SAFER HIGHWAYS MAGAZINE

ISSUE 12 , JUNE 2021

ARMED FORCES WEEK

HOW AMEY SUPPORTS EX-MILITARY PERSONNEL

IN THIS EDITION...

THE FUTURE OF AUTOMATION

HIGHWAY CARE'S AUTOMATED CONE LAYING MACHINE

NOT ALL HEROES WEAR CAPES

MARK BULLOCK DISCUSSES HOW WE CAN WORK WITH LOCAL AUTHORITIES TO

SECOND CHANCES

WHY SOLAR GATES MD NEIL SAMPSON IS DRIVEN TO GIVE PEOPLE A SECOND CHANCE

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WECOME TO EDITION 12

Welcome to the June edition of SH magazine, once again packed with insight into how the highways industry is pushing the boundaries on innovation and best practice related to health, safety and wellbeing.

In this issue, to coincide with Armed Forces Week, we take a look at how Amey is supporting ex-service personnel. The company is one of the largest corporate supporters of SSAFA, the Armed Forces charity, helping to raise money to support those leaving the services and making the transition back into civilian life.

Elsewhere, we consider an innovative approach to fleetmanagement via a new partnership between Safer Highways member Go Plant Fleet Services and technology company Omnia Smart Technologies, a project that is likely to have wider benefits for council highways and transport services as the project develops further.

Giving people a second chance is something Solar Gates Managing Director Neil Sampson is driven by, and our article focuses on how the company is helping reformed prisoners get back into work.

On the theme of collaboration, Colas' new Operations Director for Regional Contracting, David Ogden, talks passionately about how taking the lead on collaboration is something all companies in the supply chain should be focusing on, while Malcolm Johnstone, Managing Director of SRL's Hire Division tells us how the company will continue to innovate to find better ways to protect its team of operatives.

Also, this month, Mark Bullock, Chief Executive Officer of Balfour Beatty's UK Construction Services business, discusses how we can work with local authoritie to deliver social value as we emerge from the COVID-19 pandemic.

Kevin Robinson
CEO, Safer Highways

SRL traffic systems

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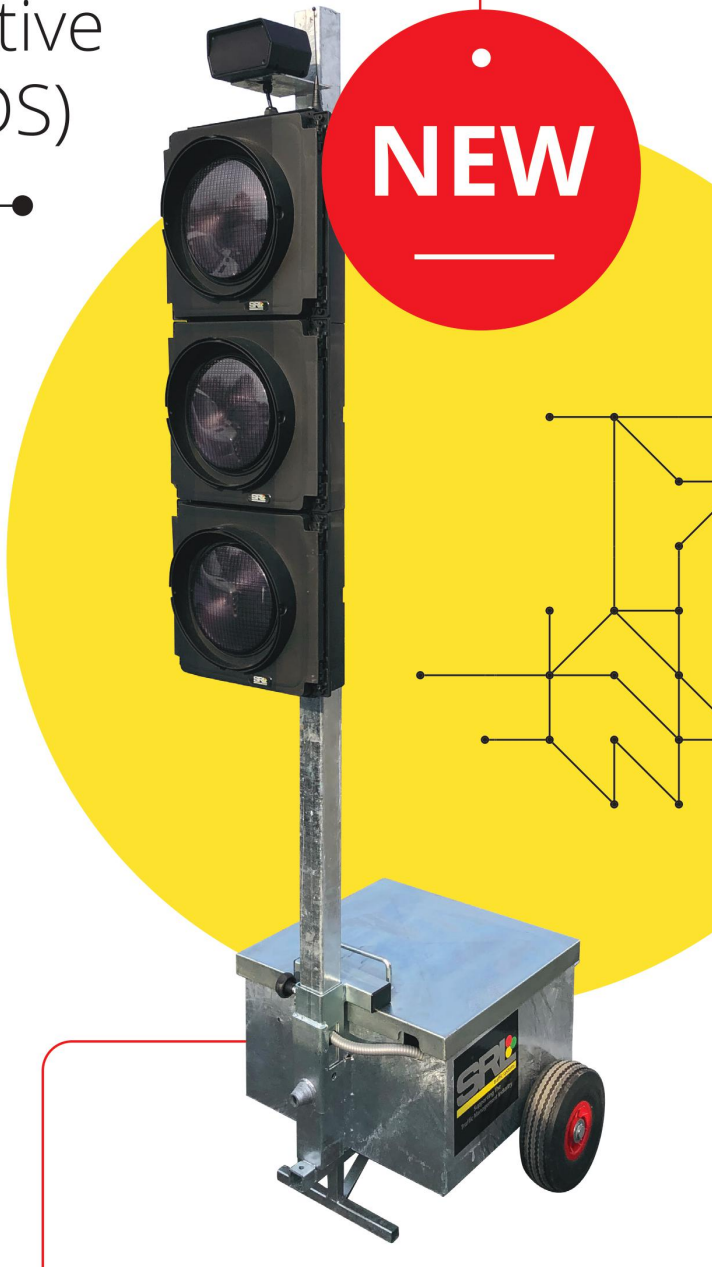

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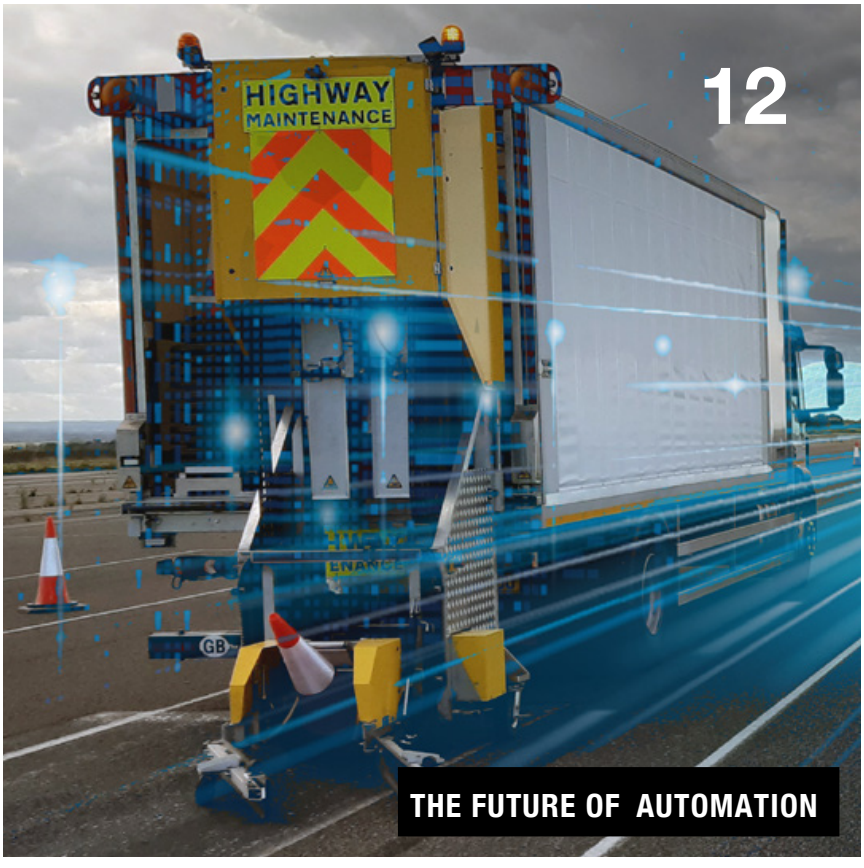

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MILITARY SKILLS VALUED ACROSS AMEY WORKFORCE

Armed Forces Week takes place during the month of June to recognise and celebrate men and women who currently serve and have served our country in the Royal Navy, British Army and Royal Air Force.

Amey is one of the largest corporate supporters of SSAFA, the Armed Forces charity, helping to raise money to support those leaving the Services and making the transition back into civilian life. Having signed up to The Covenant in 2013, Amey has made a range of promises to support members of the armed forces community, who work within Amey, access Amey services or are part of the wider community.

Amey's Area 10 team is a shining example of this, supporting ex-military service men and women into roles within the contract. Martin Peters is just one example, with his manager recognising the valuable skills and knowledge Martin possessed at interview, and the potential he had to develop a career at Amey.

Ex-Royal Marine, Martin struggled with the transition to civilian life, after being discharged from the Marines in 2015, aged just 27. At a very young age, Martin lived and breathed the military, always seeing this as his vocation for life. He joined the Royal Marines aged 18, being deployed to multiple operations around the world, two of these tours including Afghanistan. During Martin's second tour of Afghanistan in 2010, he was badly injured by a suicide bomber, suffering injuries to both his legs. Health professionals said Martin would never be able to walk properly on his right leg again. He was determined to prove them wrong, focusing heavily on the physio needed to develop movement in his leg.

Four months after Martin's injury, he played his first football game, defying the odds with his persistence and determination. The Marines assigned Martin to operational and training deployments in the Mediterranean and then Norway, where he became a cold weather warfare instructor and survival expert. He learnt how to ski and completed the basic ski instructor's course. Unfortunately, the pain in Martin's knee became unbearable with doctors advising Martin to cease all strenuous activity with the potential of causing life-long, permanent injury to the use of his leg.

Martin's injury led to him reluctantly being medically discharged from the Marines, after nine years serving our country. He was devastated and unsure what career path to take. "As I didn't want to leave the Royal Marines, I

struggled to understand that it was over. I didn't know what path I wanted to take or where I wanted to go."

Martin applied for numerous jobs and attended many interviews without much success. He was offered and started a job in retail which clearly wasn't for him and subsequently commenced a job within the gas industry with no career development. He had lost all direction and was wondering where his life was going.

After sifting through countless job vacancy searches, Martin came across the Project Manager role on the Area 10 contract at Amey. He had the transferrable skills to carry out the job and needed to have the confidence to highlight all these skills at interview. He had the project management skills that he had gained in the Marines, alongside leadership, team building, problem solving and communication skills. His experience unrivalled anything else, having utilised these skills in highly pressurised, and sometimes life-threatening, environments.

After successfully being appointed the role of Project Manager on Area 10 in 2020, Martin has never looked back. "The team are fantastic and so supportive. I am grateful to Amey for giving me the opportunity to apply the valuable skills that I have gained in the Marines and utilise them in my role in the best possible way for Area 10. It's a great team ethic here and I am wanting to develop my skills even further."

Martin's role on Area 10 looks at making systems and processes more efficient, looking at innovative ways to continually improve every part of the business. "I feel the mindset that I developed whilst in the Marines has helped me to always see the end result in anything that I do. I always apply a 'can-do' attitude, striving for excellence and helping to improve the service that we, at Amey, provide to our customer."

This June is Armed Forces Week (21-27 June) during which time, Martin will be supporting SSAFA by coordinating a Big Brew Up in the North West and connecting with other men and women from our nation's Armed Forces, recognising the bravery and sacrifices these people have made and celebrating their achievements and success over the years.

Amey is keen to employ those from the military community, not only do they have a wealth of skills that are transferable to the business but Amey feels that their experiences in the Armed Forces are invaluable. Amey cares where their employees come from and helps support their future aspirations through career development. For more details on Amey Careers, go to www.amey.co.uk/careers

'Let's join forces' is Amey's initiative that welcomes people into its workforce that have a military background. The team at Amey value the skills and knowledge ex-military personnel possess, recognising these transferable skills as beneficial within a role across the industry.

Amey also works in partnership with BuildForce, an industry led programme that aims to reduce the skills gap in the construction industry by recruiting ex-military personnel. There are a team of mentors working across the UK organising site visits, work placements and providing guidance and support with CV writing and mock interviews.

To find out more on how Amey supports ex-military personnel and leading charities, please visit www.amey.co.uk/letsjoinforces/

WHAT IF? – LOOKING BACK AT THE INNOVATIONS WHICH NEVER QUITE MADE IT

Whatever happened to a number of the much-heralded projects – and crucially those which disappeared without a trace – WHY, and most importantly how, can use experience to build on the work of others?

For those of you who have been engaged with Safer Highways since the very beginning you will remember how in 2017 we took our conference mainstream at the Highways UK event. That day in November in front of the great and good of the highways sector, we launched an event that we hoped was to become a driving force for real change in the industry we know and love.

Mike Wilson, Chief Highways Engineer at Highways England, proudly pulled from his pocket the first iteration of what was then known as the Highways England Passport Scheme, Phillip Ross, then Head of H&S at Connect Plus M25 spoke with passion about the brilliant work his organisation was doing around support in the workplace with Mental Health and Phillip Beaumont, then of Colas, presented on a new dawn in traffic management, the Autonomous IPV.

Fast forward four years and our industry has now evolved beyond recognition.

In the mental health space Safer Highways now are pioneers, via our own 'Thriving at Work' Survey, that has become the bedrock for organisations to measure themselves against a series of government standards.

At the same time, we have been working with CITB and the Lighthouse Charity in the broader wellbeing space to support not just highways workers but also our brothers in the wider construction sector.

Couple that with the fact that, despite being much maligned, the passport scheme, in its umpteenth iteration, is now something which the supply chain has a common expectation to adopt.

Which leaves only one question, whatever happened to the Automated IPV, a vehicle which former CEO of Highways England, Jim O'Sullivan personally championed?

