BRITPAVE NEWS

ISSUE 39 - WINTER 2019

New high performance cement launched

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The British Cementitious Paving Association

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CHAIRMAN'S WELCOME

The government has recognised the need for and has committed to an 'infrastructure revolution'. This is essential to provide the means to forward the socio-economic well-being of the country. The government's proposed revolution is welcomed as it should mean greater levels of investment and, hopefully, greater certainty of project timetabled delivery.

Concrete and cementitious solutions are able to play a significant role in delivering this infrastructure revolution. In addition to the traditional, inherent minimum maintenance and whole life cost benefits, concrete offers exciting opportunities for our future infrastructure. Nowhere is this more apparent than with the potential for concrete roads to become the eRoads of the future. Such eRoads could allow continuous recharging of batteries and real connectivity between automonous vehicles. A considerable amount of research and real-life testing underlines how the robust, maintenance-free performance of concrete pavements makes them particularly well-suited to these roads of the future.

For a material that was first extensively used by the Romans, concrete offers a wide range of solutions for now and for the future - whether this is soil stabilising previous industrial and brownfield sites for new future use, the construction of pavements for airport runways to carry predicted increases in passengers or the development of new high performance cements.

There is a positive ongoing development of concrete and cementitious solutions. Britpave aims to support these developments with the publication of technical guidance and the dissemination of information via its industry seminars. These initiatives forward concrete understanding and, therefore, appreciation of the material's future potential.

Joe Quirke
Britpave Chairman and Engineering Manager, VolkerFitzpatrick

Britpave, the British In-situ Cementitious Paving Association, promotes the better and greater use of concrete and insitu cementitious infrastructure solutions. Its members include major contractors, specialist equipment and material suppliers, consulting engineers and interested trade associations. Together, they provide a single voice for the insitu concrete paving industry.

Britpave News is published regularly by Britpave with the aim of keeping members up to date on Association matters, industry developments and member company news and views. Please help keep us in the picture on all of this by sending us any relevant information that you feel may be of interest to the membership.

INFRASTRUCTURE REVOLUTION

The Government has committed itself to an 'infrastructure revolution' that will drive forward major investment in transport infrastructure.

In his Spending Review, Chancellor Sajid Javid recognised that effective infrastructure was essential to how the country functions and acknowledged previous under-investment had led to the UK falling behind its competitors, leading to significant challenges for commuters, businesses and households. The Chancellor said that the government would seek to kick start infrastructure investment and create the right conditions to give private investors the confidence to invest in major UK infrastructure projects and he confirmed a number of government commitments in line with recommendations in the National Infrastructure Assessment.

The Chancellor's commitment was underlined the measures outlined in the Queen's Speech that pledged a revamped national infrastructure strategy designed to help support growth across the UK. National infrastructure strategies are not new. The Coalition government released an infrastructure plan in 2010 and the National Infrastructure Commission also produced the first national infrastructure assessment document last year. The Government's strategy is designed to provide its formal response to the Commission's assessment, which made a series of independent recommendations to government across all sectors of economic infrastructure (transport, energy, digital, waste, water and flood management).

In addition, the Queen's Speech promised to publish a White Paper on the ongoing Williams Review's recommendations on the future of the railway later this autumn, and then start implementing reforms from 2020. It is expected to call for an overhaul of the current franchising system. The Government is continuing with the High Speed Rail 2 (West Midlands - Crewe) Bill first introduced in the House of Commons in July 2017.

The bill provides the powers to build and operate HS2's Phase 2a, which is 36 miles long and runs from a spur from the Phase One route - London Euston to Birmingham - at Fradley, near Lichfield. It also connects to the West Coast Main Line south of Crewe.

The news comes amid speculation parts of HS2 would be cut under a review led by Doug Oakervee. However, the inclusion of phase 2a in the Queen's Speech will increase fears that the 2b section form Crew to Manchester and West Midlands to Leeds could be a risk of cutbacks.

The Government's commitment to an infrastructure revolution is to be welcomed as it promises greater investment in much needed new infrastructure networks. However, the real details will be made in new National Infrastructure Survey.

