OUR SURVEY SAYS...

The LED revolution has happened, but are we embracing this fantastic new technology, and making the best possible use of it for the benefit of all, or is it being squandered in the race to make a fast buck? TL asks the industry to decide...

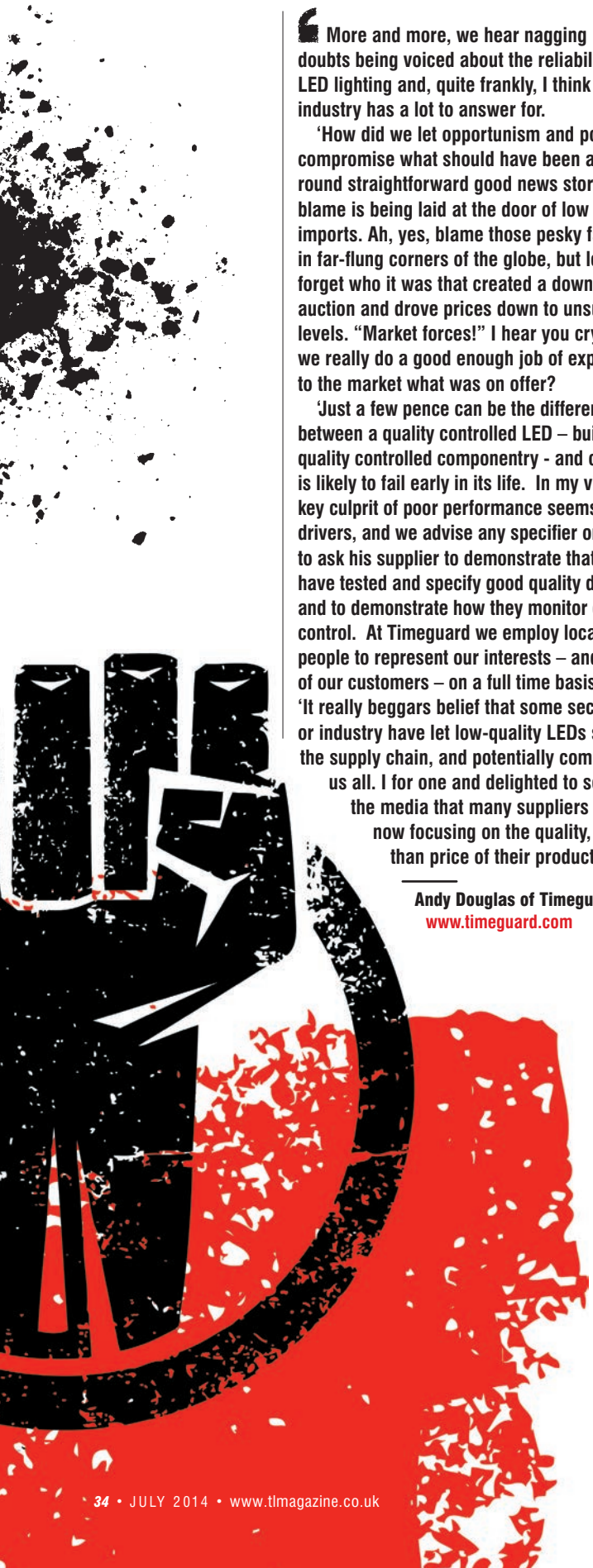
The LED revolution is maturing in a good way. 'The view at Light + Building 2014 was of more sophisticated design solutions. In addition, glare control is more evident and it is not now enough simply to say a light is LED. In fact we are at the stage where the assumption is that the lighting solution is LED, so the focus is now on how that solution is realised. 'I have noticed that the old gripes from early adopters of poor quality LEDs are on the decline at last, and a real appreciation of superior lamp performance is growing. 'It is now being seen as a good solution that just happens to be low energy LED.'

Fred Bass, managing Director, Neonlite International
www.megamanlighting.com

LED is definitely the future for lighting, but it comes at a price on the first installation. Quality, dimmable LEDs are costly in the first instance, but are much cheaper to run, and will last at least 20 times longer. The problem arises when the public buy on price and not quality. The Internet is the main area where inferior products are being sold - and the supermarkets are to blame too, where they are price-led predominantly. You get what you pay for!