And then there was the mobile barrier and the 'whoopie cushion' inflatable crash cushion and more 'innovations' than we have time to mention, innovations which were supposed to be game changers which sank without a trace.

Carpe Deum - Time waits for no man

All innovation only has a short shelf life before the focus moves to something else – a simplefact of life. For the inflatable crash cushion and the mobile barrier this proved to be very, very short – both for the obvious reasons we don't need to go into.

Over the last few months both Highway Care and King Highways have unveiled automated cone laying machines, both designed to remove operatives from the rear of traffic management vehicles, both supported by the designated funding from Highways England. A triumph in engineering to keep those we put to work safe by removing them from a key area of risk, the carriageway has the 'Stamp it Out Programme' to eliminate roadworker abuse and minimise

risk from incursions so on the face of it the industry has moved on – right?

But one enigma remains – the A-IPV vehicle.

Developed in the UK by Colas with Highways England funding the project was conceptualised to develop and deliver an Impact Protection Vehicle (IPV) which could deployed onto our network without a driver.

For those, who like me at the outset, were unfamiliar with the process of deploying traffic management – in other words dropping cones onto the road to form a physical barrier, this process is carried out by two vehicles, known as the leader and follower.

The lead vehicle would carry three operatives, a driver and two TM operatives on the back manually deploying the cones. This would be followed by a second IPV, close enough behind to offer protection yet not far enough away so as not to pose risk to life should it be struck. The key to the last sentence is the final few words, SHOULD IT BE STRUCK; an occurrence which happens with frightening regularity on our network. (Statistic)

So, in short, the driver of the following vehicle is a sitting target, driving along and waiting for the moment he is struck. His salary is nothing more than danger money, yet in an era where we embrace innovation we still accept this to be the done thing. This is where the AIPV came in, removing that driver from the vehicle by automating its progress.

James Haluch, formerly MD at Amey Highways, once told me how each of the six deaths he has seen as a result of collisions with an IPV still haunt him. There are countless stories of operatives being forced to either give up their jobs or change roles due to injuries sustained – and yet we still continue to do things the way we always have and put a man in a vehicle to be no more than a sitting duck – in short if you do what you have always done then you will get what you have always got – in this instance risk to life.

Which brings me back to my last question.

Many of the innovations which were funded were flights of fancy but as with any development you have to kiss a few frogs before you find a prince. In this instance from my standpoint that frog that could have been the prince was the A-IPV.

The technology which powers the trucks requires both vehicles to maintain an active line of communication, via a series of electronic breadcrumbs which the lead vehicle lays for the driverless following truck to follow – in principal and in a controlled environment this is very simple and has been proven to be both reliable and very accurate.

Developed by Colas, in conjunction with Kratos technologies an American company who specialise in building unmanned flight defensive systems for the US government.

The company then engaged with Royal Truck, a manufacturer from America who, to date, have carried out ‘live’ trials in the state of North Dakota with the system already having 3 operational vehicles in the state of Colorado.

The technology which powers the trucks requires both vehicles to maintain an active line of communication, via a series of electronic breadcrumbs which the lead vehicle

lays for the driverless following truck to follow – proven in the trials, albeit with minor glitches, which I am told were fixable.

I, like you, have to ask, WHAT DERAILED THE PROJECT?

If Boeing can get the Dreamliner from concept to flight inside 5 years why can we not get a truck on the road in the same time frame.

Between 2016 and 2019, the vehicle went through multiple testing cycles over 3 years at Bruntingthope, Goodwood Circuit and latterly Manston airport with leading Highways England and Service Providers lauding its abilities

That said lets look at some facts:

According to the Royal Truck Website the vehicle is a "self-driving TMA truck that operates completely unmanned in a Follower mode when paired with a Lead vehicle. This innovative technology was first developed for use by the U.S. military and has since been adapted for the roadway construction industry through our partnership with Kratos Defense."

"The Leader/Follower system includes a human-driven Leader vehicle that transmits its GPS position data called "eCrumbs" back to the unmanned Follower vehicle. The Follower vehicle then uses the data to follow the exact path and speed of the Leader vehicle at each point along the route."

The Leader technology can be added to any standard fleet vehicle such as sweepers, water trucks, line stripers, or maintenance trucks. The Follower vehicle needs to be the autonomous TMA truck.

"Real-use scenarios have been tested including obstacle detection (person or object), interference (e.g. trees or buildings), and intrusions between the Leader and Follower."

Yet the project still failed. Ryan Wood and Phill Beaumont the project leads both moved on from Colas and, is always the way, enthusiasm waned when the driving forces left. This despite the testing completed by Colas &, Kratos and subsequent review of data and the systems showing the project was actually very close to being road ready (as demonstrated by stakeholders in the US.

Indeed, this begs the question; did focus shift to more achievable and live projects such as the automated cone laying machine.

New vehicles have come to the fore, new innovations now have their place in the sun and sadly the A-IPV is consigned to the history books as a good idea which never came to the network.

Kevin Robinson
Chief Executive
Safer Highways

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The safety of operatives working next to live traffic has got a step closer to being significantly improved after news that Highway Care's Automated Cone Laying Machine (ACLM), FALCON, is the first of its kind to have successfully completed its on-road live trials.

This means it also now Highways England endorsed for use on the strategic road network. The trials have seen FALCON ACLM working in Area 9 working with Kier, one of the partners on the project, via the M4 smart motorway, with Balfour Beatty Vinci/Chevron TM, and then completing its journey back to Area 9 where it is now finished its testing. It has also achieved successful GG104 as part of an independent review.

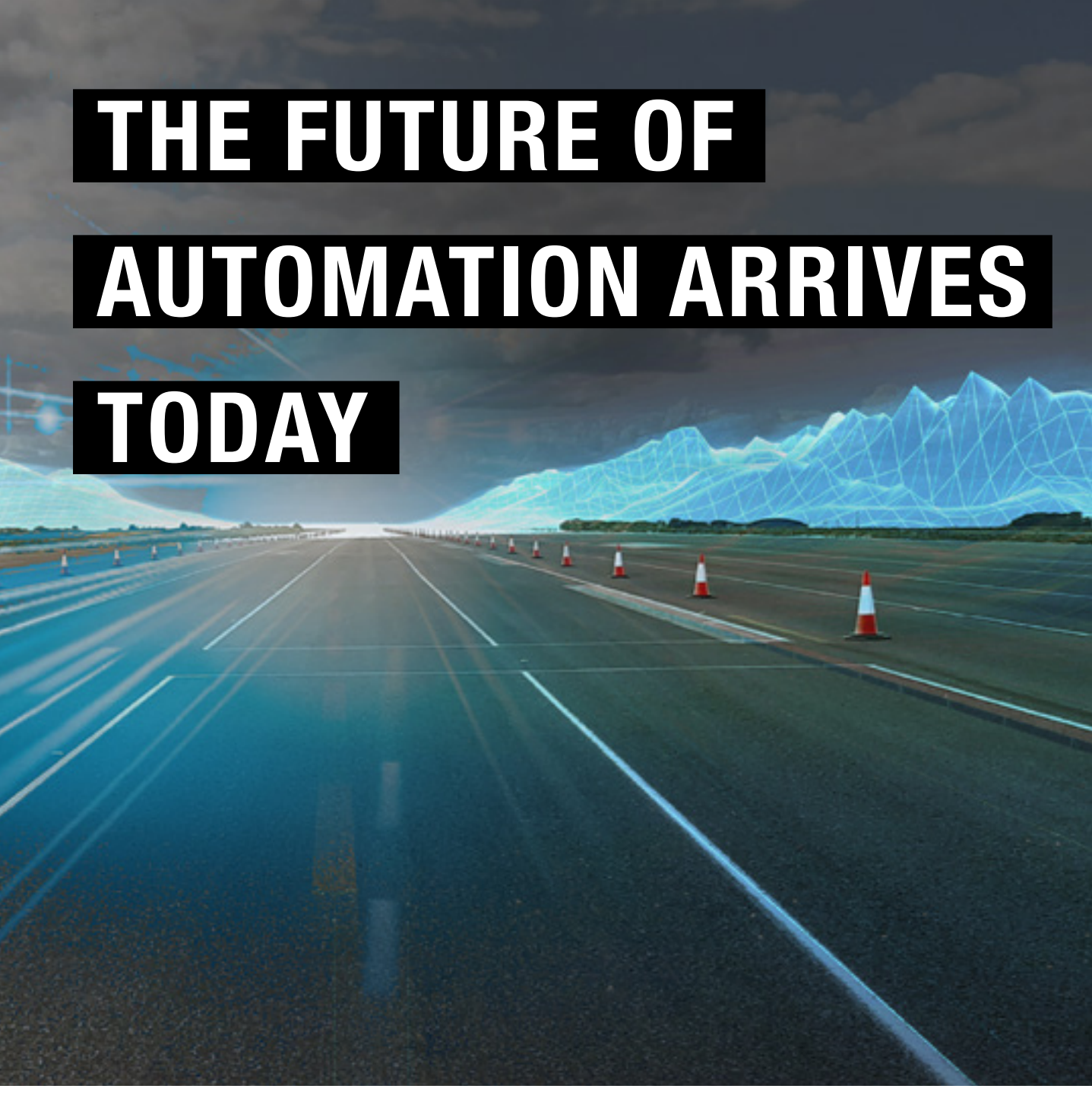
Commenting on the completion of testing, Martin Bolt, Highways England Head of Lean and Continuous Improvement, said:

"The completion of the on-road performance and reliability testing is another significant step in the transition from manual cone laying to an automated process. The reduction in risk of injury to two crew members over that distance and with that volume of cones is the reason why this project is so important.

"To see the vehicle complete the testing against the minimum requirements is a proud moment for us all and allows Highway Care to move into a first production run. I look forward to seeing the first batch on the Highways England network later in the year."

So far, in completing the on-road live testing proving performance, durability and safety tests, over 24,000 live traffic cone cycles, across 216 km of live lane closures have been achieved in addition to almost 60,000 cone cycles from driver training, testing and off-road trials in 12 months.

THE FUTURE OF AUTOMATION ARRIVES TODAY



The overall figure totals over 756km of lane closure which is further than the distance from London to Basel, where the first protype of the FALCON ACLM was built. This also equates to an average of 260 shifts completed in total and over 50 solo-operator shifts, which amounts to 52 weeks of reduced risk for two operatives and therefore less musculoskeletal injuries and lower risk of series injury from falling from a traffic management vehicle or the danger of working next to live traffic.

According to Highways England, an average 1m high cone weighs approximately. A typical 4km closure involves putting down – and later removing – approximately 260-300 cones, meaning that two workers will both handle between five-six tonnes per shift in cones alone.

One of the criteria for the new automated cone laying machine, is that it must be able to lay/collect a minimum of 400 cones at a rate of one every 10 seconds. When additional equipment such as frames, signs, lamps, sand bags are factored in, it is not unreasonable for workers to lift between eight and 10 tonnes per shift in total. A single kilometre of coning takes approximately 15 minutes to install and remove, resulting in an exposure time to live traffic of approximately two hours per shift, says Highways England.

To date, ergonomics experts have struggled to identify a suitable method of placing and removing cones that doesn't have an impact on workers due to the twisting of the body required and environmental conditions that the work is undertaken in.

The project, which has been led by Highway Care, in partnership with Kier and funded in part by the Highways England Innovation fund, has been a real triumph in collaboration with not only these organisations both also other supply chain partners coming together as Tom

Tideswell, Head of Innovation, Kier Highways explained.

He said, “Over the last few months, the FALCON ACLM has been progressing to meet the reliability criteria of deployment/retrieval 24,000 cones without failure. It started in Kier Area 9 to capture performance in a maintenance arena. The FALCON ACLM was then trialled on the M4 Smart Motorway Project with Chevron and Balfour Beatty Vinci to test its capabilities for a typical major projects scheme. It then returned to Area 9 with Kier to conclude the cone count requirements.

“To facilitate this collaboration between all parties has been essential to ensure this key element of the Highways England Innovation Project is achieved.”

But the project has not been without challenges, most recently through the global Covid-19 pandemic as Mr Tideswell continued;

“Training has been a particularly hard obstacle to overcome but was delivered efficiently and safely ensuring Covid precautions were always in place and adhered to. it is a true testament to what can be achieved when working together in our industry.”

> *“We managed to put together a fantastic team of people, and business, whom have enabled and supported this project, from start to finish, to achieve this hugely successful outcome*

But perhaps the greatest sense of pride has to come from Ben Duncker, Business Development Director at Highway Care who has had more than a passing interest in the concept of automating the process of traffic management deployment. He said,

““We’re immensely proud of what has been achieved over the last 12 months, and since the conception of the project over 2 years ago. We managed to put together a fantastic team of people, and business, whom have enabled and supported this project, from start to finish, to achieve this hugely successful outcome.

To go from concept, to prototype, then into testing and final achieve a successful review by Highways England’s NSCRG allowing the system to be deployed on the SRN, whilst overcoming various challenges, all during COVID, and within 24 months has been a massive effort. But one we have met head on with the clear objective to succeeding in improving safety for road workers for many years to come.”

During the remainder of 2021, Highway Care and its partners will continue to work on delivery of the Pilot Fleet.

