28th Annual Winter Maintenance Conference and Exhibition
15–16 May 2019 • Harrogate Convention Centre, UK
coldcomfort.tn-events.co.uk
Welcome everyone to Cold Comfort 2019 – the 28th annual conference and exhibition, and still the only one in the UK dedicated solely to highways winter service. This time we have relocated to the beautiful town of Harrogate. We would like to give massive thanks to our sponsors – Schmidt, a brand of Aebi Schmidt, and Econ Engineering, which is celebrating its 50th birthday – and of course all of our exhibitors.

Speaking to delegates over the years that we have run this flagship event, one of the proudest aspects of our work is that people tell us they always learn something new at Cold Comfort. That is partly because of the maturity and sophistication of the market in this country, which is always pushing forward, and also because of our team’s tireless efforts to bring you the most vital information and insights from experts and leading practitioners.

This year will be no exception, not least because it is a crucial time in winter service, with the recent release of the National Winter Service Research Group’s Practical Guide, now effectively the national guidance related to the code of practice. While the science has not changed, the introduction of a risk-based

Register at coldcomfort.tn-events.co.uk
approach raises many questions and I am sure will be a hot topic in the conference hall and exhibition floor. Research and development is ongoing in key areas such as residual salt and the use of liquids, and the development of sensor and in-cab gritter technology is changing the boundaries of what we thought possible.

As with all Transport Network events, we are lucky to have the support of Highways England for Cold Comfort and gain the insight that this leading authority can bring through its extra research, digital platforms and resources. David Batchelor of Highways England will take part in a panel discussion alongside representatives from local authorities in order to help share the knowledge between the two sections of the network, while Jane Wilkins, winter fleet national depot project sponsor for Highways England, will give us her insights into how to plan for new hardware in the modern market. We also have an exclusive update on the WinterPave trials on the A66.

Climate change is a daily aspect of our news these days, and while the winter seasons may fluctuate we all know that extreme weather in the form of another Beast from the East or dangerous flooding can strike any year. This, coupled with the new guidance environment, means it is more important than ever to stay up to date with all the latest winter service intelligence and there is no place to do that like Cold Comfort. I look forward to seeing you there.

Adrian Tatum – Director of Content, Transport Network
Cold Comfort 2019
Floorplan & Exhibitor List

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Econ Engineering

B01 Econ Engineering
B03 Econ Engineering
C01 C03 C06 C07

Peacock Salt

C06 IHE Rennicks

HARSH Ltd/ South Cave Tractors

Holder Equipment

Catering & Seating
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**Diagram**

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**Entrance to Conference**
Welcome to Harrogate and to this year’s Cold Comfort conference. As a Yorkshire business that is firmly rooted nearby in the neighbouring city of Ripon, Econ Engineering is delighted to be a sponsor of this year’s show, which promises to be bigger and more successful than ever.

This year’s Cold Comfort also coincides with the 50th anniversary of Econ’s foundation and so we are extremely proud to be able to share with you our success story of how Econ has weathered historical storms, adapting to economic and local government fluctuations to become the UK’s largest winter maintenance vehicle manufacturer.

Our success is all down to our tremendous, loyal and hardworking team of employees, many of whom have been with the company for decades. It is very much a tribute to them when Econ receives accolades such as being continually recognised in the Yorkshire Post’s listings of the region’s most successful businesses over the past decade.

As we look towards what we hope will be another 50 years as a vibrant and innovative manufacturing business, it is worth noting that right here in Yorkshire we currently produce 80% of the gritters that are operating on UK roads. And with our fleet of 750 spreaders, we also run the country’s largest hire fleet, putting us at the forefront of Britain’s winter maintenance operations.

Starting the journey
Econ began 50 years ago designing and building hedge-cutting equipment, branching out into road gritters in the early 1970s in order to diversify our product range. By the end of that decade we had outgrown the cramped city-centre site in Ripon that had been an old brewery before we started producing gleaming yellow gritters from it.

