A GOLDEN OPPORTUNITY

It's fair to say London 2012 exceeded all expectations. Team GB's Olympic and Paralympic athletes polled a record-breaking third spot in the overall rankings, excelling on the track, in the velodrome and on the water. Also, widespread public skepticism, so apparent in the run-up, soon turned to excitement once the Games began.

Even the commotion over security in the weeks before the opening ceremony faded as the extravaganza gripped the nation. The biggest surprise may just have been the Olympic organising committee LOGOG's logistical delivery, with construction and transport hailed as notable high points - marked by precious few hiccups during the month-long spectacle.

Onwards and upwards

Such a clean, smooth delivery may well yet kick-start the construction sector, breathing into it a new lease of life and a much-needed confidence boost. M & E contractors rely heavily on construction and many hope that the momentum generated by an exemplar Olympics and Paralympics delivery will propel the new technologies applied across the Olympic Park and other venues into mainstream markets.

"Having seen the Olympic construction projects, what can be said with some certainty is that it's a tremendous advert for the UK construction industry," says Steve Brawley, Chief Executive of the Joint Industry Board (JIB) the body that oversees working pay and conditions. "Fears over costs and delays were put to bed and it really showed off what we're capable of," he declared.

The Games could have major implications for those employed in the sector, he adds. "One of the most significant initiatives from the ODA [Olympic Delivery Authority] was that all electrical contractors had to be JIB-registered operators. This meant we were all in agreement over pay and working conditions. Everyone had to have an ECS card and they were dealing only with competent workers."

The JIB had been part of Heathrow Terminal Five's Major Project Agreement and Brawley believes that a streamlined approach to sourcing contractors allows work to be carried out more efficiently.

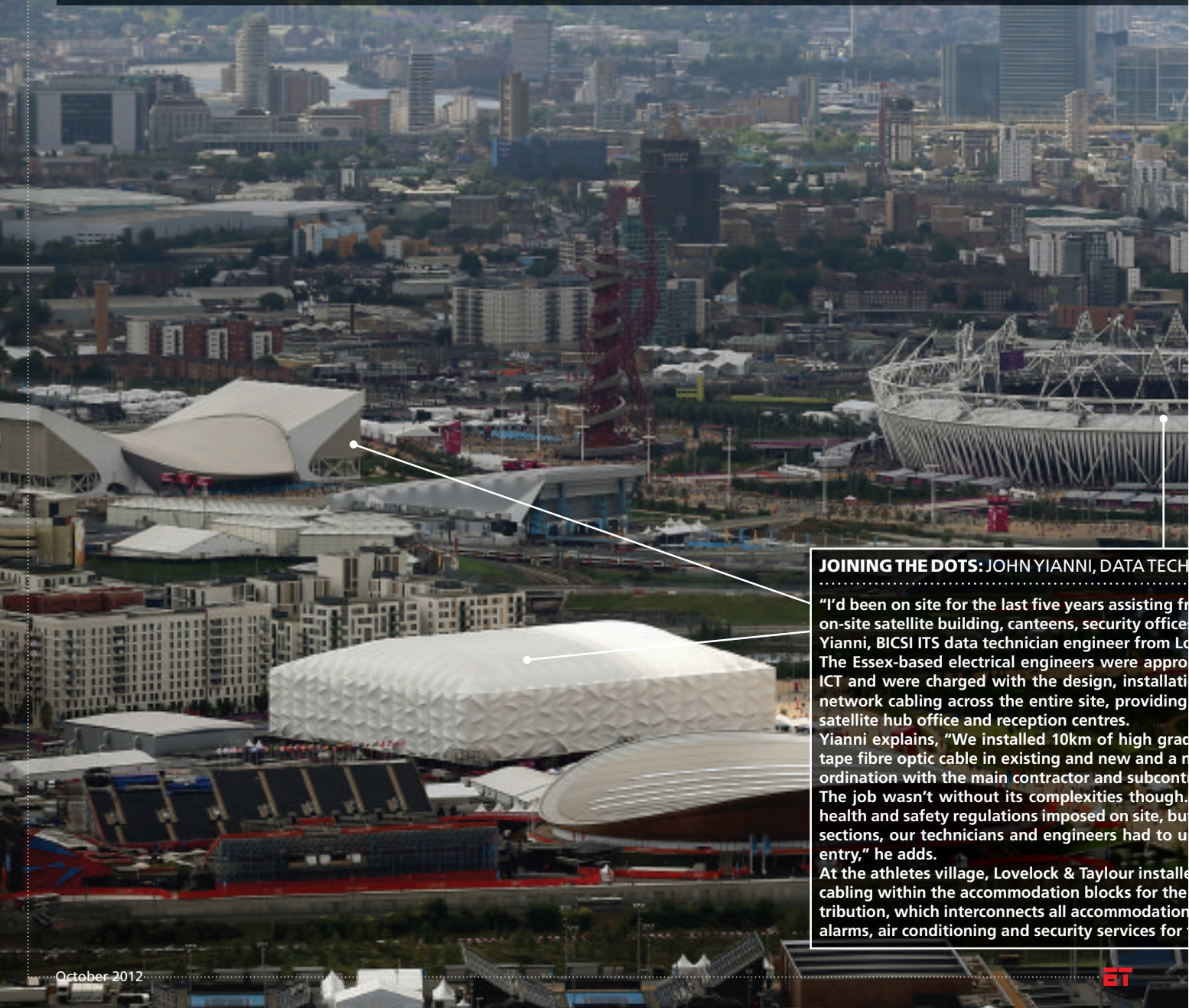
"We saw a few problems with the construction of the Jubilee line in the late '90s but the ZAP [Zero Accident Potential] initiative has led to continual improvements in the excellence rate in our industry," he continues. "We hope that a deal will be done for the Crossrail works as well."

