

# Textus

Mark Fletcher Richard Greer  
Dan Lister Karen Walters

## Introduction

Arup has often worked with artists to deliver innovative public realm projects, most notably in the case of *The Angel of the North*<sup>1</sup>. *Textus* is a very different kind of artwork, created with animated light - a large-scale projection on a prominent development site at Leeds in the north of England.

It began as a collaboration between Arup Director Mark Fletcher and Peter Coates, an internationally recognized artist<sup>2</sup> who has been supported by Arup through his NESTA Fellowship (National Endowment for Science, Technology and the Arts) since 2005. Both had envisaged an artwork to celebrate the 800th anniversary of Leeds' establishment by charter in 1207.

As a sculptor and carver, the artist had previously produced several prominent pieces, including the James Hill monument at Gateshead, UK, *The Present Order* in Barcelona, and collaborative work at the Tate Triennial, London, with Ian Hamilton-Finlay. Through the NESTA partnership, he was considering the exploration of new media in his work, and felt a temporary piece using light would both extend his artistic range and be an innovative work appropriate for the occasion.

Coincidentally, as part of the 800-year celebrations for the city, Leeds Light Night was to take place on 12 October 2007. This annual festival is run by the City Council to encourage arts professionals to engage with businesses and communities across the city. It was decided that the development of an innovative light art piece was feasible, and an Arup project team was established to deliver *Textus*. The brief included working with Peter Coates to develop the work, locating a viable site in central Leeds, securing arts funding for the piece, and ensuring that it was delivered in time for the Light Night deadline. It would then display for two weeks.

The project drew on a range of Arup skills, including marketing professionals to communicate the importance of supporting *Textus*, not only in terms of generating cultural value but also to enhance the profiles of the artist, the developer, the sponsors, and the city.



1. *Textus* drew on the Latin text from the 800-year-old charter that marked the founding of Leeds, digitally rendered into 800 layers that independently and randomly moved to create a new and unique visual every 30 seconds for the two-week projection period.

**“*Textus* is an extension of my interest as a sculptor in civic inscription... Using the Lifting Tower as a cypher of Leeds’ industrial past, the artwork seeks to give status to the structure, to allow it once again to inhabit the space through the exploration of its distinctive character and bring it forward as an object for commemoration.”**

Peter Coates, artist and NESTA Fellow



### The site: Wellington Place

Wellington Place is a large (approximately 250 000m<sup>2</sup>) mixed-use development - one of the biggest outline planning applications ever granted by a UK local authority. It is significant by the city, transforming its West End into a vibrant and active quarter. When complete, the 5.6ha site will provide office, retail, residential, hotel, cultural showcase, and public entertainment accommodation. Arup is the prime engineering consultant, with a multidisciplinary team incorporating site development, infrastructure, utilities and energy, civil, geotechnical, SMEP, building physics, acoustics, and fire engineering.

As part of this major development, MEPC intends to host cultural events on the site during the 10-year construction period - and this made Wellington Place a logical choice to host *Textus*. After examining other possible locations, the team confirmed Wellington Place not only because *Textus* would fit into MEPC's cultural strategy for the development, but because the historic grade II listed Lifting Tower on the site was a highly appropriate location for a commemorative piece. It also enabled the Arup team to work very closely with an important client to deliver something truly unique to the client's public realm offering.

All key partners involved in Wellington Place, including Arup, supported *Textus* financially. This, with arts and business funding also secured by the Arup project team, made the project feasible.

### Listed building as artistic canvas

The former truck-lifting tower once formed part of Wellington Street station, and is the only surviving building of the Great Northern Railway Central Station complex in Leeds. It dates back to 1848 and was used to lift trucks from the low-level goods station to the high-level passenger line on the nearby viaduct arches, which now only exist as ivy-covered fragments. The station closed in 1967, but the Lifting Tower escaped demolition and was eventually listed. It is surrounded by the new developments of West End Leeds, and future buildings such as Lumière Tower will soon rise beside it. The Lifting Tower thus looks both forward to the reborn, regenerated area of the city that West End Leeds is becoming, and back to the transport hub of which it was once a part and which made Leeds a crucible of the Industrial Revolution.