In 1980 we moved to a purpose-built new site on the edge of town, selling off the previous factory for residential redevelopment. With 11 acres and a 200,000 square foot factory at the new site we had room for our 170 employees, and space to grow.

The 1980s saw a period of business activity that was symptomatic of the times, with growth fuelled by the acquisition and disposal of businesses across the UK. This somewhat scattergun approach came to halt at the end of the decade, when the disposal of some of our lesser performing assets led to the company reverting to its Ripon roots.

The current directors joined the business in the early 1990s and sought to refocus the business to its core activity of producing road maintenance vehicles. Econ had been able to make leaps forward in productivity and the focus of our efforts was on the highway maintenance sector, especially salt spreaders, unibodies, hotboxes and roadmenders.

Cutting edge
Now, with the very latest 3D technology, a workforce of more than 200, and our own skilled research and development department we are constantly innovating, developing new products and improving our current models. We are driven by the needs of our customers, who are looking for the crucial efficiencies that will enable their pared-down budgets to stretch further.

A recent example is a combination vehicle featuring the Econ acetate sprayer, which was part of a recent order of 11 vehicles delivered to Stirling Council.

Our high tech sprayer is ideal for treating sensitive areas where rock salt is too corrosive. Drawing on Econ’s technical and engineering expertise, the system dispenses liquid de-icer over one, two or three lanes of road at rates of between 15 and 45ml per square metre.

The new Econ 4G control system enables the operator to change between solid dry rock salt spread via the spinner disc, and liquid de-icer sprayed via the central and outer trajectory nozzles, which form part of the liquid dispensing system at the rear of the vehicle.

Looking ahead
It is this kind of forward thinking and nimble approach that we believe will be increasingly required in future to keep the UK’s roads safe, and on the move, in winter conditions. That is central to what we do at Econ and it is based on a sincerely held view that that the rigorous and forward-thinking maintenance of Britain’s roads is essential to maximising the country’s productivity.

Roads will always be at the heart of our business and with the threat of climate change becoming a reality, more extreme winter weather is an ever-present threat to which we have no choice but to adapt.
As Econ’s investment in our hire fleet continues to grow, we also plan to increase the number of regional depots, bringing our service facilities closer to the customer. We are opening a new, state of the art Scottish service depot in Alloa, near Stirling, later in 2019 and have also earmarked a site in South Wales for a future depot.

Technology will be more important than ever to Econ in improving our services. Our next generation of SPARGO controllers will have telemetry that can remotely diagnose faults, order parts and ensure the right equipment is on hand for depots to carry out preventative maintenance in the shortest possible time.

Online diagnostics will forewarn of potential servicing issues and prevent unnecessary stoppages or failures at busy times for our customers. Together with its improved graphics capabilities, the next generation of SPARGO will enable spread rates to be remotely updated to further improve operating performance.

Technology will inevitably also be key to our clients’ approach to pre-empting and coping with the winter road conditions created by increasingly severe weather conditions. The National Winter Service Research Group (NWSRG) is working to provide councils with the means to better plan and prepare winter maintenance programmes.

Improvements in weather forecasting, with domain or route-based forecasting, look set to help more effective treatment decisions be made for smaller portions of the network, giving the scope to treat only certain routes rather than the whole road network.

Dynamic route optimisation, which employs techniques that use route-based forecasting to identify efficient treatment of routes in real-time, based on weather conditions, also looks likely to come to the fore.

New sensors that can be located next to or within the road – and even on vehicles themselves – will also enable councils to monitor important factors such as road temperature, surface moisture, the presence of snow or ice, and the amount of salt on the road, before further treatment is carried out.

Econ has now amassed half a century of experience and over that time we have witnessed, and adapted to, exponential levels of technological change. As road repair techniques improve and new forms of de-icer are introduced, we will continue to develop products and services that lead the market.