Typically, JIB's 1,200 members are SMEs employing up to ten staff – a 20,000 M & E workforce out of the 40,000-50,000 active in the industry, so Brawley is justified in his sense of optimism going forward.

Games' failings

The Olympics has created a real sense of enthusiasm and pride in the industry, insists Brawley, adding that it offers "a much needed boost" and proves that the industry is capable of delivering "the biggest, most high-profile jobs".

However: "To say London 2012 was a



JOINING THE DOTS: JOHN YIANNI, DATA TECH

"I'd been on site for the last five years assisting fr on-site satellite building, canteens, security office Yianni, BICSI ITS data technician engineer from Lo The Essex-based electrical engineers were appro ICT and were charged with the design, installati network cabling across the entire site, providing satellite hub office and reception centres.

Yianni explains, "We installed 10km of high grad tape fibre optic cable in existing and new and a r ordination with the main contractor and subcont The job wasn't without its complexities though. health and safety regulations imposed on site, bu sections, our technicians and engineers had to u entry," he adds.

At the athletes village, Lovelock & Taylour installe cabling within the accommodation blocks for the tribution, which interconnects all accommodation alarms, air conditioning and security services for

The 2012 legacy may only just be finding its feet but thanks to first-class delivery by the UK electrical contracting industry, it's shaping up to be a success story of the Games, as the construction sector gains new confidence from its Olympic achievements. Tom James talks to some of the biggest players to uncover the impact of London 2012 and how the industry will benefit

'watershed' for the industry would be too strong," contests Steve Bratt, Chief Executive of the Electrical Contractors Association (ECA). "It was a good exemplar and offered some excellent opportunities but it did fail in some areas where the ODA had a real opportunity to make a difference."

Construction of the pre-fabricated buildings, designed to be adapted for residential use post-Games, were a fine example of Olympic innovation, he argues, as was lighting. "The AV solutions and energy efficient LED lighting are both elements that we'll want to take further and an example of how we're trying to tap into best practice and transfer these skills industry-wide," he states.

For Bratt, the biggest advances at London 2012 have been the green agenda and LED technology. The claim that the Olympics fulfilled their much-lauded ambition to be the 'Greenest Games' can be "reasonably well substantiated", he maintains, while earnestly hoping for the "transferability" of Olympic skills.

"Examples like the athletes village, constructed to be adapted, including the M&E service, is the kind of technology that we want to see repeated. There's no use using new technologies at the Games and then not allowing it to take off elsewhere."

The short to medium focus will centre on "shuffle ready" infrastructure projects, he adds, with more investment ploughed into "repair, maintenance and revival" schemes than new builds.

Skills need

"We need to capitalise on the opportunity the Olympics has offered and the positive light it has put the UK construction industry in but one of our major concerns going forward is the provision of skills.

"We're being faced with a real skills shortage in the short to medium term. UKCG are working with Government to invest in apprentice programmes and the Olympics offered a significant platform for skills development. Sadly it failed. Of the 46,000 people employed at the Olympic Park, fewer than 1% were apprentices."

For a project of this scale, the expected figure would be 5%-10%," adds Bratt – a "very achievable figure". He continues: "The ODA adopted a slightly out-of-date procurement process. One apprentice was meant to be employed for every million pounds spent - that didn't happen. We were told that 90 apprentices would be trained and brought into the industry. It's a relatively low figure and an opportunity missed." But Bratt is clear on the next step. "We now need to look at exporting our business. We have a good model and we should believe in our ability to work abroad. A lot of research is showing that Brazil will take on lots of what we did well."

