

# Tony Gee News



## Leading the way in mass passenger transit

The Gateway Bridge was successfully transported and installed ahead of schedule



PHOTOS BY VOLKERFITZPATRICK-KIER JV

Tony Gee is the Lead Designer for the new Luton Direct Air Rail Transit (DART) scheme providing a new 2.1km mass passenger transit (MPT) system between Luton Airport Parkway station and Luton Airport terminal.

The MPT will be a fully automated and driverless system and will provide fast, frequent and reliable transfers using a modern, sustainable (electric) and efficient system.

Working for VolkerFitzpatrick-Kier JV, Tony Gee undertook a broad range of design services including architectural, civil, structural and fire engineering design for a 380m landmark viaduct, a 70m feature bridge, the earthworks cut-fill, a 345m cut and cover tunnel and a submerged box structure station. The box structure used top down construction methodology for one half of the structure with a permanent propping slab at ground level to allow more rapid construction and reduce temporary works. In addition, large volumes of spoil were reused in fill sections, or were moved to on-site storage areas reducing material waste and the effect of transportation on the surrounding area and environment. The viaduct steelwork was installed recently, and the concrete deck is now being cast.

## Making connections downunder

Tony Gee has recently been awarded a key design role on the \$323.7 million Echuca-Moama Bridge Project in northern Victoria, Australia.

As part of the state's largest infrastructure project the new crossing will connect Echuca and Moama to provide travel access across the

Campaspe and Murray rivers.

Working for McConnell Dowell, Tony Gee will be involved in stage three of the project as Lead Designer of the Murray River Bridge. The new bridge will help to reduce traffic on the existing Murray River Bridge which in turn will improve industry productivity in the region.



## City of dreams

The Morpheus Hotel, which forms part of the City of Dreams leisure complex in Macau Cotai, recently won the Construction Innovation Award at the IStructE's Structural awards. The award is for projects demonstrating structural engineering excellence and innovation in the design of temporary works and construction processes. Tony Gee designed the temporary works required to support the steelwork of the hotel during its construction.

## Value added

The world is changing fast and our industry is being challenged to do the same.

New technologies, particularly in the area of BIM and the use of geospatial data, in design, construction and throughout the life of the project are enabling us all to think laterally and evolve industry best practice. The way we are contracted is changing too, with many more projects looking to reward value and outcomes, not just inputs.

Tony Gee has always had a reputation for leading edge design and delivering what clients need; always working collaboratively under a variety of contractual mechanisms. A big part of this success is about being honest, open and inclusive – pooling our ideas with those of our clients to deliver the best solutions under the best contractual mechanisms.

Tell us what you want from us, now and in the future, and how we can help you to improve your project outcomes, and we stand ready to deliver.

Internally we are constantly looking for ways to be more efficient and add value, but our goal is to work with you, not for you, to enable better project outcomes for all.

So next time you have a meeting with one of our engineers, our business development team, or our BIM designers please take the chance to challenge them to be better. Help them understand what your business really needs from us and together I am confident we can continue to deliver world class projects in even the most challenging of times.

**Chris Young**

Executive  
Managing  
Director



## 'Big Carl' prepared for action

The world's largest land-based crane has started work at the Hinkley Point C nuclear power station site. The crane, named 'Big Carl' after Sarens' technical director, will lift all the heaviest construction elements for the new power station.

Tony Gee worked in collaboration with BYLOR, a Bouygues TP and Laing O'Rourke JV, to design a 500m-long reinforced concrete foundation to support Big Carl, using 24,000 cubic metres of concrete and 7,000 tonnes of steel reinforcement.

Most of the reinforcement was prefabricated locally and lifted into place onsite to streamline construction. Tony Gee processes were adapted to meet BYLOR requirements, including

reinforcing and fixing the prefabricated cages directly from the 3D model prepared in-house. This meant understanding the client's modelling procedure and liaising with the software developers on design for manufacture and assembly reinforcement.

Big Carl (SGC-250) runs along 6km of rail track and will undertake 700 significant lifts, with a maximum weight of 1,600 tonnes.

Construction of the 40x40x19m tall reinforced concrete pool bunkers is also underway with movable roofs providing weather-tight conditions for the assembly of large elements of the nuclear island. prior to lifting by Big Carl.



'Big Carl' is the biggest land-based crane in the world



250m tall in its tallest configuration



Capable of lifting 5,000 tonnes at a radius of 40m



Powered by 12 engines

## Delivering the longest suspension bridge in the world

Working for ARUP, Tony Gee is designing the temporary works and platforms for the main cable erection, and checking the deck erection gantry design. The team is also providing site support during construction.

The Çanakkle 1915 Bridge in northwest Turkey, currently under construction, is set to become the longest suspension bridge in the world. Once completed, the bridge will be 4,608m long with a central span of 2,023m. It is a key component in the country's Vision 2023 Master Plan.



# Underpass innovation kicks off

The new £17.8m White Hart Lane Station, located minutes from the Tottenham Hotspur Stadium, has opened in time for the 2019-2020 football season.

Tony Gee, as Lead Designer for Vinci Construction, provided inspired design changes to reduce cost and disruption, and design assurance services on the project.

Working alongside Vinci, the team put forward an innovative, alternative means of construction

that saved time, money and disruption on the underpass under the existing rail line.

The project used box-jacking techniques rather than the open-cut method originally developed by others, and as a result the track did not have to be dug up and the disruptive possession requirements for the railway were reduced to an absolute minimum. The result was more cost-efficient and safer to construct.



## Focusing on the future of Temporary Works

Tony Gee's Temporary Works Director, Jim Tod, has recently been appointed as a Director of the Temporary Works Forum.