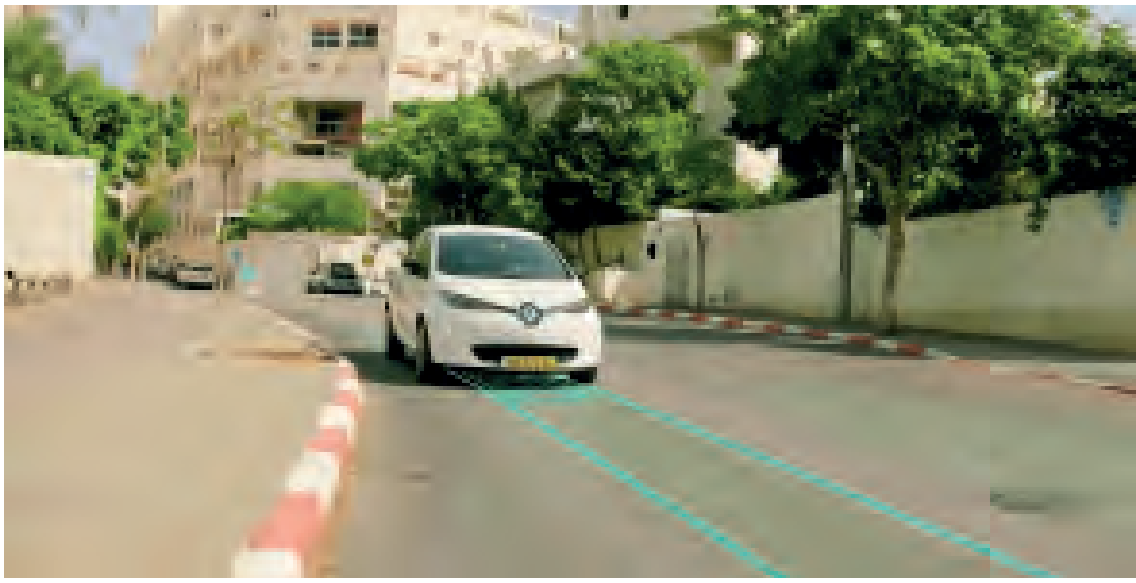
CONCRETE EROADS FOR ROAD TRANSPORT ZERO EMISSIONS

Concrete roads could overcome the 'range anxiety' barrier to the widespread adoption of electric vehicles and so help the Government deliver its Transport Decarbonisation Plan to achieve transport zero emissions by 2050.

Increasingly electric vehicles (EVs) are being promoted as the future for low or zero carbon transport. However, we are not there yet and until the issue of 'range anxiety' has been successfully addressed we are unlikely to be so. 'Range anxiety' is the fear that a vehicle has insufficient power to reach its destination and is considered to be a major barrier to the large scale adoption of all-electric cars. A number of surveys carried out by motor magazines has found that electric vehicles appear to fall short of claims from car manufacturers as to how far you can travel before you need to charge the battery by as much as 15%. This, and the lack of an adequate infrastructure of charging points are heightening the level of range anxiety.

According to the data company Emu Analytics there are only 16,500 charging points in the whole of the UK. It is estimated that with one million new EVs on UK roads within the next two years there needs to be a network of 100,000 charging points. Currently, only 3 per cent of supermarkets have a charging point. Rapid chargers, which can fill 85 per cent of an EV's battery in half an hour are particularly scarce. Lidl has the highest number of rapid chargers at just 11. Across the whole UK there are only 1,500 rapid chargers. By comparison there are 9,000 petrol stations each with multiple petrol pumps that fill a tank in minutes.

Faced with the lack of trust in manufacturer claims and the lack of an adequate charging network it is little wonder that 'range anxiety' is a barrier to more people buying EVs. A new approach is required and increasingly the potential of concrete 'eRoads' that inductively charge EVs as they travel are being examined.



Inductive charging is where the EV battery is charged without the need to plug the vehicle into a charging point. The process is wireless and can be done whilst the EV is on the move or stationary. If the vehicle is moving the process is referred to 'dynamic charging'.

There are a number of concrete eRoad options that are being researched and developed. A research project 'Inductive Charging' led by Flanders Make, the Belgium-based manufacturing industry research centre, tested the installation and use of inductive charging systems in concrete and asphalt roads. For the project, primary coil modules to create a magnetic field were installed within the road surface. The magnetic field creates an electric current in a secondary coil placed on the vehicle's undercarriage which feeds the charge to the vehicle's batteries. The research found that energy efficiencies of 90 per cent were achievable, only 4 per cent less than using a charging point, and it emphasised the importance of the road surface durability for the successful operation of the installed module. The findings of the research had been used for the construction of 200Kw bus charging stations in Bruges, Belgium, and Braunschweig, Germany. In Bruges, precast concrete bus stops take 15 minutes to wirelessly charge parked buses after every 12km travel loop.