Kenny Collins, MD, The Lighting Store
www.thelightingstore.co.uk

‘How did we let opportunism and poor quality compromise what should have been an all-round straightforward good news story?’



‘More and more, we hear nagging doubts being voiced about the reliability of LED lighting and, quite frankly, I think our industry has a lot to answer for.

‘How did we let opportunism and poor quality compromise what should have been an all-round straightforward good news story? The blame is being laid at the door of low quality imports. Ah, yes, blame those pesky factories in far-flung corners of the globe, but let’s not forget who it was that created a downward auction and drove prices down to unsustainable levels. “Market forces!” I hear you cry, but did we really do a good enough job of explaining to the market what was on offer?

‘Just a few pence can be the difference between a quality controlled LED – built using quality controlled componentry - and one that is likely to fail early in its life. In my view, the key culprit of poor performance seems to be the drivers, and we advise any specifier or installer to ask his supplier to demonstrate that they have tested and specify good quality drivers – and to demonstrate how they monitor quality control. At Timeguard we employ locally-based people to represent our interests – and those of our customers – on a full time basis.

‘It really beggars belief that some sectors of or industry have let low-quality LEDs slip unto the supply chain, and potentially compromise us all. I for one and delighted to see in the media that many suppliers are now focusing on the quality, rather than price of their products.’

Andy Douglas of Timeguard
www.timeguard.com

Moving forward, we anticipate a shift in the way LED suppliers approach the lighting market, towards the intelligent use of LEDs in a system context. LED innovation is likely to happen much more in harmony with driver, optical and thermal systems innovation, in order to make this technology more accessible and closer to the needs of customers. In addition, thanks to the continuous innovations and R&D investments, LED prices should continue to decline, supporting wider adoption. The greatest successes for LED lighting come from products that give customers what they expect from traditional light sources, while being more efficient and longer lasting, and with higher colour quality than fixtures previously used.

Massimo Targetti, managing director at Cree Europe
www.cree.com/lighting

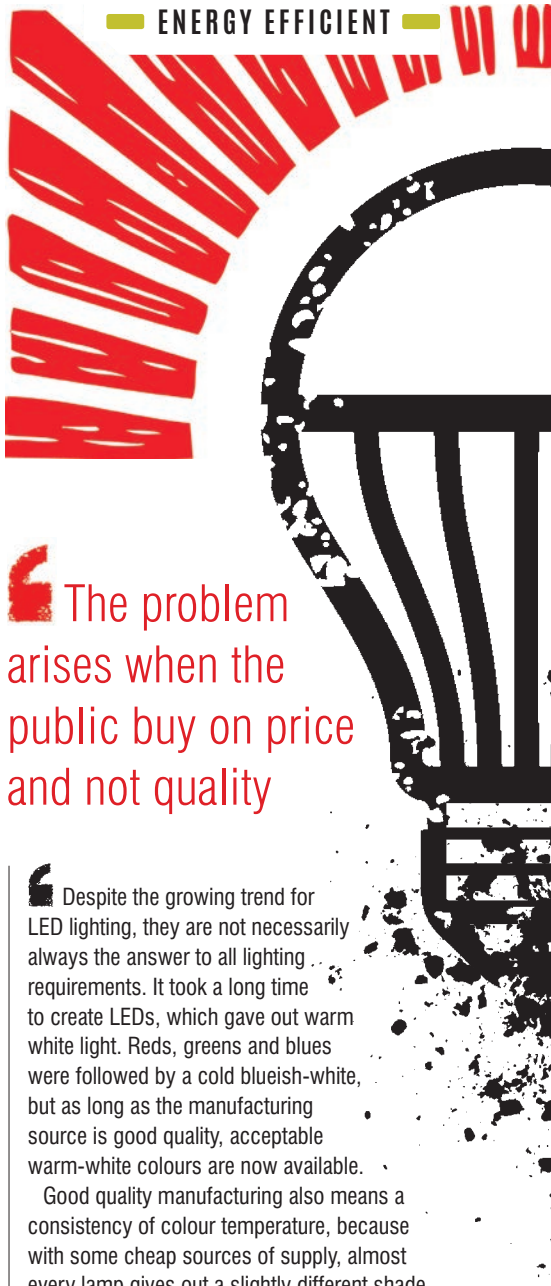
As a lighting specialist, I am all for the LED revolution! ‘LED’s are undoubtedly the future when it comes to lighting the home. Although the initial investment may be higher, LED’s are more cost effective in the long run than out-dated halogen alternatives, as they not only last longer, but they also use less energy. As a result, LEDs save money on household bills, and to add to this, the level of maintenance required is minimal too. Another plus point is that LEDs are also a safe option as they have minimal heat output.

