lift Industry News

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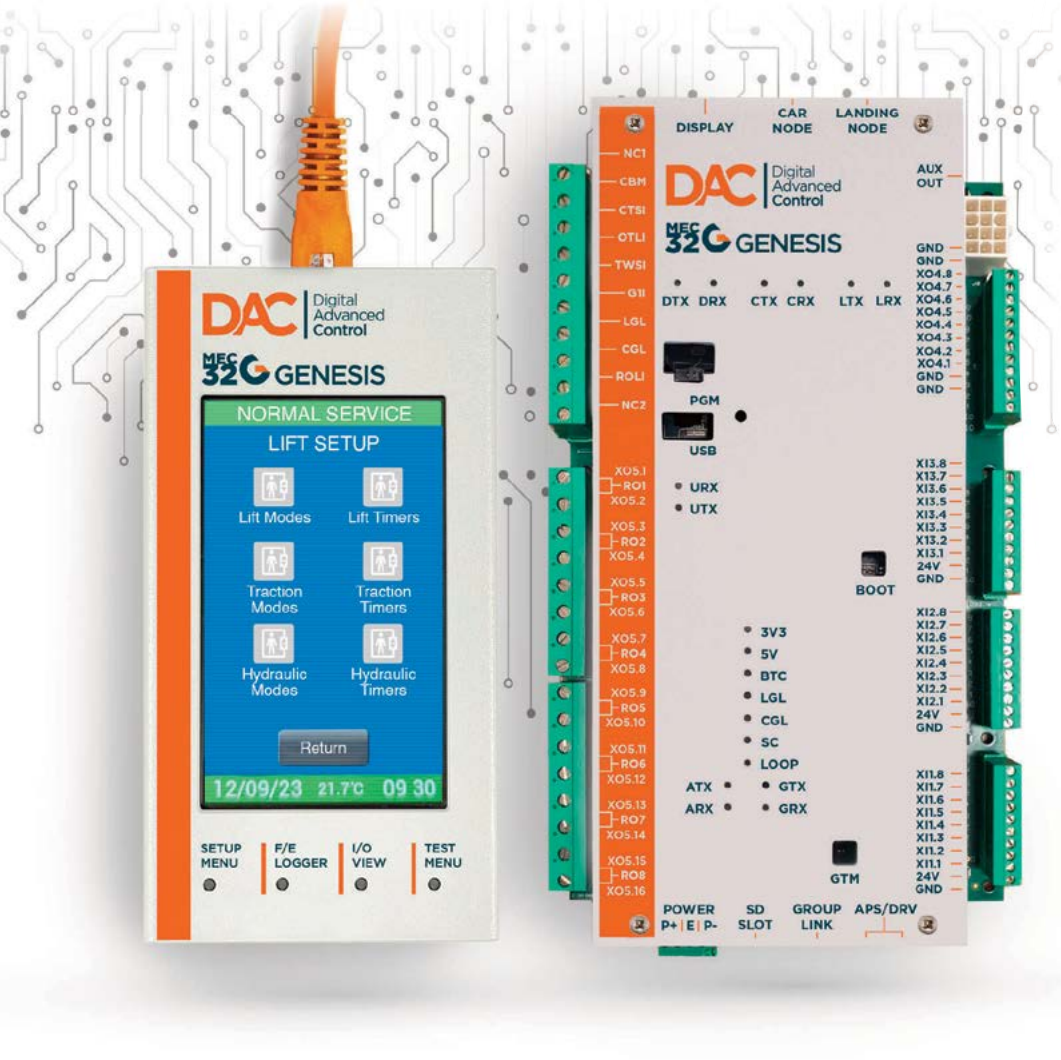

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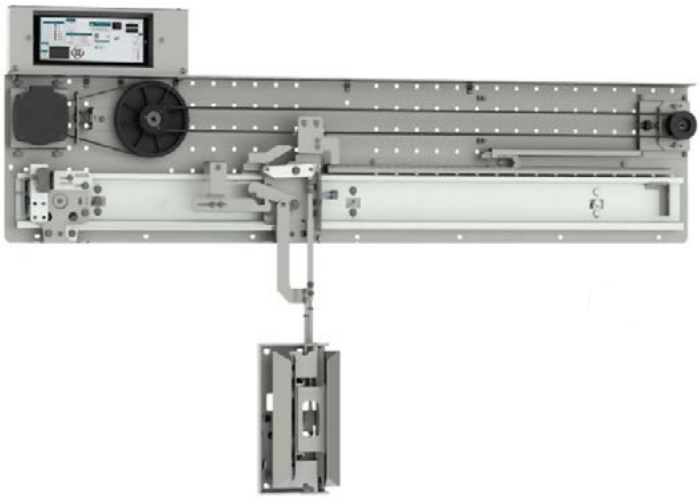

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lift Industry News

PUBLISHED QUARTERLY, PRINT AND DIGITAL VERSIONS

ELECTRONICS

Is your lift phone on a BT landline?

If so, modernize now before it's too late

Say goodbye to the landline and stay safe with the 2N EasyGate IP 4G gateway! British Telecom's PSTN landlines will all have gone by 31 January 2027 and by then all fixed phone services will have moved to fully digital IP networks, like Openreach, that cannot support lift emergency phones. The 2N EasyGate IP gateway is the perfect alternative to a traditional landline offering a fully mobile, GSM-type connectivity without changing anything in the lift or having to reprogram the phone. Simply take the two wires connecting the phone to the landline and connect them to the EasyGate IP gateway instead. The 2N EasyGate IP delivers great call quality and good DTMF transmission, where used, and is fully compliant with the EN81:28 lift standard, including integrated backup for power outages.

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GRAHAM BARKER
OVERVIEW

For our October edition we are delighted to welcome Graham Barker, Global Head of Vertical Transportation at Cundall

It was really good to be part of three packed days in the world of vertical transportation in September - the launch of CIBSE Guide D, the launch of the SoVT (Society of Vertical Transportation) and of course the 16th Lift and Escalator Symposium (LES). A full report and a lot of pictures start on page 47.

CIBSE Guide D is one of the formative tests relevant to our industry, and great thanks should be given to all involved in its production and update every 5 years. Day 1 also saw the closure of the CIBSE Lifts Group, and launch of the SoVT. SoVT will further advance and enhance the professional standing of the vertical transportation industry, supporting VT professionals at every stage - from students to industry leaders - and provides opportunities for recognition, development, and connection across the global built environment. We work in a rapidly evolving sector and the SoVT will help us grow. Say hello on page 26.

I always enjoy the opportunity to meet up with colleagues across the globe at LES and discuss what is happening in our industry. There were some great insights from the Keynote Speaker, Mike Burton, whose wealth of experience in sustainable building design raised some good challenges as to what the future office might look like. Read more on page 52.

Mike talked about building rating systems including the long term benefits of the NABERS operational performance rating system, and the WELL Building standard. Here at Cundall we see these systems applied regularly to projects and are very proud that our London office was the first project in Europe to receive WELL certification, and our Birmingham Office was the second in the Midlands and first in the city centre.

The LES panel discussion was also very interesting, and kudos must go to Rory Smith of the organising committee for managing to get both the major OEM's and independent equipment providers on the same panel. The discussions centred on the approach to lift maintenance in intelligent buildings, AI and the IoT are changing the landscape of VT incredibly fast, and we all need to be getting on board! Page 54 explains more.

It is an exciting time to be in the VT world with so many new initiatives. Begum Avdagic and Gemma Moore from Dewhurst presented an excellent paper on the potential of digital out-of-home advertising in the lift industry, where the confined space of a lift is a great source of targeted digital marketing. Their well-researched presentation deservedly won the Dr Gina Barney Emerging Excellence Award for Vertical Transportation. You can read their paper on page 58.

I have to confess to being interested in standards and have written on the subject in Lift Industry News before. On page 24 LEIA's Nick Mellor provides insight on a long-awaited standard for evacuation lifts for people requiring level egress, BS EN 81-76.

Having been in the industry for a few years now I am always interested to hear from the stalwarts of our industry. As ILE celebrates 50 years of business Janet Lycett gives her view of why it works. Page 38 to read the story behind ILE.

And talking of views, the LIN editor ventured to the top of the great glass elevator at Battersea Power Station - read all about it on page 32.

It's a great time to be involved in vertical transportation and I look forward to many more advances and challenges on our exciting industry.

lift Industry News

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THIS QUARTER

SoVT
Society of Vertical Transportation

THE SOVT HAS LAUNCHED

Following on from the work of the long-established CIBSE Lifts Group, the new Society of Vertical Transportation (SoVT) will connect individuals and organisations and offer a recognised structure for professional membership, specialist CPD, collaboration and international engagement.

LIFT & ESCALATOR SYMPOSIUM 2025

Two great days filled with the combined knowledge of the VT industry, challenging panel discussions and an informative keynote presentation. It's all covered!

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CALENDAR

2026

October 14 - 17

Interlift
October 14-17
NUREMBERG, GERMANY

November 19 - 20

elementalLONDON
November 19-20
LONDON, UK

November 19 - 21

GEE Global Elevator
November 19-21
MILAN, ITALY

December 02 - 04

ISE Africa
December 02-04
NAIROBI, KENYA

February 10 - 12

Cairo Lifttech
February 10-12
CAIRO, EGYPT

May 06 - 09

ELEVEX Konya 2026
May 6-9
KONYA, TURKEY

May 20 - 23

World Elevator & Escalator Expo
May 20-23
GUANGZHOU, CHINA

September 21 - 23

The Elevator Show Dubai
September 21-23
DUBAI, UAE

2026

October 20 - 22

Lift Expo Poland
October 20-22

WARSAW, POLAND

October 28 - 30

Lift Expo Italia
October 28-30

MILAN, ITALY

November 19

Nordic Lift Expo
November 19

STOCKHOLM, SWEDEN

December 03 - 05

ISEE India
December 3-5

NEW DELHI, INDIA

May 06 - 09

Asansör
May 6-9

ISTANBUL, TURKEY

October 12 - 15

Interlift
October 12-15

NUREMBERG, GERMANY

POINT OF VIEW

Have you got your priorities right?

by Len Halsey

Something that comes up frequently in modern buildings is the requirement for special services to be provided by the lifts. The inclusion of standard features such as fire recall, emergency power operation and evacuation control (as defined by BS EN 81-76) is a given.

However, many buildings may have additional service requirements, generally called for by the client or tenant. These services fall outside of those covered by codes or standards and are generally coordinated by VT specialists and the wider M&E design team. Special requirements can include features such as VIP service, Imminent Catastrophic Event (ICE) evacuation service, conference service or a facility to secure the main lobby.

There are many other services that may be required including those for other types of buildings such as hotels (room/cleaning/baggage service) or hospitals (cardiac/stretcher/theatre service) which will almost certainly require a unique engineering solution.

These are all features that can be engineered into the control systems either at individual lift level or within the group software, however faced with the need for a number of special services, a key question arises; which service takes priority in the event two or more need to be enabled at the same time? Here we need to look closely at the services being provided and establish a hierarchy of priorities.

At an individual lift level we already have this in place. Examining the service levels below, we can see that the higher the number, the greater the priority with, for example, inspection control taking priority over both normal and independent service operation:

1. **Normal** – lift operating on automatic control.
2. **Independent service** – lift removed from group functions and operated from car buttons only.
3. **Inspection control** – lift switched to car top control for maintenance or inspection purposes.
4. **Off** – lift isolated at main switch

While we may not think of this in terms of priorities, it is helpful when considering both safety and operational precedent; independent service takes priority over normal operation and for obvious safety reasons inspection control takes priority over both normal and independent service.

While the listing above looks at an individual lift, things become a lot more complex when we start to assess wider group service levels and how these interact with both other lift services and building systems, especially if one or more is invoked simultaneously. Take the example of a service whereby lifts only operate above the ground floor due to an incident in the main lobby. During the incident the building fire alarm is activated; does the fire signal take priority and potentially put passengers at greater risk by grounding lifts to the lobby, or do the lifts perhaps move to the alternate fire recall floor? In the event the special service signal is then removed, do the lifts respond to the original fire signal and move to the lobby?

Another example may be a building where toxic substances are stored and moved. Lifts could be parked at a designated 'safe floor' in the event of spillage or toxic gases being released. In these circumstances the strategy may be to minimise the movement of air within the building by immobilising the lifts and shutting down all fans within the building. During the incident a power failure occurs and emergency power is made available from an alternate source, do the lifts stay at the 'safe floor', or respond to the emergency power signal and perhaps go back into service or even return to the main lobby, potentially moving toxic gases around the building? What happens if the building fire alarm is activated?

A further example might be in a hospital where a lift responds to a cardiac service signal and is moving a very ill patient to the cardiac unit. During the journey the fire alarm is activated; does the lift complete its original journey or respond to the alarm signal and move to the designated fire recall floor, even if the alarm originates from a location remote from the unit?

These are a few simple examples and I'm sure we will all have an opinion on what should happen, but how much of our thinking is driven by the need to comply with relevant standards, in the case of fire BS EN81-72 (for firefighting lifts) and BS EN 81-73 (for non firefighting lifts)? Given the examples above, and with lifts perhaps only forming part of the overall response strategy, should the standards be subject to a wider strategic approach or is compliance the driving factor?

Perhaps the first thing to say is that, where possible, compliance must be the aim. However, there is also a consideration which says when trying to establish a risk led approach there are times when the bigger picture takes precedent and minimising risk and potential injury/loss of life is the driving factor. The big question here is; does a fire alarm override all other services, even in extreme circumstances? This immediately raises a further question: are we so compliance orientated, based on traditional thinking, that we ignore the fact that in some circumstances compliance may not be the best solution? An interesting discussion for another time.

These types of dilemmas obviously need to be addressed through a thorough risk assessment, recognising resultant strategies may not always put compliance to codes and standards first; it is within this environment that the need to establish a hierarchy of operational priorities exists.

The major driver here is the wider consideration of the strategy adopted for the building population when such events occur, remembering lift functions and services may only form part of the overall strategic approach.

At a fundamental level we see this in all buildings where the fire strategy defines events and dictates outcomes based on a 'cause and effect' assessment. Here, for example, the standards applicable to the operation of lifts in the event of a fire inform the cause-and-effect matrix, which in turn will detail the main and alternate fire recall floors together with the evacuation strategy as BS EN 81-76.

The cause-and-effect approach can provide a template when it comes to the special operation of the lifts, complimenting the wider strategy developed to cater for exceptional circumstances. Some of these strategies can cover a multitude of possible incidents and have very complex and incremental responses based on a dynamic and constantly changing situation, all of which need to be assessed.

While this may all seem a long way from what is considered the normal operation of buildings, employers have a responsibility of care for their employees and take these obligations very seriously, reflecting a clear need to safeguard building occupants and minimise risk. We also need to appreciate that large modern buildings can have multiple functions. Mixed use (hotel, offices, residential and retail), large tech organisations looking for open spaces and the demand for life science facilities/ buildings bring new challenges in risk management. The changing use of buildings and increased levels of security means we are confronted with ever widening considerations, bringing increasingly complex and sophisticated means of addressing the potential issues.

At a practical level the use of special services is derived from a risk-based approach centred on safety and security. The examples above show that the lifts often need to integrate with other building systems that may themselves play a crucial part in the implementation of the overall strategic approach to a particular set of events.

The means of implementing special services generally come via manual intervention in the form of key switches/buttons or via a special electronic interface. As discussed, it is not only the lifts that respond to an incident, but the vital element is understanding what the response will be when keys are turned and buttons pressed. For this, two things are essential, training of staff and their full understanding of service levels priorities, remembering these can change as events unfold. In addition, clear displays and visual confirmation that a system, lifts or otherwise, has responded is essential. Handshake signals form an important part of knowing the current status and where you are within the hierarchy of priorities. This information provides the means by which the situation can be properly managed. Without understanding the hierarchy of priorities, the management of the incident can be seriously compromised.

Needless to say, the testing of all services is essential to ensure there are no conflicts, either within the lift controls or interfaces to other building systems. Regular checks will need to be made, especially as we know what can happen when software is updated!

There is little doubt that intelligent, integrated systems are fundamental to engineering special service functions. Going forward AI will provide a step change in arriving at solutions that are far better at making changes to dynamic situations.

This will take time; in the interim we need to ensure that we have evaluated the risks correctly and optimised the solutions. In that process the leading question is: 'have you got your priorities right'?

BIOGRAPHY

Len spent a major part of his career with Otis, holding senior technical and managerial positions in construction, modernisation and major projects before joining Canary Wharf Contractors in 1998. Working with vertical transportation contractors, consultants and interface trades Len was responsible for lift and escalator installations on major high rise developments before being appointed Vertical Transportation Design Manager in 2002.

Working with signature architects and major international VT consultancies, Len worked providing design solutions in complex high rise buildings and across the developments portfolio, including infrastructure, retail, residential and public transport projects. He was appointed Project Executive for Vertical Transportation Systems in 2015 and fully retired from Canary Wharf in 2023. He is now an independent consultant.