The bold rectilinear profile of this prominent heritage feature at the site entrance made it highly suitable to form a giant "canvas" for the *Textus* projection. As it was listed, however, the tower was subject to preservation orders, and so the work had to respect this and have minimum physical impact. The building's useable façade was some 14m wide by 22m high. A single cladding sheet of this size would have been costly and create handling difficulties, so the chosen material approved by the artist was a series of vinyl-coated fabric scrim pieces. The three 5 x 25m pieces had less wind resistance, and at 35kg each were lighter to handle but still durable.

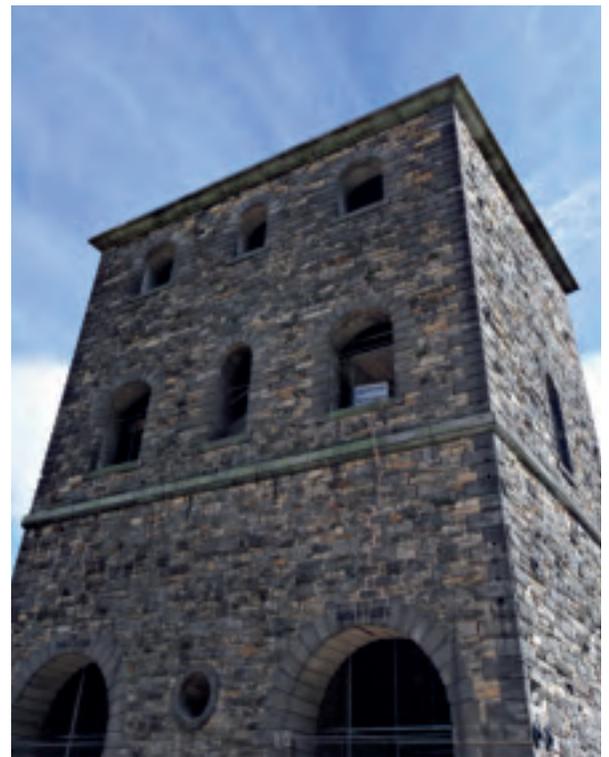
This project was particularly weather-sensitive. The cladding could easily turn into a "wind sail" - a hazard to site staff and members of the public alike. To minimize this risk, and the impact of the work on the building, the team erected a proprietary system-built scaffold, braced to the façade by tubes attached to horizontal foam-wrapped tubes behind the window openings. This avoided any mark or damage to the building. The scrims were attached by tensioned cables to the frame, which was then secured at ground level.

### Site constraints

The first task was to pinpoint a suitable location for the projection equipment. There being no appropriate enclosure, a temporary housing was constructed on the perimeter of the Lifting Tower square. The tower is on the periphery of a demolition site and the edge of the construction area for the development's marketing suite. These works around the tower were phased so as to limit their impact on the two-week temporary installation.



3. A potential setting for the Lifting Tower within the future development.



4. The Lifting Tower façade was ideal to display *Textus*.



5. Site plan.

There was also the constraint of existing light sources, but it proved possible for the existing ambient light levels within the Lifting Tower square to be reduced and thus maximize the visual experience of *Textus*. Following the success of the event, the client requested that the proposed exterior lighting scheme be altered to allow for similar projection events in the future.

### Lighting design and digital animation

The team engaged an expert digital consultant to advise on the best application and approach to the use of projections for *Textus*, and thereafter to manage the technical aspects of the projected content.

Rather than the final projection be of a pre-recorded sequence, it was decided that the artwork would be generated “live” for the entire duration of its installation. The piece of abstracted Latin text from the original charter script that formed the basic content of *Textus* was digitally rendered into 800 layers that independently and randomly moved to create a new and unique visual every 30 seconds for the two-week projection period. The final piece was thus an evolving animation, and programming language was needed to dictate the random movement of the 800 individual graphic sheets of the artwork. Not only were the graphics themselves subject to linear movement, but an invisible “camera” moved across the overall visual, giving the impression of significant movements in three-dimensional space.

The image was projected onto the side of the Lifting Tower using two 12 000 lumen LCD projectors (the brightest available) mounted one on top of the other in the projection box. The computer-generated image was split within the software and outputted to each of the projectors so that each unit displayed half the overall image. This ensured that the viewing public saw no repeat footage.