‘LEDs are becoming increasingly advanced nowadays, and whereas some may previously have thought they produced a cold, blue light, this couldn’t be further from the truth. LEDs are available in different colour temperatures, so whether it’s cool white or warm white lighting that’s required, there’s a solution out there.

‘LED’s have also sometimes been criticised for not being as bright as halogen bulbs, however, opting for HD LED light fittings will actually provide a stronger, more focused light, with no light wastage. Alternatively, SLS (surface light source) fittings produce a light that’s similar to the beam emitted from a halogen bulb.

‘Myths suggesting that it’s not possible to dim LEDs have been completely put to rest too, as it is by all means possible nowadays to adjust lighting according to the exact mood that’s required with dimming remote controls. Not only can the beam emitted be changed, but so can the colour and colour temperature, so it really is possible to create just about any mood with certain fittings.’

Michael Linsky, MD,
Sensio Lighting
www.sensio.co.uk



Energy prices hit the news yet again in March; first with SSE freezing prices until 2016, and then in a quick one-two, with Ofgem confirming a competition inquiry, citing concerns over profits. 'The Regulator found energy company profits had quadrupled between 2009 and 2012, and this was compounded by the steep barriers to entry for new suppliers into the market. 'In the same week, The Carbon Trust issued an article putting LED lighting top of the energy efficiency agenda. Yet surprisingly uptake is not yet universal.'So: are we storming the LED barricades? Is an energy revolution upon us? 'Large warehouses, small offices, and retailers of all sizes can all switch to LED and take advantage of the energy savings and rapid payback – those with facilities in continuous operation have the quickest payback.

'Marks & Spencer is a perfect example, having been named as the first retailer to receive the Carbon Trust triple award. Advance International played a small part in this achievement, working on projects with M&S to deliver as a much as a 50 per cent reduction in energy output – proof that commitment to energy efficiency can have significant results. 'If the revolution is here, it faces two big battles – a lack of awareness within businesses of the opportunity, and the size of the financial decision. 'These battles are often met with a bombardment of information by suppliers facing a lack of technical knowledge (and interest) by the end user. 'Undoubtedly, LED lighting has become the leading energy efficient technology. However, many more businesses need to realise the potential of LED lighting if the revolution is to win out. We can help drive down energy costs and provide straightforward LED replacement schemes to support the resistance. 'Vive le revolution!'

Simon Deacon, managing director, Advance LED Lighting Solutions
www.advancelighting.co.uk

What is desperately needed is industry regulation, a standard or kite mark

LED technology is still evolving at amazing pace and the innovations ongoing to enhance the performance in terms of cost, efficacy, applications adaptability, faster adoption are truly breath taking. However, the continuous innovations and better semiconductor availability does create great challenges for the whole lighting industry. There is ongoing need to adopt the latest LEDs and keep the product portfolio market leading and this creates huge constraints on any company's resources. In my view the lighting industry is at transition phase to the semiconductor industry business model, with new much better products availability every quarter. This would have never been imaginable few years ago for the lighting industry which was very conservative and slow in product development cycles. The change in environment has come from the supply side where new LEDs are available every quarter and from competition with influx of non-lighting companies entering lighting arena. The ones who transition and adopt to the fast paced environment are likely to be long term winners..!

Rasib Khan, engineering director, Harvard Engineering
www.harvardeng.co.uk

The problem arises when the public buy on price and not quality

Despite the growing trend for LED lighting, they are not necessarily always the answer to all lighting requirements. It took a long time to create LEDs, which gave out warm white light. Reds, greens and blues were followed by a cold blueish-white, but as long as the manufacturing source is good quality, acceptable warm-white colours are now available.