With ambition, determination and cutting edge technological solutions, we strive to be more than just thought leaders as we forge influential partnerships with bodies such as the NWSRG to set new standards for road safety.
New winter guide hits the streets

ive new chapters from the key guidance for winter service have been published by the National Winter Service Research Group (NWSRG). The updated sections now cover the following core areas:

- Salt storage
- Treatment methods and technologies
- Spreader management
- Spread rates
- Treatment for snow and ice

The NWSRG said its guide is ‘considered to constitute the best way of providing national best practice guidance on these issues’.

The latest version of the spread rates guidance ‘contains significant updates’, determined on the basis of research carried out by the NWSRG, TRL, Highways England and Transport Scotland over a number of years.

‘These are intended to both simplify the process of decision-making and allow for greater economies and efficiencies, particularly in conditions between 0°C and -4°C,’ the NWSRG said.

‘Three separate matrices are provided for dry salting, treated salting and pre-wetted salting operations, and relate to dry/damp and wet road conditions for surface temperature ranges down to -15°C,’ the guide states.

‘Based on research, it is considered that -15°C is the lowest temperature at which salt without special additives can be considered as a practicable and effective de-icer on the road surface. However, it should be noted that salt becomes less effective when spread in conditions where the surface temperature is below -7°C (-5°C in ‘low humidity’ situations), and it is recommended that, whenever practicable, authorities avoid spreading salt in these conditions and utilise alternative de-icers in these situations when temperatures are very low.’

Guidance for direct liquid application (DLA) treatments in UK conditions is currently still being developed.

Taking a risk-based approach

In line with the new code of practice for highways maintenance – Well-managed Highway Infrastructure – the guide advises authorities to take a ‘risk-based approach to the development of their precautionary salting spread rate schedules or matrices’ with reference to neighbouring authorities.

This should take account of national guidance but also all of the relevant important ‘local climatic, geographic, network composition, resourcing and administrative factors’, as well as local experience of maintaining the road network.

The inclusion of ‘resourcing’ factors in the new guide, while in line with the new code, may raise legal issues when it comes to defending a strategy.

NWSRG secretary and technical adviser Adrian Runacres told Highways: ‘Courts will be looking at the prioritisation principles in authorities’ policy documents. Decisions for winter service must be consistent with the council’s top level priorities in its policy document.’

Mr Runacres also explained that the underlying science behind winter service had not changed but the document provided a greater emphasis on practicability, using a new approach and language designed to make it easier to apply.

‘If you look at the spread rates, the numbers are the same but we have different bandings so there are fewer degrees of change, which makes it easier to use,’ he told Highways.

The guidance advises that the following factors can help determine the most appropriate spread rates for precautionary salting operations:

- The salting technology utilised, i.e. dry, pre-wetted or treated salting
- Type and condition of the salt, including grading and moisture content

Continued on page 60
To find out more visit: www.johnstonsweepers.co.uk

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Continued from page 58

Performance and serviceability of the spreader, including whether the spreader is calibrated for the salt being used and if the spreader is within calibration at the time of spreading.

Road surface temperature throughout the period under consideration.

The amount of liquid water present at the time of spreading and during the following period.

Traffic levels on the network before, during and after treatment.

It categorises traffic levels into light, medium, high and congested – these relate to those anticipated around the time of the precautionary salting operation and ‘are not the same as the traffic categories generally used for other highway maintenance purposes’.

Road materials can also impact winter service decisions. The guide reads: ‘Research has shown that, in winter conditions, porous asphalt can attain temperatures up to 2°C lower than denser surfaces such as hot rolled asphalt (HRA) and, in some areas that cannot drain freely, porous asphalt tends to remain wetter for longer. This increases the risk of ice formation on porous asphalt and consequently more salt is needed to keep porous asphalt free from ice.’

It adds that: ‘Concrete roads can exhibit different thermal properties to flexible pavements and will tend to retain heat in their core for longer than HRA roads due to their denser construction.’

The guidance contained is not prescriptive and is designed to assist authorities in taking a risk-based approach to the determination of appropriate precautionary salt-spread rates. However, authorities should keep full and accurate records of their winter service activities, and where authorities choose precautionary salting strategies that vary from the guide, it is especially important to document risk assessment processes and the reasons for adopting different rates.

