



mabey



Monitoring

mabeyhire.co.uk

Welcome to

mabey

Every construction and infrastructure project brings unique challenges. That's where Mabey Hire expertise makes the difference.

We are a leading temporary works and monitoring specialist, and, since pioneering the market 60 years ago, we've been at the forefront of our industry, building a reputation for engineering and service excellence.

Our expertise spans civil infrastructure, buildings & utilities sectors. We use our knowledge and experience on projects from bridging and railways to basements and tunneling. All this combined with cutting edge technology and our team of expert multi-disciplined structural, electronic, environmental and software engineers means we provide truly unique temporary works and monitoring solutions, ensuring optimum safety standards on your project.

Our monitoring solutions provide both structural and environmental monitoring and work hand in hand with our wide range of temporary works solutions such as propping, jacking and groundworks.

All of this enables us to deliver the complete solution for our customers, whatever the scale or complexity of their project.

Why choose Mabey Hire

NATIONAL ENGINEERING TEAM

Our expert engineers have been accredited with BIM - ISO 19650, and delivered temporary works schemes for some of the most complex construction and infrastructure projects in the UK.

CREATIVE DESIGN APPROACH

Delivering award winning first to market product and service innovations.

A COMPLETE SOLUTION

No other UK temporary works provider can offer a complete in-house solution across design, supply, installation and monitoring for planned, reactive and emergency projects.

WIDEST RANGE

We have the UK's widest range of temporary works equipment for hire - offering unrivaled breadth and depth of solutions.

NATIONWIDE NETWORK OF 17 SERVICE-FOCUSED DEPOTS

We take pride in our commitment to deliver right first time service excellence.

COMMITTED TO QUALITY, SAFETY AND THE ENVIRONMENT

We hold UKAS accreditation to ISO 9001, ISO 14001 and ISO 45001 as well as numerous procurement schemes and safety awards.

INTEGRITY

Our customers expect us to operate to the highest standards and we are proud to be one of the first UK companies to achieve the ISO 37001 anti-bribery standard.

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An introduction to Monitoring

Monitoring involves the placement of sensors on or around buildings, infrastructure and construction sites in order to provide ongoing measurement of factors affecting their performance.

The data provided by these sensors gives a real-time picture of the environment or the condition of a structure.

This data acts as an early indicator of potential problems or as a means to disprove any perception of changes or movement, in order to avoid costly remedial work or litigation.

Our multi-disciplined team of engineering experts have extensive knowledge of all aspects of monitoring.

Structural Monitoring

This involves closely monitoring the performance of structures and infrastructure such as buildings, bridges, tunnels and railways to ensure their continued safety and stability. This type of monitoring is also used extensively to manage construction and infrastructure developments to help to reduce risks and costs and to therefore deliver these projects on time and within budget.

