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How digital tools are bringing projects like the A303 Stonehenge upgrade to life

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NEWS

How digital tools are bringing projects like the A303 Stonehenge upgrade to life

One of AECOM's digital experts, **Andy Thomas**, talks to *Infrastructure Intelligence* about the major road project and how new technology has helped teams present the vision like never before.



Ryan Tute

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Topics

Digital engineering

In 2017, AECOM was awarded an eight-year contract with Highways England to be its technical partner for the A303 Stonehenge Expressway.

Working with supply chain partners, the firm has been responsible for delivering a range of services to support all phases of the project in upgrading the eight-mile Amesbury to Berwick Down stretch of the A303 from single to dual carriageway.

What value do immersive technologies hold and what specific tools have had the biggest impact in making schemes like the A303 more of a reality?

An extensive package of visualisations, animated drive-throughs and interactive apps of the planned route and tunnel were produced for the consultation stage of the A303 Amesbury to Berwick Down improvement project. This involved digitally recreating a photorealistic representation of around 16km² of the existing site and surrounding English countryside, including the iconic Stonehenge monument itself. The work was a key feature during public consultation events.

We also created an interactive virtual reality app, enabling the public to view the impact of the scheme across 360 degrees at key locations surrounding the site. This really helped to create an

informed debate during important consultations.

It was highly effective in aiding the early engagement with heritage bodies too, commended by the International Council on Monuments and Sites (ICOMOS) as an indispensable tool in understanding the proposals.

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**Andy Thomas,
AECOM.**

How important is something like virtual reality in bringing plans to life and specifically allowing for stakeholder collaboration?

For this project, the use of virtual reality has enabled clear communication of the proposed improvements and their environmental impacts to the public and stakeholders. In an industry first, AECOM employed cutting-edge visualisation and auralisation (sound demonstration) techniques, including portable interactive virtual reality apps, to clearly communicate the landscape and soundscape changes resulting from the proposed scheme. This helped stakeholders and communities understand the proposals, provide an informed response and participate in the consultation process.

Before the adoption of such tech, what were the traditional methods of trying to demonstrate the proposed plans for major

road schemes?

Before immersive technology (virtual reality and augmented reality), communication methods included two-dimensional plans, drawings or traditional visualisations such as Computer Generated Imagery (CGI). Whilst these are still useful communication tools – and were still created for the A303 scheme – the added use of virtual and augmented reality enabled users to experience the design from 360 degrees. This brought a greater sense of scale and 'presence', ultimately aiding communication of the proposals to clients, stakeholders and the public.

Two-dimensional plans can be hard to interpret and it is often a natural response for users and local communities to be sceptical about the impacts of construction projects. However, with advanced visualisation and immersive technology, it becomes possible to convey greater realism and enable the public to see a much clearer picture of a proposed scheme, resulting in them having a better understanding of what is proposed.

How have digitalisation tools changed the way large-scale projects like the A303 are communicated to the public beforehand or in the way they are delivered?

Given the importance of gaining public buy-in for major infrastructure, inviting them to experience something interactively through virtual reality is infinitely more engaging than handing them a flyer or technical drawing. Going beyond what is expected really matters because it shows that the public are deeply considered during major infrastructure developments.

Is there any resistance for adopting new technology still and does more need to be done to demonstrate the benefits to the wider public?

Any new technology can be intimidating, but once people understand it or see the benefits, it can be very powerful. Highways England and AECOM have demonstrated how useful this technology can be, and the public and stakeholders have reacted very positively.

Andy Thomas is the head of Visualisation & VR – Europe, Middle East and Africa, AECOM.

If you would like to contact Ryan Tute about this, or any other story, please email rtute@infrastructure-intelligence.com.

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