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RAISING THE BAR TO REDUCE VEHICLE INCURSIONS

What can be done to reduce the risks associated with vehicle incursions? As Morgan Sindall Infrastructure makes progress on the A45 Sprint Route, this article explains how lessons learned from motorway road projects can help teams working on urban networks to reduce incursions, and make sure every colleague can go home safe.

The Highways Safety Hub reports that vehicle incursions, defined as unauthorised vehicles entering a work area, are recognised as one of the highest risks to road workers safety.

As well as the potential for a fatal impact if a vehicle enters works, there is also a risk of damage to site vehicles, delayed works and further vehicles following into the area. Highways England revealed there were nearly 6,500 incidents of incursions between October 2017 and October 2020, an average of 175 a month. At Morgan Sindall Infrastructure, our people are at the heart of everything we do; we strongly believe all our colleagues should go home safe.

We are currently delivering the A45 Sprint Route for Transport for West Midlands; the first uninterrupted bus priority corridor of its kind, providing critical cross-city links to support the Birmingham 2022 Commonwealth Games. Driver and pedestrian behaviour in urban areas is known to be poor, with motorists frequently ignoring closures and diversions. Our dedicated Traffic Management Team led by Mark Bailey, traffic safety and control officer, have adapted existing concepts from motorway projects to improve road user and road worker safety on a smaller, urban network.

Taking inspiration from motorway works, the A45 Sprint Route is the first urban project to create and display additional signage at entry points along the route, reminding motorists that entry points are not for members of the public. The bespoke signage displays a no entry sign while stating “Works Traffic Only” and led to an 85% decrease in incursions in its first month of implementation.

It was also common for impatient motorists to cross the central reservation, driving down the closed route during times of traffic build up. After liaising with our customer, Birmingham City Council and National Express, the project agreed a full road closure, mitigating any safety risk from incursions during night-time operations.

During the day, cyclists and food delivery riders were recognised as a common incursion, so alternative routes were displayed around hotspot areas for cyclists to follow early on. The engagement team were also able to work together with companies such as JustEat, Uber Eats and McDonalds who liaised with delivery riders to improve road behaviour around the relevant businesses, reducing the risks to our colleagues and their own.

This contributed to a wider, proactive communication approach delivered by the A45 Sprint Route traffic management team. They have gone beyond industry standard to prioritise MASS safety barriers along the route, instead of cones and safety line or heras fencing. This reduces incursions by blocking access totally to all road users. In addition, it significantly reduces the risk of debris travelling into a live lane, and the possibility of projectiles towards the workforce.

The proactive and collaborative approach adopted by the traffic management and project team demonstrates best practice on urban networks. The implementation of these combined traffic management systems has significantly reduced the risks to our colleagues, customers, supply chain, and road users.

A SAFE AND HEALTHY ENVIRONMENT IS AT THE HEART OF EVERYTHING WE DO - FROM PROJECT CONCEPT TO COMPLETION.

It is essential to us that we not only provide safe places to protect our colleagues who deliver our projects, but also to create a safe environment for communities who live around our sites and who benefit from the projects we deliver.

We believe in creating a 100% Safe environment and protecting our people and communities.

Everyone has the right to be
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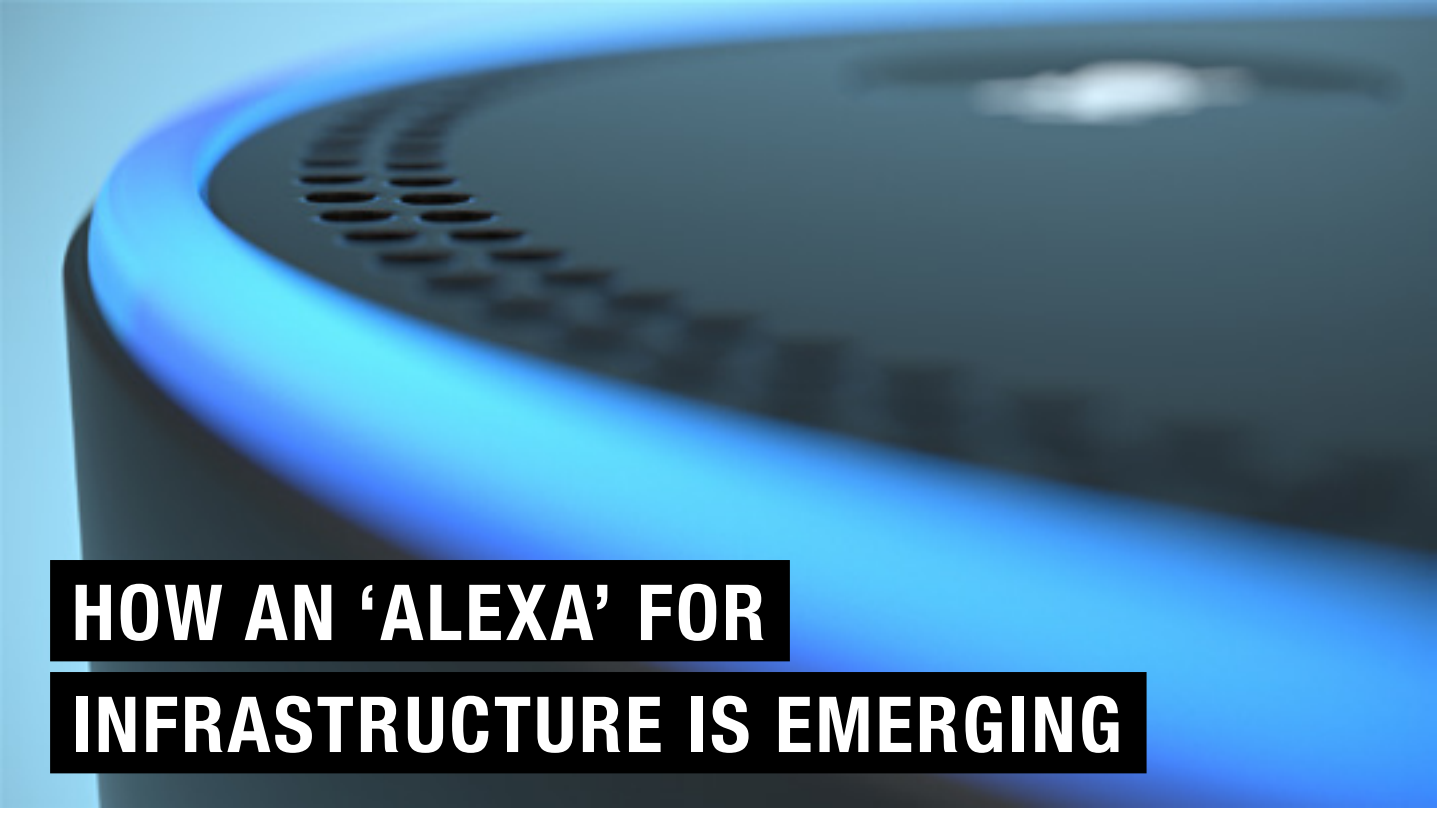

HOW AN 'ALEXA' FOR INFRASTRUCTURE IS EMERGING

Author: First published in Open Access Government magazine

We've seen what a single source of truth and collaborative data sharing can do on a major programme like the A14 but how might this be applied across a number of programmes, a framework or even an enterprise? Here we discuss how setting up the right data sharing platform can help transform programme or business performance and meet carbon reduction targets.

Saving time, money and driving continuous improvement on any capital delivery, upgrade or maintenance programme is front of mind for owners and operators of infrastructure at a national and local level. Not only is it important to have data at your fingertips to understand friction points but infrastructure schemes generate vast amounts of data that could provide intelligence to improve efficiency and drive productivity on other current or future projects.

How data federation improves performance and lowers costs

It has been shown for example that when asset management metrics are standardised and benchmarked to capture and transfer efficiencies there can be a 54% reduction in unplanned labour and construction plant downtime. Productivity gain due to this reduction can be as much as 37% and the wider benefits across an asset base through real time data will reduce carbon impact, improve GDP and help a workforce to be more effective.

The right data platform can also provide more than 70% additional access to siloed data to make better, more informed decisions and increase accuracy of business cases to invest effectively in improving business performance. Organisations that have a higher ability to load and analyse data in real time can also save 57% in audit costs and reduce data storage and IT costs by up to 64%, also reducing their operational carbon footprint.

What's the solution for the infrastructure sector?

These above are just some of the benefits already being realised by a new cloud-based digital platform created by Costain with key partners SAP and Keytree (a Deloitte company). The Intelligent Infrastructure Control Centre (IICC) harmonises the vast quantities of intelligence that UK infrastructure projects generate to drive greater programme, framework and enterprise performance. Alongside wider digital technology and advisory services that have evolved from decades of delivering complex infrastructure programmes, it's one of the ways Costain is helping clients to optimise design, delivery and operation of their physical and digital infrastructure.

Tim Embley, director of research, innovation and development at Costain explains: "Many of our clients across all the sectors we work in, from energy, defence, water to transportation, face challenges with having consistent and accurate data on critical factors such as commercial, carbon, safety, social value, as well as complete cost transparency."

"The IICC joins up multiple legacy and live systems across a programme or portfolio of assets to federate data into standardised, easy to use visualisations in real time. At a project level this data is essential to effectively manage operations. At an enterprise level it informs numerous processes including budgeting, talent acquisition and external reporting. It empowers key decision makers with full data transparency and the ability to track whether the desired outcome was achieved.

"Where data isn't easily available, it uses artificial intelligence to deep mine the existing data to manufacture data so you can look at scenarios and predict outcomes.

This helps reduce the unknowns and risks, thereby increasing delivery certainty and control of costs."

The Alexa factor

How much carbon have I emitted through fleet this week? How many of my projects are overspent? Where do I need to intervene soonest to achieve my targets for this quarter?

Built on the SAP Business Technology Platform designed to handle masses of data in sectors such as manufacturing and finance, the IICC is 3600 times faster than a traditional cloud-based data lake and answers queries such as these in less than one second. Information is instantaneous, insight is actionable.

What are the benefits from the IICC?

In addition to the benefits highlighted above, one example of where the IICC is currently providing faster and more accurate information flows is for the 'Transport Infrastructure Efficiency Strategy (TIES) Living Lab' . Here it's helping to empower members of the consortium such as Transport for London (TfL), East West Rail Company, HS2 and Network Rail, with:

- Harmonised data control that expedites the decision-making process
- A single source of truth to ensure portfolio performance clarity
- A simplified IT landscape using in-memory virtualisation reducing the need for data warehousing
- Continuity and intelligence integrated across a group of stakeholder systems for a range of users at all levels
- Protection against loss of data held in supply chains
- Real-time transparency of resources

Another issue faced at both a company and industry level is that of 'innovation siloes', where great ideas can become buried and are not shared. This represents a huge loss of potential value. Using the IICC, innovations can be identified and transferred on a live basis.

Where do I start with setting up the right data platform?

Knowing where to start can be daunting for organisations starting their data unification journey. Costain's IICC implementation expert Charlie Davies says: "You need to start with the right fundamentals and standards as well as an eye to the future. Data gathering and architecture exercises don't need to be expensive to make it useable down the line. If a data platform is IT systems agnostic, like the IICC, it can be adopted into an existing IT landscape keeping costs low and ROI high.

"Collaboration is key. All stakeholders need to be onboard before you embark on the journey. But empowering people to use technology in meaningful ways helps to show them their piece in the entire puzzle. People give their time because it fixes something they have seen as a problem forever."

Involving the right experts to help upskill your team with digital literacy also helps. This is why Costain offers the IICC in different ways and at different scales. These range from simply buying the platform specified for a few data sources and users to tackle particular issues such as carbon reduction or project cost overruns to full bespoke platform development and implementation advisory services. What data gets collated and tracked is decided collaboratively with clients.

Intelligence for improving lives and the planet

Applying different lenses to data can deliver insight not just to improve the bottom line but it can also drive big agenda points around social responsibility and environmental sustainability. Infrastructure intelligence such as the IICC can deliver, offers a way to manage operations that will improve people's lives as well as save money, time and the planet.

A deeper dive on how the IICC is helping reduce carbon through federating data on telematics and plant idling to follow.

Find out more by emailing techaction@costain.com to speak to a Costain expert.

TAKING THE LEAD ON COLLABORATION

David Ogden is a man driven by wanting to make a difference. When we start the interview, his first answer is one of the most compelling things I have heard in a long-time. Simple. But compelling. “We shouldn’t be competing in this sector on how great we are individually as companies; we should be competing on how collaborative we are.”

It will perhaps take a seismic shift in the culture and thinking of some businesses in the sector to operate that way, but it has to be a massive reason why Amey has had the success it has over the last decade. “During my time at Amey it has always remained an innovative business. In our sector, there are pockets of excellence and good examples of innovation, but we need to join these activities together.”

He thinks the formation of the Highways Sector Council (HSC) will help lay the platform for that to happen more often elsewhere in the industry. “The formation of the HSC is a very encouraging step for me, and you will slowly see it gain momentum from now on. The point is that there is a collective desire to collaborate and that’s the reason why it exists in the first place. The idea of driving a sector deal, keeping workers safe on the network, or reducing carbon-whatever it is there isn’t one single company or organisation that can achieve all of these things on their own-no matter how good they are. We need to get all of these things done together-that’s ultimately how we will succeed here and what has got me excited is that it brings both public and private sectors together.”

