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5G VISTA

Be Better Connected

23rd March 2021





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5G POWERED SPORTING EVENT

[INTRO BY DTG]

Objective:

An alternative 'in-stadia' viewing experience of national sporting events

- live multi-angle HD video streams and interactive content from the event
- direct to devices in stadia and across the UK

The new Service will be based on *5G New Radio* and *Further enhanced Multicast Broadcast Multimedia Services (FeMBMS)*

The project will explore both the *technical* and *commercial* elements of the provision of this service.



5G VISTA - A POWERFUL CONSORTIUM

[INTRO BY DTG]

The following companies have joined to test and demonstrate the technical feasibility and the business potential of the FeMBMS features in 5G:

- [Digital Catapult](#) for the 5G test network, validation of the business cases and assessment of further applications and market verticals
- [DTG](#) as project management, coordination and collaboration with the creative industries
- [GWS](#) for consumer research from an MNO perspective
- [Rohde & Schwarz](#) to provide equipment, systems and expertise for a multicast/broadcast overlay network based on FeMBMS
- **O2** [Telefonica](#) as a Mobile Network Operator and link to sporting associations and venues, and provider of 5G networks for showcase events

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THE 5G VISTA PROJECT WILL DELIVER

A series of demonstrations of the proposed functionality:

- A demonstration of an exemplar service in stadia and at secondary locations
- Commercial use cases defined for the use of FeMBMS in mobile networks and devices
- B2B engagement events, interviews and surveys to aid the development of credible business models
- Consumer engagement events, interviews, surveys and testing to ensure we build experiences which are valuable to the market and its users
- A series of “easy to digest” highlights and briefings to educate the market on the value of the experiences developed, the technical learnings and potential exploitation opportunities in stadia and beyond
- Mid and end of project reports highlighting the main outcomes and opportunities, technical learnings, recommendations and next steps

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WHAT IS IT & WHY VISTA?

BY O2 TELEFONICA

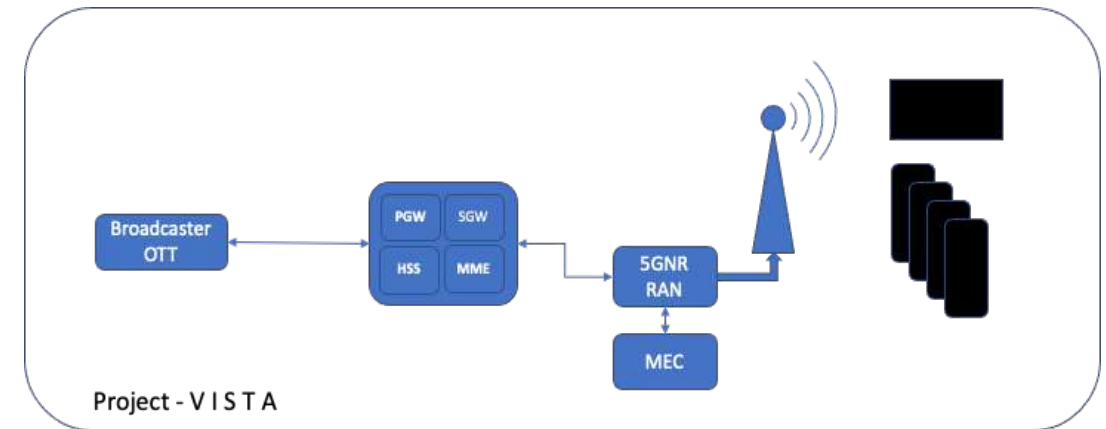


WHY VISTA?

[BY Telefonica]

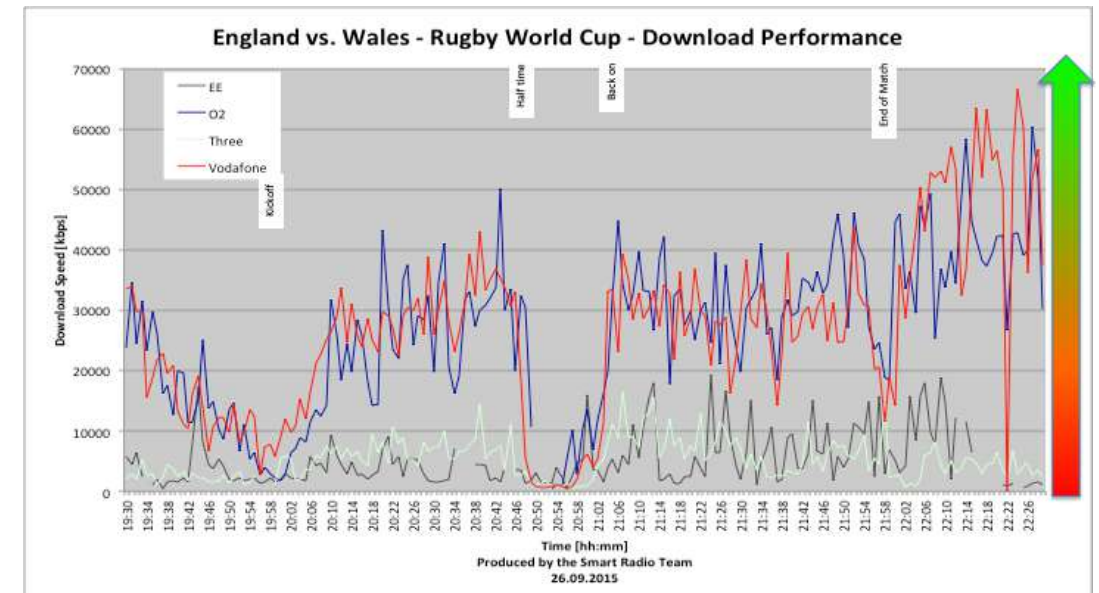
What is the problem we are trying to solve?