Good quality manufacturing also means a consistency of colour temperature, because with some cheap sources of supply, almost every lamp gives out a slightly different shade. LED light is linear and has therefore been perfect for display and navigational lighting, as well as back lighting and task lights. Making LED light shine through 360° (to replicate the light patterns of the old incandescent lamps) has been more of a challenge. Manufacturers continue to invent new ways to try and make that happen, but so far there will always be one blank spot in the 360° circle.

LEDs only reach their claimed lamp life if they have an extremely good heat sink and good ventilation inside a luminaire. Without that, the claimed 25,000-hour, 50,000-hour or even 100,000-hour lamp life can drop to under 10,000 hours. However, they are the future, and will continue to develop with long lamp life, good colour and dimming capabilities. Be careful with dimming however, as it is essential that the LED lamps are compatible with the proposed dimming gear. Watch out for first cost too. LED lamps are still pretty expensive and need to be in use an awful lot to become cost effective against CFL equivalent options!

Robert Chelsom, managing director, Chelsom
www.chelsom.co.uk

The lighting industry has experience a real and continuing revolution with the introduction of LED technology. The market is still being transformed as luminaire manufacturers and lighting designers appreciate the great flexibility offered by LED light sources. One aspect of this is the ease with which LEDs can be controlled to respond to the environment and provide adequate lighting for the lowest energy usage. This is encouraging the development of lighting controls which range from simple, autonomous detection of motion and ambient lighting to full building management. A recent innovation facilitated by LED light sources is the ability to control colour temperature enhancing retail displays or setting the right ambience. LED technology is still developing rapidly and the revolution will continue for several years as creative designers dream of new applications.

Ken Dale: principle engineer, Harvard Engineering
www.harvardeng.co.uk

The tipping point has been reached and LED lighting is now being accepted as mainstream

Although LEDs currently represent ess than 0.1% of the lighting waste stream, the proportion will gradually increase in the coming years. That will therefore eventually change the requirements for waste lamp recycling.

Due to their long operational life, it will be many years before LEDs hit the waste stream in large quantities. However, future waste recycling systems need to take the increase in LED into account. As LED retrofits are often difficult to distinguish from waste fluorescent lamps, the Environment Agency (EA) has taken the decision to allow their co-collection in the same containers. This is a practical approach, which will help to maximise the collection of waste lamps.

Waste LED lamps are non-hazardous, as they do not contain hazardous substances such as mercury, unlike fluorescent lamps. Yet, if commingled with fluorescent lamps, they must be treated as hazardous due to potential co-contamination through the crushing and separation recycling process. Waste retrofit LED tubes need to be separated, de-contaminated and put through a general WEEE shredder.

The forthcoming CENELEC standard on waste lamp treatment standard is likely to support co-collection for the present, as separate recycling at this time would be too expensive and may encourage increased landfill. The guidance is likely to retain future relevance by stating that waste LEDs may be treated through a separate process if collected as a single LED-only load (and verified as having no mercury contamination).