He is a former chair of the CIBSE Lifts Group

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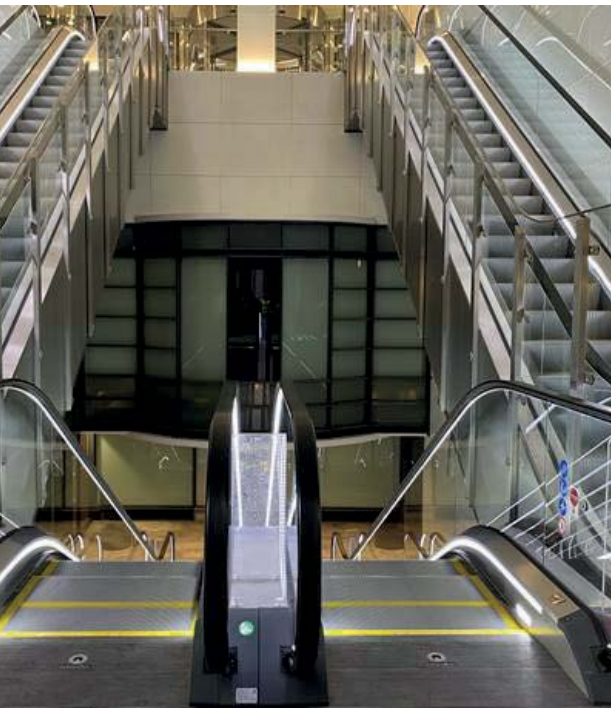

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SAFETY FIRST

What went wrong with Lisbon's Glória Funicular?

A malfunction on Lisbon's popular Glória Funicular on Wednesday, 3 September, saw 16 fatalities and over 20 injuries, many of them serious, but the fatality rate could have been much higher.

As an engineer, and it doesn't matter what grade of engineer you are, your heart goes into your mouth when you see news headlines such as this. I spent a number of years as an engineer surveyor in a previous employment and the notion of responsibility never leaves you even now I am office based.

How it worked/design

The Glória Funicular used a system where the two cars counterbalance each other, similar to many designs in operation around the UK. Most in the UK are heritage designs, with the first one being installed in Scarborough in 1875 and still running today.

Glória was originally installed in 1885 and was a water balance design, again there are still water balance designs running in the UK today. In simple terms, a water balance design uses the mass of water to overcome the mass of the suspended load and any friction such as between the wheels and track and their bearings. The mass of the cars is the same, with the variable being the number of people in them.

The Glória cars were rated at 40 persons and using the EN81 standard for lifts and an average 75 kg per person, the mass of the passengers in each car could be over 3000 kg (in reality the average of 75 kg per person has been challenged many times – I am certainly keeping the average up!).

As a water balance design, either water would be put into a tank under the top car, or water would be let out of the tank of the bottom car until the system overhauled (or started to roll). The on board drivers would then regulate the speed. The two cars were in fixed positions so when one was at the top station, its counterpart would be at the bottom station. During travel the two cars would pass at the midway point as each car would be on parallel tracks.

Once the cars had passed each other they could be routed onto a single section of track and this is the case with the Cairngorms and Aberystwyth funiculars. Some installations have compensating ropes linking the bottom of one car to the other such that when the system is in motion the mass of the suspension ropes is cancelled out by the compensating ropes during the dynamic transfer of the ropes from one side of the equation to the other. This means the system is only required to overcome the out of balance load e.g. full car up, empty car down vice versa and every combination in between.

Interestingly, these installations are referred to as funiculars on the basis that they are inclined and have two cars counterbalancing each other.

It is a name that has stuck albeit in reality the word funicular is derived from a Latin term meaning "of rope, so, in fact, even single car and vertical lift installations can be described as funicular.

In 1915 the decision was made to convert Glória to electric which would have involved removing the water tanks from under the cars and installing electric motors in their place. To get power to the cars, overhead lines similar to those used on some UK railway lines were installed and pantographs fitted to the rooves of the cars. At this point I don't know the system well enough to know whether the up car, down car or simultaneous motors on each car were used to drive the system. Most UK electric drive funiculars have a bull wheel (traction sheave) in the top station with a single motor and most don't have an electrical supply to the cars themselves, but photographs of the Glória show what appear to be a Westinghouse type stepper control handle which means that the driving was actually done on the cars.

What went wrong?

When I was initially contacted, the one thing I could say for certain was that the relationship between the two cars had been lost. The fact that one of the cars was at the bottom while the other was on the slope when it lost control means the system was not operating correctly and the relationship between the two cars had been lost. Had the ropes snapped? Media reports suggested the incident occurred after a cable that pulls the cars came loose, causing the funicular to hurtle down the hill. Later reports have confirmed that a section of the rope at its termination on the car failed. This will become significant when we look at the implications for engineer surveyors.

So how did the situation unfold? Reports say that the cars had moved a short distance. When the car-to-car roping situation was lost, the lower car retreated to its terminal position whilst the upper car ran out of control down the hill. The travel distance for the system is reported as 265 metres. The upper car derailed at a bend in the street before crashing into a building near Restauradores, a square in central Lisbon and the railway's starting point. It seems strange to say this but the derailment was a lucky event and had it not occurred, the fatality rate could have been much higher. Had the upper car not derailed it would have entered the same single section of track as was occupied by the lower car where panicking passengers were trying to get out in anticipation of a collision. Had the rope break occurred with the cars at the midway passing point they would both have descended uncontrollably and possibly would have come together at the point, where the double track converged into a single section, thus colliding and causing both cars to derail. It doesn't bear thinking about. The upper car which was descending uncontrollably would have become unstable due to its top heavy design when it reached the bend in the road and this would have caused it to derail.

The question then comes as to why emergency systems didn't bring the upper car to a stop. It has since been reported that the braking system was designed with both cars in suspension, so the lower car providing a downwards force against the upper car. The brakes were not designed to provide braking for an uncontrollably descending car. Many designs like this have blocks that are manually operated by a lever and have a high friction pad that rubs on the railhead surface. At the speed the car was descending this would quickly have warmed up and become worn and would have been ineffective.

Implications for engineer surveyors

Inclined lifts of this type and of heritage design are few and far between. In the UK we only have 27 of them and 4 of them are still a water balance design. Reports suggest that the ropes failed at their termination on the upper car and that the termination was not visible to engineers without dismantling. I suspect most of us have faced this situation, particularly with scenic lifts, where to satisfy an architect's want not to see anythingm, the counterweight is fully enclosed. The only conclusion that I can draw is that if you cannot examine the whole of the length of the rope and their terminations, you cannot issue a thorough examination report. I anticipate that I will be getting letters from readers and look forward to the debate.

READ MORE in an article from the New Civil Engineer magazine

https://www.newcivilengineer.com/latest/lisbon-funicular-tragedy-could-have-been-far-worse-if-car-hadnt-derailed-expert-says-05-09-2025/

BIOGRAPHY

EurIng Prof. David Cooper MBE

BSc (Hons), MSc, MPhil, CEng, FIET, FCIBSE, FSOE, FCGI

David Cooper is the CEO of UK based lift consultants LECS (UK) Ltd. He has been in the lift & escalator industry since 1980 and is a well-known author and speaker. He holds a Master of Philosophy Degree following a 5-year research project into accidents on escalators, a Master of Science Degree in Lift Engineering as well as a Bachelor of Science Honours degree, Higher National Certificate and a Continuing Education Certificate in lift and escalator engineering. He is a co-author of "The Elevator & Escalator Micropedia" (1997) and "Elevator & Escalator Accident Investigation & Litigation". (2002 & 2005) as well as being a contributor to a number of other books including five editions of CIBSE Guide D. He is a regular columnist in trade journals worldwide including Elevation, Elevator World, Elevatori and Lift Industry News. He has presented at a number of industry seminars worldwide including in Thessaloniki, Munich, Shanghai, San Francisco, Melbourne, Zurich, Barcelona and Vienna as well as numerous presentations within the UK.

He is also a Founding Trustee and Chairman of the UK's Lift Industry Charity which assists industry members and/or their families after an accident at work. In 2012 David was awarded the silver medal by CIBSE for services to the Institution.

David also chairs the charity that runs the Lift Symposium and is an Honorary Visiting Professor at The University of Northampton. He also sits on the Board of CIBSE where he is currently President Elect. In 2021 he was awarded the Sir Moir Lockhead Award by the SOE for 30 years dedication to safety in the lift & escalator industry.

In 2023 David received an MBE in the King's Birthday Honours list for services to lift & escalator engineering.

BEHIND THE SCENES AT LEIA

The Digital Switch – what building owners need to know

The digital switch is still a key concern, with many building owners unaware of the impact on lift alarm systems.

To help raise awareness, LEIA has worked with the Government's Department for Science, Innovation & Technology (DSIT) to produce a letter explaining why building owners must speak to both their lift maintenance providers and telecoms providers. The aim is to ensure that lift emergency phones continue to operate as intended during and after the digital switchover.

This official letter, supported by DSIT, can be shared directly with building owners.

Download the letter:
https://www.leia.co.uk/wp-content/uploads/2025/08/DSIT-Letter-to-Building-Managers-via-LEIA.pdf

LEIA contributes to CIBSE Guide D

The latest edition of the CIBSE Guide D was launched on 23 September at the Kettering Park Hotel & Spa, Kettering, Northampton. LEIA played a major role in shaping the updated guidance:

LEIA Technical Manager, Micky Grover-White, authored Part 16 on upgrading safety, performance and equipment of existing lifts. Alongside Adam Scott of The Vertical Transportation Studio Ltd, he also contributed to Part 11 on vertical transportation for people requiring level access.

Nick Mellor, LEIA MD, authored Part 6 on lifts for use by firefighters and evacuation lifts, Part 12 on lift electrical systems and building interfaces, and was one of four Technical Editors on upgrading lift systems.

You can download a copy here:
CIBSE Knowledge Portal
https://www.cibse.org/knowledge-research/knowledge-portal/

Safety Seminar a success

This year, for the first time, the LEIA Safety Seminar was open to both members and non-members. Delegates joined us in Northampton for a productive discussion around:

- Mental health and wellbeing
- Escalator safety
- Net Zero challenges
- Occupational health
- Lone working
- The work of the SAEC

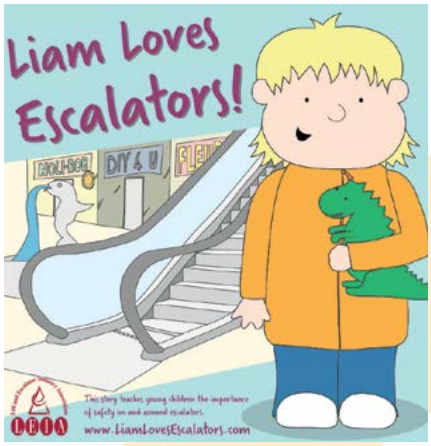
LEIA out and about

Nick and Micky were invited to attend a Society of Operations Engineers (SOE) CPD event on 16th September in London. Micky presented to 100 delegates about lift modernisation and implications for thorough examination.

Stay safe with Liam this half term

With half term approaching, it's the perfect time to share the Liam Loves safety campaign. These resources are designed to help parents and children stay safe when using lifts and escalators while travelling.

Download free copies of the Liam Loves resources here:
https://www.leia.co.uk/safety/liam-loves-safety-campaign/



Apprenticeships update

Government figures currently estimate that apprentices trained between 2021 and 2022 will contribute £25 billion over their lifetimes to the UK economy. LEIA assesses four standards in our sector. Earlier this year, the Department for Education (DfE) and Skills England put forward a package of reforms designed to streamline the apprenticeship assessment process. These could have wide-reaching implications for training providers, awarding bodies and employers.

What's changing?

The key confirmed proposals include:

- Shortened assessment plans
- On programme assessments delivered by centres – encouraging more responsibility for training providers.
- A new role for employers to confirm apprentices have the required behaviours
- Greater freedom for awarding organisations to design assessments tailored to individual assessment standards.
- A continued role for awarding organisations both in terms of assessment delivery and oversight of quality assurance

Alongside these proposals, there are still areas awaiting more clarification. Providers and employers are waiting for more detail on implementation timeframes and how Ofqual will regulate these new approaches.

Opportunities for providers and employers

The system is intended to be more streamlined, with less duplication and faster turnaround times. One of the intentions is to help apprentices complete their apprenticeship sooner and move into permanent roles more quickly. Providers may also see new opportunities to deliver assessments directly, with potential for a broader scope of involvement in the apprenticeship journey. For awarding organisations such as LEIA, a broader scope across levels and sectors could open additional apprenticeship assessment options, helping the industry respond flexibly to new occupational demands.

The challenges ahead

However, these opportunities come with challenges. Shifting responsibility to providers will almost certainly require additional resources, including staff training, systems, and quality assurance structures. There will be costs linked to centre approval and external quality assurance visits, which providers will need to plan for.

There are also concerns that greater provider involvement may risk compromising the independence and robustness of assessment – something that is central to employer confidence in apprenticeships. Achieving the right balance between flexibility and rigour will be critical.

What next?

We held a webinar earlier this month to gain feedback and update training providers and employers on these changes. The proposed changes are expected to come into effect in the next 12 – 18 months, and we will keep you updated as and when we know more.

LEIA Distance Learning enrolment dates:
January 2026 – closes 15th December 2025

May 2026 – closes 15th April 2026

September 2026 – closes 15th August 2026

LEIA meetings and seminar dates

9 October – LEIA Council and AGM, London.

5 November – LEIA Technical Seminar, Northampton.

GATEWAY TO FAILURE

The Building Safety Regulator has published a case study that demonstrates some of the failures that are causing 70% of all designs to be rejected at Gateway 2 of the building control regime for higher-risk buildings

In late 2024, a newly constructed high-rise residential building was undergoing final safety inspections before occupation. Designed to meet modern safety standards, the building required thorough review by regulatory bodies, including the Building Safety Regulator (BSR) and London Fire Brigade (LFB). This review aimed to ensure that all fire safety systems, evacuation measures and firefighting provisions met the highest standards before residents moved in.

During the inspection process, BSR identified significant safety issues. The findings at a separate high-rise development undergoing review by BSR further reinforced the importance of strict regulatory oversight in ensuring compliance with the Building Safety Act 2022. An inspection by the principal fire engineer at LFB discovered critical issues across multiple fire safety systems. Key concerns included:

- **Firefighting facilities:** inadequate compartmentation in risers, unsecured riser doors, incorrect lift operation in emergency scenarios, and ineffective communication systems in firefighting lifts
- **Fire suppression systems:** non-compliance with sprinkler system standards, inadequate water supply to upper floors, and potential failure of pumps because of poor installation
- **Smoke control issues:** ineffective smoke extract in residential corridors and basement areas, risking firefighter safety and reducing visibility in an emergency
- **Power and emergency systems:** non-diverse routing of primary and secondary power supplies, leading to increased failure risk during fires
- **Wayfinding and evacuation measures:** missing or unclear wayfinding signage, lack of an evacuation lift, and a single stairwell design, creating potential bottlenecks in an emergency.

With such significant deficiencies identified, BSR worked closely with the developers, fire safety engineers and LFB to ensure full remediation before occupation could be permitted.

They used the results of the survey to inform the development of their engagement strategy for the block. The information gathered ensured their strategy met the specific needs and preferences of the residents.

The BSR's building control function played a pivotal role in ensuring that these critical safety issues were addressed before the building was approved for residents to move in.

ENSURING A SAFE BUILDING

The process of making the building safe included:

Rigorous inspection and verification:

- BSR conducted additional site inspections, cross-checking findings with LFB assessments to ensure fire safety measures met requirements in the Building Safety Act 2022 and Approved Document B
- Independent fire safety engineers were brought in to validate the integrity of passive and active fire protection systems

Enforcement and compliance:

- The regulator blocked occupation approval until all deficiencies were fully rectified, ensuring that residents would not be placed at risk
- Formal compliance notices were issued to developers, requiring adherence to BS 9991, BS EN 81-72 and BS 9251 fire safety standards

Collaborative problem-solving:

BSR facilitated technical discussions between developers, fire engineers and LFB, leading to practical solutions for complex safety concerns, including:

- Smoke control inefficiencies that required extensive system modifications
- Sprinkler system deviations that necessitated design reviews and upgrades
- Re-testing and full recommissioning of fire safety systems, mandated by BSR before approval would be granted

Enhancing future safety standards:

- The case reinforced the need for stricter enforcement of fire safety rules in new high-rise developments.
- BSR used the findings to inform future policy updates and best practices for developers and building control professionals.

Following BSR's intervention, the developers implemented the required corrective actions, including:

- Securing all firefighting riser doors
- Reconfiguring firefighter lift controls to prevent unsafe lift operation in fire emergencies
- Upgrading the smoke control system to ensure effective smoke extraction and fire containment
- Installing a fully operational, standards-compliant sprinkler system
- Enhancing wayfinding signage and ensuring power supplies were separated correctly

Once all systems were re-tested and certified, BSR granted final approval for occupation.

Conclusion

This case highlights the critical role of BSR in holding developers accountable for fire safety compliance. By preventing occupation until all deficiencies were resolved, BSR demonstrated its commitment to prioritising resident safety.

The case also reinforced the importance of collaboration between fire engineers, developers and BSR in achieving truly fire-resilient buildings.