In France, the recent FABRIC project, funded by the EU, studied the technological feasibility, economic viability and socio-environmental sustainability of dynamic conductivity. A wireless electric vehicle charging system, developed by Qualcomm Technologies Inc, was installed in a 100m test track at Versailles, Paris. The system successfully charged two Renault Kangoos EV with 20Kw at speeds of over 62mph. The research concluded that wireless power transfer for on-the-move dynamic charging is feasible with current road designs that with due consideration of use, future maintenance and whole lifecycle costs.

The research examples above underline the need for the road surface to have long-term durability and minimum maintenance. Both are inherent characteristics of concrete roads. A further benefit of concrete roads for the installation wireless modules is that in hot summer temperatures they, unlike asphalt, do not melt. Such melting could dislodge and compromise the positioned embedded wireless system.

Other exciting possibilities include making the actual concrete road itself conductive. Australian-based Talga Resources are mixing graphene into concrete to make it conductive and so charge an EV whilst it is driving. Previously, developed to enable self-heating concrete roads, the company has found the addition of a graphene, graphite and silica-rich by-product of ore processing provides a concrete that is not only highly conductive – 0.05 ohm.cm volume resistivity – but is also stronger. The company is activity examining the potential of electrically conductive concrete to provide both dynamic and stationary wireless inductive charging for EVs. In Germany, Magment – magnetizable concrete materials – are being developed by using magnetic ferrite particles as aggregates. Magment concrete consists of 87 per cent magnetisable aggregates which is waste product from the manufacture of ceramic ferrites and the recycling of electronic scrap. It allows energy to flow into a coil to inductivity charge vehicles as they pass. The proposal is to cast (either precast or in situ) concrete ready-to-connect coil modules that contain all the required wiring including optional sensors for integration into road construction.

Durability and minimum maintenance are key for future eRoads. This is especially so as the vehicles, particular heavy goods vehicles, will be travelling on the same path in order to charge. The road surface must, therefore, not prematurely deflect or rut. Concrete roads have a performance life of 50-60 years and are so fully able to provide the required long-term durability. Concrete eRoads should have a very significant role to play in helping deliver the widespread adoption of electric vehicles and the removal of reliance on fossil fuels.

ATKINS WINS £49 MILLION HIGHWAYS ENGLAND CONTRACT

Britpave member Atkins has been appointed by Highways England to deliver detailed design and associated consulting services for the asset improvement schemes planned for the east of England. The work, which is due to commence in January 2020, is worth an initial £49m.

Under Highways England's new asset delivery contract, Atkins will provide technical support during the scheme's identification phase to determine where improvements to the road network are required. This information will then be used to inform the detailed design of the region's improvement works, with Atkins seeing the design through from its initial outline to supervising the construction works on site.

Collaboration will play a central role in the design's development, with Atkins working closely with the contractors across the east of England delivery community to ensure that the construction, maintenance and operation of the future road network is designed with safety in mind.

Throughout the improvement works design development, Atkins will also look to adopt digital tools where possible, drawing on the likes of automation and lean tools to drive efficiency and reduce costs.

Ian Spellacey, client director at Atkins, said: *"With safety, ease of maintenance and the end users in mind, our designs for the east of England's road network will enable a safer and more reliable movement of people and goods across the region, supporting its economic growth. We have a long history of working alongside Highways England in the region and look forward to showcasing the benefits of digital tools and innovative ways of working to the highways industry."*

Martin Fellows, Highways England regional operations director for the east of England, said: *"This new innovative way of working is another sign of our commitment to continually drive improvements in how our busiest roads in the east of England are operated, maintained and improved. I'm delighted to welcome Atkins on board and look forward to establishing a successful, long-term relationship with them."*

BRITPAVE WORKING WITH HIGHWAYS ENGLAND

Britpave is working with Highways England as part of the consultation on works worth up to £400m under the National Concrete Roads Improvement Programme.

Highways England has a requirement to renew existing concrete pavement on the strategic road network (SRN), defined as legacy concrete which is exposed concrete or concrete with a covering of no more than 50mm of asphalt.

Legacy concrete pavement represents 4% of the SRN. A programme to renew legacy concrete pavement spans five Road investment strategy (RIS) periods with an overall anticipated value of £1bn and the aim of completing the programme in March 2051.

Highways England said its philosophy is 'to maintain by repairing the good concrete and maintain it in a safe state of repair until replacement becomes due, measured against condition and load model parameters'.