Environmental Monitoring

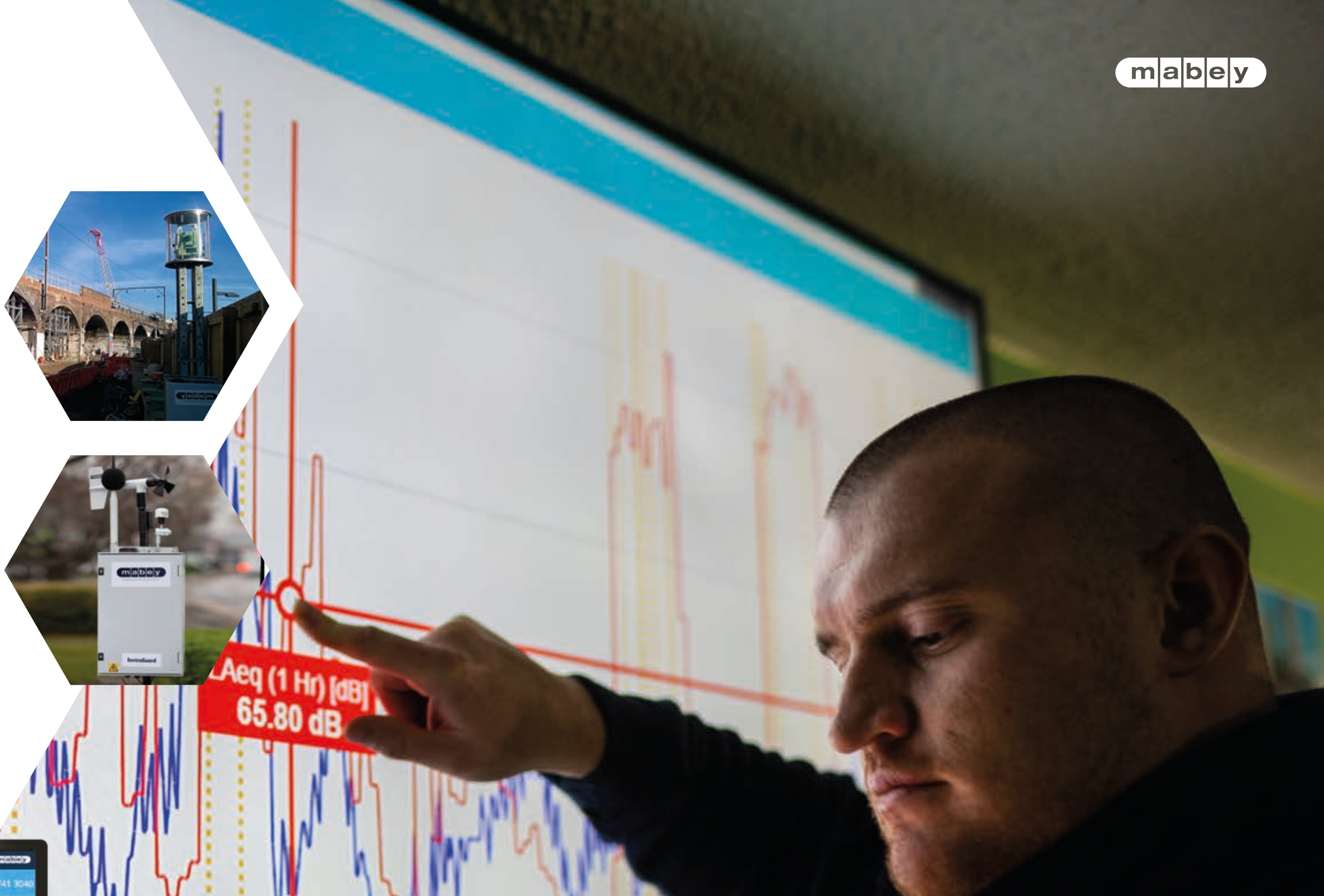
This involves the measurement and analysis of environmental conditions. Often on and around construction sites, this includes using sensors to measure noise, dust, vibration and much more. These measurements ensure that projects stay within permitted limits imposed by Section 61 of the Control of Pollution Act 1974.

Insite is our unique web portal, which allows customers to instantly see and analyse the data from any environmental or structural monitoring that we are undertaking.

Wirelessly transmitted in real-time, the accurate data is accessed with a unique login, and presented in a way that is easy to analyse, interpret and draw conclusions. This ensures that you are able to react to any changes in the condition of a structure or to increased noise, dust or vibration levels, straight away. Project managers can create immediate action plans to ensure the safety and integrity of their sites and structures.

Our expert engineers will set up your Insite portal, in a way that is unique to you and your specific requirements. Many projects have specified thresholds that must not be reached for safety or legislative reasons. These project thresholds are added to your portal and the system will send immediate alerts if any of these are breached.

Accessible remotely from desktop, tablet or mobile, your data can be displayed in many different ways such as reports, graphs or schematics to enable quick analysis and decision making.



- Your data, on demand from our cloud based environment
- User friendly - easy to navigate and pull out the insight from your project data
- Configurable to your exact requirements
- Data presented in real-time ensuring you can react to any changes straight away
- Built in trigger levels to instantly alert you to any breaches
- Data is available 24/7 remotely from desktop, tablet or mobile

For further information on any of our monitoring solutions, please refer to our website at mabeyhire.co.uk
call us on **0845 741 3040** or email monitoring@mabeyhire.co.uk

The Benefits of Monitoring

The implementation of monitoring on a project, whether structural or environmental, is important to help keep structures safe and to protect against considerable costs and disruption by reducing the risk of unforeseen issues.

Monitoring is used in a wide variety of situations, here are just some of the benefits it can provide.



STRUCTURAL HEALTH

Proactive or reactive monitoring for movement, strain, fatigue etc, can provide the data needed to ensure actions can be put in place to prevent the health of a structure getting worse or failing.