For more design issues identified by the BSR, visit bit.ly/CJBSRPW25

With thanks to the CIBSE Journal for allowing us to republish this article

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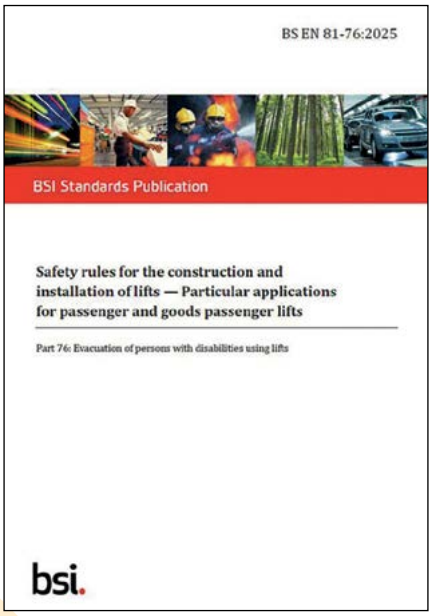
BS EN 81-76 EVACUATION LIFT

Nick Mellor provides insight on a long awaited standard



The end of July saw the long-awaited publication of BS EN 81-76, the European standard for evacuation lifts for people requiring level egress.

The need for evacuation lifts as part of inclusive design to allow people requiring level access to also egress a building when needed has been covered in excellent articles from Rachel Smalley in Issue 8, April 2024 and by Len Halsey in Issue 10, October 2024

It is worthwhile reflecting on a number of issues with the development of the standard:

- Other than the long-standing evacuation lift described in BS 9999:2017 (little changed from that in BS 5588-8:1988), there was very little to base on – the new EN 81-76 genuinely leads the state of the art.
- A European standard can describe the features and operation of an evacuation lift (CEN, the European standardisation body was given a mandate by the European Commission to develop a harmonised standard).
- Building design is not harmonised at a European level as it is under national regulations such as Building Regulations in the UK. Hence EN 81-76 cannot specify building design elements but can include the building-related conditions on which the standard is based and require these to be included in instructions.
- Lifts have a crucial interface with the building and perhaps more than any other lift application, an evacuation lift depends on protection by the building and signals from building systems for its safe and effective operation for those requiring level access/egress.

- BS EN 81-76 is a complex standard to apply – not only because of the building-related conditions, signalisation and interface issues – but also because it includes descriptions of three possible operations of an evacuation lift (at least one of which must be selected) and a fully-developed specification for more complex buildings (Class B) and a simpler specification for low rise with simpler evacuation requirements (Class A).

The contents of the published BS EN 81-76 standard are as the contents of EN 81-76 with the addition of the National foreword. The National foreword provides further guidance on the application of a European standard in the UK.

The National foreword to BS EN 81-76 notes that the implementation of a safe evacuation lift depends on the satisfactory integration of the evacuation lift into the building which needs collaboration between those responsible for the lift and those responsible for other aspects (outside the lift) which it lists.

Prior to the publication of BS EN 81-76, it was recognised that on each of the elements listed relating to building-related conditions and the interface between an evacuation lift and building systems, further guidance would be needed to support the implementation of BS EN 81-76. The national foreword therefore includes a link to ***https://www.leia.co.uk/bs-en-81-76-evacuation-lift-guidance/***.

The contents of that guidance provide more on various building-related considerations for incorporating evacuation lifts in buildings and are not repeated here as they will be subject to updating as work continues in this area. However, the guidance addresses an issue with transition and how soon specifiers can reasonably start to include BS EN 81-76 solutions and steps that could be considered in the interim.

The implementation of the new BS EN 81-76 will be challenging. As discussed above, BS EN 81-76 is a complex standard and it also raises challenges for those designing buildings, ventilation systems to keep lift spaces free of fire and smoke, and fire detection and alarm systems to interface with lift controls.

Further guidance and collaboration between all parties involved will be needed to overcome these challenges.

Following this work on the implementation of BS EN 81-76 for new evacuation lifts, the further challenge will be guidance to support the improvement of existing lifts for evacuation use.

A new BS 8486-10 is currently being developed by BSI which is likely to include an annex on how building conditions can be checked against the instructions provided and how if the instructions given in the annex are not followed, then the users of an evacuation lift during the evacuation may be exposed to dangers.

Further guidance and collaboration between all parties involved will be needed to overcome these challenges.

THE SOCIETY OF VERTICAL TRANSPORTATION

SoVT
Society of Vertical Transportation

Michael Bottomley, Chair of CIBSE Lifts Group says Goodbye to the Lifts Group and Hello to an exciting new chapter with the SoVT

In the early 1990s when Peter Day of Land Securities put together a group of people with an interest in lifts, I wonder if he foresaw that thirty-five years later some of his volunteers would still be part of that group. Well, it is hard to say because it is a long time ago, long enough for human memory to lapse the full detail of events, and CIBSE apparently has no record of them either. One of those volunteers, however, were she here today, would no doubt have been able to put her academic rigour to good use and set us all straight. I refer, of course, to the late Dr Gina Barney who was part of the team that produced the first edition of CIBSE Guide D and sometime between 1995 and 2000 became the driving force of the CIBSE special interest Lifts Group.

By the mid 2000s Gina took over Guide D and irrespective of the appointment of officers with apparent job descriptions, Gina took the actual role of Treasurer, Secretary, Chair and any other role that crossed her path. I mean no disrespect or criticism by those remarks. Her heart was in the right place and she had time on her hands to do it.

I was grateful for her support when I was Chair of the group from 2008-2011 and again as Treasurer in 2011-2014. When Gina asked me to take the chair again in 2021, I was flattered by the offer and agreed. A few weeks later she announced her medical prognosis to the group executive. Being an optimist, I did not think that a little thing like cancer could overcome Gina.

Not long before her death we began talking to CIBSE about developing the Group into a Society. In these early discussions we were very conscious that we did not want to change the ethos of the group and lose sight of everything that had already been achieved, but instead to build something that could make a real difference to the VT sector in the long term.

What happened next was the industry wide realisation of the implications of the Building Safety Regulations.

At a craft level the industry had become much more structured and regulated, but anyone could call themselves a Lift Consultant or even an Authorising Engineer for lifts. Something had to change.

Further meetings were arranged with a small group of the executive and CIBSE and after a series of discussions, agreement by the executive and membership of the group, and a lot of hard work from CIBSE staff, we are saying goodbye to the CIBSE special interest Lifts Group and hello to the Society of Vertical Transportation.

Is it however a case of "What's in a name?" I for one, think not.

How do you prove your competence in the Vertical Transport industry these days? If you are a craftsman, NVQs and other vocational qualifications are readily available thorough LEIA and other sources. For Designers and Managers etc, although there are generic qualifications in Mechanical and Electrical Engineering, but they do not offer any assurance that you can inspect a lift, or design a lift system, or carry out traffic studies, or traction calculations etc. In conjunction with CIBSE and the Engineering Council, the Society of Vertical Transportation will fill that gap.

The Lifts group has, for the last 30 years, been the backbone supporting CIBSE Guide D and now the Guide bears the name and logo of the Society of Vertical Transportation. Our ambition as a Society is to become the worldwide hub for VT technology and the education of VT professionals.

We will continue to hold CPD seminars across the UK and eventually abroad, whenever possible, free of charge to members and non-members alike. We will help educate, update, and mentor people who want to improve their knowledge and advance their skills and careers.

Now that we have a Membership Committee in place we will be able to begin processing applications to join the Society. In time we will expand our operations to other parts of the globe, when and as circumstances allow. Our aim is to be inclusive and welcome all stakeholders in the industry at any level. We can and will learn from each other's diverse experiences and by so doing, to help build a safer and more sustainable industry for the future.

So please join me in saying Goodbye to the CIBSE special interest Lifts Group and Hello to the Society of Vertical Transportation.

Register your interest to become a future member of the SoVT
https://go.cibse.org/l/698403/2025-07-15/bdjr88

FOLLOW us on

Keep up to date on our web site

There will be a webinair on 6th November between 12 and 1 - for more details scan the QR code below.

The launch of the Society of Vertical Transportation (SoVT) marks an exciting new chapter for the lift and escalator industry.The SoVT will serve as the professional home for all those shaping the future of lifts, escalators and vertical mobility.

The SoVT builds upon the legacy of the CIBSE Lifts Group, broadening its scope to better reflect the diverse challenges and opportunities of modern vertical transportation. Its mission is to provide a platform for knowledge sharing, professional development, and collaboration across the industry, while continuing to champion best practice, safety, and innovation.

Membership of the SoVT is open to anyone with a professional interest in lifts, escalators, and moving walks. By joining, members will gain access to technical guidance, events, and a network of experts shaping the future of our industry.

With Guide D - the authoritative reference for lift and escalator design - at the heart of its activities, the SoVT will be a hub for thought leadership and a trusted voice in the built environment.

For more information on joining the SoVT, please visit the CIBSE membership pages.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STUCK IN A LIFT SEASON 4

Stuck in a Lift just keeps going up (sorry) as season 4 started on October 10th

It's real talk, real people, real impact. And real insight into the life behind vertical transportation.

First on the blocks is the legend that is **Dave Cooper** talking about disabled access across London.

Following two weeks later will be all about the vital topic of mental health with three committee members from The Lift Industry Mental Health Charter - **Mark Harding** from Ascension Lifts, **Kevin Toomey** of Regal Elevators and **Jessica McDonnell** from J&L.

Next we have **Duncan Stone** and **Scott Francis** from MarCo Interiors Ltd discussing the latest lift interior trends.

And in future weeks:

Lee-Roy Rushforth, Technical Sales Director at PR Lift Equipment Ltd looking back on starting a business up in Covid.

Lee Hawley, Vertex VT Consultants talks about bugbears of the industry.

Lionel Hutt, Director at DAC brings along his bass guitar and speaks about Lift Components.

Ben Marmon, Recruitment Director at REClifts shared insights on spotting red and green flags on CVs, and even reveals a few risky hires he's crossed paths with along the way.

And there are more to come! If you would like to be stuck in a lift with Alice do get in touch

Tel: 0203-633-0711

Email: *info@blacksproductions.co.uk*

How to listen:

YouTube Link - *https://youtube.com/@blacksproductions_?feature=shared*

Spotify - *https://open.spotify.com/show/5NOet2KMK6n2kCyFsLz5Cx?si=1d0e1a7e64064890*

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STUCK in a LIFT

LIFT 109

Our editor, Pat, enjoys the view at the top, history at the bottom

Shortly after 10 am on a gloriously sunny September weekday I was 109m up on the top of a chimney with epic 360° views at the Battersea Power Station chimney lift experience.

Starting in the Power Station's huge Turbine Hall A we learned about the fascinating history of the iconic power station. Built in the 1930s and until the early 1980s, at its peak, it generated one fifth of London's power. The station is the largest brick building in Europe and notable for its original Art Deco interior fittings and decor.

Sir Giles Gilbert Scott - who also designed Waterloo Bridge and the red telephone box - was part of the build project. He subsequently designed another London power station, Bankside, which now houses Tate Modern art gallery.

Until the late 1930s, electricity was supplied by small power companies using widely differing standards of voltage and frequency. In 1925 Parliament decided that the power grid should be a single system with uniform standards and under public ownership. Several of the private power companies reacted to the proposal by forming the London Power Company (LPC). Their first very large station was planned for the Battersea area, capable of generating 400 megawatts of electricity when complete. The site was chosen for its proximity to the River Thames for cooling water and coal delivery. It consumed 1 million tonnes of coal a year.

In 1935 the first phase, Battersea A, was complete with its two newly built chimneys claiming the title of being the tallest in London. In a 1939 survey by The Architectural Review, a panel of celebrities ranked it as their second favourite modern building. During World War 2, RAF pilots used the prominent plumes of smoke and steam from Battersea Power Station's chimneys as a navigational aid to guide them home, especially through foggy conditions and during blackout conditions over London.

By 1955 the demand for power for London has grown, the second stage of the Power Station reached completion and with it came the addition of two more chimneys and a boiler house so vast that it would be possible to fit St Paul's Cathedral into the space, As it tells you on the steps up to Lift 109 an estimated 6 million bricks have been used to build the station.

"Battersea A" was decommissioned in 1975 with "Battersea B" shut three years later. The building remained empty until 2014, during which time it fell into near ruin. Various plans were made to make use of the building, but none was successful.

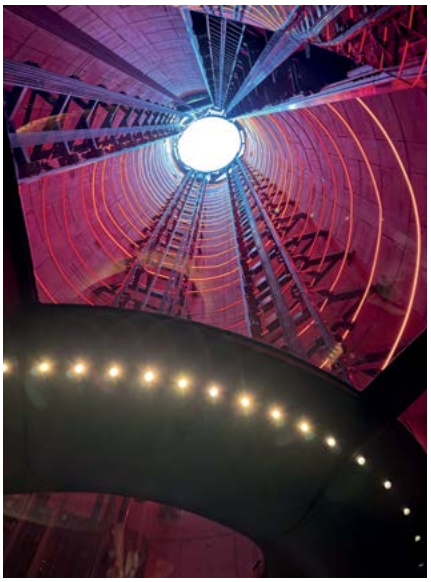
In 1983 the whole 42 acre site could have been bought for £1.3m – today a penthouse apartment would cost you £7 million.

Today Battersea Power Station is imaginatively repurposed into a fantastic retail and entertainment space, over 100 shops and restaurants, 46,000 square metres of office space occupied by Apple, 254 apartments, a cinema, green spaces, and a thrilling ride up one of its iconic chimneys.

After interactive displays and a 'normal' lift up 12 stories to the base of the chimney stack, 39 steps take you up to the circular glass elevator of Lift 109.

Constellations of light guide the way up the chimney until you pop out of the top to see London in 360° glory spread beneath your feet. It is an extraordinary feat of modern engineering, preserving the legacy of a wonderful iconic industrial building - and I highly recommend a visit.

The Battersea Power Station has provided us with a whole lot more than electricity, becoming a cultural icon after acting as a backdrop for an array of films, music videos, album covers and more. The cover photograph of Pink Floyd's 1977 album, Animals, shows the power station with an inflatable pink pig called Algie floating above it. It was tethered to one of the power station's southern chimneys but broke loose from its moorings and drifted into the flight path of Heathrow Airport, pilots spotting it at 30 thousand feet.



On 20 April 1964, a fire at the power station caused power failures throughout London, including at the BBC Television Centre, which was due to launch BBC2 that night; the launch was delayed until the following morning.

2

BBC

THE INTERVIEW

Troup Bywaters + Anders LLP (TB+A LLP) delivers high quality building services consultancy across the UK and Europe. With a laser focus on social responsibility and forging ethical partnerships, TB+A LLP provide flexible services to cover the whole life of a building. We caught up with Vertical Transportation Lead & Partner, James Fraser-Chalk, to find out more about the business and its vision for the future.

Let's start with a bit about you – tell me about your role and the stepping stones to get here?

I joined Troup Bywaters + Anders (TB+A) back in 2020 to head up the vertical transportation consultancy, but I began my career back in 2002 as an apprentice with Kone, which gave me a fantastic grounding in the industry with a full apprenticeship covering every department. In 2009 I moved to HSB, an engineering inspection company, as an Engineer Surveyor, which broadened my experience and gave me valuable insight into compliance and inspection. I found myself inspecting everything from theatres and tower cranes to escalators, window cleaning equipment and more. In 2016 I joined Focus FM as a consultant, which really developed my understanding of client-side challenges, and in 2020 I joined TB+A and have been developing the vertical transportation consultancy since. Each step has built on the last, giving me a solid mix of technical, consultancy and leadership experience, all within vertical transportation – I've never known anything else!

What led you to TB+A?

I've always wanted to push my career forward and eventually lead my own consultancy. When the opportunity came up at TB+A, it felt like the right place at the right time. My interview with James Campbell, who is now our Managing Partner, confirmed it – we shared the same vision.

TB+A gave me the platform to grow the vertical transportation consultancy within an already well-respected, multidisciplinary partnership. They're a lovey firm to work for, and we now have grown from a team of two to a team of seven, which is really great.

Can you give me a brief overview of TB+A – what do you do and which sectors do you cover?

TB+A is a high-performing building lifecycle engineering consultancy with offices across the UK and Europe. We work across all sectors, bringing together engineers, designers and specialist teams – from architectural lighting to facilities management – to deliver integrated solutions that benefit people and planet. There's around 300 of us across eight offices, and we are a one-stop shop for consultancy. My VT team are a small part of that.

With nearly 70 years' experience, our portfolio spans:

Commercial
Government
Healthcare
Education
Retail
Leisure
Residential

How does vertical transportation weave into your projects? Where does it come in the planning process?

There are two sides to it, new installation and modernisation, and each has its own process and journey. Vertical transportation plays a fundamental role in how a building operates for the people that inhabit it. Lifts and escalators influence everything from passenger flow, safety, energy efficiency and the overall user experience. That's why it's so important to bring VT in at the earliest planning stages of new installations – decisions about core layouts and traffic analysis can make or break a design. Our role is to make sure those considerations are integrated right from concept design, by designing solutions that are fit for today and adaptable for the future.

Tell me about the heart of TB+A – what underpins everything you do?