The Forum aims to encourage open discussion of any matter related to temporary works, and strives to promote best practice in the construction industry.

Speaking on his appointment, Jim commented that "It is an honour to be part of such a recognised Institution and I look forward to raising the profile of temporary works and contributing to the development of the profession."

The Forum is open to any organisation within the industry whether client, permanent works designer, contractor, temporary works designer, proprietary equipment supplier, specialist, industry body or academia.

## In the frame...

Working in a highly successful team with BAM Nuttall, Tony Gee has been awarded a key support role on the CP6 Multi-Functional Design and Construction Framework for Network Rail's South East Route.

The Framework will help deliver over £500m of rail work over the next five years to the busiest and most congested routes in the UK.

This Framework will build on Tony Gee's successful delivery of similar schemes in the Route for CP5 and will be a mix of civils, buildings, geotechnical and electrification schemes.

There is also potential for larger enhancement schemes which has already started with the delivery of Sandwich Station capacity upgrade.



## Tapping aviation's potential

Tony Gee has joined the British Aviation Group as part of a new global initiative in the aviation sector.

The Group is the leading representative body for British companies involved in aviation, airport development and operations.

Tony Gee already has significant experience in this sector including involvement in the design and construction of terminal and hangar roofs for airports in South Korea, Malaysia,

Hong Kong, Abu Dhabi and London Heathrow.

This experience means it is well positioned for involvement in further exciting aviation opportunities that are arising worldwide.

Executive Director Neil Farmer is co-ordinating the expansion of Tony Gee's work in the sector and is looking for opportunities to build collaborative relationships with other designers and contractors, a process that has already begun.



Marc Glass has joined our team in Birmingham as a Group Director. Marc, who has extensive experience delivering highways projects worldwide, will expand our highways capability and capacity.

## Contact

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## Bridges bring prosperity to Uganda

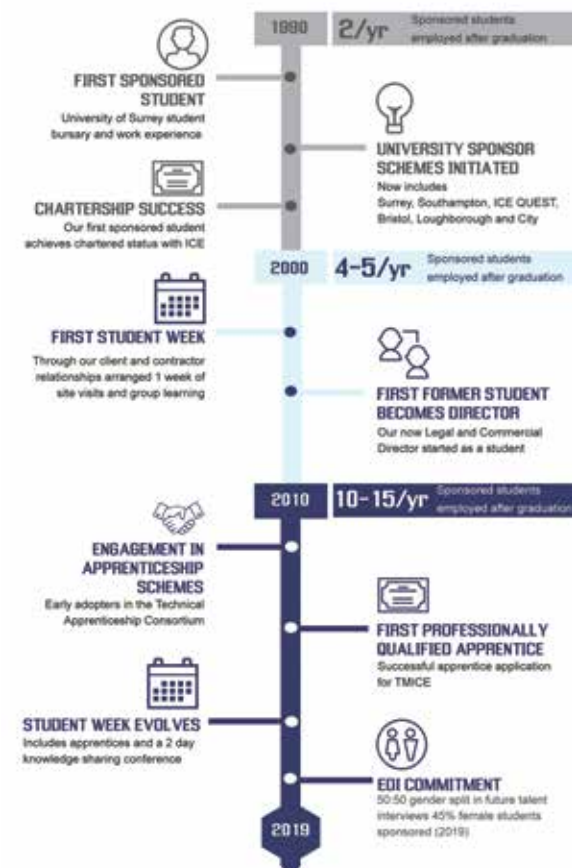
As part of ongoing support for the charity Bridges to Prosperity (B2P), volunteers from Tony Gee and Knights Brown successfully completed the construction of a new footbridge in Uganda earlier this year.

Now in its fourth year, the project this year saw volunteers faced with the challenge of building a 64m long suspension bridge over the Bukwo River, near the village of Lulwo in just two weeks. The team also needed to raise the £15k to fund their travel and the necessary construction equipment.

The team, made up of five volunteers from Tony Gee and five from Knights Brown in fact raised over £17k for the project and completed the bridge construction ahead of schedule. The new bridge will provide year-round safe access to essential services for the local communities.

Commenting on the experience, Tony Gee's first international volunteer, Shermein Wong, said: "Coming from the Hong Kong office, I was fortunate to be given the opportunity to be part of this exciting project. The volunteer team got to witness first-hand how the bridge would benefit the local community and to see how pleased they were to finally have safe and secure access across the river. It is an under-statement to say that they were appreciative of our efforts!"

## 30 years of sponsoring future talent



## Inspiring future generations through play

**Tony Gee is working with Dream Networks to help inspire the future generations through creative and imaginative play.**

Dream Networks is a not-for-profit community-interest company which exists to enable businesses, communities and educational institutions to collaboratively design and build sustainable play areas in disadvantaged communities.

The charity runs a programme, entitled Love Plays, which addresses the global need for children to develop mentally and physically through outdoor play; supporting the growing need for the playful and practical application of STEAM (Science, Technology, Engineering, the Arts and Mathematics) in school; and to help cultivate the next generation's passion for global sustainability issues.

The Love Plays programme has seen community-tailored play areas creatively designed engaging with school-aged children, and these

sustainably built in disadvantaged areas.

In Tony Gee's first project with the network, volunteers from the Birmingham office will work alongside students at St. John's and St. Peter's CE Academy to design their own playground, using the children's ideas. This will then be built on the pre-existing playground space. The design process is currently underway with construction due to take place next year during the 2020 Easter holidays.

Our volunteers working with Primary School students



Tony Gee has retained its Gold Investors in People Accreditation