- Live sporting events provide a service challenge for the mobile network operators:
- On match days large numbers of people in Stadiums, create a massive demand for data, which can be particularly problematic at key points of the game.
- This can mean that customers will struggle to stream and post content, and become dissatisfied with the service provided.
- This is because 4G & 5G networks rely upon OTT TCP/IP unicast streaming technologies today..
- Put simply Unicast streaming is simply not suited to high demand applications in high demand areas, and therefore can result in reduced quality at peak times.
- And with the limited usage of a stadium venue over a year, it can make it challenging to support the Investment required, to deliver a premium OTT service.
- As a result new services that would generate additional revenues, are never implemented.
- So we need an effective low cost solution...



Standard unicast mode

Mobile infrastructure would struggle to deliver premium OTT service with a stadium environment, due to the limited bandwidth, and cost constraints..



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OUR SOLUTION

BY ROHDE & SCHWARZ



5G VISTA - OUR ENVISAGED SOLUTION

[BY Rohde & Schwarz]



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What is further enhanced Multicast Broadcast Media Service (FeMBMS)?

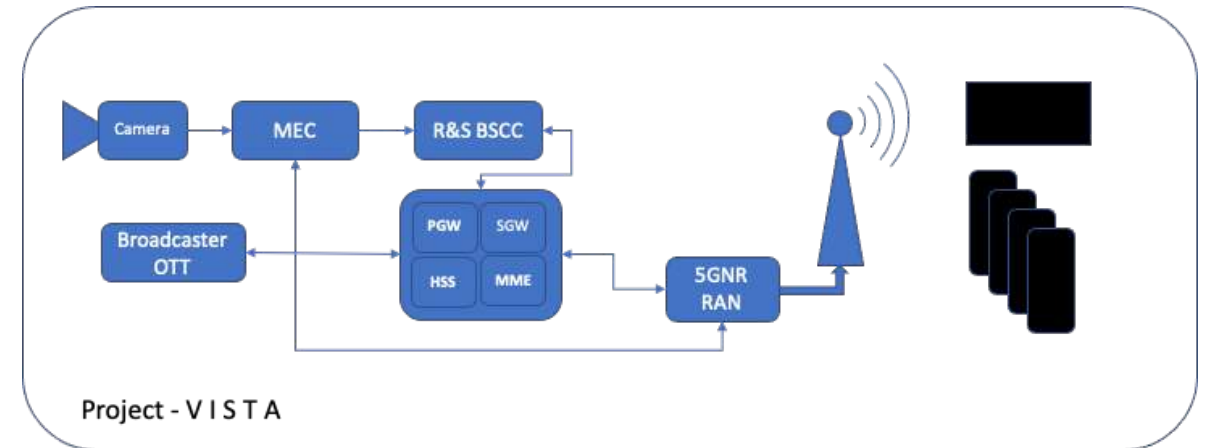
Multicast services are based on the principle of a one-to-many broadcast. This allows for a premium video service to be broadcast as an overlay network, just once. The technology we have chosen for VISTA is FeMBMS, and has the potential to provide service to an unlimited number of customers within a desired coverage area.

From an architectural perspective, a 5G NR Multicast Broadcast Media Service Network is composed of multiple functional elements, in addition to the standard 5G NR network components.

Freeing up the mobile infrastructure for the usual traffic, such as text & messaging, social media, and browsing.

Finally, this solution is relatively low cost, meaning the necessary investment can be kept within a reasonable constraint, whilst providing a premium rate video service, and an excellent business opportunity.

Going Glass to Glass



VISTA allows traffic to be split between standard unicast and multicast/ broadcast service

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USE CASES

BY O2 TELEFONICA



5G VISTA - SELECTED USE CASES

[BY Telefonica]



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From a variety of possible use cases, we selected four to focus on:

Three customer use cases:

- **Live audience**

The aim of this use case is to develop and evaluate a 5G multi screen experience for fans at a live sporting event. This will allow them to experience and access multiple 1080p video streams of the event they are attending in near real time, with the ability to choose from multiple camera angles. Provided via a smartphone app.

- **Remote audience**

This use case is aimed at fans at an external location to the stadium to experience live multiscreen sports. This will use the same app as the live audience use case.

- **Larger screen demonstration**

This use case is to provide near real-time video content to a large screen 65" QLED in a VIP box in the stadium. This will be a 4K video stream.

Technical use case

- **Capacity improvement assessment**

We want to assess the capacity gain within congested stadiums to help bolster the business case. This use case will investigate a comparison between a more traditional TCP/IP OTT service, versus FeMBMS broadcast.





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5G VISTA: THE 5G POWERED SPORTING EVENT

“We are excited to play our part in the development of this ground-breaking initiative; working with industry specialists to create something innovative and exciting that will not only enhance our customers’ experience at events, but add a whole new and exciting dimension to live sports”

Brendan O’Reilly, CTO, O2 Telefonica

THANK YOU

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