We have our three pillars: Growing People, Sustainability at Heart and Achieving Quality and Consistency which act as the north star for everything we do. There is a great emphasis on training leaders and bringing people through the business, which we are fantastic at, and we hold a platinum Investors in People accreditation, which we're really proud of. People are well looked after and supported through the business, with the opportunity for progression as our fundamental ethos. This starts with growing leaders who become custodians of the partnership until handing it over to the next generation, better than when they received it. Our values truly are upheld and run through everything we do.

What does success mean to you at TB+A?

It means going beyond the minimum and delivering projects that truly meet and exceed client expectations, while growing our people to be the best they can be.

We have a great emphasis on sustainability, throughout the organisation, so we're always looking for the most energy efficient designs and solutions to reduce energy consumption for the building, and have a minimum impact on the environment. We also have a keen eye on our supply chain, always looking for those that have the same values.

It's equally rewarding to see a project come to life as it is to see my team grow, take ownership, and achieve their own career goals. If we're delivering excellence for clients and nurturing talent at the same time, that's real success. We've had people join us each year, but no one has left our team, which speaks volumes.

How do you involve your staff and your customers in your vision?

Communication and recognition are key. This includes translating the bigger picture, so they know their purpose. It's important to celebrate wins, no matter how small – whether through formal reviews, team shout-outs, or just taking the time to say thank you. We have a great team, with wonderful camaraderie, and encouraging and developing them is key. An afternoon out in the sunshine always goes down well too! We also keep clients closely engaged throughout the process, so they feel part of the journey, not just the end result.

Can you tell me about a project that really stands out for you?

As much as I enjoy the larger projects where TB+A are involved throughout all the RIBA stages for new installations and modernising older installations, there's a great deal of satisfaction that comes from the smaller projects, and giving lifts and escalators a new lease of life.

I have a fond memory of a small job I worked on some years ago when I first started out in consultancy. I completed an annual maintenance audit of a goods lift in London and noticed the ropes were cutting through the main drive sheave and the ropes had extensive crown wear. After some conversations with the client and contractor, I found the ropes and sheave were only replaced three years before.

I asked the contractor to weigh the car and counterweight. Once I had that information, we found out that the lift was only out of balance by 16% and was causing rope slip under certain load conditions. I then calculated the specific rope pressure for the undercut 'U' groove and discovered that it exceeded the maximum permissible limit. We also discovered that the main drive sheave pitch was not compatible with the divertor sheaves.

To resolve the situation weights were added to the counterweight to correctly balance the lift, compensation chains were added to increase the traction, the undercut angle of the replacement sheave was changed along with the pitch, the buffers were replaced, and various other calculations were undertaken by the contractor to confirm that adding the weight to the counterweight was ok.

Once all of the works were complete, the lift was tested and the ropes didn't cut through the sheave again, at least not in three years anyway! I have always enjoyed solving problems and it was great to find the solution to a problem and work alongside the contractor to resolve the issue for the client.

What's next for TB+A? What are the plans for the next year?

We've grown quite quickly as a consultancy over the past five years, and the next year is about growing at a sustainable pace, alongside continuous improvement. We're looking to expand our vertical transportation consultancy further, find good people who want to stick around, and work on enjoyable projects with clients that we like working with.

Sustainability will remain a key focus – helping clients reduce energy use and embrace smarter technologies.

We'll also continue to invest in our people, because they're at the heart of our success. We've got ambitious milestones to hit, but the journey is about working towards our shared vision, so that we can continue creating lasting value for both our clients and team.

What were some of your takeaways from the Lift and Escalator Symposium?

It's been coming for some time now, but it was a pleasure to be present during the launch of the Society of Vertical Transportation. It's an exciting time to be working in the industry and as a Society, I think we will really drive progress and collaboration throughout our industry, not only in the UK but globally.

All the papers presented were excellent but Rory Smith's (Electromagnetic compatibility and why it is often ineffective) and Tim Ebeling's (Identifying and addressing the causes of excessive wear in lift suspension means through rope load analysis) papers were real standouts for me and had a number of points in them that myself and the team found very interesting and will take away and use in the practical element of our day to day surveys for our clients.

I also liked Lutfi Al-Sharif's presentation on machine learning to estimate the traffic mix in buildings using the stops data. His energy and passion for the subject was infectious.

Will this shape or inform the direction you'll take over the next year?

Absolutely, the release of EN81-76 will shape the way we all have to consider life safety and evacuation in buildings as we move through this transition period.

The presentation of the Standard and subsequent discussion raised a number of challenges that the industry as a whole will have the navigate and collaborate on going forwards. TB+A in our role as VT consultants will now have to digest this information and work with multiple parties to allow for the successful implementation of this standard into the market, along with making sure that the way the evacuation lift interfaces with the rest of the building is correct.

Any final reflections on the Symposium?

It's the first time that TB+A have attended the Lift and Escalator Symposium as a team and we will certainly be coming back. It was fantastic to mix with everyone who attended and great to catch up with old acquaintances. The papers being presented enable us to maintain continuous development and stay abreast of all of the latest innovations available on the market which benefits the team but ultimately will benefit our clients as well.

It's so great to learn more about TB+A and their focus on training our leaders of the future, as well as some thoughts on the Symposium. Thank you to James for taking the time to talk with us.

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CELEBRATING 50 YEARS 1975 - 2025

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50 YEARS STRONG: A FAMILY'S PERSPECTIVE ON LEGACY AND LEADERSHIP

As ILE celebrates its 50th anniversary, the occasion is more than a business milestone — it's a reflection of the vision, perseverance, and community spirit that carried it through five decades. To mark the event, we sat down with Janet Lycett, whose perspective offers a deeply personal view of the company's journey. From the earliest days of her husband's vision to the legacy now carried forward, she shares stories, insights, and reflections that bring the company's history to life.

Q: THIS IS SUCH A REMARKABLE MILESTONE. WHEN YOU LOOK BACK, WHAT ARE YOUR EARLIEST MEMORIES OF THE COMPANY?

I remember Derek always being excited by the post arriving. Orders in those days came by mail and he used to announce to our small group of employees when we were sent new orders. We'd then wait for the second post to give us more work to do. In those days we were trading in Rotherhithe, and Derek and I used to drive the fifteen miles from Chingford every day. The traffic was so much lighter then. One of our employees would drive from Essex and pick up six members of staff on the way, so Derek bought him a seven-seater Peugeot car to help everyone get to work.

Also, we all used to go to the same pub for lunch. I think we all felt like a close-knit group, as we were such a small company and everyone helped each other.

Q: HOW DID YOU AND YOUR HUSBAND FIRST TALK ABOUT THE BUSINESS WHEN IT WAS JUST STARTING OUT? DID YOU EVER IMAGINE IT WOULD STILL BE THRIVING 50 YEARS LATER?

Derek had been made redundant in a previous job, and he vowed that it would never happen to him again. He wanted his own business so he could control his own destiny, and he employed his friends to help him create a team. At the time, I don't think either of us could imagine the company trading for 50 years, but we began with such a strong belief that we'd be successful that it just gradually

became true. We were young, of course, and had a young family. The future of the company was often something we thought about on a week-by-week basis. However, as Derek grew in confidence, so did the business.

Q: YOU'VE SEEN THE COMPANY GROW FROM THE SIDELINES, AND SOMETIMES RIGHT IN THE MIDDLE OF IT. WHAT ROLE DID YOU PLAY IN SUPPORTING THE JOURNEY?

Initially, I was Bob Deevy's secretary. Bob and Derek were 50/50 partners and Derek thought that it would be more productive if I worked with Bob. I had a secretarial background, and Bob loved long letters - so my short-hand skills were very useful! Eventually, as Bob left to form Thames Valley Controls, I moved to instead run the business accounts. I also became the informal HR department which allowed me to support team members where needed.

Q: WHAT WERE SOME OF THE TOUGHEST CHALLENGES YOU REMEMBER DURING THOSE EARLY DECADES, AND HOW DID YOU BOTH GET THROUGH THEM?

It was very difficult to learn all you needed to know to run a business. We'd often learn things by speaking to friends. There was no Google to make things easy for us, so we'd sometimes find help in strange places. I remember that we had a visit from HMRC in our first year of trading, and the inspector asked to see our P60s. I explained that not only did we not have them, but I also did not know what they were. We ended up having just enough time to produce them, and the inspector stayed and helped me to create the number required.

The biggest challenge was always finding staff that you could rely on. Derek was very good at finding supply partners, but he relied heavily on me to offer insights and feedback on the team.

Q: THE CULTURE OF A COMPANY OFTEN REFLECTS ITS FOUNDER. IN WHAT WAYS DO YOU SEE DEREK'S PERSONALITY AND VALUES STILL ALIVE IN THE BUSINESS TODAY?

Derek's personality has been kept alive through our three children, who have all shaped ILE's identity today. Peter is no longer with us, but he was imaginative and very technical just as Derek was. Nancy is the leader who works hard to keep the team pulling together, and Simon is reliable and thorough in his support of all our employees through careful administration of ILE statutory obligations.

Q: THINKING ABOUT MILESTONES, ARE THERE PARTICULAR TURNING POINTS OR ACHIEVEMENTS THAT STAND OUT TO YOU FROM 50 YEARS OF ILE?

It was a big moment for ILE when Derek obtained the distribution rights for GAL in 1985. He'd predicted it would be well received when introducing it to the London council market, and he was right.

Another key milestone was when ILE began manufacturing in Leicester. Derek had bought a small fabrication company and started making doors to pair with GAL imports, controllers, cabins, and rafts.

Today, ILE has 70 employees working in Leicester, and our London site has moved from Rotherhithe to Chingford to avoid the worsening traffic. We've been lucky to find loyal, local people to join our team at every stage of our business growth.

Q: BEYOND YOUR FAMILY, THIS COMPANY HAS TOUCHED MANY PEOPLE. HOW HAVE YOU SEEN ILE IMPACT EMPLOYEES, CLIENTS, OR THE COMMUNITY OVER THE YEARS?

We now have 100 employees, many who have worked with us for more than 20 years - some even 30 years or longer. I think that as a family business we have never moved away from wanting to help our team reach their potential. We have been fair to suppliers, always paying promptly, while treating customers with flexibility when they have needed it. We are a listening company, and I believe that's something that makes us unique.

Q: ALL OF YOUR CHILDREN BECAME INVOLVED IN THE BUSINESS OVER THE YEARS. WHAT HAS IT MEANT TO YOU TO SEE THEM CARRY FORWARD THEIR FATHER'S VISION?

It's been great to see them all grow in their respective roles. I think they all joined ILE for different reasons and have had their fair share of challenges, but I also believe that all three have found success and happiness working in the business.

Q: YOUR DAUGHTER HAS NOW STEPPED INTO THE ROLE OF MANAGING DIRECTOR. HOW PROUD ARE YOU OF HER, AND WHAT ADVICE HAVE YOU SHARED WITH HER AS SHE LEADS THE COMPANY INTO THE FUTURE, ESPECIALLY IN A MALE DOMINATED INDUSTRY?

I think the good thing about today is that there is a much healthier understanding of what women are good at. Nancy is a clever woman who has worked enormously hard to lead the company. It is not easy to hold so much responsibility, and I know that she is very much helped by the people around her – including her brother Simon and the members of the senior leadership team. Everyone has different skills and are happy to take on responsibility. Derek always had the support of his team; first Bob Deevy, and then Bob Randall and our son Peter. It is hard to be successful on your own. Nancy makes countless decisions every day, but most of the tough ones are shared with her senior management.

Q: AS YOU CELEBRATE THE HALF-CENTURY MARK, WHAT DOES THIS MILESTONE MEAN TO YOU PERSONALLY?

I still come in to the office most days. I enjoy seeing everyone and I have known so many of the staff for so many years that they have become friends. I am proud of my family who have stayed loyal to each other and reached this incredible milestone together.

Family businesses can cause division, but if anything my children have grown much closer from having worked together.

I wish that Derek could have seen just how much ILE has achieved in its 50 years. I am sure he would also be immensely proud.

Q: LOOKING AHEAD, WHAT ADVICE WOULD YOU GIVE THE CURRENT LEADERSHIP AS THEY CARRY THE COMPANY INTO THE NEXT 50 YEARS?

There are many challenges today which Derek would never have experienced. There is fierce competition, and work can chase you at all hours with emails and mobiles. It is important to remember that we are a team, and we all retain the values of our founder. Our current team share a strong sense of ILE being about quality and support. I believe that is what Derek wanted to build, and it is no less true today.

Q: FINALLY, WHEN PEOPLE THINK OF DEREK'S VISION AND LEGACY, WHAT DO YOU HOPE THEY REMEMBER MOST?

I hope that they remember that work can – and should be – fun. My husband and his son Peter went to work with friends, and sold to more friends. The supply chain they constructed meant international friendships. When we go to work, we do something that makes us feel proud of ourselves and of those around us. That says everything about the old and the new ILE.

CLOSING REFLECTION

As ILE looks toward its next chapter, the stories shared by Janet Lycett remind us that success is built not only on strategy and innovation, but also on values, resilience, and family support. Her words bring to life the heart behind the business — a heart that has carried it through half a century and continues to inspire the generations that follow.

From October 2025, Virgin Media O2 (VMO2) will withdraw inbound roaming access to its 2G network. While the change may sound like a technical adjustment, the consequences for lift emergency communications could be significant. The experts at Memco give an overview.

O2 2G ROAMING SWITCH-OFF: A HIDDEN RISK FOR LIFT ALARMS

WHAT'S CHANGING?

Currently, many lift alarms rely on roaming SIMs that automatically connect to whichever network has the strongest signal. With 3G already switched off across the UK, these devices have been surviving by falling back to 2G. From October, however, if the SIM is not a VMO2-issued card, it will no longer be able to roam onto the VMO2 2G network.

This means that lift alarms using 2G or 3G gateways could lose their ability to connect in certain areas, creating a direct risk to passenger safety and compliance with LOLER requirements.

NOT JUST AN O2 ISSUE

Even if a building's contract is with EE, Vodafone, or Three, many systems still roam onto VMO2's 2G infrastructure where signal strength demands it. While the other operators have not yet announced shutdown dates, the direction of travel is clear: 2G is being phased out across Europe, with countries such as Australia and Switzerland already fully retired, and France and Spain planning closures from 2025.

Ofcom has confirmed that UK operators will retire both 2G and 3G by 2033, but coverage reductions and roaming restrictions are already in play. Facilities managers should treat this autumn's VMO2 change as an early warning sign.

PRACTICAL RISKS

For lifts still relying on 2G:

- **Best case:** degraded call quality, dropped connections, or longer connection times.
- **Worst case:** a total loss of alarm functionality.

Matthew Davies from ***MEMCO by AVIRE*** adds, "Already, we have engineers reporting increased low-signal alerts in cities including Glasgow, Birmingham, and Liverpool, suggesting the impact is starting to be felt."

COMMON MISCONCEPTIONS

- **"It's a 4G device, so it's safe."** Not always. Unless configured to run in 4G-only mode, many gateways still fall back to 2G when signals weaken. That fallback will soon stop working.
- **"Any 4G gateway will do."** Some low-cost models lack essential features such as battery backup. During a power outage, often the very time lift alarms are needed, these systems will fail.
- **"Roaming SIMs are future-proof."** Not if they are configured to prioritise 2G. Facilities managers should confirm their SIMs are non-steered and capable of full 4G roaming across all networks.

FUTURE-PROOFING LIFT ALARMS

To safeguard compliance and passenger safety, facilities managers should:

1. **Audit their portfolio** – Identify which devices are 2G, 3G, or 4G, and confirm whether they are locked to 4G-only operation.
2. **Check SIMs** – Ensure SIMs support full 4G roaming and do not prioritise legacy networks.
3. **Upgrade hardware** – Move to 4G gateways with battery backup to maintain alarm functionality during power cuts.
4. **Consider managed services** – Solutions such as MEMCO by AVIRE's ***SENTINEL*** package provide equipment upgrades, remote monitoring, SIM updates, and proactive battery replacements, reducing both operational risk and cost surprises.

ACT NOW

Waiting for a LOLER inspection or tenant complaint to reveal a failed alarm could leave facilities teams scrambling for engineers and replacements at short notice. Acting early allows better planning, smoother upgrades, and reduced risk.

With VMO2's changes taking effect this October, the message is clear: **the time to modernise lift emergency communications is now.**

Acting early allows better planning, smoother upgrades, and reduced risk.

Platform Lift

Spare Parts

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The UK's leading independent supplier and installer of platform lifts, designed to suit both modern and traditional spaces.

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PLATFORM LIFT COMPANY

EST. 2001

A LIFE IN THE DAY

PLATFORM LIFT COMPANY
EST. 2001

The UK's leading independent supplier and installer of platform lifts, The Platform Lift Company was established in 2001. Proudly family-run, with a passion for facilitating disabled access, they are committed to delivering trusted platform lift solutions, while truly investing in their teams. We met with Managing Director, Sean O'Sullivan, to find out more about life at The Platform Lift Company.

FIRSTLY, COULD YOU SHARE A LITTLE ABOUT YOUR ROLE AND DAY TO DAY FOCUS?

Every day when I come in, the first thing I do is talk to our employees. We've got a dynamic and ambitious staff base, and I think it's important to floor walk and make sure everyone's happy in their role here as well as at home. It's vital to me that everyone can bring their best self to work, and that means caring about the whole person – what's going on in their family life as well as at work. I also connect with the senior managers and work on the business plan daily.