Getting the numbers right

One area where documentation is crucial is when authorities attempt to take residual salt levels into account, as this is ‘notoriously’ difficult to measure and the subject of ongoing research.

According to the guide, when attempting to take such levels into account authorities should consider: ‘The precise circumstances when they will do so, as well as the information sources they will rely upon to ascertain, confirm and monitor residual salt levels on their networks. For example, these could potentially include: direct network observations; available data from road weather stations; the length of time since previous treatments took place, and the weather and traffic conditions that have occurred since that time; coupled with the local experience of authority staff.’

Mr Runacres revealed that the NWSRG is currently putting a bid together to the UK Roads Board for funding this financial year for research into residual salt levels. The first stage of research would involve looking into what authorities can do to collate the data streams mentioned above, to produce the most accurate residual salt readings based on the information available.

Industry is carrying out research and development on future technological solutions, but Mr Runacres said the NWSRG was keen to provide assistance in the short-term to help authorities with the data streams they currently have.

‘When we speak to members and authorities about the key priorities for ongoing research, lots of them say residual salt. We are trying to find some funding to work on this and it’s consistent with work Highways England is doing. It’s a relatively high priority for them too,’ he explained.

After the publication of Well-managed Highway Infrastructure in 2016, national winter service guidance was effectively transferred to the NWSRG’s Practical Guide. The new code no longer provides detailed guidance to practitioners regarding the delivery of the winter service and so the UK Roads Board, on behalf of the UK Roads Liaison Group, asked the NWSRG to make its Practical Guide generally available.

The guidance has also been developed in association with the Institute of Highway Engineers. As work in each subject area is completed, a new section is made available.
Supamix KA is a potassium acetate based liquid de-icer and anti-icer.

Effective down to -30°C Supamix KA offers significantly higher de-icing and anti-icing performance than rock salt, urea, CMA or glycol based products.

It has been designed to offer the corrosion and performance advantages of potassium acetate based de-icers in an economical package. Completely chloride free and formulated with corrosion inhibitors, it offers extremely low levels of corrosion and is particularly suited to corrosion sensitive applications where chloride based de-icers are or could potentially be damaging, this includes (but is not limited to) roads, rail, bridges, tunnels and steel or reinforced concrete structures. It is non-toxic, with low COD and BOD values and has a low environmental impact, including on sensitive watercourses.

It is supplied as a ready-to-use liquid which offers full, even surface coverage and instantaneous effectiveness, with no need to be ‘bedded in’ under traffic. It may be applied with a wide range of vehicle mounted, towed or hand-held sprayers. Where a low corrosion, environmentally sound de/anti-icer is preferred, Supamix KA is the perfect solution.

For more information or advice please contact us:

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or email; info@safecote.com

Safecote Ltd, Houldsworth Mill Business & Arts Centre, Houldsworth Street, Reddish, Stockport, SK5 6DA
Managing salt stocks is an all-year-round issue for highway managers, especially after a mild winter. Alan Sheen, director of Eurodome Ltd, highlights a recent incident that operators of timber storage domes should take note of.

In the afternoon of Sunday 13 January 2019, during strong winds, and as a result of deterioration in the condition of some of the panels, the timber salt storage dome at a mine suffered a substantial collapse.

The site was closed at the time and no injuries were sustained. The dome was installed in 1995 by Dome Corp Ltd using panels imported from the United States. Failure was initially in an area of panels that had previously been highlighted for replacement, where wet salt, which had spilled from the infeed conveyor, had accumulated on the top of the concrete perimeter wall and the lower wooden panels.

This had led to rotting of the base rails and ply, which is considered to have detached from the sill plate under the pressure from the wind. All of the above are extreme conditions that are distinctive to this dome at the mine site.

The incident is under investigation by the Health and Safety Executive (HSE). Being knowledgeable in the design and maintenance of this style of storage building, Eurodome Ltd has been asked to assist in the study and to communicate the incident with the winter maintenance sector in the UK.