An example that can be given already was the HSC’s work at the beginning of the pandemic to quickly produce safe working procedures for local roads so that everyone in the industry could continue to work safely during covid. “This is a great example of public and private coming together to support the sector, producing guidance that brought together best practice from the member organisations and was produce quickly and efficiently shared through the HSC, CIHT and ADEPT. This for me was a great sign of the things to come from the groups collaborative approach.” he says. “If we do that, hopefully this mature approach to innovation will increase and competition in the way that we know it now between companies, will be a thing of the past and collaboration will be the thing that we continue to talk up.”

> *“The goal for us all in this industry is that everything is better aligned*

Mr Ogden says that the desire to provide a seamless journey, irrespective of whether it is a strategic or local road, still burns brightly for the highways and transport sector, as part of its role in providing a platform to create better places to live and work. “The impact of what we are doing as a industry has to influence that end to end journey. By continuing to embrace innovation, new technology, data and skills along collaboration, is the

only way, according to Mr Ogden. “There is no reason why innovation activities can’t be utilised across both the strategic and local networks, regardless of what type of funding kick-starts it in the first place. This can be scaled-up across different pockets of activity at different times but ultimately with things like carbon reduction, and safety of roadworkers and road users, for example, the end goal is still the same no matter what the road type is.

“The goal for us all in this industry is that everything is better aligned. Whether that is public and private sector, local and national government and that will take further collaboration because one single organisation cant claim they can do everything, no matter how good they are.”

Perhaps the organisations that have the most to offer in the sector, are SMEs. Growing in number over the last five years, the market is slowly opening up for them to work with the whole supply chain. Agile and flexible, they will be needed more than ever if any of what Mr Ogden has talked about will become a reality in the future. “Collaboration across the industry, between large and small organisations, public and private is the way to achieve the best possible outcomes. At Amey we have taken an open approach to ensure that the right organisations and people are involved in delivering the required solutions.” In fact, there are examples everyday of SMEs collaborating from top to bottom in the supply chain and indeed some are represented on the sector council as well as many current and future Highway England projects,” says Mr Ogden.

Live Labs has been a game-changer for the industry. It is the first real research and development budget that has been available for the local roads

A great example of collaboration has been the success of the Department of Transport and ADEPT Live Labs programme which Amey has been an integral part of, working with its clients on both the Staffordshire and Kent Live Lab projects.

In Kent, its boarders have been bursting with innovation. From drones being used for highway inspections, to sensors providing traffic insights or sensors on buses and other vehicles spotting potholes, to a trial of graphene for more sustainable highway maintenance and winter predictive road freezing modelling.

In Staffordshire, the focus has been on mobility with two mobility hub feasibility studies as well as two e-scooter trials with operators Ginger and Zwings. Alongside this, four air quality test beds have been created as well as traffic monitoring using fibre technology and demand responsive transport solutions. The list goes on….

“Live Labs has been a game-changer for the industry. It is the first real research and development budget that has been available for the local roads sector. This has enabled the scale-up of work on a number of topics and again collaboration is at the heart of it and better outcomes for the people that live and work in the places where this innovation is taking place. The success of some of these projects, in my opinion, is down to the model and approach that has been taken and here. There are some excellent examples of local authorities working with the private sector to drive innovation that has a direct impact on better outcomes for communities.” says Mr Ogden.

A good example of this, he says, is the e-scooter trials in Staffordshire which he describes as ‘true collaboration’. “The model of understanding the customer needs using data to back that up and make changes as a result alongside the working relationship with the e-scooter suppliers, communicating and translating to the customer and delivering the outcomes through the service delivery,” he says. “Equally in Kent we have really been able to transform services utilising data that was never there before.”

“Live Labs has showed us that given the right approach and tools for the job through technology and innovation we can deliver outcomes for our customers that up until recently wouldn’t have been possible and that in-turn, lays the foundation for further ideas and development and so we keep that cycle going.”

Back to business with Amey, success has come in the form of winning some important contracts over the last year and there will be more to come. But how do you get the appetite for innovation and a different approach to working and delivering projects, flowing through the whole business? How do you lead from the front on all of these things?

“In any business, engagement is absolutely key. I passionately believe much more can be achieved with a fully-engaged team and I have always had fantastic support from within this business. It is also about realising everyone is different. We all have our own strengths and weaknesses but they all receive and consume things in different ways-so there are lots of different touch points on engagement. “It is about thinking differently as well and wanting to work in new ways.

“

Safety is something that has shown to work best when it has innovation and collaboration behind it

But what about industry communication to help explain the role that the sector plays in creating better communities? “It is true as an industry we have some work to do on this. We haven’t always been good at telling the communities we work in about what we are doing and most importantly-why. But as a sector we have been brought up on outputs and at times struggled to translate and communicate those. But in more recent times there has been a shift to a more outcome-based approach which brings with it real

“

There are some excellent examples of local authorities working with the private sector to drive innovation that has a direct impact on better outcomes for communities

change and opportunity for the industry to embrace it but also to communicate this in more engaging ways.”

“Safety is something that has shown to work best when it has innovation and collaboration behind it and again that is where we should be continuing to come together as an industry providing more and more evidence to show where this has resulted in improvements to the work and lives of our employees and customers.”

But Mr Ogden will shortly bid farewell to Amey after a long and successful career there. He is set to join Colas later this month, where he will take up the position of Operations Director for Colas’ regional contracting areas for highways and aviation.

“I have had such a fantastic time at Amey and have been fortunate enough to work with such a great team. I am really excited to be joining Colas, who have an excellent safety culture. They are also a company with a real open and collaborative approach with innovation at the heart of all activities. Their global presence and heritage in material development and recycling will also provide us with an excellent opportunity to have a positive impact on the sectors journey to net zero.”

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WE OPEN THE WAY

SRL: WHY WE ARE CONSTANTLY SEARCHING FOR NEW TECHNOLOGY TO HELP KEEP OUR WORKERS SAFE

Malcolm Johnstone,
Managing Director,
SRL Hire Division

The stats on road workers abuse in the UK are alarming and not getting any better. That was the very reason why Safer Highways started the industry-led Stamp It Out Initiative, to help bring awareness about and to eradicate road worker abuse.

For operatives and staff working for traffic systems specialists SRL, sadly the abuse has continued on a regular basis. As the UK's largest manufacturer and supplier of portable and temporary intelligent traffic signals, the company has 29 depots throughout the UK. This means that most weeks, at least one operative from any corner of the country gets abused by a member of the public.

The company is continuing to increase its efforts to better protect its workers while they are on the network. "There are still examples of abuse relating to at least one of our operatives at least once a week and there is still more we can do to protect them," says Malcolm Johnstone, Managing Director of SRL's Hire Division. "There are many incidents that are going unreported because our operatives don't have the confidence that these people will face prosecution, but also as a company we have the responsibility to do everything we can to ensure they are protected as much as possible and we have been looking to technology and innovation to help us," he adds.

Trials of bodycams have been unsuccessful after it was reported by several workers that quite often the very presence of flashing bodycams would escalate situations and members of public would retaliate by getting out their mobile phones and start filming the operatives. "We found that quickly eroded our workers' confidence and many of them weren't even bothering to wear them," adds Mr Johnstone.

The trouble with having a male-dominated workforce is that many workers find it difficult to be seen to be talking about how abuse and the pressures of the job has affected them. "We are trying hard to change this culture in our business and take a very informal approach to getting these guys to open up more about the situation," says Mr Johnstone. SRL is looking to move the reporting system for abuse and other incidents to an online internal portal.

> *1 in 5 operatives regularly leaving as a direct result of abuse or pressures of working on the live network.*

But the constant abuse and other job pressures has a knock-on-effect on the business to the point where there is a very high turnover of jobs within 1 in 5 operatives regularly leaving as a direct result of abuse or pressures of working on the live network.

One thing that is making a real difference is internal cameras in the company's vehicles. These not only act as a tracker for the vehicle but operate as a dual forward and driver facing camera, to give operatives the confidence that they are protected by any footage that is being recorded. As well as that it has enabled the company to monitor and improve operatives driving habits. One was put to good use recently when a SRL operative was threatened with a knife when attending a call out. "It is simply technology but serves a dual role in not only improving our operatives driving behaviour but protecting them as well and the footage we received from the incident was passed onto the police to investigate."

"It will be interesting to see once we have seen some more convictions for roadworker abuse how important this kind of technology will. We are finding at the moment the police only have certain time and resources to follow things up but many cases don't see the light of day and somehow we need as an industry to work closer with the police so this takes a more positive step forward," adds Mr Johnstone.

> *Anything we can do to better protect our workers using technology is a step forward*

SRL has also trialled portable CCTV units, especially on bigger sites, so that worker are being watched over at all times. "But there is lot of bureaucracy around what we can and cant do with the footage and we have to sign forms before it is allowed to be used onsite at any contract. But I still feel it has a massive role to play in helping protect our workers."

But like anything, much of the battle around road worker abuse is about communicating with the public more effectively. "I think we need to think more as an industry about how we can provide more advance warnings to the travelling public whether that be use of more portable VMS signs or a letter through peoples front doors-more has to be done to better explain what we are there to do," says Mr Johnstone.

SRL is currently working with fellow Safer Highways member Solar Gates to develop a barrier protection system so that workers can be better protected when working next to live traffic. Here, workers would work inside a mini-closure with a barrier to protect them and could be activated when the work is alerted by a incident or potential incursion. "Here we would be making use of various technology to ensure the worker is totally protected from any incursion. Our idea would be to make more use of SRL's Portable VMS Smart Portable Messenger system as well, warning drivers of work ahead but also counting down progress on the project to the point when the traffic management can be removed. Different messages could be put onto the screens informing members of the public of why work was going on and telling them when we will be finishing. I think this integrated approach of protecting the operatives and informing the public at the same time is the way forward to helping reduced abuse and also make works more effective at the same time," adds Mr Johnstone. This will shortly be trialled on an A1 improvement project.

"Anything we can do to better protect our workers using technology is a step forward to giving our operatives the confidence that they are protected and can get on with work and end their shift without the feeling they cant come back to work tomorrow. It is important as well that we get operatives to buy into this technology. With more automation coming into the sector many workers are worried about their jobs and that something we have to address too."

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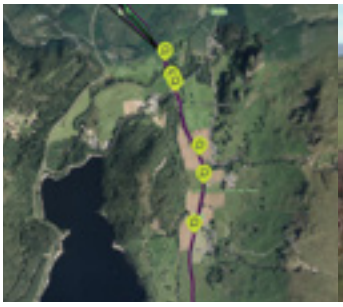

NOT ALL HEROES WEAR CAPES – OUR HEROES BUILD NEW FUTURES

Mark Bullock, Chief Executive Officer of Balfour Beatty's UK Construction Services business, discusses how we can work with local authorities to deliver social value as we emerge from the COVID-19 pandemic.

As we navigate our way through the COVID-19 pandemic, we have never been more reliant on strong and sophisticated infrasructure; whether that is the roads transporting our doctors and nurses to work, or the schools that our children learn and play in.

The construction and infrastructure industry has been at the heart of the UK's response, with our people designated as key workers to ensure that we can continue to build at pace and service the needs of our country. But we must not lose this momentum once the virus dissipates.

We must continue to work closely with local authorities and public sector bodies to begin our economic and social recovery, shaping how we create sustainable infrastructure solutions which deliver more than just value for money.

At Balfour Beatty, we've long been an advocate of delivering added social value – just recently we committed to generating £3 billion of social value by 2030 and positively impacting over one million people by 2040, through our refreshed sustainability strategy, "Building New Futures".

But how do we deliver on these bold and ambitious targets?

Now is the time to rethink, revitalise and redefine how we 'do' social value, to make sure everyone is getting the best out of it.

It is through the SCAPE framework that we're able to build strong, long-term relationships with our customers. Relationships that allow us to look beyond the individual scheme and provide a more innovative, forward-thinking approach to social value which will allow us to build resilient communities.

For example, during lockdown, SCAPE brought together its contractors including Balfour Beatty, schools and social enterprises specialising in education to deliver an online work experience programme. "Learning in Lockdown" saw us provide skills and training support for school students up

and down the UK – replacing the face to face interaction that we would have delivered before COVID-19 and delivering over £30,000 of social value for communities through our activities.

It is this type of innovative thought process that will help us adapt and evolve our approach to social value with agility. Social value can be and should be used as a driver for economic growth that benefits all parts of society, whilst also presenting an opportunity to tackle some of the wider issues we're facing.

As climate change becomes a pressing concern for the world, people and local communities, we have a responsibility to make sure that we address the challenge and build back better and greener. That is why Balfour Beatty has also committed to going Beyond Net Zero Carbon and Generating Zero Waste by 2040, as part of its sustainability strategy.

We have an integral role to play as an industry. Every day we construct energy efficient buildings and low carbon infrastructure. But we can't do this on own our – we must work with our clients and our partners to ensure that our towns, cities and assets are resilient to the effects of climate change and that carbon emissions throughout the whole lifecycle of a building or asset, are kept as low as possible.

The construction and infrastructure industry's collective response to the global pandemic has shown that we are a friend, not foe, of the environmental debate and has raised hopes that progress on delivering net zero can and should, be accelerated.