WHAT'S THE HIGHLIGHT OF YOUR ROLE?

We started 25 years ago, and the highlight of my role now is working with our young managers. They're the next generation of this business, and my role is to help them develop, to push the business to the next level. We've doubled our turnover to £8 million this year, and there is so much potential for growth. It's important to be forward-thinking, never be complacent and always look for new growth, new potential and the latest technology, to stay one step ahead of our competitors.

WHAT SETS YOU APART AT THE PLATFORM LIFT COMPANY?

We do what it says on the tin! We specialise in one area – platform lifts – so our skillsets are only within this specialism. This means we can go to site and fix first-time-every-time. Also, everything is inhouse, we have our own sales team, surveyors, engineers and transport, so we manage the whole process to the same level, with the same knowledge base.

Our customer satisfaction surveys make sure we are constantly looking at ways of improving our service and making the whole process as simple and smooth as possible.

We are always looking for modern technology; we're a paperless company, we power our office using solar energy and we run a scheme through Evertreen – for every lift we sell, we plant a tree, which is amazing for the schools and universities we work with, especially. I want the next generation to see our forest in Madagascar grow – which you can actually do! We can track our Platform Lift Company forest, allowing everyone to see the progress of the trees planted and stay connected to the project. We're always looking to enrich the lives and the world of our next generation.

IS THERE ANYTHING EXCITING THAT YOU'RE WORKING ON AT THE MOMENT?

Around two years ago, I bought 1975 Porsche Targa as a restoration project, and was using Europarts to help with sourcing parts, which sparked an idea. I thought that if this system worked for cars, why not lifts? We were fortunate to have a connection that built ecommerce sites, so we developed a site for platform lift parts, as well as a technical library of schematics, blueprints, detailed operating manuals for various manufacturers and a library of instructional videos demonstrating how to fix and maintain different parts. We also have a WhatsApp contact facility so if you can't find the solution on our site, we can help direct. In addition to all this, we're using AI technology to provide customers with instant answers to their questions and the ability to track their orders, making it easier and faster to get the information they need. We wanted our customers to have immediate access to fixes and parts, so we've teamed up with DHL, who have 3500 service centres around the country, so if our customers order something, it's with them onsite the next morning.

We launched it in April 2024 and we think it'll be the biggest area of growth in the next 10 years, it's such an exciting part of the business. It's a global site, so we're having an impact and helping customers across the world.

HOW IMPORTANT IS IT TO DEVELOP A GREAT STAFF CULTURE AT PLC?

We're a true family-run business, and I want the whole company to feel like part of that family. I've got four boys and they all work here – all in different departments! They have been through all the roles – from engineering to packing parts – and have seen every element of the business. There's a real culture of teamwork here, and we make sure we spend time socialising as well as working. We've been to the horse races, we have a beer fridge for Friday drinks and it's so rewarding to see the brilliant camaraderie, I love to nurture and encourage that within our teams. Our staff spend a lot of time together outside of work – we love our socials!

AT THE END OF A BUSY DAY, WHERE'S THE PLACE YOU LOVE TO ESCAPE TO?

I've got four acres of land and a smallholding, and my aspiration is to develop that. I've got two donkeys, Winston and Churchill, and I love working on the land – headphones in, wellies on and forget about the world. I find it so relaxing.

WHAT'S YOUR FAVOURITE SWEET TREAT AND WHY?

Turkish Delight – one of my sons will buy me a whole load of Turkish Delight for Christmas and I know no one else will eat it, because no one else likes it! I could leave it anywhere, and even the dogs and donkeys won't touch it!

IF I GAVE YOU A CRISP £10 NOTE RIGHT NOW, WHAT WOULD YOU DO WITH IT?

I'd go up to Asda and buy cakes and doughnuts and put them on the social desk at work, which is always full of food and drink, and let everyone enjoy them.

Keeping our staff happy is a top priority for me – if you've got happy staff, you've got a great business.

TELL US ABOUT A PROJECT THAT STICKS IN YOUR MIND, FROM YEARS PAST.

We took out some old wooden lifts at Oxford University that were hand-pulled, probably installed around the 1800s. They were on wooden guides, with wooden cars, and were rope-pulled. To see the engineering on them was fascinating, and the way they'd been worn down in specific places from constant use was just incredible. It was a crying shame that we had to take them out and put new technology in there! But we had to upgrade them and give them the new technology they required that served their needs. I really wanted to take them out in one piece and restore them, but unfortunately there was no way we could salvage them. I just love old technology, you can't replace it.

We've also done a pure gold lift, which looked amazing!

A fascinating insight into The Platform Lift Company's ethos and exciting plans for the future. Thank you to Sean for sharing his life in a day with us.

LIFT & ESCALATOR SYMPOSIUM

16TH SYMPOSIUM ON LIFT & ESCALATOR TECHNOLOGIES

24 - 25 September 2025

Kettering Park Hotel

www.liftsymposium.org

University of Northampton

Lift and Escalator Industry Association LEIA

CIBSE Lifts Group

IOT, INTELLIGENT BUILDINGS - AND PEOPLE IRL* * IN REAL LIFE

All of these were found at the 16th Lift & Escalator Symposium which took place at the Kettering Hotel & Spa on 24th and 25th September.

It was wonderful to welcome many old friends and new amongst the 130 delegates and conversations were wide, varied and frequently challenging across the two days.

After a warm welcome by Dave Cooper, Richard Goldsbrough, Director of Membership for CIBSE launched the SoVT (Society of Vertical Transportation), an exciting new chapter for all who work in VT. You can read more about the SoVT on page 26.

Mike Burton, Director, Building Engineering, Office Sector Lead, AECOM, UK gave a challenging and fascinating keynote presentation on the Future Office. The modern workplace is undergoing a dramatic transformation, driven by technological advancements, shifting employee expectations, and evolving business strategies. The presentation explored the key trends shaping the future of work and considers what lies ahead. Read more about Mike's presentation on page 52.

The first session, chaired by Adam Scott, focused on Safety and Maintenance. Sadly, our first speaker was unable to be at LES so Dave Cooper presented Antony Andon's paper on why escalators require safety gear similar to lifts - without a parachute! Mr. Andon's research advocates for making auxiliary brakes mandatory across all escalators. By equipping escalators with safety mechanisms like those in passenger lifts, a secondary system can effectively prevent accidents, significantly enhancing passenger safety.

C.Oktay Azeloglu from Doğuş University in Turkey then presented a statistical investigation of elevator damages after large earthquakes in Turkey, recommending which components should be focused on in elevator design for earthquakes and the points to be considered in elevator design for seismic tests.

The session was closed off by Pavel Kotek, Lift Sales Director at 2N. The arrival of EN81:76 as a published and applicable new lift standard and the need for implementation of evacuation communications to new and/or modernised lifts is a new challenge for lift companies and extends their responsibilities beyond lift operation. Pavel explored the topic of evacuation communications in terms of available communication technology, options and considerations with the goal of providing some foundation for the selection and application of effective solutions.

Nick Mellor looks at BSEN 81:76 in more detail on page 24.

After lunch Nick Mellor chaired a session on Engineering.

A well-known face at LES, Rory Smith talked about Electromagnetic Compatibility (EMC) and why it is often ineffective. In theory, meeting the global standards for Emissions and Immunity protects a lift or escalator from electromagnetic interference (EMI) caused by outside sources and protects other equipment in a building by limiting the emissions generated by the vertical transportation equipment. The reality can be somewhat different.

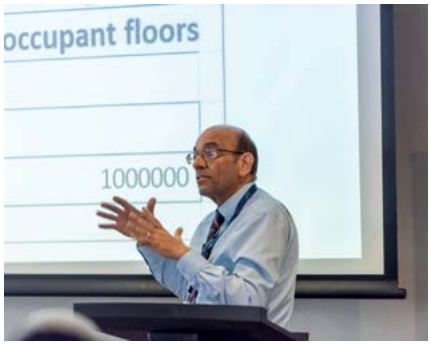
Tim Ebeling, Head of Development within Henning GmbH & Co KG presented real-world measurements of rope tensions and demonstrated how simple calculations and considerations can help derive effective measures to improve the performance and longevity of lift systems. Excessive wear on suspension means in lifts, particularly in machine-room-less (MRL) systems, has become a growing concern in recent years.

You can read his paper in the Knowledge Bank on page 66.

Stefan Vöth from Technische Hochschule Georg Agricola, BochumLift presented a paper on lift buffer forces under unfavourable collision conditions.

Stefan Kaczmarczyk then shared his expertise in applied dynamics and vibration with particular applications to VT and material handling systems with a paper on dynamic rope loads and traction ratios under adverse lift operating conditions.

Day 1 proceedings concluded with Len Halsey chairing a session on Design.



Lutfi Al-Sharif, a name well known in the industry, presented a paper on using machine learning to estimate the traffic mix in a building from the stops data. The paper built on previous work that has established that the average number of up stops and down stops in a building during a round trip, as well as the ratio between them, could be used to estimate the mix of traffic prevailing in the building and its intensity.

Richard Peters of Peters Research Ltd finished the day with an energetic presentation titled 80%: Lift traffic design's most misunderstood number. He referred back to his sparring partner on this subject, the late Dr Gina Barney and their frequent disagreements on this critical number that is widely used in lift traffic design.

Day 2 opened on the very topical subject of IoT, the past, the present and the future.

We began with looking back in the past when Dave Cooper presented the life of Howard Marryat (1871-1944) who founded Marryat & Place at the age of 20 and Marryat & Scott in 1919 which went on to become one of the most successful lift companies in the world and now owned by KONE.

Matt Davies, Business Development Manager for digital products and services at Memco (a brand of Avire) was up next with a case study detailing the migration of 1100 lift alarms, owned by a major hotel chain, from obsolete PSTN telephone lines to a managed service.

Next up in proceedings was the panel discussion on Intelligent Buildings and Maintenance. Rory Soth as the chair had assembled a world beating line up **- read all about it on page 54.**

After lunch we carried on in the world of IoT, chaired by Richard peters. Matthew Appleby, a software engineer with Peters Research set the bar high with an animated presentation that examined the application of AI across five core areas: dispatching, preventive maintenance, traffic pattern recognition, expert design, and system modelling.

Begum Avdagic and Gemma Moore from Dewhurst then gave a paper on the potential of Digital Out-of-Home advertising in the lift industry. DOOH advertising has changed the face of traditional advertising by turning public places into digital media displays.

A vivid application of this is in the lift industry, where confined spaces are perfect for targeted marketing. Begum and Gemma examined DOOH advertising in lifts, namely its adoption, benefits and challenges by making use of the results of market research and a targeted survey of industry stakeholders, ending actionable recommendations for

advertisers and lift operators stressing the versatility of lifts as dynamic media for brand communication in the changing DOOH field.

Their excellent presentation was awarded The Dr Gina Barney Emerging Excellence Award for Vertical Transportation for 2025. The award aims to acknowledge individuals who have demonstrated exceptional promise and dedication to advancing knowledge in the vertical transportation sector. Huge congratulations to the team at Dewhurst.

You can read their paper in the Knowledge Bank on page 58.

José María Compagni Morales and Jose Compagni Aycart from DOCENSAS SLU in Spain discussed e-learning training applied to the construction sector, with a specific focus on the lift industry.

Next up was John Koshak, visiting from eMCP in the USA. John used his vast experience to present on the tremendous equipment improvements electronic maintenance control programs and IoT can provide, tailoring maintenance to legitimate demand for performance of maintenance tasks. A particularly relevant paper following on from the earlier panel discussion.

Our final speaker was Daan Smans, President Business Development for IoT and Digital Products at CEDES AG of Switzerland with a paper that explored an alternative approach to the major players proprietary IoT systems: enabling innovation through an IoT platform that operates alongside the lift controller without modifying the certified safety chain.

The system architecture uses retrofittable, hardware-agnostic edge devices to monitor door activity and passenger movement, communicating via standard interfaces such as Ethernet or LTE. By decoupling innovation from the core controller, it offers a scalable path towards greater openness and faster adoption of new technologies across the industry.

That concluded an excellent two days, stimulating, challenging and educational. Thank you to all the speakers and contributors to the papers, so much work goes in to the presentations and it is very much appreciated.

A big thank you to all the exhibitors: CEDES, CE Electronics, CPA Automation, DAC, Global1 Partners Lester Controls, Sassi Lift Systems and Thames Valley Controls.

And thank to all who attended for being part of another excellent Lift and Escalator Symposium - see you next year!


LIFT REMOTE
MONITORING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LIFT SYSTEMS
"Taking your business to the next level"
MADE IN ITALY


Lester
CONTROLS


Keeping your lift running
CPA


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GENESIS
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Control Evolution
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CEDES
Predict. Protect. Perform.

THE FUTURE OFFICE

A MAGNET OR A MANDATE?

Mike Burton, the Office Sector lead for AECOM UK is helping to create the next generation of sustainable, healthy and smart offices. With over 30 years in sustainable building design Mike has helped deliver some of the UK's most important new and refurbished offices including the BBC's iconic broadcasting house and the White Collar factory.

The modern workplace is undergoing a dramatic transformation, driven by technological advancements, shifting employee expectations, and evolving business strategies. Mike's presentation explored the key trends shaping the future of work and considers what lies ahead.

London's empty office space hits highest level in more than 15 years according to real-estate data and information company CoStar. That's the equivalent of about 60 Gherkin skyscrapers.

Photo by D.K Ta on Unsplash

Post pandemic, half of all office space is empty. But rents are increasing. Grade A space is in demand, Grade B & C not wanted - old offices are noisy, unflexible and energy hungry. Travel costs and energy bills are through the roof.

In 2020 67% of the workforce were in the office 5 days a week post Covid... by 2025

- 40% of UK British people work from home at least some of the time (hybrid or full-time remote)
- 14% of UK workers currently work exclusively from home
- 40% employers now require staff to work from the office 5 days a week
- 62% CEOs believe everybody will be working from the office in 2027

Yet, according to a survey by consultancy Advanced Workplace Associates, less than half of workers in the UK's banking sector go into the office on an average day, and less than a fifth of insurance sector employees do so.

More is needed in the office environment to entice people back into the built environment.

We can borrow from other sectors - the domestication of the office, a hotel, a lifestyle choice, social interaction.

We can learn from overseas. Australia was the one of the first countries to embrace workplace change around 2007-2010, introducing large open contiguous floorplates, ease of space

planning, open stairs connecting floors internally, outdoor terraces and direct external views for orientation.

Examples of this workplace change can be seen at the White Collar Factory [in London,] which won the BCO National award for innovation in 2018 and then the Test of Time award in 2023.

It has become a trademark for a building type that combines the efficiencies of a new build with the character of a 19th century warehouse. The project began as a 20-year research collaboration aiming to create the ideal 21st-century office, culminating in the completion of the central 16-storey tower in 2017 and surrounding campus buildings.

Located just off Old Streets's iconic Silicon roundabout, it is a feel-good space, featuring long spans, flexible floor plates - simple, stripped-back spaces with high ceilings and openable windows, offering tenants flexibility and control over their environment. It is designed with intuitive smart features such as intra concrete water that naturally cools the ventilation, an energy saving traffic light system that recommends the optimum time to open and close the windows. It has outdoor space, a 150m rooftop running track, a dedicated games room and a bar. It is BREEAM Outstanding, WiredScore platinum and WELL Platinum.

In short, it is a pleasant working environment where users can work, play and unwind.

Mike provided many more inspiring examples of how the office sector is adapting to make sure the office is somewhere people do want to return to, challenging us to change our thinking of what an office looks and feels like.

BIOGRAPHICAL DETAILS

With over 30 years' experience in sustainable building design, Mike has helped to deliver some of UKs most important new and refurbished offices along with offices in Europe and the Middle East. These include the BBC's iconic Broadcasting House; the White Collar Factory, refurbishing the United Nations Geneva, and Schroders elegant Global HQ, as well as speculative high-quality offices for developers including Derwent, Landsec & Brookfield.

Mike is the Office Sector lead for AECOM UK and is currently helping to create the next generation of sustainable, healthy and smart offices working with British Land in Canada Water, CO-RE in the West end, and the City of London's Salisbury Square.

Mike has contributed to 2023 RIBA book Reworking the Workplace, is co-author for the RIBA book Next Generation Office Design, has also contributed to the 2014 & 2019 BCO Guides and wrote chapters for the 2025 BCO Fit Out Guide.

Mike is a winning team member of BCO Office of the Future, BCO inspirational leader finalist and awarded in 2022 CIBSE Building Performance Engineer of the Year for his outstanding contribution to sustainable design.

Mike is also a BCO NextGen Mentor, CIBSE Mentor and a proud winner of the WICE Mentor of the Year. Mike is a Fellow of The Chartered Institute of Building Services Engineers (CIBSE), Vice president and Trustee of CIBSE, and past Board member of the BCO.

In 2023 Mike was awarded an Honorary Fellowship of RIBA. The RIBA said Mike is 'known for high standards in sustainability and architectural quality, dedicated particularly to improving the industry, he volunteers as a mentor, and has been awarded for supporting women working within construction and engineering'

Mike is an Honorary Professor of Engineering in the School of Architecture & Built Environment, University of Nottingham and a visiting professor at University of Leeds School of Civil Engineering.