In order to ensure the long life of structures of this type (and that they remain watertight) it is crucial that they are regularly inspected and repaired competently.

The HSE is recommending that all those responsible for wooden dome structures immediately carry out a ground level inspection of their dome style barns. If there are any signs of leaks, panel damage, rotting or broken rails and members, a competent company should be employed to carry out a detailed inspection, both at ground and high level.

To ensure the structural integrity of the building is maintained, a company experienced in wooden salt dome maintenance should carry out any subsequent repairs.

Guidance on what to look for in an inspection can be obtained from the Eurodome website. The frequency of inspection depends on the age of the structure, together with the use, condition and environmental conditions around the barn but in our view inspection should be carried out at least annually.

It should be noted that when properly inspected and maintained, the Eurodome Salt Barn has a service lifetime of 30-50 years. Eurodome Ltd is also on hand to support owners with any inspection or maintenance questions they may have.

Eurodome website: www.eurodome.com

A spokesperson for the HSE tells Highways: ‘This investigation is ongoing. All operators of salt domes should ensure that maintenance schemes reflect the domes’ operational duty.’
We are prepared, are you?

Stand B06
Cold Comfort
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www.peacocksalt.com
Municipal has been producing winter equipment for over 60 years. Customer support network of bricks and mortar service centres across the UK market. All winter products are supported by Johnston's nationwide maintenance range of equipment tailored to the needs of the UK in the pursuit of safe, ice-free highways. By providing our salt to local councils, highways authorities and private contractors from all corners of the country, we are ensuring salt/water conditions on everything from large trunk networks down to private company car parks. With a vast wealth of mining knowledge, we are leaders in winter highway maintenance.

Findlay Irvine is an innovative manufacturing company developing specialised safety systems for the transportation industry, providing customised systems and products for over 50 years. Findlay has pioneered and were instrumental in developing systems to help roads authorities manage winter conditions on the highway and initiate correct salt action. These systems have been refined and developed over the years and now provide state of the art winter monitoring.

HCTA STAND 015

HCTA was formed to promote and support the delivery of a high quality, training and assessment service across the construction industry. Members range from multi-disciplined training centres with purpose built facilities to individual specialist trainers working within public or private sector organisations or as sole traders. The Association is representative of national bodies formulating policy and developing training schemes and competence based assessment programmes. www.hcta.co.uk

Integrity Enterprise STAND A17

The Western range of hopper spreaders, tailgate spreaders and pedestrian units, ideal for your off route spreading needs. From reactive spot treatments, serving community services, car parks and pedestrian areas to community snow/warden equipment and hopper salt bins the easy way. Western have a product to suit your winter service operations. winter@integrityenterprise.co.uk

MetDesk STAND A19

MetDesk provides fully supported quality-led forecasting services to weather critical businesses worldwide. In the UK, MetDesk has approximately 40% of the available highway markets and has enjoyed continuous, sustainable growth since its formation. Accessible as the agile forecast provider where quality comes first, forecasting services are fully supported by a team of experienced transportation meteorologists who pride themselves as assisting clients arrive at the most appropriate decision. www.metdesk.com

John Jordan Ltd – AutoSock and snow chains STAND D06

AutoSock are reusable tyre sacks which are pulled over the driving wheels of vehicles which need extra grip. Vehicles which use AutoSock should never get stuck in snow or ice. There are sizes for HGVs, vans, and cars. Many of our emergency services are using AutoSock – not only to do their jobs, but also to get their key people to work, and safely home again. We will also be showing Polaris’ ‘Steel Track’ snow chains for twin-axled trucks at the event.