### Marketing campaign

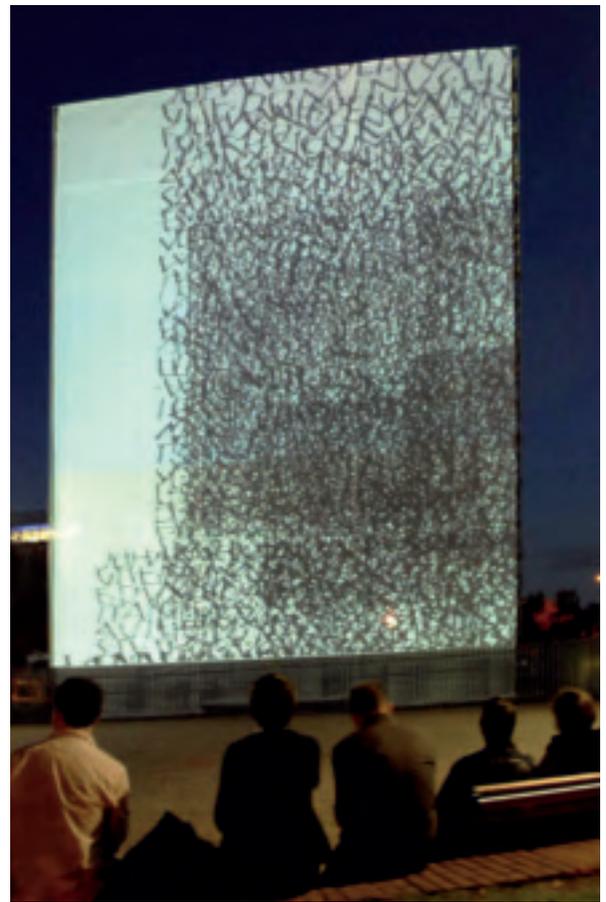
Alongside the technical challenge of designing and mounting *Textus*, Arup managed the marketing campaign to support the project. Marketing activities, undertaken in collaboration with the client, MEPC, included media relations, which involved bringing on board two major regional newspapers, *Yorkshire Post* and *Yorkshire Evening Post*, as partners to secure positive and wide-ranging media coverage. In addition Arup worked to ensure that the project was prominently featured in local council literature, on its website, and via other electronic communications tools promoting the 800th anniversary events.

A new website on Light Night was launched, together with brochures, invitations, and flyers promoting the launch event with sponsor logos and associated branding; *Textus* became an integral part of all these. This major promotional campaign raised awareness of the initiative in and around the city regions, encompassing pre-launch publicity and profile-building initiatives, and culminating in the major launch event at the site, which attracted more than 1000 visitors on the first night.

### Conclusion

*Textus* showed how exciting and innovative public realm art can inspire communities and generate profile for the artist, the host city, and sponsors. Arup was proud to be a driving force in making the project happen. *Textus* was the first opportunity that MEPC had to showcase the site to the general public, and Arup’s drive delivered a project that was a collaboration between the arts and business to deliver a unique work, an undertaking that was of value to the artist, the city, and the developer.

In technical terms, *Textus* demonstrated the use of innovative solutions to complex design challenges, including cladding a 22m structure without touching the body of the building, and finding ways around the restrictions of delivering the project on a working building site. In addition, state-of-the-art digital technology was mobilized to deliver an animated piece of considerable magnitude.



6. *Textus* contemplated by the citizens of Leeds.

**Mark Fletcher** is a Director of Arup, based in the Leeds office. He was the Project Director for *Textus*.

**Richard Greer** is an Associate Director of Arup in the acoustics group, based in the Leeds office. He was the Technical Director for *Textus*.

**Dan Lister** is a senior engineer with Arup in the Sheffield office. He led the lighting design of *Textus*.

**Karen Walters** is marketing manager for Arup’s Leeds office. She was the Project Manager for *Textus*, and also organized the supporting marketing campaign.

### Credits

Client: MEPC Artist: Peter Coates Marketing, site development, lighting design, and electrical consultant: Arup - Richard Bickers, Julia Brown, Mark Fletcher, Richard Greer, Dan Lister, Karen Walters Digital animation consultant: Paul Emery Arts consultant: Sue Ball Illustrations: 1, 2, 6 Adrian Murray; 3 MEPC; 4 Richard Wall; 5 Nigel Whale.

### References

- (1) BROWN, M, et al. *The Angel of the North*. *The Arup Journal*, 33(2), pp15-17, 2/1998.
- (2) <http://www.peter-coates.com>.