> *Building strong, long-term relationships with local authorities, gives us the best chance of securing social, economic and environmental benefits*

> *Social value can be and should be used as a driver for economic growth*

> *Now is the time to rethink, revitalise and redefine how we 'do' social value, to make sure everyone is getting the best out of it.*

SCAPE has taken an active approach to begin addressing the sector's carbon footprint, bringing together its partners and their supply chains across the UK to harness their collective power and influence, to make construction a force for positive change.

> *"Without national frameworks, such as SCAPE, local authorities and public sector bodies can struggle to see the benefits*

Just recently, they published their Environmental Policy, which is designed to offer clients and project delivery teams outcomes-focussed project objectives that enable decarbonisation and focus on environmental sustainability and enhancement.

Without national frameworks, suchas SCAPE, local authorities and public sector bodies can struggle to see the benefits they could reap for years to come by engaging a contractor during the early stages of a project. By cutting through many of the procurement challenges often associated with securing a reputable contractor, we can focus on the things that truly matter. Those that will have the biggest impact such as health or environmental outcomes, and those that have the potential to deliver longer-term savings.

Building strong, long-term relationships with local authorities, gives us the best chance of securing social, economic and environmental benefits. Benefits that will help us build stronger, more resilient communities and leave a lasting, positive legacy.

I for one am very inspired by the opportunity to work with our local authority and public sector body customers on the journey towards achieving net zero carbon, tackling unemployment and going above and beyond to deliver inclusive growth.

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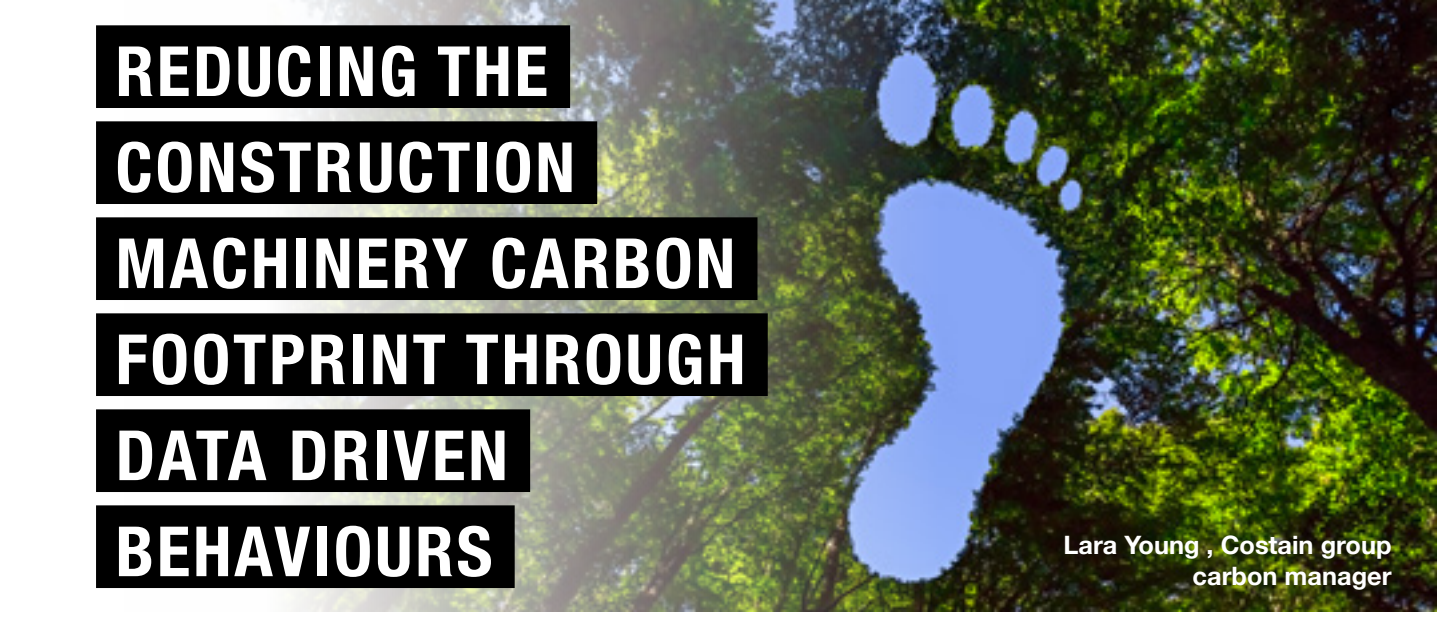

Lara Young , Costain group carbon manager

In 2018 Costain was one of the first infrastructure companies in the UK to introduce air quality standards for plant machinery used on complex delivery projects nationwide, reducing the impact on the local environment and communities. This standard is now widely adopted across the industry. Since 2020 the consistent Group wide use of real time telematics data has been helping to further reduce construction machine carbon emissions by as much as 30%.

Just like a manufacturing factory floor, optimisation of equipment provides a step change in cost and carbon efficiency when delivering, upgrading, and operating an infrastructure network. Telematics enable the remote monitoring of machine use and the capture of operational data revealing how machines and vehicles are being operated, how fuel efficient they are, how much carbon they emit and if the drivers or operators are using energy saving functions.

Having this data to hand makes it easier to identify where and how to reduce air pollution by reducing inactive time and idling of construction machinery. It allows project teams to plan the use of machinery more effectively and to pinpoint hotspots, highlight where driver behaviours need to change and ultimately cost savings.

The data can also help encourage the right behaviours, as seen on the A14 project. According to manufacturer specification for the machines using eco-mode can reduce fuel consumption by between 20-25%. Eco-mode is a function which decreases the engine speed to reduce fuel consumption while increasing the hydraulic pump flow rate to compensate for operating speed, Costain has developed a behavioural change education programme to ensure practical emissions reduction solutions are understood and become an integral part of all projects.

The London Bridge Station Upgrade project, where Costain provided advisory, concept development, programme management and maintenance services, used telematics to monitor the use of plant machinery and provided specific eco-operator training to the team working on site.

Before the eco-operator training, the average monthly use of eco-mode as just 4%. Post training, telematics data over a five-month period showed an average eco-mode use of 33%, with some machines showing as high as 90%, an average increase of 29%.

In 2020 Costain introduced the use of telematics to equip each of its complex delivery projects to meet a 20% plant machinery idling reduction target and to become 100% emission free by 2035, as part of its Climate Change Action Plan.

In collaboration with all major plant and machinery supply chain partners Costain coordinated a contractual cross-industry plant data agreement and standard to ensure projects would benefit from a consistent and coherent data set and collection process to deliver sustainable business models and reduce carbon emissions and cost.

Costain has been able to demonstrate the value of collating and analysing telematics data at scale via its cloud based Intelligent Infrastructure Control Centre.

Collaborating with supply chain partners and through the roll out of a Resource Efficiency Matrix (REM), Costain has realised idling reductions and fuels efficiency achievements of over 40% on some projects, including the HS2 enabling works were some of the world's first electric plant was trialled.

This data led approach aligns with the Construction Playbook policy on benchmarking to analyse information from past projects and programmes to support data driven decision making. The intelligence will help to influence policy and procurement strategies, encouraging even more data gathering from all parts of the supply chain to ensure better use of material and labour.

As one of the early adopters for low emission plant, Costain is now shaping future plant and machinery including all-electric excavators and diggers. Working with global plant and machinery manufacturers, Costain's research and development capability is accelerating the widespread market availability of low and zero emission plant.

Closer to home, Costain continues to reduce the emissions from both its company car and car allowance fleet, with over 50% of company cars now ultra-low emission vehicles and charging points installed at office and project sites.

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YOU ONLY HAVE TWO LUNGS

Improving Dust Control on M25 Road Planing

Written by: Steve Perkins
Managing Director, Steve Perkins Associates

Dr Adrian Hirst
Chartered Occupational Hygiene Consultant,
Steve Perkins Associates

Road surface renewal and maintenance is a ubiquitous task across the Strategic Road Network (SRN). It is nowhere more critical than on the M25, one of the busiest motorways in Europe.

If you've ever been up close to surfacing operations you will no doubt have marvelled at the speed and professionalism of the operation, which is a highly choreographed 'ballet' of civil engineering in action.

However, you will also have noticed how dusty and noisy such works can be. These exposures can be a health risk to surfacing workers. So, how serious is that risk and what more can be done to control it? After all, we only have two lungs to last a lifetime, and the statistics show that work-related lung disease is an all too common killer in the UK (see sidebar overleaf).

As part of the ongoing M25 Healthier Highways initiative, an exposure assessment and control improvement project has been undertaken to answer these questions. Healthier Highways is a collaborative initiative led by Connect Plus working in partnership with Steve Perkins Associates, specialists in worker health protection, to transform health culture across the M25 supply chain.

From a health perspective surfacing works are challenging for a number of reasons; they are both temporary and mobile work sites; works are conducted at night and involve a variety of contractors arriving and leaving at different times; and there is a range of potentially serious health exposures. As one framework manager put it, "if we can make a health difference here, we can make a difference anywhere!"

Following an initial site visit by one of our occupational hygiene consultants, it was agreed to conduct personal exposure monitoring on the crew of the planer, who were identified as most at risk from dust exposure. Personal monitoring levels typically show large variations for a number of reasons and so testing was conducted on three nights with different contractors and varying weather conditions.

For this asphalt planing Respirable Crystalline Silica (RCS) levels were relatively low, and inhalable dust levels were significant, but not excessive. However, respirable dust exposures that penetrate into the deep lung, potentially causing the most serious health issues, were found to be high with levels approaching or above the recommended exposure limit. It was clear that action needed to be taken to improve dust exposure control and ensure it was managed to as Low As Reasonably Practicable (ALARP).

Connect Plus has created an innovative and highly collaborative community culture on the M25. We leveraged this to form a Surfacing Supply Chain Working

Group (SSCWG) to take the issue forward. The group was led by Steve Perkins Associates and made up of senior representatives from Tarmac and Skanska (framework contractors), NRP, Toppesfield and Simms (surfacing contractors) and Wirtgen (the planer manufacturer).

Large modern planing machines of the type used on the M25 (see diagram below) have two types of engineering controls to address dust exposures; firstly a vacuum control system (VCS) (1) that extracts dust from the planer drum housing (2) to deposit it on the conveyor belt (3) for transport to the tailings lorry; and secondly, a water spray system that primarily acts to cool the drum tools, but also damps down dust in the drum housing (4) and on the conveyor (5).

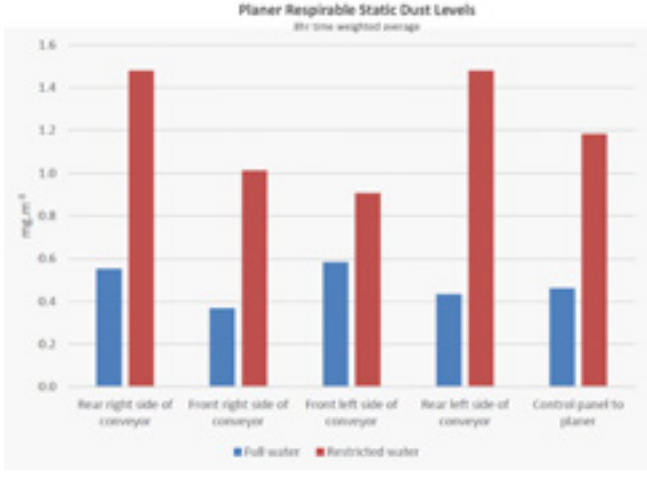
Discussions both within the SSCWG and with workers on site revealed some interesting operator perceptions when it came to using the water spray system. It appears that across the planing industry there is a strong perception of a requirement to minimise water use during planing. A number of reasons for this were sited including the need

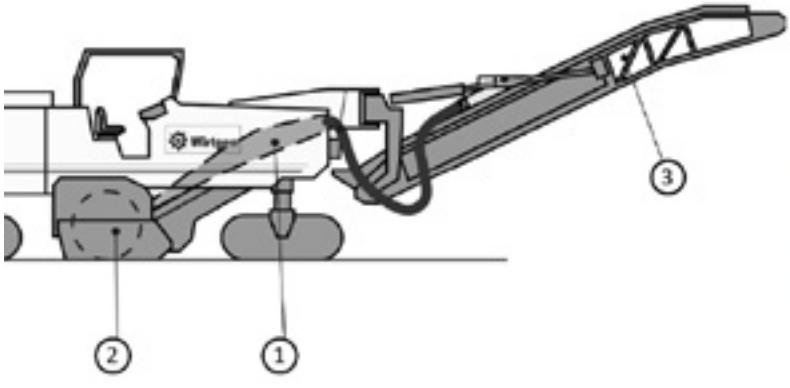
- for tailings to be as dry as possible prior to recycling
- to conserve water as an environmental resource
- to keep the carriageway as dry as possible to facilitate sweeping
- to avoid delay and cost to the job incurred by refilling from a separate water bowser

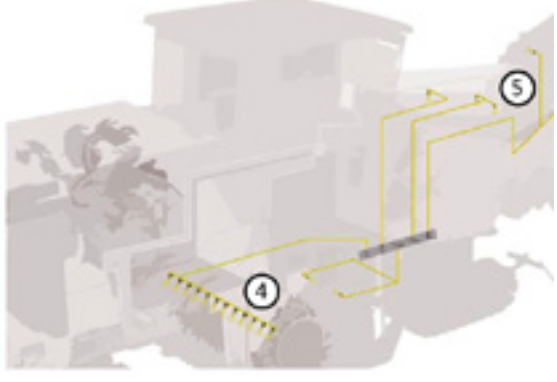
The net result of these perceptions is that the water spray system is manually restricted so that water spray to the conveyor belt is often turned off altogether. Thus, reducing the effectiveness of the dust control.