ASSET PROTECTION

Whether it is a structure under your control or a 3rd party structure, our monitoring solutions can report if any surrounding works are having a detrimental impact on the structural integrity of a building.



RISK MITIGATION

Structural monitoring systems act as an advanced warning system of potential failure when specified proactively. Sensors will highlight any risks of failure before they occur, enabling any safety concerns to be mitigated before they become a problem.



PLAN MAINTENANCE PROGRAMMES

Planning for the future is important to all building or structure owners. Our monitoring solutions give you accurate real-time data which is much more efficient than regular visual inspections. This ensures that you can accurately predict and plan for any remediation work that may be required.



ENSURING SITE SAFETY

Our monitoring sensors are regularly used on sites in conjunction with our temporary works equipment to ensure that loads are not exceeded, that movement is not occurring and many more instances to ensure a safe working environment.

PROTECTING THE LOCAL ENVIRONMENT

Environmental monitoring ensures that the local environment is not too heavily affected by noise, dust or vibration from local construction or demolition works. It ensures compliance to Section 61 of the Control of Pollution Act 1974, helping to minimise the environmental footprint of the site and disruption to the local neighbourhood.



Our Monitoring Solutions

Our structural and environmental monitoring solutions include both wireless systems and optical solutions such as 3D Scanning and Automated Total Stations. We have a full set of solutions for all situations and all our monitoring packages are tailored to the requirements of each individual project.

We have a large breadth of engineering expertise here at Mabey Hire, making sure we can design the perfect solution, every time.

- Electronic engineers
- Electrical engineers
- Environmental engineers
- Software engineers
- Mechanical engineers
- Structural engineers
- Geotechnical / Geodetic engineers

When structural monitoring highlights that remedial work is required on your building or structure, we also have the widest range of temporary works equipment and the expert structural engineers to design your complete solution.

Our project management approach ensures you get the full monitoring solution, from start to finish.

Installation & configuration

Our team will install and ensure accurate configuration of all monitoring equipment on site.

Data configuration

Our unique web based reporting software, Mabey Insite is pre-configured for each project based on a clear understanding of client needs with built in trigger levels to alert users to any breaches.

Data visualisation

Clients are able to view accurate, real-time data that is easy to interpret through the use of graphs, schematics and 3D modelling.

System planning & design

Early engagement with our clients ensures that our expert engineers design a tailored monitoring solution to all projects.

Reporting

Templates are set up within the Insite system to enable quick and easy reporting.



MONITORING

2

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Structural Monitoring

The ongoing measurement and analysis of factors affecting a structure, can be used to provide a real-time picture of its condition. The smallest of structural changes can make a difference to your structure – or a neighbouring one, so it's important to be able to identify these when they occur.

Structural monitoring can take place throughout the life of a structure (before, during and after its construction). It provides continuous reliable, real-time data, to assess if structures are performing safely and efficiently, enabling any maintenance to be planned appropriately.

Observing changes in behaviour can ensure a structure remains safe and protects against considerable costs and disruption by reducing the risk of any unforeseen issues.

A combination of structural and monitoring professionals

Integrating monitoring into a business with over 60 years of civil and structural engineering experience makes us unique in the industry.

By combining the knowledge of all our engineers, we are able to fully appreciate all considerations and deliver the best value, and most efficient solution to any requirement.





Structural Monitoring for Infrastructure

Whether bridges, tunnels or railways, our country's infrastructure is subject to wear and deterioration. This may be caused by age or an extreme situation such as a bridge strike or a flood. Monitoring the behaviour of these assets and their surrounding areas ensures that any changes can be observed as they occur. This helps to inform engineers and inspectors about the condition of a structure. Condition based maintenance plans can then be put in place before any serious damage is caused, replacing schedule driven maintenance.

Applications

- Railway track monitoring
- Slope stability
- Motorway settlement
- Bridge structural health
- Abutment monitoring
- Tunnel monitoring
- New build infrastructure
- Ground monitoring



Factors such as nearby construction activities or environmental conditions can affect the safe and continuous use of a railway. Our rail monitoring solutions are key to ensure these important assets are protected. They provide the data required to assess the performance of tracks, tunnels and the surrounding area in real-time. This ensures the most appropriate action can be taken to maintain the performance and safety of the railway.

1 Track Monitoring

Working to Network Rail Standard NR/BS/LI/045, our team are well versed in delivering all-inclusive track monitoring solutions including scheme design, installation and project lifecycle support.

