Accelerating innovation...
in Telecoms, Tech, Media & Entertainment Convergence
Macro Challenges of Convergence...

Convergence is driving a video & content gold rush, disruption is everywhere:

- **FRAGMENTATION** across platforms, screens & devices
- **DISRUPTION** from new players e.g. OTTs competing on content, Studios going D2C
- **TRANSFORMATIONAL** paradigm shift from to software/ IP workflows in broadcast
- **IMMERSIVE TECH** – Race to 4K/UHD, HDR, VR & AR, AI & Voice, interactive gaming etc
- **VERTICAL** Integration e.g. Automotive partnering with platforms for infotainment
- **HORIZONTAL** Integration via M&A, partnerships & collaboration
- **REGULATORY DISPARITY** between telcos, broadcasters and OTTs
- **ESCALATING** competition sports & e-sports rights.
- **ORIGINAL CONTENT** budgets continue to escalate.
- **CORE REVENUES DECLINING** in voice & messaging for telcos
- **OPPORTUNITIES** for telcos in Media & Entertainment as they invest heavily in 5G & Fibre

TM Forum & IBC are working together to build a cross-sector platform to seed innovation, including partnering on a new Media-Telecom Catalyst initiative...
Collaborative, Rapid Fire, Proof of Concept Innovation Projects...

- Creating real solutions for broadcasters, OTTs, telcos, studios & content creators as Champions.

- They address real-life challenges in connected media & entertainment with objectives to solve pressing problems across these industries.

- Project cycle typically 3-4 months in a trusted environment, providing environment to explore new concepts without need to form commercial relationships.

- Collaboration with other expert members, accelerates R&D, (5 times faster than in-house), bring multi-companies together, with real requirements and feedback from Champions and industry colleagues.

- Showcasing solutions at TM Forum’s Digital Transformation World event in May and at IBC in September
Media Catalysts: Six Challenge Concepts...

**Live Sport Coverage Using 5G Drones:**
This existing Catalyst used Tour de France as its use case to show how communications service providers and broadcasters can enable new revenue streams by managing fan engagement and immersive experience. It demos 5G slice-based services including 4K video streaming, drone-based broadcasting, real-time 360 VR/AR and IoT-driven statistics.

**Anonymous Data API for Mobile Media Metrics:**
Monitoring advertising performance on traditional TV is commonplace, less so on mobile media - the fastest growing digital media segment. This challenge has held broadcasters back from monetising the medium. This Media Catalyst proposes developing an Open API that enables mobile network operators to anonymize sensitive audience data and share it with third parties, without compromising GDPR.

**VR, AR & Mixed Reality:**
The possibilities of VR, AR and mixed reality for the entertainment and gaming sector are set to grow with 5G. Early offerings tend heavily to sport, but broadcasters around the world are still exploring how to best use these new, immersive technologies to reach their audiences. This Media Catalyst could explore use cases from live, and immersive broadcasts, to behind the scenes tours, and stand-alone storytelling experiences.

**AI in Video Content Production & Distribution:**
AI creates many potential applications and creative opportunities for the media, broadcast, and entertainment industry, aside from its early deployment in personalisation of content for marketing, discovery, advertising and experiential innovation. A Media catalyst in this space could explore the specific challenges of handling, transporting, exploiting or distributing such large volumes of data, and the workflows required to achieve major AI projects.

**Using Blockchain To Support The Media Supply Chain:**
Blockchain can be used to help companies keep track of creative content assets, avoid contractual disputes and establish the certainty and accountability that will foster trust with business partners and customers. This Media Catalyst examines areas as diverse as royalty tracking and collection, crowdfunding of creative productions, digital advertising measurement or insourcing, distributing and tracking trustworthy news.

**Tackling Piracy, Proxies & Unblockers:**
VPNs, proxies and un-blockers can be used to unlock geo-locked shows that are not licensed for a particular region. This kind of piracy has morphed from torrents into "fully loaded" streaming boxes that make accessing unlicensed content push-button easy. This Media Catalyst could examine potential tech-led solutions to combat or block illicit access to content via these services, sites and devices.
Immersive Broadcasting Using 5G network Slicing & Drones: Tour de France Use-Case

Catalyst demonstrated how a movable 5G network that enables new immersive experiences can be dynamically planned, optimized, integrated and assured during the Tour de France.

The project demonstrates how service providers can enable new revenue streams by managing & launching 5G slice-based services including 4K video streaming, drone-based broadcasting and IoT-provided statistics at events like the Tour de France.

A 5G operator provides (and assures) multiple slices:
- eMBB slice for 4K drone video
- uRLLC slice for drone control
- eMBB slice for video and data (DL/UL) for roadside users and sport portal fans
- eMBB slice for rider’s telemetry

A moveable 5G network, creating an ever deeper, truly immersive experience for fan engagement.
New Media-Telco Catalyst Projects Under Way...

**5G Enabled Tourism Experience with Augmented/ Virtual Reality**

**BBC R&D, Aardman Entertainment, University of Bristol, CCS, Zeeta Networks**
Taking advantage of 5G technology enablers e.g. mobile edge computing, network slicing and service slicing, to enhance the visitor experience at heritage sites - creating content and the means to deliver it to a mixed augmented and virtual reality application.

**AI Content Indexing for On-Air Content Measurement & Regulatory Compliance**

**Al Jazeera, Associated Press, RTE, BBC R&D, V-Nova, Metaliquid, Tech Mahindra**
Deploying state of the art AI recognition & indexing techniques for on-air content monitoring, driving the automation of measurement for domestic and international regulatory compliance metrics.

**AI Newsgathering Using AI Powered Compression**

**Al Jazeera, Associated Press, RTE, BBC R&D, V-Nova, Metaliquid, Tech Mahindra**
Empowering mobile journalists and newsroom teams by improving efficiencies in bandwidth utilisation by using latest AI powered video compression techniques for mobile video transmission (in the face of fluctuating or unreliable network performance).

**Network Optimisation for Streaming Media through Closed Loop Assurance**

**Telstra, Broadpeak, Mediakind, Uhana & Arris**
Enabling the automated feedback of Network Performance via Closed Loop Assurance (CLA) to dynamically predict and adjust the quality of streamed video, ensuring a device and context-aware optimised video experience for consumers.
How 5G will transform the business of Media & Entertainment

- Over the next decade media and entertainment companies will be competing for a share of almost $3 trillion cumulative wireless revenues.
- Experiences enabled by 5G networks will account for nearly half of this opportunity (close to $1.3 trillion).
- By 2025, 57 percent of global wireless media revenues will be generated by using the super-high-bandwidth capabilities of 5G networks and devices.
- The 5G revenue uplift to 2028 is estimated at more than $765Bn