The SSCWG provided an ideal forum in which to investigate these perceptions and identify that none of them were an issue, particularly on the short window planing works conducted at night on the M25.

In addition, we were able to establish that maintenance of the VCS dump valve and fan inspections tended to be less frequent than manufacturers recommendations, adding to the reduced effectiveness of the dust controls.







In order to conclusively prove the effectiveness of the water spray system controls, further static exposure monitoring tests were conducted over three nights in dry weather conditions with both Tarmac and Skanska. Dust samplers were placed at different points on the planer, rather than on workers to reduce measurement variability. All members of the SSCWG proactively contributed to the planning and implementation of these tests.

Restricting the water spray to the planer drum housing (i.e. no water spray to the conveyor) resulted in an increase in respirable dust levels of 120%. Meaning that turning off the water to the belt more than doubled the dust levels in the vicinity of the planer. These results are shown in more detail in the graph opposite. The difference in dust levels between the two cases of full water spray at all points and no water spray on the belt could easily be observed visually during operations.

"The Supply Chain Working Group has been a great example of how collaborative working can achieve a positive health change for our workforce

The supply chain working group has agreed that all M25 planing works will now be carried out with contractors ensuring that water flow and extraction fan speeds are operated in accordance with manufacturer's recommendations. This means water will be supplied to all belts as well as the cutting head at 100% and that the fan will be set at 100% extraction.

Contractors will also ensure that they have adequate checks, maintenance, thorough examinations and tests in place for the extraction fan of the VCS to satisfy the requirements of the COSHH regulations.

Connect Plus and Connect Plus Services are introducing checks on the use of water for planing to ensure that it is carried out in accordance with the manufacturer's recommendations. Tarmac and Skanska are ensuring checks are made with their planing crews and contractors on water spray usage and fan maintenance. Wirtgen are working on guidance for planer operators to ensure the Local Exhaust Ventilation (LEV) system of the planer fan and ducting is adequately maintained and tested.

The Supply Chain Working Group has been a great example of how collaborative working can achieve a positive health change for our workforce. These results have wider application across the SRN. Here is a selection of the feedback from some of the leaders involved in the project.

"The collaborative approach to protecting the health of our employees as well as the health of our supply chain partners has been refreshing. On-site monitoring and sharing of results have enabled us to clearly demonstrate to the people operating the machines, that following manufacturers recommendations is vital to maintaining a healthy working environment for everyone on site."

Glyn Williams, Toppesfield SHEQ Director

"It's been really great to be able to work in a scientific way to prove that old misconceptions about doing the 'right thing' could potentially be harmful to workers health."

Rachael Bennison, Tarmac Framework Manager

"It's been great to work alongside both our customers and their supply chains, to raise the awareness and knowledge levels of operatives about the potential hazards. By using technology built into the machines in the correct manner operatives can take a positive step to improving the health of themselves and those around them"

Richard Allsopp, Wirtgen Operations Director

Through the application of occupational hygiene and leveraging of a collaborative supply chain culture we have been able to significantly reduce respiratory health risks for workers without adding time or cost to a critical and ubiquitous highways job.

13,000 people die every year from work-related causes in Great Britain

99% are disease deaths

1% are accident deaths

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Steve Perkins Associates

Managing Risk
Shaping Culture
Protecting People

WJ ON THE MARK FOR CLEAN AIR

Widely respected for its achievements in innovation and new ways of working alongside a robust safety culture, WJ Group is a company that has led the way on many projects over the past decade. It wants to always do things the right way and dares to be different, addressing many of the industry's challenges before others have even discussed it. But for Managing Director Wayne Johnston, reducing carbon and becoming more sustainable, is one that he is most proud of.

It is a philosophy and commitment that comes from the top, and right now, sustainability is 'the most important thing' for WJ to achieve on its journey to net zero. But there wasn't a moment when sustainability was just an idea to look good in front of its clients, it has been a ten-year plan for the company. It is fully committed to addressing climate change with real action, and its ongoing sustainability initiatives will help it reach net zero by 2032, well before the 2050 date set by the government.

But how do you show leadership on carbon reduction and when did the journey really start for WJ? "Having Paul Aldridge on our board of directors was a major influence on our decision to commit to this journey because he is extremely passionate about the subject. This isn't something we have just decided to do. It has been part of every board meeting we have had for the last decade. For me and the other directors to show leadership on it we had to stop talking about our intentions to do it and get on with it," says Mr Johnston. "So, for the last four years, it has been Paul's full-time job to produce the roadmap for us to get to where we want to be. What we realised early on is that you can't start reducing carbon unless you can accurately measure it. That's something we spent two years on until we got to the point where we could be confident about our measurements and then on top of that there was the process of getting it all externally verified. And that means challenges along the way because not only internally did we have to go through the process, but we also had to ask all of our suppliers to provide us with the same measurements so we could complete the process."

While WJ remain part of only a handful of companies that have measured their carbon outputs accurately in the highways sector, this is just the start of a long journey for the company. "While the Carbon Trust is telling us we are doing well year on year at reducing carbon we still have a long way to go. The biggest challenge is going to be with our fleet and reducing fuel usage in our trucks is almost impossible at the moment. The highways sector is one of the highest users of fuel while maintaining our road networks. So, while we have been waiting for the vehicle manufacturers we work with to work on even lower emission versions we have focused on reducing carbon in terms of our products and processes and starting a offsetting programme."

"I'm not fully convinced that electric trucks will ever be viable for what we need. For me, hydrogen is the answer, but we are still a way off of significant progress in that sector and we need to understand more about how many emissions are created by even producing the hydrogen itself."

WJ is currently working with Volvo and is set to introduce its first electric truck into London next year. "The problem is there is such limited range in them-it might work for London but not for the rural locations we work in," adds Mr Johnston. Even if the right technology was ready now, he says, with a fleet of 220 trucks even if 15 were converted a year, it would take 15 years for the whole fleet to be converted to emission free.

To show leadership on carbon reduction and sustainability internally to help carry all of the team on the journey, WJ

has tied its carbon reduction ambitions in with its Thinking Communities strategy so that it is understood how the process with help create healthier lives for the people in the communities that the company serves. “We have managed to get the by-in from everyone helped by the fact that everyone is focused on air quality and reducing emissions. People with see for themselves the work we are doing around helping create more sustainable communities and that will help create new ideas and filter and translate into people’s private lives and that will in-turn act as a conduit for better things.”

Alongside this, WJ has purchased 1,000 acres of land in Scotland where it will plant 500,000 trees by May 2022. “I have become very dubious about carbon credits. In my mind, there is still work to be done in that sector. I think the process could be open to abuse and miss-use so I wasn’t comfortable to go down that avenue yet as I don’t believe it is transparent enough. With the work we are doing in Scotland with Transport Scotland and other clients, it seemed the most sensible place to achieve what we want to and that way, people can come and see it if they want to-you can’t do that with credits,” says Mr Johnston. One of the next steps, which will be a massive challenge, will be to work on sustainable purchasing to ensure the supply chain it works with are on the same carbon reduction journey.

“WJ is making great progress but in the highways sector we are still on the first step of the journey to net zero despite everything we have achieved so far. The most important thing is that we demonstrate to our clients our pathway to reaching net zero and make that transparent as possible. I think we have showed leadership and I am very proud that we are one of the first companies in the sector to produce an effective carbon calculator,” he adds.

Recently, Highways England presented WJ Group with the ‘Excellence in Environment and Sustainability Award” for their exceptional approach to sustainable service delivery. The judges really liked the development and implementation of their externally verified carbon footprint model to underpin changes in the business and develop company culture and focus.

For its operational carbon footprint, WJ collected data on electricity consumption and fuel usage, before creating group-wide monitoring and real-time recording. Working collaboratively with the Carbon Trust, it identified fleet diesel consumption as their main source of emissions from their 220 trucks. WJ addressed carbon reduction in several ways including new vehicle design, extensive driver training and the use of telematics to monitor safe and fuel-efficient driving with a driver reward scheme to incentivise continual improvements. Further reductions were achieved thanks to recycling initiatives, switching to electric cars, LED lighting and solar panels. As a result, it saw consistent reductions in emissions relative to turnover and mileage over a number of years, achieving a Group Wide Carbon Trust certificate.

In terms of its products, WJ manufactures vast amounts of road marking materials each year, creating an emissions hot spot and environmental challenge. In describing their efforts to reduce emissions. WJ’s ‘Cradle to Gate Life Cycle Assessment Model’ provides quick, efficient, and reliable at-scale carbon footprinting for all current and

future hot-applied products, independently verified to PAS 2050:2011 and ISO14067 (2018) by Lucideon, meeting the specifications and standards requirements for quantifying and reporting.

These initiatives helped WJ make huge strides to lower its emissions, and it has committed that going forward it will continue to explore further ways to reduce their emissions, including further training; the viability of alternative fuels; more electric vehicles; diverting waste from landfill; developing more lower carbon products; and using more solar-powered heating and lighting.

The carbon assessment model has determined that switching from Hydrocarbon Resin to a Bio-Based (Rosin Ester) reduces average CO2e per tonne from 2.74 to 0.52. Based on a like for like product comparison this would reduce C02 emissions by 81% or a 22,200 kgCO2e reduction in WJ's total product emissions.

This accredited measurement methodology combined with life cycle thinking and effective chemistry can be seen in WJ's range of high-performance materials. Weatherline, for example, uses a bio-based binder producing high retroreflective performance, in wet or dry with outstanding durability and has up to five times less embodied carbon than traditional high-performance systems. It is one of the most significant steps they have taken to accurately measure embodied carbon, then formulate and manufacture road marking materials combining high visibility and durability with the lowest carbon footprint. This project has formed part of the company's wider environmental sustainability project.

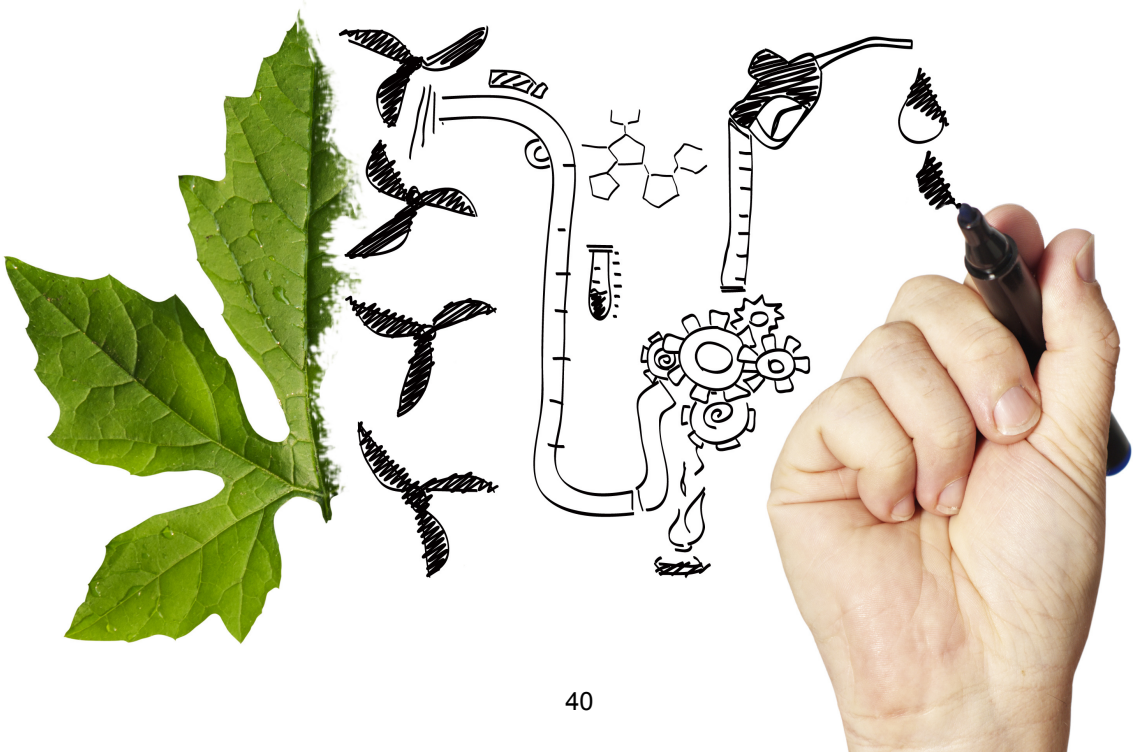
The company's Life Cycle Analysis (LCA) approach also highlighted areas of excellence from within WJ's supply chain where through collaboration WJ can source and develop materials that are recycled or exhibit low carbon and other benefits. Another such benefit from the LCA approach is confidence in the provenance of materials. This gives WJ confidence that these directly purchased materials come from organisations that practice fair and safe employment practices. WJ is a signatory of the Construction Protocol and requires its supply chain to adopt similar standards.