And he supports Crystal Palace.

At Cundall's One Carter Lane office, potted plants serve as tools for collecting data to optimise employee health. Their experiments with plants contributed to air purification efforts and helped them become Europe's first WELL Certified office in 2016. The certification process also provided insights into water quality, nutrition, and lighting improvements. These initiatives, combined with biophilic design and ergonomic furniture, have attracted more visitors and clients while enhancing wellbeing for staff and guests.

PANEL DISCUSSION
INTELLIGENT BUILDINGS AND MAINTENANCE

A panel of experts from around the world gave the benefit of their collective knowledge and experience in a dive into the ways they are approaching lift maintenance in intelligent buildings.

THE PANEL
Jeff Buntin, TKE
Tim Ebeling, Henning
Anne Kuchly, Otis
Stuart Garcia, SafeLine
Philip Hofer, Jardine Schindler
Jussi-Pekka Asikainen, KONE
Tijmon Molema, Liftinstituut
Patrick Bass, CEDES

As Stuart Garcia of Safeline said: **The Future is Now**. Intelligent buildings use data and technology to improve how we manage and experience physical spaces, transforming the built environment through smart solutions.

AI and the IoT are dramatically affecting lifts today, complex lift maintenance is being transformed into a straightforward proactive process making operations easier and more reliable.

Jeff Buntin, Global Digital Operations Lead at TKE talked about the importance of governance and structure around data. The top investment priority should be data integration, too much data is silo-ed and not shared. Sharing data encourages innovation and collaboration. Clean, standardised, and accurate data reduces noise and bias in AI models and common standards allowing AI solutions to scale across departments.

The recommendation was to future proof AI developments and solutions, breaking down silos to consolidate into a single source of truth for analytics and AI development.

One challenge is how to get your workforce to use AI tools. Jeff's mantra: **"built with the field, not for the field"** - involves technicians early in design and testing and focus on how AI supports them, not replaces them.

Tim Ebeling, at Henning Head of Development at Henning GmbH & Co. KG, reflected that in 2011 he had presented at the Lift & Escalator Symposium on proactive maintenance. Today we are transitioning from calendar-based to usage-based maintenance levels and beyond to condition-based maintenance levels. He gave an example of Pioneer Singapore where quarterly visits instead of monthly maintenance take place.

This does not mean operating a lift will become cheaper, but it will be possible to operate more lifts than before. Tim also warned that machine learning will not replace safety inspections, the future is a hybrid of machine learning and human independent checks.

"If it's machine learning, it's probably written in Python. If it's AI, it's probably written in PowerPoint."

Anne Kuchly, IoT Program Manager EMEA at Otis demonstrated how Otis are connecting people, products, and tools in real time through Otis ONE TM. Using connected IoT systems empowers technicians, putting real-time information into their hands and the customer, resulting in a 15% shutdown reduction.

Philip Hofer, Head of Group Field Engineering at JSG talked about the technology used, providing customers and service professionals with round-the-clock status information with clear insights into the operation of units. Malfunctions can be detected within minutes for quick action. The FieldLink global information system gives technicians instant access to instructions and guides, allowing them to deliver a more efficient and faster service, and the Crowd Knowledge app connects technicians and experts around the globe, pooling their expertise to provide best practices and solutions to a range of technical problems.

With Schindler Adaptive Maintenance, the intelligent system dynamically plans and schedules maintenance visits, pinpointing the exact moment when an elevator requires attention. By proactively identifying potential issues before they escalate into time-consuming breakdowns, the service ensures elevators operate smoothly and reliably.

IoT and machine learning leads to radically improved and intuitive maintenance services

Jussi-Pekka Asikainen, Product Director, Service at KONE underlined that connectivity is becoming a norm in ALL elevators. With KONE 24/7 CONNECT they can predict and address 70% of the faults before they become a problem, reducing customer call-outs by 40%. The KONE remote service can fix issues and resolve entrapments remotely within minutes; no need to wait for onsite technicians. Technicians' empowerment is very much at the core, with a digitally enabled and optimised workflow and toolbox.

From an independent point of view, Stuart Garcia, CEO at Safeline, agreed that AI is transforming lift systems today, seeing efficiency and reliability where AI and smart lifts have been deployed. AI will transform complex lift maintenance into straightforward, proactive processes, making operations easier and more reliable.

- Real-time data delivers predictive intelligence and recommendations.
- Intelligent, preventive care anticipates problems before the lift stops working
- Maximum uptime optimises performance, reduces costs, and enhances passenger safety.

Patrick Bass, CEO at CEDES, spoke about the when and where of a problem rather than telling the technician what to either do or inspect. His approach is to tell the technician where to look for a problem and let him find a problem and figure out what to do to fix the problem.

Tijmon Molema from Liftinstituut completed the panel, talking about cybersecurity. With a lot changing in this area, we hope to cover this in more detail in a future issue.

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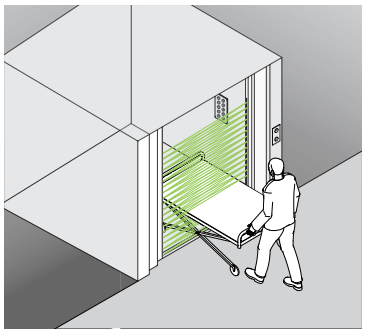
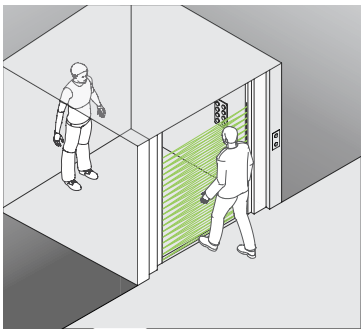
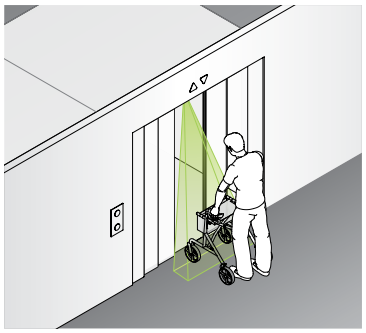


Object recognition



People counting



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This paper was first published at the 16th Symposium on Lift and Escalator Technologies, 24-25 September 2025, organised by The Lift and Escalator Symposium Educational Trust. For more information see ***www.liftsymposium.org***

THE POTENTIAL OF DIGITAL OUT-OF-HOME ADVERTISING IN THE LIFT INDUSTRY

BEGÜM AVDAGIÇ, PETER DEWHURST AND GEMMA MOORE
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Keywords: Digital Out-of-Home (DOOH), Lift-Based Advertising, Programmatic Content Delivery, Content Management Systems (CMS), Smart Building Communication, Stakeholder Adoption

Abstract: This paper analyses the potential of Digital Out-of-Home (DOOH) advertising in the lift environment—a confined, high-dwell space optimally suited to targeted, high-impact digital communication. Based on academic literature, market research, and direct lift stakeholder survey data, this paper explores the technical infrastructure, operational concerns, content models, privacy considerations, and monetisation strategies associated with lift-based DOOH applications.

The paper examines the adoption of modular hardware within the lift and how this integrates into building management systems. The paper then reviews content scheduling through CMS (Content Management System) platforms with AI and programmatic delivery of ads.

Special focus is placed on ethical curation of content and GDPR compliance in data use, specific to the lift environment.

Findings from a direct lift stakeholder survey show very high interest in DOOH for organisational communication and cost efficiency, but also pinpoint concerns about control, relevance, and aesthetic disruption.

The paper outlines an innovation agenda with smart targeting, responsive display environments, and effective energy use at its centre. It concludes by highlighting lift-based DOOH as a monetisable ad vehicle and strategic communications layer in smart buildings— albeit one which will only be successful if privacy, content regulation, and context are placed at its centre.

1. INTRODUCTION

DOOH advertising is dynamic, screen-based media shown in public areas, from roadside billboards and malls to transit points and lifts. While traditional OOH (Out-of-Home) relied on static signage, DOOH transforms this medium by integrating real-time, data-driven content distribution, contextual messaging, and cross-platform engagement via programmatic networks [1, 2]. This evolution has made outdoor advertising an increasingly digitised landscape that leverages AI and behavioural analytics to deliver targeted, responsive campaigns.

The global DOOH market is growing at a high rate. Research by Grand View Research [3] predicts the market will reach USD 39.12 billion by 2030, driven by rising urbanisation, smart infrastructure investments, and demand for real-time, interactive content. Stakeholders are leveraging DOOH technologies more than before to gain optimum audience coverage, maximise return on advertisement spend, and be aligned with digital transformation trends [4].

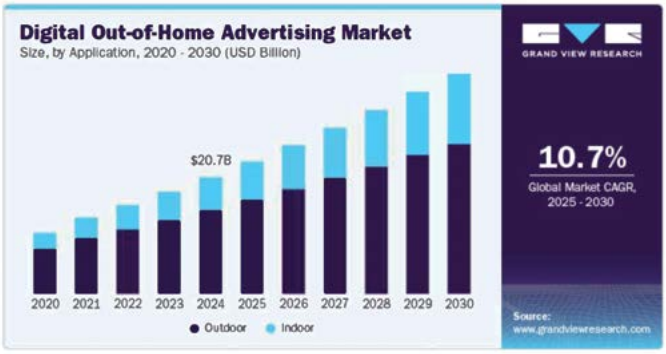

Figure 1 Digital Out-of-Home Advertising Market [3]

Lifts provide a new, albeit relatively untapped, environment for the deployment of DOOH. As enclosed and high-frequency transportation areas, lifts provide long dwell times—typically 30–60 seconds—and a captive audience with low distraction. Additionally, lift screens offer the advantage of contextual relevance, allowing content to be customised to suit the specific building environment and audience needs. These features make the inside of lifts a perfect space for hyper-targeted, time-sensitive communication [5]. In addition, the repetitive use of lifts ensures multiple exposure, developing brand awareness and internal communications.

For lift asset owners and building managers, there are numerous advantages to the installation of DOOH screens. Beyond monetisation potential via advertising, screens can modernise interior aesthetics, enable real-time user communication, and elevate emergency messaging systems [6,7]. In a post-pandemic era where digitisation and contactless information are a priority, such systems also enhance real-time user experience and build competitiveness.

Likewise, this paper examines the operational and technical viability of lift-based DOOH advertising, founded in academic literature, market research, and primary stakeholder response.

2. TECHNICAL INFRASTRUCTURE OF DOOH SYSTEMS IN LIFTS

2.1. HARDWARE INTEGRATION AND DISPLAY TECHNOLOGIES

Installing digital screens in lifts requires careful consideration of space constraints, constant movement, and visibility. The lift environment is compact and subject to frequent use, vibration, and varying temperatures, demanding robust and resilient hardware.

Screen placement is critical in lift environments. Displays must not interfere with control panels, emergency buttons, or passenger movement. Ultra-thin, flush-mounted designs integrated into wall panels offer a discreet and practical solution, maintaining both safety and usability. Beyond function, these installations enhance the overall passenger experience and project a modern, high-tech image – a valuable asset for commercial offices and premium residential buildings.

2.2. POWER SUPPLY AND NETWORK CONNECTIVITY

Reliable power and connectivity are key to lift-based DOOH. Lifts do not typically enjoy simple access to building LAN infrastructure, and small metal cabins interfere with wireless signals. The Outdoor Advertising Association of America [8] adds that most operators resort to cellular connectivity—typically via 4G/LTE modems utilising external antennas fixed outside the lift shaft. Redundant power systems need to be implemented in order to prevent power outages, with UPS backup suggested to maintain service during short-duration power loss.

In addition, to keep latency and service interruption under control, content must be stored locally on embedded flash storage or edge media devices, such as SD cards, ensuring smooth playback in the event of temporary network disruption. Remote screen health monitoring and content updating via cloud-based CMS platforms provide scalability and assurance for building managers and advertisers, ensuring seamless management across multiple locations.

Another critical challenge in lift-based DOOH systems is electromagnetic noise, particularly in modernisation projects. Older motors, legacy wiring, and pre-existing electrical infrastructure can generate high-frequency electromagnetic interference, disrupting network signals and causing inconsistent data transmission. These disruptions can lead to unstable connections, content loading delays, or even complete signal loss. To mitigate these issues, shielded networking cables are deployed to insulate data transmission lines from external interference, ensuring a clean, uninterrupted connection. Managing electromagnetic interference will be essential for ensuring the long-term reliability of lift-based DOOH systems. Future installations may integrate signal filtering technologies and improved grounding mechanisms to further stabilise transmission, reinforcing the viability of lift-based digital signage as a robust communication platform within modern buildings.

2.3. INTEGRATION WITH BUILDING MANAGEMENT SYSTEMS (BMS)

Top-tier DOOH implementations are facilitated through integration with BMS, allowing content to respond automatically to real-time inputs. Quinn et al. [9] describe how IoT sensors linked to Facility Management enabled Building Information Models (FM-BIM) platforms are able to update content triggers—e.g., occupancy rates, time-of-day, or alert messages. During peak traffic during mornings, for example, screens can show fast-scrolling headlines or offers geared towards professionals; during evenings, content can shift to leisure or lifestyle programming.

Lift-specific integrations may also integrate lift controllers or Programmable Logic Controllers (PLC). These integrations cause screen content to change with the floor level or destination context of the lift—providing hyper-relevant messages. Though more complex, this multi-layered use case makes DOOH a component of a building's digital architecture, and not a standalone system.

2.4. MODULAR DESIGN AND SYSTEM UPGRADABILITY

As DOOH media landscapes continue to develop at a fast pace, the systems have to be capable of simple upgrading. D'Ambrosio et al. [10] identify modular system design as good practice—whereby display units, controllers, and CMS software can be upgraded separately. This reduces maintenance expenses, future-proofs the installation, and prevents the downtime of total system revamps.

In retro-fit applications and pre-wired modular packs allow screens to be more readily installed without heavy infrastructure renewal. This is particularly advantageous in older buildings which wish to improve their internal communications and income streams without extensive lift refurbishments.

Modular buildings also lend themselves to scalable content strategies—where multiple units across different floors or elevations can be tracked from a single dashboard. This is valuable for business property managers with portfolios of office towers, hotels, or apartment complexes.

3. CONTENT MANAGEMENT AND PROGRAMMATIC ADVERTISING

3.1. CONTENT SCHEDULING AND CMS REQUIREMENTS

The adoption of content management systems (CMS) for DOOH is typically driven by the perceived usefulness and ease of use—key constructs of the Technology Acceptance Model (TAM). As Shinde et al. [4] elaborate, stakeholders will adopt CMS tools that have intuitive interfaces and automatic scheduling functionality for numerous endpoints. In the context of lift-based DOOH, this is the ability to program short-format, context-sensitive content that changes dynamically based on time, building type, or user profiles.

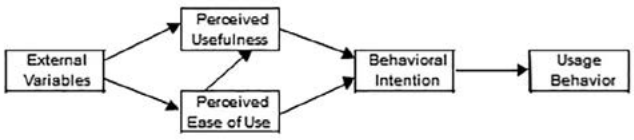

Figure 2 Technology Acceptance Model [11]

Sayoh [7] also adds that AI-powered integration with CMS enables content to respond to real-time input, such as environmental factors or audience traffic. This capability is especially required in lifts, where audiences are subjected for limited durations, and messaging must be concise, dynamic, and immediately relevant. Scheduling through CMS effectively reduces operational overhead while optimising content impact.

3.2. PROGRAMMATIC AND AUTOMATED AD DELIVERY

With programmatic infrastructure becoming inherent to DOOH networks, the lift environment can benefit from more targeted and efficient delivery of advertisements. Häglund and Björklund [1] explain programmatic DOOH as connecting advertisers with screen networks via real-time bidding platforms, with the capability of data-driven control of when and where content is displayed. Shinde et al. [4] explain how such automation improves campaign agility – ads can be changed in a space of minutes, depending on real-time data feeds.

In lifts, this ability delivers time-of-day programming, weekday-vs-weekend targeting, and floor-level messaging according to commercial or residential audiences. Programmatic delivery also offers ad inventory that is sold with minimal or no human involvement, which scales while continuing to maintain relevant content.

3.3. INTERACTION AND CROSS-CHANNEL INTEGRATION

Beyond visual messaging, lift-based DOOH can extend its impact through interactive touchpoints and cross-channel efforts. Sayoh [7] discusses that AI-powered DOOH networks use ambient cues—such as crowd density or motion detection—to adjust content in real time. QR codes, near-field communication (NFC), and Bluetooth Low Energy (BLE) beacons can serve as bridge points between lift-based screens and users' mobile devices, enabling deeper engagement and interaction.

This level of interaction strengthens campaign recall and allows for deeper conversion funnels, especially when paired with broader omni-channel efforts. In the lift ecosystem, where real estate is minimal but dwell time is abundant, these digital cues can solicit strong action without physical engagement, maximising each passenger's journey to its highest utility.