According to a prior information notice the anticipated value of the framework between 2020 and 2025 is £400m. The scope of works that could be delivered through a concrete roads framework is (in order of sequence):

1. Surveys, investigations and tests,

2. Design: — design for surface treatments — design for repair and maintenance — design for renewals;

3. Repair and maintenance;

4. Renewals: — fully flexible, — flexible-composite (asphalt surfacing on HBM), — CRCP — with a low-noise asphalt surfacing.

As part of their ongoing working relationship, Britpave is fully engaged with Highways England in assisting to provide market feedback on the procurement of a concrete roads framework.

A14 OPENING A YEAR AHEAD OF SCHEDULE

The A14 Integrated Delivery Team, a joint venture between Costain, Balfour Beatty and Skanska, and design consultants Atkins Jacobs, has announced the early opening of the brand-new dual carriageway a full year ahead of schedule. Having started works back in 2016, the new 12-mile bypass, which will now open in December 2019, is part of a wider 21-mile, £1.5 billion scheme in Cambridgeshire and is the largest upgrade of its kind in the UK. On completion, the road will open as an A road, instead of a motorway as originally planned. This will take advantage of wider lanes when joining the neighbouring M11 and A1(M).

Julian Lamb, deputy project manager for the integrated delivery team, said: *"We can put the continued success of the project down to our deep understanding of the scheme and our expertise in delivering complex road projects. This has allowed us to move the project along efficiently and effectively resulting in opening the bypass ahead of schedule and being recognized within the industry as a leader in innovation, productivity and collaboration."*

Work on the upgrade has progressed at pace, with around 10 million cubic metres of earth having been moved - more than four times the great pyramids of Giza.

The project's earthworks, demolition and waste management has been carried out by Mick George Ltd who also won the contract to supply 300,000m^3 of concrete

NORTHERN POWERHOUSE CALLS FOR HS2 BENEFITS TO BE RECOGNISED

The Northern Powerhouse has released an independent review of HS2 to enable the true benefits of HS2 and Northern Powerhouse Rail to be delivered.

The review includes several recommendations for the project, including:

- Establish HS2 North – a special purpose vehicle working with the private sector to integrate HS2 and Northern Powerhouse Rail (NPR)
- Confirming a 20% increase in the transformational economic impact to the North of delivering NPR along with building HS2, with £1 in every £5 generated from building a new East – West line as a result of long-distance journeys onto HS2
- Warning that only by investing in a new, integrated high-speed network can the historic North-South

  divide be tackled; upgrades or scrapping HS2 have none of the prerequisites to tackle the UKs geographic imbalance
- Identifying parts of the new and upgraded line network that can be delivered now including connecting Northern cities to each other – the North will not accept waiting until 2040 for HS2 to connect Northern cities to Birmingham, London, Newcastle and Edinburgh

The Northern Powerhouse believe that basing HS2 North special purpose vehicle (SPV) on the model of the Olympic Delivery Authority, would allow for complete

delivery of the project. In addition, the review highlighted the significant HS2 benefits to parts of the North:

- The potential aggregate GVA prize for the North equates to £1,000Bn between 2035 and 2050. If transport investment unlocks just 10% of this prize it would enable £100bn;
- In Leeds, by 2050 HS2 will create 50,000 new direct jobs adding £54bn GVA to the regional economy;
- In Greater Manchester, by 2050 HS2 will create 60,000 new jobs around Piccadilly and Manchester Airport with an additional 37,000 jobs around Crewe station;
- In Liverpool, by 2050 HS2 direct services via NPR will create an additional 24,000 new jobs.

Chris Oglesby, CEO of Bruntwood and member of the Northern Powerhouse Independent Review into HS2 said: *"Our report highlights that there are a number of significant benefits of HS2 that have been ignored to date in its viability analysis. HS2 will be transformational in equipping the North to thrive in the 4th Industrial Revolution. It delivers massive economic benefits by increasing capacity and speed both between our cities and into them on both new and existing lines.*

Only by delivering an integrated high-speed network right across the North can a Northern Powerhouse vision be truly realised. Further delays and uncertainty are hugely damaging to North, and the country as a whole."

FIRST CONCRETE PAVEMENT POURED AT DUBLIN'S AIRPORT NEW NORTH RUNWAY

The first concrete pavement for Dublin Airport's new North Runway has been laid. The construction of the pavement quality concrete runway is a key milestone for the €320 million North Runway project. The concrete was poured at the western end of the new runway, which is more than six times longer than Dublin's O'Connell Street.

