applications. Our idea is simple: a specification only proves its value once someone has turned it into working software. So we pair the study of standards with open-source tools that anyone can try, test, and improve. As networks become more software-driven and AI plays a bigger role in media services, this hands-on approach helps ensure that the needs of broadcasters, producers, and service providers are heard early in both the 5G and 6G eras.

3rd Generation Partnership Project (3GPP) is the cornerstone of this work, defining the networks that carry our content. It also connects with other organizations that matter to media, such as Moving Picture Experts Group (MPEG), Internet Engineering Task Force (IETF), European Telecommunications Standards Institute (ETSI), and Digital Video Broadcasting (DVB), as well as CTA's Web Application Video Ecosystem (WAVE), the DASH Industry Forum (DASH-IF), and the CAMARA Project. Our job is to help these pieces fit together and report back to the standards bodies what we learn as we build and test.

From Specification to Software

The Media Connectivity Software Accelerator is the program and community that builds our open-source software. It includes Reference Tools, Testbeds, Deployment Kits, Validation

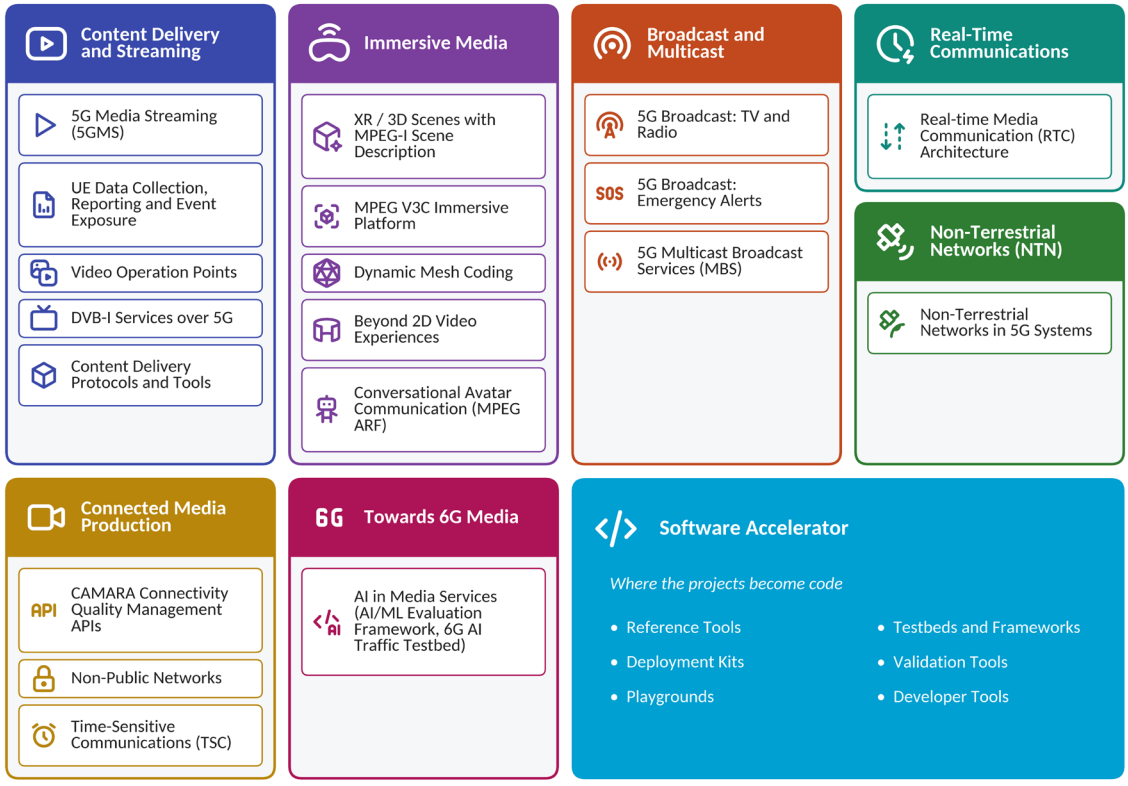


FIGURE 1. 5G-MAG technology areas and projects, with the Software Accelerator that turns them into code. Icons: Tabler Icons (MIT License).

Tools, Playgrounds and Developer Tools. Testbeds and evaluation frameworks are environments that produce measurements as evidence for standards work. As of 19 October 2026, it counts 68 project repositories (47 public and 21 in early access), 207 issues raised on specifications through GitHub, and 35 inputs and liaison statements sent to standards bodies. This feedback loop helps improve the specifications and keeps them practical for developers. Anyone can contribute code: no membership is needed, only a signed contributor agreement and a pull request on GitHub.

Seven Areas, Nineteen Projects

Our technology work is organized in seven areas, summarized in **Fig. 1**. For each project, we explain what the specification means in practice and, where possible, offer software to try it out. The goal is to lower the barrier to entry so engineers who don't follow the standards process can still pick up these technologies and use them.

Content Delivery and Streaming

5G Media Streaming (5GMS) lets media applications and mobile networks work together for live and on-demand content, in both download and upload. Related work covers how apps and networks share information about viewing quality, Video Operation Points, DVB-I over 5G, and delivery protocols. Open-source tools cover network functions, clients, and examples.

Broadcast and Multicast

5G Broadcast brings LTE-based terrestrial broadcasting to TV, radio, and emergency alerts, with PlugFests to help equipment from different vendors work together. Multicast Broadcast Services (MBS), introduced in 3GPP Release 17, efficiently delivers the same content to multiple devices, with tools for the core network, radio, and sender. ESA's NTN Forum recently showcased Release 18 MBS.

Immersive Media

Immersive formats need new ways to describe, deliver and play content. We study 3D scenes with MPEG-I Scene Description, volumetric video through MPEG V3C, Dynamic Mesh Coding, and conversational avatars, with open-source tools for each. The Beyond 2D Evaluation Framework is a test environment for assessing immersive video quality.

Real-time Communications

Not all media is streamed or broadcast. We study the 3GPP architecture for real-time media communication and build related tools so interactive services can make good use of the network. The aim is to understand what real-time applications need from the system and to give developers working examples to build on.

Connected Media Production

Professional production has strict needs. CAMARA network APIs let an application ask the network for a certain quality of connection. Non-Public Networks let several media flows with different quality needs share the same network resources. Time-Sensitive Communications address timing-critical use cases. Together they support production workflows that depend on predictable connectivity.

Non-terrestrial Networks

Satellites and high-altitude platforms can extend coverage to places that terrestrial networks do not reach. We examine how these networks can carry content both to the user and back from the field, and how multimedia delivery systems can run on top of them. The goal is to understand what media services can expect from non-terrestrial links.

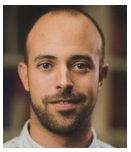
Towards 6G Media

Looking ahead, we want media needs to be part of 6G from the start. Two testbeds support 3GPP studies on AI and 6G media: the AI/ML Evaluation Framework, cited by 3GPP TR 26.847 for AI evaluations, and the 6G AI Traffic Characterization Testbed, which measures the traffic of AI services (agentic, multimodal, real-time) over simulated networks.

Get in Touch

We welcome questions and ideas. You can reach the team via Slack, LinkedIn, or GitHub, or email the Software Accelerator at reference-tools@5g-mag.com. To follow our work, see the 5GMAGazine, The Handshake podcast, and the recorded Developer Exchanges at www.5g-mag.com.

About the Author



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