Johnston Sweeper STAND C05, V6 & V7

Johnston Sweeper – Bucher Municipal provide a comprehensive, innovative winter maintenance range of equipment tailored to the UK market. All winter products are supported by Johnston’s nationwide customer support network of bricks and mortar customer service centres supplying service back-up throughout the country. Johnston Sweeper has been manufacturing road sweepers for more than 70 years; Bucher Municipal has been producing winter equipment for over 60 years. www.johnstonsweepers.com

Campbell Scientific STAND A01

Campbell Scientific equipment is the trusted heart of critical systems globally, providing trusted, reliable and robust measurement data into actionable insight. This data provides a platform for decision makers to make fully informed, safety critical decisions from positions of confidence. Campbell Scientific provides worldwide: measurement systems, software and support services for monitoring and analysis of the environment. Our world-class solutions are in use in over 160 countries. We’ll be showing our range of solutions for the highways market, from RWISs to weather stations to drive state of the art winter monitoring systems.

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AutoSock are reusable tyre sacks which are pulled over the driving wheels of vehicles which need extra grip. Vehicles which use AutoSock should never get stuck in snow or ice. There are sizes for HGVs, vans, and cars. Many of our emergency services are using AutoSock – not only to do their jobs, but also to get their key people to work, and safely home again. We will also be showing Polaris’ ‘Steel Track’ snow chains for twin-axled trucks at the event.

Johnston Sweeper STAND C05, V6 & V7

Johnston Sweeper – Bucher Municipal provide a comprehensive, innovative winter maintenance range of equipment tailored to the UK market. All winter products are supported by Johnston’s nationwide customer support network of bricks and mortar customer service centres supplying service back-up throughout the country. Johnston Sweeper has been manufacturing road sweepers for more than 70 years; Bucher Municipal has been producing winter equipment for over 60 years. www.johnstonsweepers.com

Integrity Enterprise STAND A17

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Vaisala
STAND C14
Vaisala, your partner in solving road weather challenges, all year round. Beginning with expert consultation, through accurate roadside and mobile monitoring equipment, to cloud-based software, Vaisala will keep you moving now and into the future. Vaisala's dedicated Transportation Weather Services team uniquely provides a consultative approach to solving your weather-related challenges.
www.vaisala.com/roads

WinterTech Systems
STAND D11
WinterTech Systems design, develop and manufacture Brine Manufacturing Infrastructure. By being the intelligent choice of road operators in England, Ireland, Scotland & Sweden, we are established as the premium supplier of the next generation of technology in this area. WinterTech Systems, at last, gave the UK with the necessary 100% brine production resilience that has not until now existed.
www.wintertechsystems.com

Wipask
STAND D09
Wipask is the UK’s leading optimisation company for municipal services such as highway winter maintenance, waste collection and street cleansing. Our award-winning software and services have been used by over 200 local authorities and environmental service companies to design and run better routes and services. Using our winter maintenance software, planners and managers can make existing routes more efficient by maximising treatment time and reducing travel, or quickly evaluating service options.
www.wipask.com

RUD Chains Ltd
STAND C09
RUD Chains manufacture and supply a range of snow chains and automatic snow chains for a wide range of vehicles for passenger cars, 4x4’s, 500V, vans, trucks, buses, working machines, commercial and emergency services vehicles.
www.renntax.co.uk/uk/automatic-snow-chains/

Rennicks (UK) Ltd
STAND C07
Rennicks UK Ltd is at the forefront of traffic signs innovation; developing and supplying the latest road traffic signs and technology. A well-known and trusted supply chain partner in the highways industry, we work with a variety of sectors ranging from local authorities and maintenance contractors through to Highways England, Transport Scotland and Welsh Government agencies.
www.renntax.co.uk

Safecote Ltd
STAND B09
Safecote Ltd supplies a number of innovative winter service products that help the practitioner to improve snow and ice removal. Being founder members of the NWSRG we fully understand the challenges that decision-makers face and are able to offer a wide range of solutions to help you achieve the improvements highlighted in Agenda in
www.safecote.com

Transport Network
STAND B22
The Transport Network is the UK’s only free at the point of use website dedicated to serving news to the highways and transportation industry. Launched by the former Surveyor magazine in 2013, the site aims to provide breaking, exclusive news, case-study features, analysis, data, commentary and live seminars, blogs and conferences to industry professionals involved in the sector at a local and national level, whether in the public or private sector. Highways professionals involved in the sector at a local and national level, whether in the public or private sector.
www.transport-network.co.uk