North Runway is 3.1km long and is located almost 1.7km north of Dublin Airport's current main runway. The runway is being built by a joint venture comprising Limerick-based construction company Roadbridge and the Spanish infrastructure group FCC Construcción (FCC). Roadbridge FCC won the main runway construction contract last October, following an international tender process.

The runway contract includes the construction of 306,000 square metres of new runway and taxiways. The runway and taxiways are being built to a depth of almost one metre in four separate layers in order to support the weight of a fully loaded aircraft. Construction of the North Runway development is progressing on time and on budget with the construction element of the project due to be completed in early 2021.

Dalton Philips daa chief executive said: *"North Runway is an essential development for the Irish economy and will help underpin additional tourism, trade and foreign direct investment for decades to come. The delivery of North Runway will address the bottleneck that we have in relation to runway capacity - as the existing main runway is effectively full at key times of the day. But the airport also urgently needs new boarding gate areas, more aircraft parking stands, and other improvements if Ireland is to maximise the benefits of the new runway."*

However, Philips warned that *"the full economic benefits of the new runway risk being squandered in the medium term, as Dublin Airport will be unable to afford the investment urgently needed in other facilities, unless the Commission for Aviation Regulation (CAR) reverses its plan to cut airport charges by 22%."*

daa had intended to invest almost €2 billion to improve and expand facilities at Dublin Airport, while keeping its airport charges flat for the next five years. However, due to the regulator's plans and the uncertainty that they have created, the next phase of development has been stood down.

"Because of the regulator's proposals we could end up with a world-class new runway, but a yellow pack passenger experience," Philips said. *"That's not what our customers want, and it's not what Ireland needs."*

Charges at Dublin Airport are already 30-40% cheaper than its European peers, but the aviation regulator plans to reduce them by a further 22%, which would mean that daa would be unable to finance the expansion and improvement in facilities that is required.

PROJECT 13 GUIDANCE FROM ARUP

Britpave member Arup has developed practical guidance for infrastructure owners looking to apply the principles of Project 13 – the industry-led response launched by The Institution of Civil Engineers (ICE) to improve the delivery and management of high-performing infrastructure.

New business models such as Project 13 aims to and move the construction industry away from traditional transactional arrangements to a new enterprise model. While this may seem simple, achieving it requires a step change in the way the construction sector thinks about total value – to society and well as shareholders. The 'Applying Project 13: Reimagining value creation in capital projects' white paper offers new guidance for infrastructure owners and their supply chains, grouping advice and recommendations into three core areas: Outcomes, Digital and Capability and Collaboration.

"Change in the United Kingdom's delivery of infrastructure is overdue," says Matthew Walker, Strategy and Insights Lead, Arup. "Despite many successes, we are experiencing the same issues. We need to redouble our efforts to ensure that there is increased focus on the total value and outcomes that infrastructure can deliver for society and shareholders. The sector urgently needs to transform itself and turn principles for high-performing infrastructure into practical actions that will improve outcomes, reduce risk, and deliver what's required."

To download the Arup report, visit:
https://bit.ly/2lWo1VT

Key takeaways from the new Arup paper include:

Outcomes: Incentivise outcomes and avoid the low-margin trap

- Focus on what benefactors (society and shareholders) want and value, and reward contributions that achieve these outcomes.
- Price contracts transparently, leaving headroom for outperformance and reward parties for managing risk well.
- Appoint integrators to coordinate, evaluate and maximise value from integration across projects.

Digital: Invest in data literacy, embrace data collaboration and 'bytes not bricks'

- Build-in 'discovery' time at the start of a project to best share data across entities, to unlock insights and value.
- Venture with third parties, including start-ups, to build data literacy and digital capabilities.

Capability and Collaboration: Build trust and develop leadership to match aspirations

- Broaden the pool of trusted talent to lead major projects. Appoint and promote a 'new generation' of leaders – that come from and combine different learning disciplines – based on the outcomes they have achieved.
- Invest more time and focus on understanding a delivery team's personal (and corporate) agendas, ambitions and capabilities, to establish a true common purpose.

BRITPAVE BACKS CALLS TO PRIORITISE USE OF BROWNFIELD LAND

Britpave welcomed calls by the Campaign to Protect Rural England (CPRE) for more derelict and brownfield land to be used for housing development rather than farmland and greenfield sites. Britpave believes that the increased use of soil stabilisation for brownfield sites would reduce the need to develop the countryside.