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NICIAN ENGINEER, LOVELOCK & TAYLOUR

om the start of the project before any of the s and even roads were in place," reveals John ovelock & Taylour.

ved to carry out work onsite by Lend Lease on, replacement and upgrading of the fibre the data, voices and CCTV traffic for all the

le, single mode, loose tube corrugated steel new duct system around the entire site in co-ractors."

"Not only have I had to comply with strict t also, because the site plots were divide into ndertake site specific plot inductions before

ed site-wide fibre network cabling and Cat5E site-wide estates management network dis- blocks and the entire data, voices, CCTV fire the Games buildings.

RUN ON TIME

Delivering the London 2012 Games is "set to become one of the largest single ICT achievement stories of the 21st Century", the Institute of Engineering and Technology (IET) proclaims on its website.

"The UK eco-system of suppliers and partners have been diligently working, since being awarded the games in July 2005, to ensure the experience of the most digitally enabled games ever, to be positive and demonstrate the strength of the UK ICT profession and community worldwide.

The IET's special interest publication, `Delivering London 2012: ICT Enabling the Games`, identifies and demonstrates the innovation, legacy, best practice and lessons learned from the ICT delivery of the Games and provides recommendations for future projects and programmes.

As the incandescence of London 2012 dissipates, the contracting and engineering sectors' achievements in delivering the functionality of the £9.3bn should be clearly recognised.

IET President Dr Mike Short summarises the extent of his sector's contribution in the Institute's 140th year. "Behind the preparations was an incredible array of engineering and technology, creating a world-class environment of construction, communications and transport infrastructure hospitality, tourism and more."

"In a world where disciplines merge, today's engineers and technicians need a broad understanding of engineering and technicians issues," Short states.

"As a multidisciplinary organisation, the IET bring these issues together within five focused sectors, one of which is information and communications."

Today, the IET has more than 150,000 members in more than 127 countries worldwide and provide a professional home for the life of its members.

Systems approach

Following a review, the IET identified several systems that could benefit from a central procurement approach. It was recommended that the security systems would gain most from being delivered across all Olympic geographies and construction projects across the Olympic Park.

The benefits of technical integration "would allow central monitor and control, provide the ODA with significant system integration cost savings and enable a common user interface allowing operational savings", the IET decided.

Timing and scoring were key areas within the LOCOG Technology Framework, as were On venue Results (OVR) – a network of PCs, laptops, servers and printers that receive and process information.

Games networking comprised information diffusion systems and core Games systems. Core network requirements included Internet access, telephony,

community area television and rate card services.

The numbers using such services during London 2012 were vast – 22,000 media representatives, using 80,000 connections, 1,800 wireless access points and 16,500 telephones and 14,000 cable TV outlets.

The infrastructure transmitted 60Gb per second, the IET notes – the equivalent to 60,000 novels or the entire content of Wikipedia every 0.5 seconds.

Media solutions for the Games "were not designed to be cutting edge", the IET stressed but "tried and tested, in service for at least two years, which drives the core principles of reliability, flexibility, and scalability".

The network core mesh provided connectivity between the Olympic Park and the other venues and consisted of mesh pairs of switches using CISCO's virtual switching system (VSS) technology. It adopted visualisation to provide uninterrupted service in the event of a failure of any of the separately-routed communications systems provided between every venue and the core.

Each VSS pair appeared as a single logical switch capable of surviving hardware or circuit failure in its constituent systems.

ARGYLE ELECTRICAL SERVICES – COOKING UP A STORM

Team GB Olympians may have been on fire as the medals poured in but the culinary facilities at 2012 sites certainly were not as temporary provision, installed by Argyle Electrical Services (AES), served up the recipe for performing excellence.

Contracted to Wren Construction, AES put in temporary kitchens in the athletes village, Eton Dorney, Lee Valley and the Royal Artillery Barracks to extremely tight deadlines, reports electrical engineer Matt Kel.

"Everything was installed within a couple of weeks," he says, "and we were running two teams simultaneously to ensure we met the target date. This was a good example of how the M and E industry can respond well to demands for fast track projects."

Although the 2012 work was an "average size" job in terms of scale, says Kel, he adds that the hardest part was "finding the right person on site to get us in to do the work in some of the venues".

Wokingham-based AES install ventilation systems and other M&E work across the south and are witnessing a rise in demand for temporary facilities, including power requirements - supplying supermarket giants such as Sainsbury and Morrisons during store upgrades is typical of their workload, says Kel.