4. PRIVACY, AUDIENCE MEASUREMENT AND ETHICS

4.1. PRIVACY, CONSENT AND DATA PROTECTION

The use of DOOH advertising in lift environments demands a rigorous data privacy and protection strategy. Because of the enclosed nature of lifts, any data collection mechanisms, such as sensors or cameras, must be fully compliant with data privacy regulations such as the General Data Protection Regulation (GDPR). The GDPR mandates explicit user consent for data collection and processing, such that the individuals are aware of how their data is being used and can opt out if they choose to do so [12].

To counter these demands, advertisers are increasingly relying on anonymised data collection methods. For instance, sensors can log the presence of individuals without noting personally identifiable information, thus adhering to compliance while still offering targeted content [13]. This not only safeguards users' privacy but also facilitates trust between consumers and advertisers.

4.2. ETHICAL CONTENT AND CONTEXTUAL SENSITIVITY

Responsible use of DOOH content extends beyond data privacy to encompass the content and context of the advertising itself. In lift environments, where audiences are captive and exposure is unavoidable, it is critical that the content is appropriate and not invasive. Advertising needs to avoid leveraging sensitive topic areas or displaying content that will offend or cause discomfort for those exposed to it.

Moreover, the use of adaptive advertising technologies that tailor content based on real-time data raises ethical issues about the potential for manipulation, along with the perpetuation of biases. It is the advertisers' duty to make sure that such technologies are used responsibly, with regulatory frameworks existing to prevent abuse as well as maintain the integrity of the content of the advertisements [14].

5. STAKEHOLDER INSIGHTS: SUPPORTING EVIDENCE FROM INDUSTRY SURVEY

To gain a clearer understanding of perspectives on digital modernisation within lift spaces, we conducted a targeted industry survey. The survey aimed to explore stakeholder interest in replacing traditional pinboards with digital solutions, assess attitudes towards advertising in lifts, and identify key considerations for content relevance and operational management. By gathering insights from respondents across residential, commercial, and hospitality sectors—including lift contractors, consultants, and building owners—we were able to capture a comprehensive view of the current landscape and future opportunities.

5.1. CURRENT ADOPTION LANDSCAPE

The adoption landscape for building lift digital screens is evolving extremely rapidly, with pioneers being primarily commercial real estate and high-end residential buildings. What our survey reveals is that while 63% of respondents indicated they have digital screens installed somewhere within their buildings, only as low as 38% affirm deployment in lifts as well. This divergence depicts a huge growth opportunity. Academic papers confirm the same observation. Babu and Lakshmaiah

[6] pointed out that lift lobby digital screen advertising continues to be a high-recall and cost-efficient option that aligns perfectly with residents' routines. They emphasise the hyper-local coverage of such media, which is reinforced by repeated exposure and physical proximity to decision-making spaces like offices and homes.

Furthermore, Bah and Haba [15] found that positive attitudes towards DOOH are strongly correlated with familiarity and frequent exposure frequency—a natural advantage of lift environments, where individuals are often captive and recurrently exposed to screens.

5.2. OPERATIONAL MANAGEMENT & CONTENT GOVERNANCE

One of the recurring themes in the survey answers was the importance of content management and control. Over 67% of the respondents answered that their screens are not refreshed more than once a month, indicating the challenge of maintaining a steady stream of new and appropriate content.

Additionally, 75% underscored the importance of maintaining local control of screen content. Governance becomes even more relevant within local environments. Respondents were reluctant to give away content control to third-party sponsors, complaining about the possibility of brand misalignment, lack of relevance, or visual clutter. This is in line with Shinde et al. [4], who highlight that successful DOOH campaigns within cluttered or semi-private environments are extremely dependent on a successful Technology Acceptance Model (TAM) strategy centred on perceived ease of use and usefulness by operators and inhabitants.

The research tells us that owners of buildings are open to adopting DOOH systems, but only in facilities that enable selective filtering of material and relevance enforcement—particularly if user attitudes and building brand identity are at stake.

5.3. COST SENSITIVITY AND MONETISATION

The most significant point of our industry poll was the financial incentive for DOOH installation. A full 58% of the respondents said they were open to third-party ads on lift displays—provided it would help cover operational or installation costs and if they would retain some editorial discretion over the ads. A few suggested that openness to monetising would depend on reducing intrusiveness and increasing contextuality. This reflects how the broader market feels. Kishore Babu [6] clarifies that as lift real estate becomes increasingly digitised, brands perceive it as an opportunity to reach audiences during moments of unbroken attention and the best possible platform for branded content. Nevertheless, he also warns that excessive commercialisation in the absence of thematic and aesthetic alignment has the risk of diminishing user experience and trust levels.

Therefore, the path forward appears to be hybrid monetisation models, where a percentage of screen time is spent on building-related announcements or community content, and a selection pool of advertisers is given limited access, subject to strict guidelines.

6. FUTURE-PROOFING AND INNOVATION ROADMAP

6.1. SMART TARGETING AND RESPONSIVE DISPLAYS

Among the most groundbreaking developments of DOOH advertising is the application of AI in real-time targeting. Smart targeting allows screens to dynamically react to context—e.g., weather, day/part of day, or demographic information—displaying more relevant and effective content. Sayoh [7] describes how AI may screen consumer demographics, behaviours, and environmental context to personalise content on-the-fly, maximising consumer experience and enhancing brand recall.

As urban spaces get packed, the lift becomes more and more a hub of online interaction. Research conducted by Babu [6] demonstrates the high dwell time and typical use of lifts, revealing that screens in these confined spaces can maintain sustained contact and cement brand remembering. Beyond advertising, buildings are increasingly adopting digital signage as an integral communication tool, facilitating tenant updates, community notices, and real-time building-wide messaging.

In the long term, DOOH in lifts may shift from passive advertising to a platform for building-wide communication infrastructure—used not just for marketing purposes but also for community engagement, building notices, and personalised user experiences. The wider applicability reinforces the strategic importance of such installations over the long term.

6.2. CONSUMER BEHAVIOUR AND ROI: FURTHER RESEARCH SUGGESTIONS

While academic papers and marketing research point towards high recall and interaction rates with DOOH, more quantitative academic studies are required to measure consumer behavioural shifts in particular lift environments. Upcoming studies would then be able to examine how repeated exposure in these environments affects loyalty to a brand, intention to buy, or tenant satisfaction.

Besides, an awareness of the psychological impact of screen proximity and use frequency in such cramped areas might be a useful input for content design and organisation.

6.3. ENERGY-EFFICIENT RESILIENT TECHNOLOGIES

Future-proofing DOOH networks also entails the adoption of energy-efficient technology. LCDs with LED backlight and the next-generation E-ink display offer power-saving alternatives without compromising visibility. Moreover, heat-resistant and vibration-resistant hardware ensures uninterrupted performance in changing lift environments.

These innovations reinforce advocacy for a holistic, future-oriented approach to lift-based DOOH in which technical competence is weighed against functional building integration as well as user-centric design.

7. CONCLUSION

Digital Out-of-Home advertising is coming of age, and especially in the built environment. The lift industry, with its inherent captive-audience environment and habitual use patterns, offers an engaging environment for novel, interactive DOOH systems. This paper has discussed the technical infrastructure necessary, the changing stakeholder environment, and the way forward for lift-based digital screens.

Evidence from industry reports and scholarly research indicates that while take-up is growing, success will depend on balancing technological innovation with governance, content suitability, and user trust. The convergence of AI-driven targeting, modular and energy-efficient hardware, and programmatic content delivery offers lift operators and advertisers a strategic moment for both communication and monetisation—provided that privacy and contextual integrity are guaranteed.

Moving ahead, the task is not merely to install DOOH infrastructure, but to ensure its integration assists broader stakeholder objectives, from operational efficiency to resident happiness. With thoughtful installation, lift-based DOOH can be a central component of smart building ecosystems and a highly effective ad touchpoint.

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BIOGRAPHICAL DETAILS

Begüm Avdagiç is a Product Manager at Dewhurst Ltd, where she leads engineering-driven product development with a strong focus on sustainability and continuous improvement in the lift industry.

She holds a BSc in Mechanical Engineering and an MSc in Management from Imperial College London. At Dewhurst, she manages the full lifecycle of lift components and technical rigour to deliver user-centred, high-impact solutions. Begüm brings a strategic, cross-functional approach to product development, with a commitment to sustainable innovation and advancing the role of women in STEM.

Peter Dewhurst is the Managing Director of Dewhurst Ltd, where he has led the company through a period of strategic growth and innovation in the lift industry. He holds a Master of Engineering (MEng) in Civil Engineering from the University of Cambridge. Since joining in 2020, he has been instrumental in modernising commercial operations, strengthening customer partnerships, and positioning the business to meet the evolving demands of vertical transportation. Peter brings a hands-on leadership approach, combining technical understanding with a clear long-term vision.

Gemma Moore is an Account Manager at Dewhurst Ltd, where she manages a portfolio of key clients and supports the delivery of tailored lift solutions across the UK. She holds a BA in International Marketing and a BA in Business Management from Teesside University. With over eight years of experience in technical sales and customer relationship management, she plays a central role in driving new business development and ensuring long-term client satisfaction. Gemma brings a customer-focused approach to the lift industry, with a strong emphasis on service excellence, market insight, and collaborative growth.

LIFT & ESCALATOR SYMPOSIUM

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IDENTIFYING AND ADDRESSING THE CAUSES OF EXCESSIVE WEAR IN LIFT SUSPENSION MEANS THROUGH ROPE LOAD ANALYSIS

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Keywords: Rope, Belt, Suspension Maintenance, Equalising

Abstract: Excessive wear on suspension means in lifts, particularly in machine-room-less (MRL) systems, has become a growing concern in recent years. A key factor influencing wear is the load distribution within the rope set. According to Prof. Feyrer's well-known studies at the University of Stuttgart, the lifespan of the entire rope set can be reduced by up to 40% if a single rope deviates by just 15% from the average load within the set.

While standards such as North America's Safety Code for Elevators and Escalators, ASME A17.1/B44, are trying to impose limits on static rope tension differences, the dynamic load behaviour during lift operation is often even more critical. Factors such as worn traction sheaves, misaligned deflection/diverter pulleys, or twisted ropes can lead to significant variations in rope tension, which directly equate to load. A detailed analysis of the load progression during the travel allows for a precise identification of such irregularities, enabling targeted implementation of corrective measures, optimising system performance and extending the lifespan of the suspension means and drive sheaves.

This paper presents real-world measurements of rope tensions and demonstrates how simple calculations and considerations can help derive effective measures to improve the performance and longevity of lift systems.

1. INTRODUCTION

Developments in the lift market have led to the loss of validity in today's lifts of the time-honoured 'rule of thumb' for the lifetime of rope sets between 10 and 20 years. A lifetime which was formerly only not achieved in cases of poor maintenance and/or assembly or extreme ambient conditions.

The demand for lift systems to minimise space requirements as much as possible is continuing unabated; the advantages for architects and building owners are highly apparent. These systems, generally designed as traction lifts without machine rooms, possess several special features related to their means of suspension:

- Multiple suspension (2:1 or higher)
- Small traction sheave diameters
- Small rope or belt diameters, which permit as small a bending radius as possible

These features, produced according to customers' wishes and design, have negative effects on the lifetime of suspension means when we compare to the direct-suspended lift systems with rope diameters larger than 8 mm and large traction sheaves.

The multiple suspension, for which the drive is frequently positioned directly in the shaft to save space, requires more deflecting sheaves. This means more bending points for the suspension means, generally also with counter bending (aka reverse bends), which substantially increases the wear on the steel ropes.

To reduce the required construction space even further, it is expedient to also reduce the diameters of the traction sheave and the deflection pulley. At the same time, this permits the application of inexpensive drives which have a high speed but only a relatively low torque. Because the suspension means does not permit as small bending radii as might be required, i.e. the ratio between the traction sheave diameter and the suspension means diameter (D/d) permitted by Code is too small, the diameters of the suspension means also have to be reduced. Therefore, rope diameters of approximately 6 mm are found in lifts without a machine room.

The smaller the rope diameter, the smaller the load capacity of these ropes will become; more ropes are then required (which substantially increases the possible bending capacity), or ropes of a higher strength are used so that the quantity of ropes required does not become too high. High-strength ropes then demand higher traction sheave hardness in order to minimise wear on these, and therefore also wear on the ropes. Other solutions can be plastic-coated ropes, which cause hardly any or no wear on the traction sheaves, but which do cause other problems, including debates over the discard criteria.

Without trying to describe the individual relationships between the parameters in too much detail, it can be determined that a balanced mix must be found between the boundary conditions, which does not excessively increase the wear on suspension means, wherever space-saving lift systems without machine rooms are required.

2. WAYS TO REDUCE THE SUSPENSION MEANS WEAR

The above-mentioned design conditions for lifts without machine rooms all cause increased rope wear, with a limited chance to compensate for the cause of this wear:

- Every deflection of the suspension ropes increases wear on these ropes.
- Counter or reverse bending massively increases the wear on the ropes
- As the diameter ratio D/d is reduced linearly, the rope wear increases exponentially
- As the rope safety factor decreases linearly, the rope wear also increases exponentially

In order to compensate for the factors which are detrimental to the rope's lifetime, and yet to continue to uphold a high running performance, all the remaining ambient conditions for the suspension means must be optimally achieved in operation. In this way, the number of bending cycles can be increased once more.

2.1. ROPE MAINTENANCE

Almost all rope manufacturers offer an appropriate care agent for their steel ropes to reduce corrosion and abrasion. The ropes are pre-lubricated, but dust and abrasion can bind the lubricant so that the lubrication effect is continuously reduced. The rope maintenance must be undertaken in accordance with the manufacturer's information to prevent unnecessary lifetime restrictions at this point, too.

2.2. INSTALLATION OF NEW SUSPENSIONS

In part, rope manufacturers issue detailed instructions on how to install new ropes and what should always be observed in the interests of a long rope lifetime. In addition to rather obvious comments, such as that the ropes should not be kinked during installation, some manufacturers have also applied a marking on the ropes; the so-called "i-line" or surface line. This line, applied in the suspension direction, makes it easy to ensure that the ropes are not twisted during installation, a mistake which can occur very easily as lift ropes, with one-directional construction, tend to twist by themselves. When, despite this, the ropes are twisted at installation (either closed or open) and then fastened onto the counterweight and cabin or in the shaft head in such a way that they can no longer untwist, then this would have severe negative effects on the lifetime, as additional and above all unnecessary wear takes place inside the rope during every lift movement.

2.3. LOAD DISTRIBUTION BETWEEN THE SUSPENSION MEANS

Twisting ropes also causes load capacity differences in the ropes during lift movement, but this is only a small part of the problem. Far more serious is the actual adjustment of the ropes to each other.

The load distribution within the rope set is significantly determinant for the lifetime of the ropes. An equation is stated in the decisive standard work on wire ropes in lift construction by Prof. Dr. Feyrer [1]. By using this equation (1), the bending capacity of wire ropes can also be determined, dependent on the rope tension.

$$lg\,N = b_0 + \left(b_1 + b_4 lg\,\frac{D}{d}\right)\left(lg\,\frac{Sd_0^2}{d^2 S_0} - 0,4\,lg\,\frac{R_0}{1770}\right) + b_2 lg\,\frac{D}{d} - 0,32\,lg\,\frac{d}{d_0} + \frac{1}{b_5 + lg} \quad (1)$$

Expected number of bending cycles N as a function of various parameters including the individual rope tension, according to Prof. Feyrer, Equation 3.76. [1]

If all the parameters in this equation (such as ambient conditions, mechanical rope parameters etc.) are kept the same, and only the difference in the rope tension is considered, astonishing effects by the load distribution on the rope lifetime are revealed, as has also been published by Pfeifer DRAKO in a technical document from 23.11.2009 [2], based on the formula stated by Prof. Feyrer:

- A reduction in load difference between the suspension ropes by 5% increases the lifetime by 11%
- A reduction of the load difference between the suspension ropes by 10% increases the lifetime by 23%
- A reduction of the load difference between the suspension ropes by 15% increases the lifetime by 38%

For some years now, aids in the form of rope tension measuring devices have been available, using which, in addition to the absolute cabin weight, the individual rope loads can also be determined and adjusted. This is of course very useful, but still insufficient, as we explain next.

2.4. VARYING LOAD DISTRIBUTION DURING TRAVEL

Naturally, it is only possible to adjust the ropes manually when the lift system is at a standstill. This means that a particular position of the cabin in the shaft must be decided upon, and the ropes must be adjusted at this position. This generally must mean, in the case of 2:1 suspended systems without a machine room, that the cabin is positioned at the uppermost stop, so that the end fastenings of the ropes can actually be reached for adjustment purposes.

Depending on the design of the rope tension measuring devices, it is possible to measure the progressions of the individual rope tensions in advance during lift movement in order to determine the optimum setting of the ropes for subsequent adjustment. This is necessary as the individual rope tensions constantly alter during lift movement, frequently to a substantial extent. This is caused, for example, by slight deviations between the grooves and ropes, out-of-round running-in of traction sheave grooves, and deflection rollers which do not align absolutely horizontally to each other, etc.