Analysis carried out by the CPRE found that the proportion of new homes built on brownfield has fallen from 2,628 hectares in 2017 to just 1,758 in 2018, whereas the amount of farmland, forests, gardens and greenfield land lost to housing reached 3,689 in 2018. This is despite government claims that it is prioritising re-using derelict sites for housing and despite the brownfield land registers published by councils in England showing that there are 28,000 hectares of brownfield land on which over 1.1 million new homes could be built.

Much of the available brownfield land could be sustainably and cost-effectively developed by using soil stabilisation techniques. This would address any issues resulting from the sites' previous use and provide a viable alternative to greenfield sites. Using cementitious binding materials such as cement, lime, fly ash or ground granulated blast furnace slag (GGBS), soil stabilisation treats potential contaminants on site to provide a soil that is non-toxic or will contained possible leaching and delivers a stronger engineered material to be built upon.

It is worth noting that soil stabilisation involves a lot more than a man and tractor simply churning up the ground and scattering over some binder. Soils types and possible contaminants need to be assessed and tested so that the correct binder can be administered. Handling binders correctly requires a proper health and safety protocol. It also requires the use of specially developed plant to ensure that the mixing and placement of soil and binder is efficiently undertaken. Britpave has published a number of best practice guidance for soil stabilisation. These may be downloaded from the Britpave website: **www.britpave.org.uk**

SMITH CONSTRUCTION BULLIES-OFF!

Smith Construction has successfully worked on a further project with Traction Sports and delivered a new hockey pitch for St Michael's Prep School, Sevenoaks, Kent.

Smith Construction worked closely with both the consultant and client to create a design that took into consideration the challenging ground conditions. To assist with the design, trial holes were excavated and extensive cut and fill calculations were conducted. Once all the information had been evaluated, Smith Construction successfully created a design which accommodated for the chalky and sloping ground conditions. To overcome the natural characteristics of chalk, the ground was stabilised using a cement mixture, with an extra soakaway drain installed. Once all the groundworks and engineered base works were completed, TigerTurf's Evo Pro was installed. Evo Pro is a highly accredited sand dressed carpet, which meets the requirements of FIH National Standards, and is green and terracotta in colour.

Smith Construction's knowledge and proven track record of constructing hockey pitches has placed the company in an elite category of approved FIH Field Builders. The Certified Field Builder accreditation demonstrates that Smith Construction have the ability to construct hockey pitches to the high standards required. It verifies Smith Construction have appropriate in-house civil engineering expertise, and quality management systems in place to ensure the consistency of our work.

BARTON BACK AT HANWOOD

Having completed in 2018 an initial earthworks package for the development of an attenuation pond and preparation for the new Hanwood housing development, East Kettering, Barton has been back on site and recently completed a further earthworks contract that included movement of stockpiles, topsoil spreading and haul road formation.

Hanwood Park will contain up to 5,500 dwellings, a secondary school, up to 4 primary schools, open space and play areas plus local centre facilities and employment areas.

UK's FIRST HIGHWAY LIVING WALL

Balfour Beatty Living Places and green infrastructure experts, Biotecture, has delivered the UK's first highways hydroponic living wall at Southampton.

Hydroponic living walls are sustainable, vertical installations containing living plants and foliage which grow without the need for soil. The green and living structures help to remove air pollutants by absorbing gases such as carbon dioxide, sulphur dioxide and nitrogen dioxide.

The living walls forms part of the newly reconstructed Millbrook Roundabout. Balfour Beatty Living Places managing director, Steve Helliwell, said: *"We are incredibly proud to working with Southampton City Council and Biotecture on this flagship project – a first in the UK. This is a project which has the potential to transform the way we sustainably deliver highways schemes"*. Richard Sabin, managing director of Biotecture, said: *"The Millbrook green columns are evocative of the Via Verde highway pillars in Mexico City, and they'll help with air pollution reduction."*

Cllr Jacqui Rayment, cabinet member for Transport & Public Realm, commented: *"We have committed to making Southampton a clean, green, sustainable and successful city through our Green City Charter. The Living Wall project at Millbrook Roundabout is the first of its kind in the UK. It's an exciting way to make our public spaces more attractive whilst at the same time having a beneficial effect on the environment. Investing in greening projects like this will play an important part in safeguarding our local environment for future generations."*

NEW HIGH PERFORMANCE CEMENT LAUNCHED

Lafarge Cement – part of Aggregate Industries – has launched Lafarge Endure SR, a high performance, low carbon, CEM II blend cement.