Using a combination of manual and fully automated, remote monitoring systems, our solutions can reduce the number of visual inspections and track possession time, ensuring the railway remains safe and can continue its operation.

Our solutions provide critical measurements and alerts in real-time for track geometry, void and critical rail temperature.

2 Tunnel Monitoring

The failing structural health of a tunnel has an impact on the safety of these important structures and therefore the operation of a road or railway.

Using our monitoring solutions proactively, helps to inform engineers and inspectors of any deterioration in its structural health, before it becomes a safety concern. Our team can design and implement schemes to give accurate indications of tunnel stability using instruments such as wireless crack monitors, 3D scanners and wireless tilt sensors.

This helps to ensure the safety of a tunnel over its lifespan, allowing for planned maintenance and ensuring the continued operation of the road or railway running through it.

3 Slope Stability

Key to ensuring the safe operation of our railways, the instability of a railway cutting can have serious consequences on the track and therefore public safety.

Our geotechnical monitoring solutions act as an early warning system to alert asset owners to any ground movement. Any movement will trigger specialist camera systems that record any changes visually in order that any impact can be assessed without needing access to the cutting itself.

Ground vibration can affect the safe operation of a railway. This can be caused by nearby construction works for example. Our vibration monitoring solutions provide real-time measurements ensuring that immediate action can be taken so that the railway is protected from any potential damaging effects.

Email monitoring@mabeyhire.co.uk for more information



	Track Monitoring			Tunnel Monitoring		Slope Stability
	3D Track Geometry Monitoring	Movement Monitoring	CRT and Void	Tunnel Diametrical Distortion	Structural Health	Embankment Monitoring
1 Automated Total Stations	✓			✓		✓
2 Manual Track Monitoring	✓					
3 3D Scanners	✓			✓	✓	✓
4 Temperature Monitoring			✓		✓	
5 Wireless Tilt Sensors		✓		✓		✓
6 Shapeaccel Array				✓		✓
7 Fibre Optic Sensors				✓	✓	✓
8 Ground Inclinometers		✓	✓			✓
9 Vibrating Wire Strain Gauge				✓		
10 Ground Pressure Cells					✓	✓
11 Real-Time Cameras			✓			✓
12 Dynamic Displacement Sensors			✓			

Did you know...

We are RISQS verified



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Highways

Our major road networks are another key part of our countries infrastructure. Keeping them running is paramount, and continued, proactive maintenance is key. Our monitoring solutions can be used in many ways to provide assurance and enable proactive maintenance plans to be put in place.

1 Motorway settlement

Construction works taking place near or under a motorway could affect its performance and therefore public safety.

Our sophisticated monitoring systems can operate from a distance using total stations installed at the side of the hard shoulder. They help to ensure the continued safe operation by highlighting any maintenance requirements in advance and negate the need for motorway closures.

2 Environmental Impact

As our motorways become busier, the environmental impact of them is ever greater. Our environmental monitoring solutions can be implemented close to motorways to provide insight into noise, dust, vibration and air quality. This ensures compliance to Section 61 of the Control of Pollution Act 1974 and helps protect neighbouring communities from their effects.



	Motorway Settlement			Environmental Impact	
	3D Movement	Dynamic Monitoring	Long Term Structural Health	Long Term Environmental Impact	Noise Assessments
1 Automated Total Stations	✓		✓		
2 3D Scanning & Targetless Monitoring	✓				
3 3D Dynamic Video Gauging	✓	✓			
4 Wireless Tilt Sensors			✓		
5 Ground Inclometers			✓		
6 Fibre Optic Systems	✓	✓			
7 Foil/Vibrating Wire Strain Gauges		✓	✓		
8 Thermal Expansion - Temperature			✓		
9 Dynamic Displacement		✓			
10 Enviroguard - Vibration		✓			✓
11 Enviroguard - Noise				✓	✓
12 Weather Stations				✓	✓
13 Precipitation And Visibility Sensors				✓	

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Bridges

Increasing rates of traffic and the subsequent load strain it causes, in conjunction with general fatigue, can lead to unpredictable bridge failures. Our bridge monitoring systems accurately detect any structural health issues, enabling maintenance schedules to be planned and the reduction of visual inspections.

1 Absolute 3D Movement

Aging, nearby works or any repair works on a bridge, can cause a bridge to move. Typically, this is by millimetres but can be more severe and over time, could cause failure of the bridge.