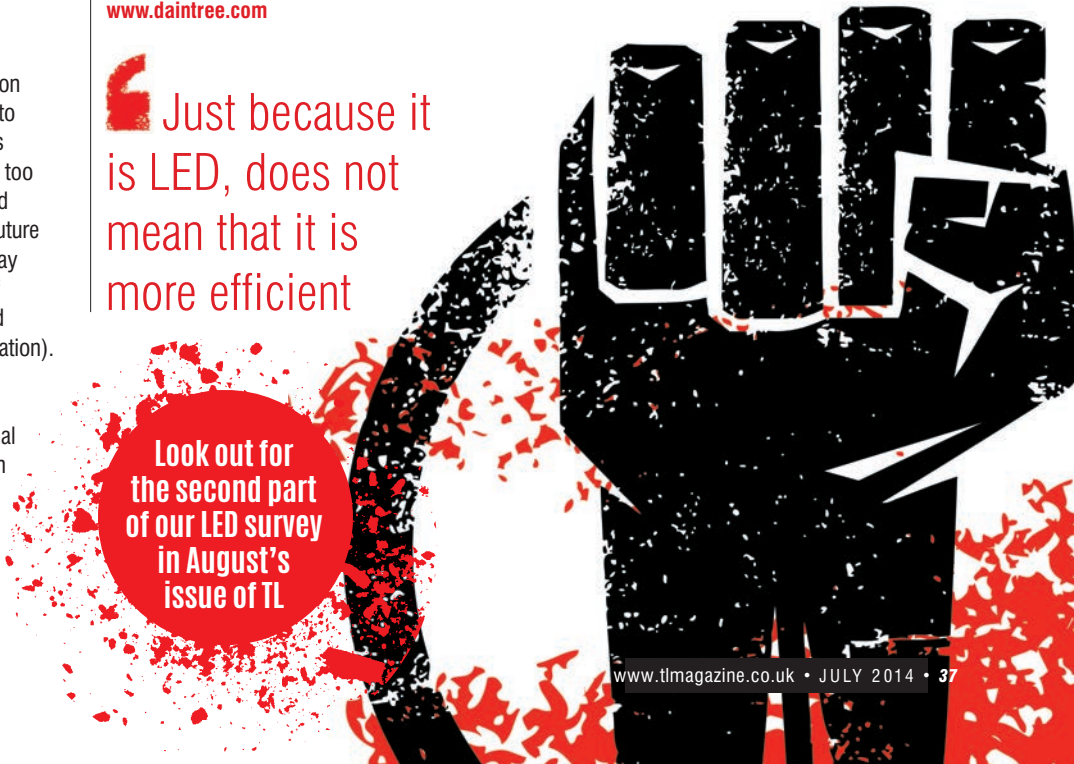
LEDs are here to stay and wherever possible, waste LED luminaires should be collected separately from conventional luminaires. This is principally because in the long term, there may be value in separating out the LED chips.

Nigel Harvey, CEO, Recolight
www.recolight.co.uk

We have to move to LED lighting to increase energy efficiency, but I wouldn't call it a revolution quite yet, with currently less than five per cent penetration (of the installed base) in the world – even though penetration of annual shipments is growing dramatically. It is definitely one of the top technologies of the century – overall and from the lighting point of view. The digital capability of solid-state lighting allows for better quality of light and CRI values to create the environments that we want for our homes and businesses, along with achieving greater energy savings over traditional lighting. LEDs are inherently energy efficient, but by adding lighting control, it allows for a whole new level of efficiency gains. The one-two punch for energy savings is the addition of controls, not only for LED lights, but to manage the rest of a building's energy needs, such as thermostats/HVAC and electrical plugs. Smart buildings start with smart lighting. To meet federal and local commercial energy regulations and to lower the price point, not to mention occupant comfort and productivity, LED lighting with integrated wireless control that enable building energy management will become standard. And, the icing on the cake is the reduction of millions of metric tons of carbon emissions to help save our planet. The LED revolution will only become a reality when matched with control systems that enable smart lighting for smart buildings to create smart cities.

Mandeep Khera, vice president, marketing and channels, Daintree Networks
www.daintree.com

Just because it is LED, does not mean that it is more efficient



Look out for the second part of our LED survey in August's issue of TL

HIGHLIGHT

International successes

High Technology Lighting, suppliers of energy efficient solutions for retail and commercial spaces, has experienced substantial international success in the last six months, after expanding its international operation as part of the company's long-term growth strategy.

The company has supplied fittings directly for projects in Kuwait, Cyprus, Poland, Czechoslovakia, Belgium, and Russia, as well as to Sweden, Australia and the UAE, via a series of distribution partnerships.

The recent project in Russia was a particular highlight for the company, with 120 Quartet Uno fittings selected for a church interior. Quartet incorporates LED technology from Xicato's Artist range, a favourite of museum curators and retailers as the module gives off natural levels of light and is perfect for use in buildings with high ceilings.

Thomas Holgeth, joint managing director of High Technology Lighting, said: 'We are extremely pleased with our international success over the last six months. The installation of our technology in the church in Russia was a particular high, and the new lighting looks fantastic.'