Winter Service Solutions
STAND D13
We are excited to launch our gritter mounted, dynamic salt salinity sensor. Measuring the salinity on the road surface in real time allowing winter service practitioners to decide if more de-icing salt is needed to be applied. We are the leading salt pile sheeting provider in the UK to local authorities and highway contractors. Offering engineered options from SaltSaver sheeting to the SuperSheet system for strategic stock piles, designed to suit all sizes and budgets.
www.winterservicesolutions.com

RUD Chains was founded over 30 years ago and are manufacturers of the renowned ULTIMA range of products. We have an unrivalled reputation for build quality, design and innovation which makes us the number one go-to people in the market place. We offer products with the longest total life span and the lowest total life costs which mean that we make quality affordable when you invest in any of our winter range. We look forward to seeing you at Cold Comfort.
www.rud.com

www.webaspx.com

Webaspx is the UK's leading optimisation company for municipal services such as highway winter maintenance, waste collection and street cleansing. Our award-winning software and services have been used by over 200 local authorities and environmental service companies to design and run better routes and services. Using our winter maintenance software, planners and managers can make existing routes more efficient by maximising treatment time and reducing travel, or quickly evaluating service options.
www.webaspx.com

Stabilised Pavements Limited is a specialist in situ road recycling company based in The Midlands, working with highways clients throughout the UK. Operating independently the business prides itself on delivering great customer service built on decades of highway experience, technical expertise and a highly trained workforce operating state of the art plant and equipment.
www.stabilisedpavements.co.uk

Wintertech Systems
STAND B11
Wintertech Systems has not until now existed.
www.wintertechsystems.com

Romaquip
STAND B11
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www.rud.com

www.transport-network.co.uk

www.rud.co.uk/rud-automatic-snow-chains/

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www.renntax.co.uk/uk/automatic-snow-chains/
Richard Hayes writes:

The arrangements for signing of fords are included in the Traffic Signs Manual Chapter 4 Warning Signs.

10.1 Fords and floods... 10.1.1. The ‘Ford’ sign to diagram 554 should be used at all fords, even those which dry up in summer. The sign should also be placed at the entry to the road leading to the ford, accompanied by a distance plate with or without an arrow as appropriate. Where a road is subjected to frequent flooding, the ‘Ford’ sign may be supplemented by a ‘Road liable to flooding’ plate. While the water depth gauge is no longer a prescribed sign, authorities are encouraged to continue to place these indications at locations where the ford might become impassable in times of flood.

10.1.2. The ‘Flood’ sign to diagram 554A may be displayed only for as long as the hazard continues to exist or is expected to recur in the near future. It may be accompanied by a distance plate with or without an arrow as appropriate and should be followed, beyond the flooded length of road, by a ‘Try your brakes’ sign to diagram 554.1 [52 3 29], see Figure 10-31. If the water depth makes the road impassable, a ‘ROAD AHEAD CLOSED’ sign, placed at each end of the closure at junctions where traffic can be diverted, would be more appropriate.

10.1.3. The ‘Try your brakes’ sign should also be installed on the exit side of a ford. Given the likely minor status of the road, adequate warning is usually provided if these signs are mounted on the reverse of the ‘Ford’ signs.

10.1.4. This sign may also be used with signs associated with steep hills and escape lanes (see section 6). The largest size (1500 mm) could be used in these instances, but not at fords.

10.1.5. Depth gauges should be provided at fords or locations where flooding is known to be a persistent problem (see Figure 10-4). The zero level is the lowest part of the carriageway. Gauges should be sited so that the depth of water can be seen by road users on both approaches. These are not prescribed by the Regulations and need to be authorized by the appropriate national authority.

Responsibility for any issues will lie with the local highway authority, which should erect appropriate warning signs as per the above regulations. When excessive flooding does occur, both the police and highway authority have the emergency power to close the road for the duration of the event.