While traditional CEM I blends use virgin clinker to produce the finished cement, Lafarge Endure SR blends fly ash with clinker, which results in a lower embodied CO2, as well as improved plastic and hardened properties when used in concrete.

Another benefit of using Lafarge Endure SR over a CEM I blend is its suitability for all ground types. Sulphates in the ground can negatively impact CEM I blends. However, Lafarge Endure SR is resistant to sulphates, allowing contractors and suppliers to scope a wider variety of projects including those that may have previously been hindered by ground type.

Once hardened, Lafarge Endure SR can be used to DC-4 durability standard and can help increase the life of the structure thanks to its resistance to carbonation and chloride and sulphate attack. This makes it ideal for practically any situation, from producing ready-mixed and precast concrete, to marine, grouting and tunnelling applications.

Steve Curley, Commercial Director at Aggregate Industries, said: *"As its name suggests, Lafarge Endure SR is designed to dramatically increase the longevity of the concrete it forms a part of. It is a great solution for contractors that want to reduce the environmental impact of their build while simultaneously improving its life span.*

"In addition to its lower embodied CO2, Lafarge Endure SR uses 10 percent less water than CEM I to reach workable consistency and offers improve pumpability and mixing efficiency. Each of these benefits adds up to a cement that is truly forward-thinking." For further information visit: **www.aggregate.com**

NEW BOTTOM ASH PROCESSING FACILITY

Britpave member Ballast Phoenix has opened a new Incinerator Bottom Ash (IBA) processing facility to capture and re-use non-hazardous material as aggregate. Located at Ferrybridge Power Station site in Knottingley, West Yorkshire. The new facility will process the bottom ash generated by two adjacent energy from waste plants

Using the Ballast Phoenix's process, the metals are extracted from the bottom ash and supplied to metal companies for reuse, whilst the remaining material are graded into sustainable sources of aggregates for the construction industry.

Each year millions of tonnes of residual municipal solid waste are used as a sustainable source of fuel for an array of Energy from Waste facilities around the UK, helping reduce the country's reliance on fossil fuels. After the energy has been recovered in the form of electricity/heat, a non-hazardous bottom ash is left. It is estimated that the process effectively recycles some 20 per cent of the original municipal soil waste tonnage.

FEBELCEM/EUPAVE WORKSHOP ON 'TWO-LAYER' CONCRETE

The Federation of the Belgian Cement Industry, FEBELCEM, and the European Concrete Paving Association, EUPAVE organised and hosted a joint workshop on "Two-layer concrete pavements" at MATEXPO 2019, Kortrijk, on 12th September 2019.

MATEXPO is a biennial international trade fair for building equipment at Kortrijk Xpo. As the third largest trade fair of its type in Europe, it has an established reputation and receives more than 40,000 visitors.

Mr. Wim Kramer from Cement&Beton Centrum (Netherlands) and Chairman of EUPAVE's Best Practices Working Group, opened the workshop and introduced EUPAVE and the speakers to the 70 participants. The first presentation was given by Luc Rens from EUPAVE and FEBELCEM on *"Two-layer concrete pavements for motorways and public spaces"*. Mr. Rens gave a general introduction on what two-lift concrete pavement (2LCP) is, why using it and its benefits. He also presented 3 cases of decorative concrete pavements and gave examples of highways/ motorways in two-layered JPCP and CRCP.

Mr. Martin Datzert from WIRTGEN (Germany) then introduced the *"German experience on two-layer concrete for motorways"*. Mr. Datzert started by explaining the different paving technologies and focused on dual layer paving with two different concrete mixes. Mr. Filip Covemaeker, TRBA, gave a case study of the bypass road of Couvin E420/N5. Mr. Covemaeker showed a presentation video of the company TRBA and informed the participants on the project, the equipment used and the quality and benefits of using such technique.

Afterwards, at the outdoor exhibition, the audience visited the stand of Britpave member Gomaco to see their latest slipform pavers.

EUPAVE EU DEBATE ON 'SUSTAINABLE ROADS TOWARDS 2050 CARBON NEUTRALITY'

Mrs. Izaskun Bilbao, MEP, and the European Concrete Paving Association, EUPAVE invite Britpave News readers to their debate on "Sustainable roads towards 2050 carbon neutrality".

The event will be held on Wednesday 11 December 2019 at the European Parliament. Registration at 17.00, events starts at 17.30 sharp. The venue is: ASP 5G1, European Parliament Bât. Altiero Spinelli 60 rue Wiertz / Wiertzstraat 60, Brussels.