Stand out from the crowd

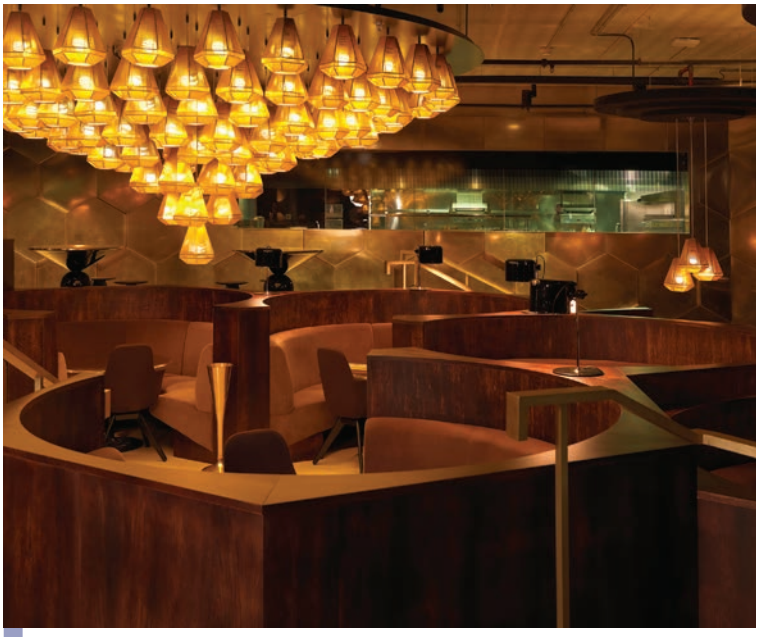
Award-winning high street retail giant, Primark takes its energy efficiency seriously, so when it's flagship store in the German city of Cologne was due a facelift, the company brought in LAPD lighting consultants' to create a sustainable spectacle.

LAPD designed a range of custom-built enclosures for the store frontage, each highlighted with LEDs using the Primark corporate colour scheme. And the result – a standout façade that ticks the sustainability box and promotes customer awareness.

Hamburg strikes a chord

With the opening of a stylish new lounge bar - The Room - at the Radisson Blu Hotel, Hamburg has gained a new hotspot.

The modernisation and reorganisation of the venue was planned and by German designer, Frank B Theuerkauf. His aim was to develop a contemporary crowd puller, so for the redesign, the focus has been on creating a stylish, atmospherical room layout, with completely re-worked dimensions. The space creates an instant 'wow' factor for visitors and guests alike with the inclusion of a nine-metre-long bar and back wall created using Lucem's amazing light transmitting concrete. The material includes thousands of individually controlled LED lights, which are synchronised with the venue's music system.



PARTNERS IN PARIS

Situated in Paris' newest retail experience - Beaugranelle - the Eclectic restaurant, designed by Fabienne and Philippe Amzalak and Jean-Louis Costes, features British designed lighting.

Chelsom was commissioned by Tom Dixon Design Research Studio to produce numerous acoustic lighting features, and collaborate with his team to make a stunning centrepiece chandelier for the design-led restaurant project.

Director, Will Chelsom commented: 'We are incredibly proud to have been commissioned by Maison & Objet's Designer of the Year 2014, Tom Dixon, to be part of yet another fantastic high profile commission, such as the Eclectic Restaurant. 'The team at Tom Dixon Design Research Studio have ingenious capabilities when it comes to creating high concept interior schemes and large scale installations, resulting in a fantastic client portfolio to show for it and we look forward to our continuing partnership with them as fellow lighting specialists.'

Swim safe

A Shropshire swimming centre has undergone a recent refurbishment, which has seen the installation of LED lighting for the pool and café area. Whitchurch's management team brought in local company, Digiland LED Lighting to undertake the project. Peter Davis, principal leisure facilities manager at Shropshire Council, which owns the pool, said: 'Although the lighting in the pool hall had been upgraded less than four years ago, it had become ineffective, to the detriment of users and staff, due to the increasingly low levels of light. 'We were obviously keen to improve the environment of the swimming pool, but also reduce energy bills and improve the efficiency of the lights.

'These new LED lights have made a big difference and we have had numerous comments from customers about how much brighter the pool is.

'The lifeguards and swimming teachers are now totally confident that supervision and customer care can be maintained to the high levels the operator of the centre aspires to.'

Digiland replaced the existing halogen lamps with LEDs, which provided a much-improved light quality and cut lighting energy use by a third.

Steve Churchill, of Digiland LED Lighting, said: 'The most important factors behind the refit were making the pool brighter, and reducing maintenance costs. We were pleased to meet those targets and also cut the pool's energy bills too, which is a big benefit of LED lighting.'