When there is evidence of a significant number of incidents, the highway authority should review the situation. However, this may lead to a more restrictive use of the road, e.g. closure.

In 2012, it was decided to close Stanhope Ford in County Durham permanently to vehicles in the interest of public safety following a public inquiry.

In a previous job role, I was responsible for the management of the causeway to the Holy Island of Lindisfarne (pictured, above) off the north Northumberland Coast, where each day on two occasions the road was submerged and several vehicles have been trapped in deep water.

Despite considering very technical solutions to warn drivers and extensive publicity, neither I nor the local community were able to prevent incidents reoccurring, with a van being caught out as recently as March. Obviously full closure of this route was not an option!
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there is a growing recognition within the industry that traditional approaches based around salt gritting in winter service are becoming less sustainable. Salt is inexpensive and relatively abundant, but comes at other costs of logistics, storage and delivery.

Every spreader must have a snowplough and yet very little consideration is given to what it must be capable of doing. During winter operations, more often than not the plough is left parked up in the depot, and only called upon in the most extreme winter conditions. But it doesn’t have to be that way, and more frequent, considered use of the correct plough technology will help to reduce salt application levels and help offer a better winter service.

Bucher Winter snowploughs are designed and manufactured in Northern Italy, in a factory that sits in the shadow of some of the highest and most magnificent mountains in Europe. Over the years, challenging winter conditions on the roads and highways around these mountains have helped to evolve Bucher’s range of snowploughs, delivering innovative solutions for moving all types of snow and ice.

One of the widest concerns commonly raised regarding the use of ploughs is the damage to road infrastructure. With standard UK ploughs, jockey wheels are employed to raise the plough blade a couple of inches off the ground to make sure that road studs remain intact. But in the gap between the plough blade and the road surface, a compacted layer of snow is allowed to remain, and that remaining snow is effectively flattened and graded by standard UK ploughs before the spreader passes and dispenses salt on top of it.

If the temperature is low, and the amount of salt spread is insufficient, this approach can be a recipe for disaster. Any remaining snow will be partially melted, but in low temperatures it has the potential to re-freeze as a slicker, icier surface. It is therefore paramount that if a plough is used, it is used correctly.

The biggest difference offered by Bucher ploughs is the interface with the plough and the road surface. Bucher plough blades sit on the road surface and deliver a back-to-black treatment as standard. They have a negative attack angle and as such they serve to squeegee off the fallen snow, as opposed to chiseling and scraping it off, which is the more common approach in the UK. Bucher’s neoprene ‘bi-shore’ plough blade deflects around any road obstacles, ensuring that road studs are safe.

The blade is designed with a softer leading face that deflects well around obstacles, and a harder trailing face that provides the necessary strength to push the blade along without flexing backwards. The bi-shore neoprene blade is standard across the range of ploughs delivered by Bucher and can be complemented with a positive angle icebreaker blade that can be deployed in times of ice accumulation. Both blade types can be configured on straight edge or V-formation ploughs.

Straight edge ploughs are ideal for standard highways operations, where high speed snow clearance is critical. Bucher’s V-shaped Universal Ploughs incorporate the same safety systems as their straight edge counterparts, but can be configured to offer straight, V-formation and Shovel-formation, and as such are perfect for use in narrow inner-city environments as well as rural environments where narrow access routes need to be ploughed.

Bucher Winter innovations also include the MBS brine injector system for snow ploughs. Brine or indeed any de-icing liquid is delivered through apertures in the plough blade, and ejected directly onto the road surface at the interface with the snow and ice. The combination of mechanical force from the plough blade plus chemical force delivered by the liquid de-icer has a dramatic and almost immediate effect on the carriageway. During product tests carried out last winter, one driver described the process as ‘painting the road black again’.

The MBS plough system can be fitted to any combi or pre-wet snowplough with liquid de-icing tanks. Alternatively, spreaders can be retrofitted with liquid storage tanks used to feed the MBS delivery system.

Bucher Winter will be presenting a wide range of its snowplough technologies at Cold Comfort alongside its innovative salt spreaders.