Whilst building its carbon calculator WJ also realised that waste in their manufacturing plants was low in any comparator with the construction sector, typically less than 1%. This demonstrates the benefits of installing powerful extraction systems giving improved air quality to manufacturing staff and by clever chemistry adjusting product formulations to allow reuse of the captured dust.

Also, WJ is the largest installer of road studs in Britain, putting down approximately 1.4 million annually with many temporary products, which after use are swept up and sent to landfill. Investment in a sustainable method of screening this waste and recycling afforded a 90% reduction to the landfill with an estimated cost saving of more than £30,000 a year.

Despite the challenges around fuel, WJ does design and manufacture its own road marking vehicles and has engaged with its workforce to continually provide ideas and incremental improvements. An example of this was the development of triple preheaters for trucks in certain areas. On its London and Birmingham based fleets, it was a frequent requirement to send two trucks to the site, one for traditional white/yellow markings and one for red markings or coloured surfacing. WJ has led the way in developing a triple preheater vehicle to apply white, yellow and red markings in one site visit. Also developing Combi trucks to provide high friction surfacing and/or road markings on one visit by one vehicle, has been another aspect of their agenda.

These developments mean fewer specialist vehicles, fewer journeys, less traffic management, less congestion, fewer accidents, less impact on the community and improved efficiency with more than 50% emission reduction. That emission reduction means less carbon and also less NOx and PMs, according to the company.



think exceptional

WJ deliver road marking products and services nationally and regionally:

- High performance road markings
- Temporary markings
- Road studs
- Surface preparation
- Asphalt repair
- High friction & safety surfacing
- Specialist markings
- Hydroblast line removal
- Retexturing
- Average speed cameras
- Retro-reflectometer surveys
- Thermoplastic equipment

Thinking Safety

Safety is a fundamental right and a WJ core value.

It's an imperative we achieve through our behaviours, working practices and equipment, whilst understanding our interdependence and responsibility to keep ourselves and others safe.

Through this thinking, WJ have developed a safety culture that encourages everyone to "think exceptional" about safety and collaborate to design out risk from our operations.

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3RD THRIVING AT WORK MENTAL HEALTH SURVEY 2021 LAUNCHES

This yer marks another landmark occasion on the journey Safer Highways has travelled with the launch of its third annual 'Thriving at Work' Survey into the standards of provision around workplace mental health.

Last year we sampled the 250 of the biggest organisations who work, not only on the strategic road network, but also who serve to maintain our local roads to establish where we, as a sector, sit against the government's Thriving at Work report - published in 2017.

This year we have widened our ambitions.

As time moves on and standards improve we also recognise the need to take the survey further and indeed to benchmark ourselves against other sectors.

That is why this year's survey will do exactly that.

Kindly Sponsored by Morgan Sindall Infrastructure we have now been able to develop a new tool we are now able to not only vertically cross-slice the highways sector but also horizontally make a base line comparison between ourselves and other sectors which include Aviation, Rail, Maritime, Utilities, Construction, Fleet and Logistics and indeed extend our reach into the pharmaceutical and secondary education sectors with the ambitious goal being to effectively be able to benchmark the entire UK plc over the coming years, all from our tiny acorns in just one sector.

We realise that this will not be easy and indeed are grateful for the support we have already received from the above sectors.

One of the key things we, as a collective, wanted to achieve from this years survey was an instant improvement plan for all organisations taking part.

This has been developed in collaboration with our partners at Mind and, we hope, will provide an opportunity for organisations to begin the process of effecting real change around mental health instantaneously and not months down the line.

What this effectively means is that within seconds of completing the survey and adding your contact details you will be emailed a comprehensive report which can be presented right unto board level as to how you, as an organisation can effect real organisational change.

However, this payoff comes with a price to you - our contractors, partners and clients.

We ask that you are please as candid as you can possibly be so that we can produce a true, reflective picture around mental health across the whole of the infrastructure sector and not just in the "Highways Bubble."
We hope, in some way, that this will contribute to a continuous improvement in not only awareness but also organisations approach to workplace mental health.

Please, we ask passionately, can you complete the survey and indeed join us for the launch of the results which will be presented on 2nd December.

Together we can make a difference, increase education and support our people.

Please Click on the Link here and complete the survey

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E: info@ground-control.co.uk

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*Investing in our **Environment***

Ground Control donates 5% of net profits to ***The Evergreen Fund,*** an Impact Venture Fund dedicated to environmental initiatives and carbon sequestration.

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Landscape Construction | Landscape Design | Fencing | Pest Control | Ecology | Invasive Species Management
Specialist External Cleansing | Electric Vehicle ChargePoint Installation

WHAT3WORDS HELPS EVERYONE TALK ABOUT EVERYWHERE ON THE HIGHWAYS

Exact locations can be hard to describe, especially for something without a street address, such as a pothole, broken-down vehicle, or a construction site. A road only has one address that can stretch for hundreds of miles and postcodes cover large areas. New roads can take a long time to appear on maps and unmarked roads can be close to impossible to find on a map.

That's why organisations in the highways and transportation sector are using what3words.

what3words is an innovative solution to the problem of poor addressing. It's a simple way to identify precise locations. Every 3 metre square has been given a unique combination of three words. For example, ///indoor.crush.cherry is a what3words address on the side of the M1, which is much easier to say than its corresponding GPS coordinates (51.879245, -0.45114900) and much more accurate than a verbal description.

what3words addresses are as accurate as GPS coordinates, but they are easier to remember, and quicker to say over the phone, or enter into a device by voice or text. There's also error-prevention technology built into the what3words system which helps users quickly identify and correct input mistakes.

what3words is free for individuals to use via its app for iOS or Android or the online map at map.what3words.com and many smaller organisations use what3words in this way. It also offers a number of other products, including an API which allows developers to build its technology into their own services.

Accurate addressing is an integral part of urban infrastructure, enabling services that help cities function effectively, including asset management, transport, logistics and emergency response. Providing everyone and everywhere with a reliable, simple and accurate address has saved time, and even lives, in the highways and transportation sector.

what3words is the easiest way to communicate exactly where to find anything from an asset to an incident.

Organisations and local authorities across the UK have integrated what3words into their tools and systems in order to record the exact locations of assets and utilities. With a what3words address, it only takes 3 words for teams to get directions to exactly where they need to be. Given that the majority of accidents take place outside, reducing employees' time outside can reduce their risk.

Organisations that use what3words can pinpoint the exact location of an incident faster, which means that they can improve response times and provide a better service. This is particularly important in situations where every minute counts, such as in an emergency, or where an incident is in a dangerous location, such as on a motorway. That's why 85% of the Emergency Services in the UK, as well as breakdown recovery providers like the AA and National Breakdown, are enabled to accept a what3words address. It's also easy to share a what3words address to coordinate a response, such as an insurance company like LV= passing on a customer's location to a recovery vehicle, or where multiple agencies are required.

As part of their duty of care, organisations are urging their staff and customers to download the free what3words app so that they're prepared to provide their exact location in case of an emergency, which could happen anywhere. This is especially important in the highways and transportation sector where employees are often outside of the safety of an organisation's offices. Industry leaders such as Network Rail, BT Openreach, G4S, BU UK and Balfour Beatty have added

the what3words app either directly onto employee's phones or onto managed app stores so that they have an extra tool to provide their location in an emergency.

Within the highway and transport industry, what3words is proven to provide the location accuracy needed for incident reporting and asset management.

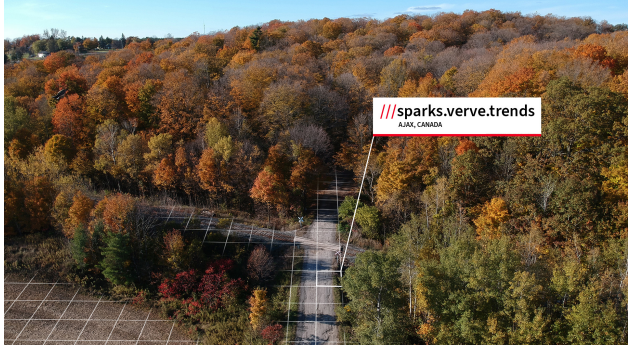
The AA were the first UK breakdown cover provider to partner with what3words in 2019. Since then almost 20,000 customers have used what3words to communicate the exact 3 meter square of their breakdown location, that's a staggering 50 rescues a day. Being stuck at the roadside is dangerous for both the driver and the recovery crew attending the scene. Between 2015 and 2017, almost 9,000 accidents involved a vehicle colliding with a stationary car. This makes a tool that can reduce the time it takes to locate a customer when they need help invaluable.

Edmund King, AA president, said: "Breaking down in an unfamiliar location can be a daunting experience for anyone. This simple solution helps drivers to identify where they are - and helps us find them even faster. By using the latest technology we are continuing to enhance our services. Using three everyday words might seem strange but is a smart way to get you back on the road."

The UK Power Networks is using what3words to improve public safety as well as operational efficiencies. Since adding what3words to its incident reporting software, UK Power Networks has reduced the average time it takes to identify a caller's exact location from 12 minutes to 4 when a caller is in a hard-to-describe location.

Safer Highways recently announced its support for what3words and plans to lead a working group to explore the various ways that what3words can be used within its practices. This could include initiatives like training for road operatives on how to log the what3words address of an incident, which could be anything from road-worker abuse to an emergency.

The pickup of what3words by the highway and transport sector has been overwhelmingly positive. Providing accurate addressing to organisations has undoubtedly improved efficiencies which have saved time and lives. We look forward to seeing new partnerships, as well as new use cases for what3words in the future.



YOU CAN'T BE WHAT YOU CAN'T SEE

Alexandra Knight,
Founder,
Stemazing.

STEM is the combination of Science, Technology Engineering and Maths. People who work in STEM are the hidden heroes of humanity. Without these everyday heroes we would still be living in the dark ages. STEM superheroes save lives, protect our planet, and create our future possibilities. They literally keep society functioning ansd moving forward and yet most of the population is unaware of the work people in STEM do.

We need more visible role models

Research by Engineering UK (Ref 1) showed that a whopping 73% of 11–14-year-olds don't know what engineers do, 69% of parents don't know what engineers do, and 42% of teachers don't feel confident giving engineering career advice. ***Is it any wonder then that we don't have enough people choosing to pursue STEM and go into STEM careers?***

The STEM skills shortage is estimated to cost employers in the UK £1.5bn a year (Ref 2). This cost to the economy is huge, but what will the cost to humanity be in the future if we don't plug this gap?

Role models inform, influence and inspire the decisions people make about their life and career. The lack of visible diverse STEM role models who represent the breadth of career opportunities in STEM is a key contributor to the skills shortage problem. ***We need to make our hidden STEM heroes more visible! You can't be what you can't see.***

To plug the STEM skills gap, we need to widen the net. This requires more diverse role models who will connect with a wider range of people than the stereotypical white, male engineer for example.

Diversity is the Difference

As we evolve through the 4th Industrial Revolution and beyond, the need for innovation in STEM will continue to increase at pace. A key ingredient for innovation is diversity and a well-known challenge in STEM is the lack of diversity (Ref 1). Black and ethnic minority workers make up only 12% of the UK STEM workforce and only 24% are women, when you look at engineering alone it's much worse. This is not good enough.

Research shows that children aged 3–5-years-old already show less support for counter-stereotypical STEM career choices, e.g., a girl who wanted to be an engineer (Ref 3). This is a major problem for STEM Industries as these biases are established so young and then mostly reinforced over time, but we can do something about it.

> *The STEM skills shortage is estimated to cost employers in the UK £1.5bn a year.*

Everyone Benefits from Diverse Role Models

We know that counter-stereotypical role models have a positive influence on minorities, but what about the majorities? Do they lose out? Quite simply – no.

Research shows (Ref 4) that girls who only interact with male STEM educators reinforce their negative stereotype that they don't belong in STEM. The surprising evidence

is that boys who interact with female STEM educators don't think they are any less able or respected but they have a more equitable view of girls and women in STEM so their experience is also positive. This is not only crucially important for diversity but also a key piece of the inclusion puzzle.

In addition to this, a study presented in the Journal of Applied Developmental Psychology (Ref 5) showed that early childhood is a key window in which educational interventions aimed at fostering female engagement with STEM may have greater impact.

So diverse role models benefit everyone, and the younger this engagement happens the better.

> *Diverse people are the raw ingredients. Inclusion is the recipe for success*

Our Stemazing Mission

Stemazing is dedicated to inspiration and inclusion in STEM. We are passionate about the importance of diverse role models. The Stemazing Inspiration Academy empowers women in STEM to shine as visible role models and inspire young people through fun, interactive STEM sessions.

The diverse women in STEM participants take part in a 4-month programme of training and workshops to build their confidence on camera and grow their STEM delivery toolbox. These newly empowered role models then deliver a 6-week programme of LIVE online STEM sessions designed to engage primary aged children.

Children engage in hands-on simple STEM activities and experiments to promote their curiosity, creativity and courage led by a woman in STEM. We want to showcase diverse role models to children at an early age to tackle one of the root causes of the STEM diversity problem.