Our solutions are able to monitor any movement either continuously, using our total station and prisms or manually using our 3D scanning equipment.

2 Bridge Load/Deflection Monitoring

By placing displacement sensors underneath the deck, we can provide a strong assessment of the structural integrity of a bridge at different loads.

The insight gathered from this long or short term monitoring can provide assurance that a bridge remains safe under load or alternatively, requires a maintenance and repair plan putting in place.

Our experts also have extensive experience monitoring load throughout bridge jacking and de-jacking operations ensuring optimum safety at all times.

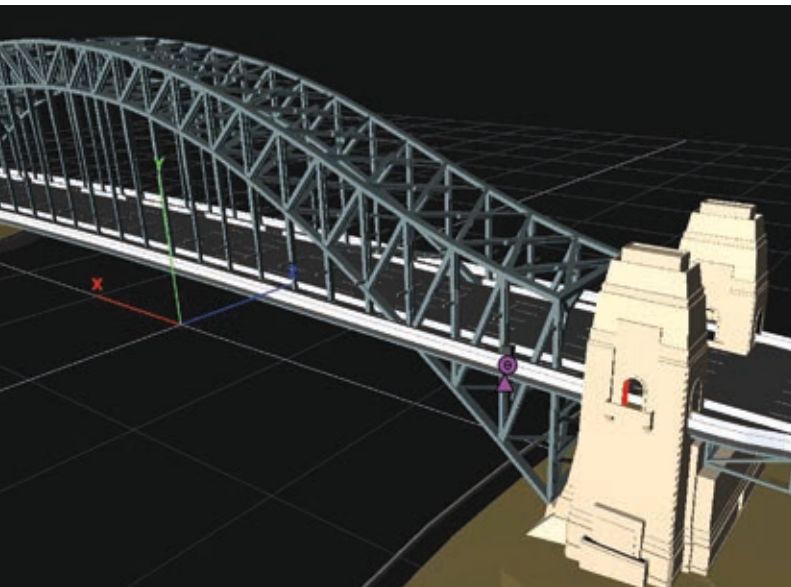
3 Abutment & Pier Monitoring

Movement or degradation in the abutments or piers of a bridge, can have an impact on the overall structural health of the bridge. The monitoring of these key components of the bridge, is therefore often performed as part of a full bridge monitoring scheme.

Soft ground conditions below bridges present settlement and stability issues for abutments. Conversely, well compacted, heavy material around the base of an abutment can cause rotation, which can lead to full expansion joint closure or even bowing of the deck in more serious cases.

Offering the complete solution to infrastructure projects, our large range of propping and jacking equipment means that our experienced team of temporary works experts can design you the perfect solution to keep your bridge safe whilst any remedial work is undertaken.

Email monitoring@mabeyhire.co.uk for more information



	Absolute 3D Movement		Bridge Load/Deflection Monitoring			Abutment & Pier Monitoring		
	Automated 3D Movement	Manual Monitoring	Load Test - Bridge Assessments	Long Term Structural Health	Bridge Strikes	Settlement	Long Term Structural Health	Structural Repair
1 Automated Total Stations	✓	✓		✓		✓		
2 3D Scanning & Targetless Monitoring	✓	✓						
3 3D Dynamic Video Gauging	✓		✓					
4 Load Monitoring - Temporary Works						✓		✓
5 Load Cells				✓				
6 Wireless Tilt Sensors				✓			✓	
7 Fibre Optic Systems	✓			✓	✓		✓	
8 Foil/Vibrating Wire Strain Gauges				✓	✓		✓	
9 Thermal Expansion - Temperature				✓		✓	✓	✓
10 Displacement Sensors				✓	✓			✓
11 Ground Inclinatorimeters						✓		
12 Impact Sensors - Accelerometers					✓			

Did you know...

Our jacking and structural monitoring solutions were used together to successfully float a flyover across 11 piers on Docklands Light Railway for 18 months.

For further information on any of our monitoring solutions, please refer to our website at mabeyhire.co.uk call us on **0845 741 3040** or email monitoring@mabeyhire.co.uk

Bridges

Increasing rates of traffic and the subsequent load strain it causes, in conjunction with general fatigue, can lead to unpredictable bridge failures. Our bridge monitoring systems accurately detect any structural health issues, enabling maintenance schedules to be planned and the reduction of visual inspections.