In the case of a 2:1 suspended system with a traction sheave of 240 mm in diameter and a travel height of 20 m, a 1/10 mm groove depth deviation or rope diameter difference immediately affects a 17 mm rope diameter difference between the individual ropes during movement across the entire travel height. It is thus easy to imagine how much more an individual rope bears, which is 17 mm shorter than the other ropes. The result is excessive wear on the rope. This effect can occur due to the abovementioned causes even on new 2:1 suspended lifts. This effect can also be found to an equal extent on 1:1 suspended systems.

The following example shows a measurement on a 1:1 suspended system which has a rope tension difference of up to 200% during lift movement. It is also clear to see how the individual rope tensions are displaced during lift movement.

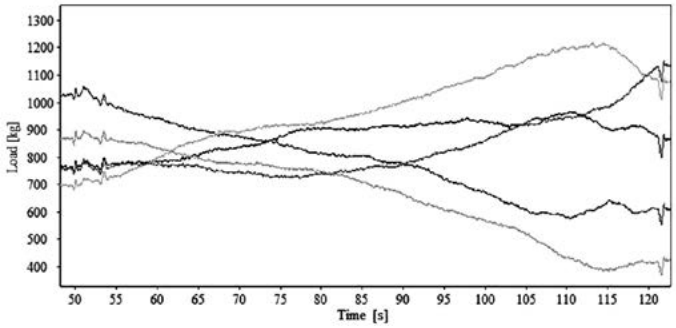

Figure 1 Progression of the individual rope tensions during upwards lift travel of a 1:1 suspended lift

Correct adjustment of the rope tension is essential for such a lift system, if the theoretical lifetime of the ropes is to be exploited as much as possible. The typical "spot check" adjustment of ropes during each maintenance procedure is an initial and important step, but is, in this view, not at all sufficient, as the adjustment can only take place at certain points referring both to time and position. As soon as the lift starts to move after such a rope adjustment, the rope adjustment will once again prove insufficient for the new position in the shaft.

In addition to excessively large manufacturing tolerances already present in new systems, the cause for varying rope tension can also develop during operation—e.g., if the ropes were not properly aligned with each other. This often results in individually worn grooves of a traction sheave. Once this situation occurs, it worsens over time and leads to the rope set needing to be replaced well before the usual service life is reached. The actual root cause usually goes unidentified, leading to frequent replacement of the rope set, while the actual cause—the traction sheave—is neither replaced nor repaired. We can note here that attempting to repair a traction drive sheave is almost always ill-advised. Either the cost or the level of tolerance needed is an imprudent decision.

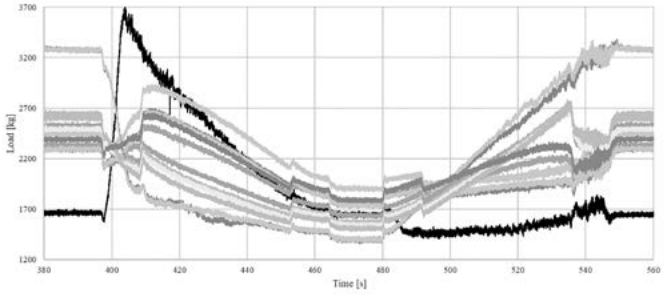

Figure 2 Rope tensioning during a downward and upward ride with a worn-out traction sheave

In Figure 2, the rope tensions of a lift with tie-down compensation are shown: between 395 and 470 seconds during the downward ride, and between 480 and 550 seconds during the upward ride. Rope tensions vary between 1700 kg and 3700 kg, although during the standstill phase at the lowest floor, the rope tensions are relatively even between 1500 kg and 1900 kg. Particularly noteworthy is the black line in the figure, showing the tension of one suspension rope. While at a standstill at the top floor, this rope carries the least load, but it abruptly becomes the rope carrying the most load when starting to move downward. During the upward ride, it consistently carries the least load. The explanation for this clear and significant behaviour is that the affected rope sits in a worn groove of the traction sheave.

During a down run, what happens if a groove or rope has a much smaller diameter than the others? For every rotation of the traction sheave, this damaged rope/groove travels less than the other ropes. This results in increasing rope tension, because it carries more load than the other ropes until there is enough force to exceed the traction force. During an up run, all other ropes move further per rotation of the traction sheave than the damaged rope/groove. The other ropes now carry more load, and the damaged rope/groove loses tension ("it slackens"). As the tension force difference between the traction friction force and the equalising spring force exceeds a value, the rope slips and equalises.

Another common cause of uneven rope tensions during operation is one or more twisted ropes. The ropes are twisted within themselves, meaning they "open" or "close" during each ride, which leads to elongation or shortening. This, in turn, results in fluctuating rope tensions. Depending on the degree of twist, this can be a precursor or even the root cause of worn traction sheave grooves. The following figure shows the rope tension profile for such a system. Again, the ride begins with a downward movement (8 s – 33 s), followed by an upward ride (38 s – 63 s).

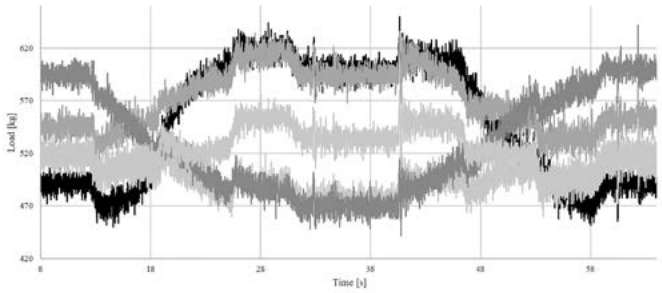

Figure 3 Rope tensioning during a downward and upward ride with twisted ropes

Here too, the rope tensions fluctuate significantly during travel, by approximately 30% of the average load. During the downward ride, some of the ropes take on load uniformly and together with other ropes, while others lose load to the same extent. The upward ride is a mirror image of the previous movement, so that the initial condition is restored after both trips. In contrast to a worn traction sheave, no rope stands out visibly here. The rope that loses the most load during the downward ride—and therefore builds up the most tension during the upward ride—is the one that is most twisted. A visual inspection of the i-line during operation will show the most rotations for this rope.

3. CONCLUSION

Decisive for the lifetime of suspension ropes, after their correct dimensioning and after ruling out avoidable errors in installation and rope maintenance, is above all, optimum rope tension in every position within the shaft. The trend toward multiple suspensions is affecting comparatively small lift systems, which were formerly seen only on high-rise lifts featuring a travel height of several hundred meters. Deviations of less than 1/10 mm in the traction sheave grooves and rope diameters lead to major differences in individual rope tensions, as the small traction sheaves of lifts without machine rooms carry out a similar quantity of rotations as the traction sheaves in high-rise lifts.

Even if the individual rope tensions are adjusted with scrupulous care using high-precision measuring technology, wear on the rope cannot be prevented, as adjustments can only be undertaken for one position of the cabin within the shaft.

Dedicated software solutions exist that evaluate rope tension measurements—such as those presented in this paper. An optimised target rope tension profile, which can subsequently be applied and adjusted on-site, is needed. While this approach represents a practical compromise for minimising rope tension imbalances, it does not constitute an ideal or comprehensive solution. Rather, it serves primarily to mitigate excessive wear but does not restore the rope set to conditions consistent with standard or expected wear behaviour.

A sustainable and technically sound solution requires precise and balanced rope tensioning to be established from the initial installation of the lift system. This worthwhile goal must be subject to continuous monitoring and periodic recalibration to maintain optimal performance and extend the service life of the suspension components.

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BIOGRAPHICAL DETAILS

Tim Ebeling has been employed since 2003 as head of development with Henning GmbH & Co. KG. In this capacity, he has established the R&D center in Braunschweig (Germany). A team of employees is now working there on the development and production of electronic and measurement components for lifts.

Since 2012, the author has also been the managing director and a shareholder. One of his particular focal points is measurement technology. Especially in this area, the author looks back on many years of experience in the development of acceleration and rope load measuring systems. The author's professional goal is to enrich the lift market with innovative lift components.

In addition to his role as a board member of the German Elevator Association (VFA), he is active in working groups of the European Lift Association (ELA) and serves on the advisory boards of LiftJournal and the Center for Elevator Technology in Roßwein (ZFA).

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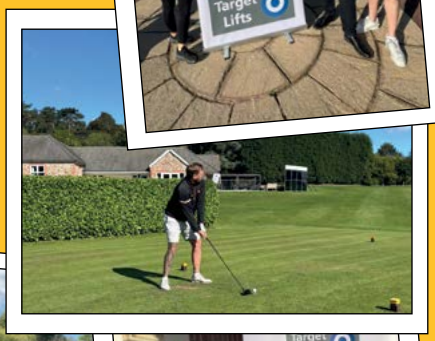

FORE!

A REPORT FROM THE LIFT INDUSTRY MENTAL HEALTH CHARTER GOLF DAY

On the 25th September at Lingdale golf course in Leicestershire on a gloriously sunny day, the great and the good of the lift industry came together to hit a ball with a stick and support the Lift Industry Mental Health Charter.

Thank you to all of the sponsors, attendees, and everyone else who made the day possible – a brilliant day of golf, and an entertaining evening of karaoke!

"No matter how good you are, you can always get better, and that's the exciting part." - Tiger Woods

Huge congratulations to Mike B. from The Elevator Consultancy as the overall winner of the day, being a part of the winning team and also winning the Nearest to Pin trophy on the hole he sponsored - we promise it wasn't a fix.

And congratulations to Kieron McCormick from Elevated Knowledge Ltd on winning the longest drive prize on the thirteenth hole.

A brilliant day (and night!) 2026 dates are already in discussion. Keep your eyes peeled!

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Thank you Blacks Marketing Agency, the staff at Lingdale Golf Club, those who provided gifts and those who still made a donation even though they couldn't attend. It really does mean so much.

The Lift Industry Mental Health Charter

The Lift Industry Mental Health Charter is an initiative which is focused on bringing together the lift industry to support mental health. This includes all lift companies, lift consultants and lift suppliers across the lift industry and their employees. Working together to support the people within the industry with their mental health will make the industry a safer and more supportive place to work.

Clear your mind,
You're not alone
Find help here!

www.liftmentalhealthcharter.com

TED BARKS

WITH THE LIFT INDUSTRY MENTAL HEALTH CHARTER

This quarter Ted has been inspired by volunteering

Volunteers make an immeasurable difference in people's lives and often serve to help others.

Did you know that volunteering can benefit your health as well?

Volunteering has been found to have positive effects on mental health. Research indicates that it may help reduce stress, alleviate symptoms of depression, and decrease feelings of isolation.

According to the Public Health Agency the act of giving is one of five evidence-based steps – and one of the Five Ways to Well-Being – that we can take to improve our mental well-being. Giving to others stimulates the reward areas in the brain, creating positive feelings.

Read for yourself how it can benefit you: ***https://www.nhs.uk/conditions/stress-anxiety-depression/give-for-mental-wellbeing***

When selecting a volunteer activity, it is helpful to consider options that align with personal interests, as this may enhance the experience and increase the likelihood of gaining mental health benefits.

So my personal interest… a dog related shout out – The Dogs Trust. As the UK's largest rehoming charity, they have every breed of opportunity for you to get involved with. From raising money working in their charity shops to helping at their rehoming centres as a dog walker, gardener, or foster carer, there are plenty of fetching volunteering roles to get involved with, have fun, and help our four-legged friends to live their best lives. ***https://www.dogstrust.org.uk/support-us/volunteering***

If you are looking for a non dog related opportunity a good start is here: ***https://www.gov.uk/volunteering***

Here are a lot of the lovely Lift Industry News team volunteering at a children's summer holiday club called Lighthouse - editor Pat, content editor Cordelia, our boss Richard and his wife and Matt that works for Richard. They were just five of nearly 1900 volunteers at fifteen different sites.

The Lighthouse at Princes Risborough had a dog to visit from Hearing Dogs for the Deaf - another great dog charity that needs volunteers. ***https://www.hearingdogs.org.uk/volunteering/puppy-training/***

I wonder if they would like a visit from a very famous dog next year?

The good news is that by volunteering you can enhance or create change in your community. Volunteering makes an immeasurable difference in people's lives. Your actions, big or small, can help others and benefit your health.

Reduces stress and combats depression

Engaging in volunteer activities may shift focus away from personal concerns and improve mood by offering a sense of purpose and achievement. It also has the potential to reduce negative self-reflection.

Prevents feelings of isolation

Volunteering facilitates meeting new people and forming social connections, which can help counteract loneliness and expand social networks.

Increases confidence

Acquiring new skills and adapting to various environments through volunteering may contribute to greater self-confidence and self-esteem.

Provides a sense of purpose

Participation in volunteering can introduce meaning beyond daily routines, supporting broader perspective-taking and empathy.

Improves overall well-being

Studies suggest volunteering can positively affect both mental and physical health. Some volunteers report being more active and engaged in their communities.

Positive ripple effect

Volunteering may encourage further acts of kindness within a community, potentially creating supportive networks.

Cognitive benefits

Participating in volunteering can help keep the mind active and engaged, which could be particularly valuable with increasing age.

Volunteering can provide individuals with a sense of purpose and achievement, strengthen social connections, and enhance self-confidence.

So don't wait - volunteer!

A big shout out to the team at The Mental Health Charter who do so much for our industry. Since their formation they have trained over 50 mental health first aiders, fully funded by the charter through fund raising.

Petra Montalbano, Jim Halford, Jessica McDonnell, Kevin Toomey, Mark Harding, Scott Haywood, Marcus Hill, and me Ted (not in the picture…)

ELEVATOR PITCH

Today we find ourselves in our capital, looking up at the 'inside out' Lloyd's Building, home of the insurance institution, Lloyd's of London. With a total of 12 glass lifts, I've met Chris Berry, Business Development Manager at Sassi, to watch them crawl up and down this fascinating building.

DOORS CLOSING, GOING UP...

WHAT IS YOUR JOB TITLE AND ROLE?

I am Business Development Manager, which involves making people aware of the products and systems Sassi provides. My job is to get out there and keep people up to speed. It requires visiting our customers, and I also carry out site surveys to ensure the products are the right fit for them.

CAN YOU TELL US A BIT ABOUT YOUR JOURNEY TO THIS POSITION?

I joined in August 2025, so I'm relatively new! But I've been in the lift industry for 46 years – I used to repair and service lifts. I did an apprenticeship as a lift engineer with Hammond and Champness, attending college for four years and completing my J5 and J25 modules, if you remember those! I qualified in 1983, and was working on site when I offered some insight and advice to the operations director, after which they offered me a job in a technical role. From there I moved into sales and haven't looked back since! I've worked for Ziehl-Abegg and Schindler, as well as smaller companies, and now I'm here at Sassi – with experience across the industry, there's not a lot I haven't seen!

WHAT IS YOUR TOP PRIORITY IN YOUR ROLE?

You've got to aim for the best! My aim is to be the top supplier for Sassi machines, and enhance our position in the UK, getting us noticed and keeping our current customers happy.

WHAT ARE YOU LOOKING FORWARD TO MOST IN THE ROLE?

I'm so passionate about the industry, it's where I met my wife, and has shaped my life. I can't see myself retiring any time soon! I always focus on one thing though in my job, and that is earning everyone a bonus. If I make sure we sell enough products and hit all the right targets, everyone gets rewarded, which just makes the business a motivated and encouraging place to be.

WHAT WAS YOUR LES HIGHLIGHT?

I always like meeting the other attendees, you meet like-minded people from all around the world, and it's nice to catch up with familiar faces as well. I was very interested this year in the focus on AI and IT, I'm interested and terrified about AI in equal measure, but it was fascinating to see the potential of it in our industry.

WHAT'S YOUR FAVOURITE WAY TO RELAX AFTER WORK?

When I get home, I like to simply put my feet up, relax and catch up with the current affairs of the day. I'm at an age now where I do enjoy just totally relaxing, I don't need the gym or strenuous activities, I just like to get away from it all! I am also a great lover of science and leading edge technology, and very interested in space and the recent developments and news surrounding anything happening beyond our planet.

IF YOU COULD SWITCH PLACES WITH ANYONE, JUST FOR ONE DAY, WHO WOULD IT BE AND WHY?

To be honest, I don't have any interest in switching places with any human! However, being a dog for the day might be a very interesting lesson in unconditional love with no material interest and just a drive to survive – now that's freedom!

CLICK YOUR FINGERS AND TRAVEL ANYWHERE IN THE UNIVERSE INSTANTLY – WHERE ARE YOU?

I would create a planet to circle the star Sirius, which is the brightest star in the night sky and referred to ironically as the Dog Star. My planet would have an incredible view – what a place to call home!

AND FINALLY, IF YOU HAD TO CHOOSE YOUR FAVOURITE LIFT, ANYWHERE IN THE WORLD, WHICH ONE WOULD IT BE?

These scenic lifts in the Lloyd's Building in London. This building had a very controversial design of being 'inside out', with the building's services located on the exterior and a global first for wall climbing scenic lifts. The start of its build in 1978 and completion in 1986 also coincides with my start in the lift industry in 1979 and falls very close to my heart with an appreciation of cutting-edge design.

Certainly a stunning, iconic piece of London architecture, and the youngest building to have been awarded Grade I listing in the UK, at just 25 years old in 2011. As much as we could watch these lifts all day, I think it's time to say our goodbyes and find a warm drink! Thank you to Chris for offering a little insight to his life and work.

Photo by Adam Bignell on Unsplash.

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