This event will gather experts from the European Commission, LafargeHolcim and Cembureau, the European Cement Association. Participants will have the unique opportunity to exchange and discuss the challenges regarding the sustainability of road infrastructure.

For programme details and registration visit:
https://www.eupave.eu/eu-event-sustainable-roads/

MEMBERS' NEWS

NEW BRITPAVE MEMBER

Britpave welcomes a new member, Mick George Ltd, one of the leading suppliers to the construction industry in East Anglia and East Midlands. Having made a significant investment in stabilisation equipment, the company has appointed Britpave's very own Al McDermid to help further develop their stabilization division.

For further info, see: **www.mickgeorge.co.uk**

COSTAIN APPOINTMENT

Costain has appointed Nathan Marsh as its first-ever chief digital officer and as a member of its executive board. Marsh will be responsible for leading the accelerated implementation of the company's commercial digital strategy with responsibility for the delivery of group-wide digital services enhancing client solutions. CEO Alex Vaughan said: *"Ensuring that every service we offer is digitally optimised, and that we offer our clients new solutions founded on the application of digital technology is core to our new Leading Edge strategy, which is why we have appointed our first chief digital officer."*

ATKINS APPOINTMENT

Atkins has appointed Richard Robinson as chief executive of its UK and Europe region. In his new role, he will be responsible for leading its 10,000 strong team and operations across multiple transportation, infrastructure, building and industrial markets. A chartered chemical engineer, Robinson was previously chief operating officer at HS2. He has also held senior leadership roles at AECOM, BAA Heathrow, and Anglo American after his early career at ICI.Atkins president Philip Hoare said: *"Richard brings a wealth of experience and a fantastic track record of delivering growth through exceptional leadership and a steadfast focus on operational excellence."* Robinson's appointment follows Philip Hoare's promotion to Atkins president in May.

TARMAC SOIL STABILISATION BROCHURE

Britpave member Tarmac has published a brochure outlining the benefits and process of soil stabilization. The brochure highlights Tarmac' range of lime and cement soil stabilisation solutions. Copies of *'Soil stabilisation solutions: Transforming unbuildable land to safe and productive use'*. For more information on Tarmac soil stabilisation visit: **https://bit.ly/2BHhCda**

BRITPAVE MEMBERS

As the focal point for in situ concrete and cementitious infrastructure solutions, Britpave offers its members a recognised industry voice, market sector development and beneficial industry networking opportunities. Britpave members include clients, consultants and engineers, contractors, material and plant suppliers and academia.

AECOM Ltd - www.aecom.com

Aggregate Industries - www.aggregate.com

Allied Infrastructure Management Ltd - www.alliedinfrastructure.co.uk

Arup and Partners Ltd - www.arup.com

Atkins Ltd - www.atkinsglobal.com

Balfour Beatty Ltd - www.balfourbeatty.com

Ballast Phoenix Ltd - www.ballastphoenix.co.uk

Barton Plant Ltd - www.barton.co.uk

British Lime Association - www.britishlime.org

Cambrian-UK – www.cambrian-uk.com

CEMEX UK - www.cemex.co.uk

Colas Ltd - www.colas.co.uk

Combined Soil Stabilisation Ltd - www.combinedssl.co.uk

Complete Design Partnership Ltd - www.cdpbroms.co.uk

Costain Ltd - www.costain.com

Dublin Airport Authority plc - www.dublinairport.com

Ecocem - www.ecocem.ie

Geofirma Soil Engineering Ltd - www.geofirma.co.uk

Gill Civil Engineering Ltd - www.gillgrouphouse.com

Gomaco International Ltd - www.gomaco.com

Hanson UK Ltd - www.hanson.biz

Jacobs - www.jacobs.com

Lagan Aviation and Infrastructure - www.laganaviation.com

Mick George - www.mickgeorge.co.uk

Morgan Sindall Construction and Infrastructure Ltd - www.morgansindall.com

Norder Design Associates Ltd - www.norder.co.uk

PJ Davidson (UK) Ltd - www.pjd.uk.net

RJT Excavations Ltd - www.rjtexcavations.co.uk

SGE - www.sgeworks.co.uk

Smith Construction (Heckington) Ltd - www.smithsportscivils.co.uk

Tarmac Ltd - www.tarmac.com

Tata Steel Shapfell - www.tatasteeleurope.com

TKL Earthworks - www.thetklgroup.co.uk

TR Stabilisation - www.trstabilisation.co.uk

VolkerFitzpatrick Ltd - www.volkerfitzpatrick.co.uk