We are currently running the first round of the programme with an incredible response from our role models and schools. We have 45 women all around the UK including some from Europe, US and Africa taking part. The beauty of this programme being online is that geography is not a barrier so we can expand our impact to reach a wider range of women and young people.

Diverse people are the raw ingredients. Inclusion is the recipe for success

However, this is only part of the long-term solution. Recruiting more diverse people into STEM does not bring the potential benefits unless those diverse perspectives can thrive. This is the real recipe for success – inclusive cultures with psychologically safe working environments. We have a long way to go, but with more awareness of what good looks like and where the pain-points are – maybe then we will cultivate the STEM culture that enables and empowers everyone to thrive and bring their whole self to work. Not only representing the diversity in the communities they serve but enabling real innovation that will improve the future of humanity for everyone.

We need to cultivate a STEM culture that empowers everyone to thrive and bring their whole self to work

Join our mission

Thanks to our Sponsors we can offer the Stemazing Inspiration Academy free of charge to the women and the schools participating, including providing STEM resources for schools that need it most.

If you are a woman in STEM and want to become a more visible role model as well as building your public engagement skills and networking with our supportive community of women in STEM – you can apply to take part.

Registration for the next round of the Inspiration Academy for both women and schools will open in August. For more information visit

www.stemazingltd.com/inspiration-academy

omnia™

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SECOND CHANCES

Why Solar Gates MD Neil Sampson is driven to give people a second chance

It is a risk not every company would be willing to take. But working with ex-offenders and addiction recovery is something Solar Gates Managing Director Neil Sampson is driven by. The story starts some years ago when he was attending a local community event that featured several charities and other organisations that gave him the understanding of the possibilities.

Prison recruitment officers are fighting a constant battle against the stigma and perception of putting inmates back into the workplace, but yet it remains one of the most important parts of their reformation process.

"When we first started working with East Sutton Park prison we found that the recruitment process was quite straightforward. It was relatively easy for us to integrate prison residents into the business. I have always had a heart to help those who haven't had a 'normal' upbringing - but then what's normal? Two of the founding members of staff, I meet many years ago at a youth group I was working at. I realised that sadly not everyone has the chance to grow up with the opportunities many of us are given and this can lead them to have a 'fixed' and negative mindset. I have been determined since to help people change that to a 'growth' mindset, help them develop as people and have the prospects for a decent career and positive outlook. So for me, working with prisoners was an easy decision - but it's also extremely rewarding," says Mr Sampson. "Why should someone's life or career be ruined forever just because they have made one mistake? When you meet people in rehabilitation and get to hear their stories, you understand that a lot of the mistakes they have made are down to circumstances they have found themselves in at that time. Life choices they wouldn't have normally have entertained, and you quickly realise that its help they need to move forward not more retribution."

The process is actually simple-just like any job role-you interview the candidate, issue a contract and pay them like any other member of staff. The salaries are levied in line with the Prisoners Earning ACT and HMP use the levy to help towards victims of crime support says Mr Sampson. "It wasn't a difficult hill to climb for us and we have grown from integrating our first inmate into the team to now having some 40% of our staff team going through a rehabilitation period of one sort or another. For me, managing them is just like managing any other member of staff and that is the main thing-we treat everyone the same, same amount of trust, same training-just like everyone else in the business. And in return, we get loyalty and commitment because often there is real gratitude to be employed, a feeling of value and staff are really focused and enthusiastic - which is something you can't teach," he adds.

"When you meet someone serving time, just like any other interview, you quickly get an understanding of their outlook. I take the Berne transactional analysis model when relating to a CV. The model explains how when we interact with people, only 7% of the transaction comes from the words used, 23% from the tonality of the words and 70% from body language. Unless you get to meet the candidate, and this is even more true with a CV from someone who is at a low point in their life, you may have missed 93% of their strength and abilities. From that you can really tell if they are going to be a good fit for the business-so we go through that process just like we would with anyone else," says Mr Sampson.

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Currently about 50% of the staff on day release from HMP Sutton Park work in the office and the others work on the manufacturing floor and other projects in the company's Kent-based factory. "The prison service has been very good at relaxing day release rules to enable staff to finish jobs for the company's clients when needed. For example, it isn't anyone's fault if an accident on the motorway delays the end to their shift and they get back to the prison later than expected. This has really helped us integrate them into the business and means that they won't be reprimanded if they get back late – as long as we communicate with the HMP officers."

But what about the risk and the perception, how does Solar Gates deal with that? "Well it really hasn't been a problem with any of our clients- fortunately they just see a team who are hard-working and committed to delivering the service the client expected. But it is also about planning. If a day release prisoner does have restrictions placed on them by the probation service, we manage that accordingly or if there are lone working restrictions, we put them with other team members so there is that confidence there. There is always a balance as well-we have to ensure the business has the right skills and training mix in the various teams and obviously recruitment, from any source, has to happen in-line with budgets and business growth."

Solar Gates has an 'open door' policy if any member of staff wants to talk about their mental health or any other

problem. “My door is always open to all members of the team and if I can support them in anyway, which may include funding counselling or something similar, then that is definitely something I want to invest time and effort into - in fact, it is a priority for me.”

In actual fact the retention rate is higher among staff who have come through the prison system than those who haven’t. “I think it just proves that because they feel valued, feel part of the team and are grateful for the opportunity - not only do we get loyalty, but the very best out of them and the amazing opportunity to see someone develop and change to that exciting ‘growth’ mindset. Solar Gates is known for its innovative approach to what we do, so there wasn’t any reason why we couldn’t be innovative in our approach to who we recruit - and I am proud to say we proved it has really worked.”

So, what is Mr Sampson’s advice to any other company considering doing the same? “First of all-it is don’t be afraid to try this. Secondly, you will get loyalty and hard work and I can only say again how rewarding it is that we have been able to give so many people a break in life, but it’s important you meet in person, talk to the prison recruitment liaison team and understand what is right for you.”

SMARTER FLEET MANAGEMENT

Go Plant Fleet Services are working with Omnia Smart Technologies to bring an overall offering to councils and waste management companies focussing on intelligent collections, fleet electrification and managing of driver compliance monitoring.

Go Plant Fleet Services and Omnia offer fully bespoke solutions tailored to the systems that different councils and waste management companies already have in place, rather than a one-size-fits-all approach. A feasibility study is carried out and then an 'over-arching' system is adapted, or built, to address the problem areas – taking a 'Control Tower' approach and making the most of existing systems in place.

One factor that Go Plant Fleet Services and Omnia are keen to address through their smart fleet solution is the long-term roll out and take up of electrified fleets, implementing technology is far easier than making sure it is used effectively and economically. As a result, they have centred their partnership around providing clients with ongoing support and advice, a managed service where required, so they can focus on getting the most from their investment.

Utilising their combined experience in the local authority and waste management sectors, Go Plant Fleet Services and Omnia offer a range of tailored service solutions including intelligent collections, fleet electrification, and managing driver compliance monitoring. Technology is tailored to your requirements based on future goals, the systems you have in place, company resources and the results of the feasibility study.

INTELLIGENT COLLECTIONS

Giving residents/trade waste customers the ability to make their own informed decisions around when their bins require collection, gathering this data and (within minutes) planning cost effective collections, reducing the number of runs, reducing fuel consumption and improving air quality.

RFID WASTE MANAGEMENT

This system allows the operatives on the street to check if customers have paid for their garden waste collections

or any waste collections going forward. It works simply when the bin is presented to RCV where it is logged as paid to empty, or unpaid.

Unlike the usual posting system for garden waste where a sticker is sent to each individual resident annually, the RFID chip is posted once every seven years and renewed automatically on payment, which represents an annual cost saving of tens of thousands of pounds in some cases. An added advantage to Councils is that included in this offering can be the ability to measure air quality at a granular level which gives Councils the data they need to report to govt. as part of their duties under the Environmental Act 1995. The measurements will include No2, Co2, and So2

COMPLIANCE MANAGEMENT

To assist Councils with managing driver compliance we have developed a dashboard accessible via the Go Plant Fleet Services website which allows those councils who have subscribed to this service to access various online courses all of which are accredited. The system and keeps training and compliance records up to date for each member of the team and notifies management when training or compliance is overdue. The Compliance solution also enables companywide communication through newsletters and companywide broadcasts.
Another key feature of the solution is the ability to automate paper-based processes such as Incident reporting, audit reports etc all available for review and sign-off through the platform.

FLEET ELECTRIFICATION

This will give Councils the ability to
keep up with legislation and gather data concerning their existing fleets, potential future requirements and provide advice across the board on how to transition to n electric fleet. This would include local infrastructure, potential vehicle costs, life cycles and numbers of vehicles over what period of time.

To find out more contact
Go Plant Fleet Services via marketing@gpl-hire.co.uk or 01530 2641544877.

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HEALTH AND SAFETY IN CONSTRUCTION: NEBOSH SPEAKS TO THE EXPERTS

As NEBOSH announces the launch of its new construction qualification – Health and Safety Management for Construction – experts from the industry share their advice for working and succeeding in this rewarding profession.

James Irwin form Irwin & Colton Recruitment Experts, advises: "There's a baseline expectation that you'll have a relevant qualification – normally a NEBOSH certificate – plus some relevant industry experience to help you get your foot in the door for junior positions."

For Carly Hughes, Group Health, Safety and Environment Advisor at Persimmon Homes, she was able to gain both and her experience in other industries was transferrable to construction. "At 18 years old, I started off in an administration role for an oil and gas company. My employer supported me through a NEBOSH certificate, and I then moved into manufacturing; it was here that I picked up some of the experience I would need to demonstrate in my current job for a housebuilder, for example, scaffolding, plant and equipment. Just because you haven't worked in construction doesn't mean you don't have some of the experience or skills they might be looking for."

Non-technical skills

James adds: "What separates great candidates from good candidates is non-technical competences. The ability to communicate, influence, engage and get buy-in for health and safety are what clients are crying out for when they're recruiting."

Lucian D'Arco, NEBOSH Diploma holder and Health & Safety Manager at SEGRO, agrees: "Soft skills are key. Conflict resolution is particularly important in our industry where there are lots of different power structures. You need to be able to appreciate and listen to all viewpoints and turn that to your advantage. It's not something that can be taught (although you'll have management support) – you learn on the job and you have to be quite robust, especially in the early days, to learn these new skills quickly."

Career progression

Lucian advises: "Some of the best ways to advance is to do a lot of networking but also to choose your early roles wisely so you can maximise your experience. For example, groundworks, RC frames, temporary works, scaffolding. These types of things show scale ability, so when you've worked on a project that's £50million you can apply those skills to a project of £100million, and so on. That tells a prospective employer you know what you're talking about. Develop relationships in the industry and with recruiters (like James) who will help you find these opportunities."

Rachel Butler holds a NEBOSH construction certificate and is Head of Risk and Compliance at Bruntwood. She believes existing practitioners have an important part to play in providing opportunities and guidance to people starting out in the industry: “I’ve been lucky enough to work for some inspirational leaders. They believe in themselves, but they also believe in you. They want to better other people. As health and safety professionals we have a responsibility to help others out, whether that’s as a mentor, line manager or even just supporting the development of others in our profession.

“My advice to junior practitioners is to just ask questions – you never know where those questions will lead you and, quite often, they can lead to learning, innovations or different ways of doing things.”

Lucian adds: “Let’s not forget, training and upskilling is something everyone should take very seriously as part of their progression. It’s also exciting – what’s not to like about education!”

> *The ability to communicate, influence, engage and get buy-in for health and safety are what clients are crying out for when they’re recruiting*

> *Training and upskilling is something everyone should take very seriously as part of their progression. It’s also exciting – what’s not to like about education!”*

The advice in this article is taken from the NEBOSH: health and safety in construction roundtable. You can watch the full roundtable video – which covers a broad range of topics – at: https://youtu.be/5EgKuTJn_D4

The NEBOSH Health and Safety Management for Construction is available in UK and International variants. For more information about the new qualifications visit: www.nebosh.org.uk/construction-uk or www.nebosh.org.uk/construction-international

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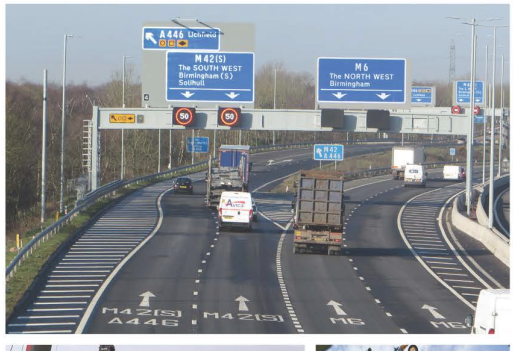

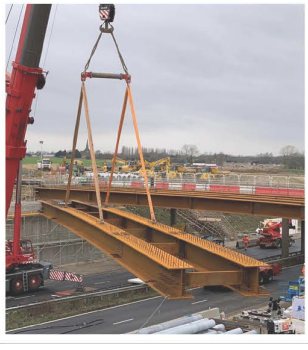

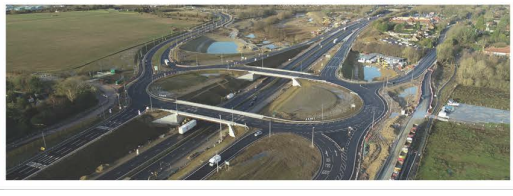

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