4 Bridge Crack Monitoring

Crack identification is one of the most important aspects of structural health monitoring. Cracks will occur in most structures and are often the first signs of more serious defects. Using our monitoring solutions, we can record and observe the changes in crack behaviour in real-time, providing much more accurate and detailed insight than visual inspections. This ensures that potential structural failures are detected at an early stage, helping to ensure that our bridges remain safe and in good structural health.



5 Bearing Monitoring

Environmental conditions, grit or residues from the road, aging and fatigue, are all factors that can cause bearings to cease which can be catastrophic for the bridge deck and the pier.

By using our displacement sensors to monitor the movement of the bearings over time, any maintenance requirements can be planned in, ensuring the bridge remains safe and enabling any costs to be planned in. We also have solutions to measure the temperature of the concrete in order to monitor any thermal expansion and contraction of the bridge.



6 Expansion Joint Monitoring

Residues and grit from the road can cause corrosion and blockages on the expansion joints. This can affect the expansion properties of the bridge, which in turn can cause deck seizure.

Change of movement outside the normal expansion of the bridge, could also identify that the expansion joints need some general maintenance.

Implementing structural monitoring can highlight the need to maintain or replace any steel expansion joints before these issues occur.



Our expert monitoring team, combined with our structural engineers can also implement any remedial work that may be required on a bridge.

We can mitigate any risks by integrating our temporary works equipment and controlling any lifting with our hydraulic jacks and monitoring systems.

Email monitoring@mabeyhire.co.uk for more information



	Bridge Crack Monitoring	Bearing Monitoring		Expansion Joint Monitoring	
	Movement	Movement	Long Term Bearing Health	Movement	Long Term Expansion Joint Health
1 3D Scanning & Targetless Monitoring	✓			✓	
2 Load Cells			✓		✓
3 Wireless Tilt Sensors					✓
4 Fibre Optic Systems					✓
5 Foil / Vibrating Wire Strain Gauges	✓		✓		
6 Temperature Sensors	✓	✓	✓	✓	✓
7 Displacement Sensors	✓	✓	✓	✓	✓
8 Crack Propagation Sensors	✓				
9 Ptfe - Depth Gauges		✓	✓		
10 Impact Sensors - Accelerometers				✓	✓

Did you know...

We have the most extensive range of hydraulic jacks, supported by our dedicated team of professionals

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Building Monitoring

Buildings are subject to natural movement, however, activity in and around them imposes the risk of greater than usual movement through vibration. This may be as a result of such things as party wall activity, adjacent piling works, internal demolitions or basement construction. In such circumstances, it is important that a monitoring solution is installed in order to protect these assets by highlighting any significant movement as soon as it occurs.

Our monitoring solutions can be useful at any stage of a buildings lifecycle - throughout the construction process, on an existing building or during a nearby demolition.

Applications

- Basement Excavations
- Façade Retention
- Building Movement
- Demolition
- Load monitoring during construction
- Ground engineering



Structural Monitoring of Buildings

There are a great number of situations in which buildings can benefit from structural monitoring throughout their lifecycle. Structural monitoring provides the insight to ensure that from the start of the construction phase and throughout the life of the building, the structural integrity is maintained.

1 Basement Excavations

Our bespoke wireless load monitoring solution, LIVEpin works exclusively with our excavation support systems. Implementing load monitoring on the groundworks support within large scale excavations, gives peace of mind that your project is secure.

The ground around such an excavation can also be monitored and any movement reported in real-time ensuring that the excavation remains safe.

2 Building Movement

Movement will occur in most buildings, but significant movement as a result of nearby works or building renovations can cause serious issues. Using our real-time monitoring solutions, we can record and observe movement over time, providing an accurate and detailed synopsis. Any structural failures in the building are therefore detected at an early stage, enabling repair plans to be put in place.

3 Demolition

Levels of noise, dust and vibration tend to be elevated on a demolition site and so can affect people that live and work in the surrounding area.

The Mabey Hire Enviroguard, is an all-in-one environmental monitoring system, able to measure all these factors and more. It sends real-time data to our Insite web portal and has tailored trigger alarms alerting you to any breaches. This will ensure your demolition site remains compliant to Section 61. This system can also be integrated with dust suppression systems to prevent limits from being reached.

Vibration monitoring ensures that the effects of construction are not causing any other issues on site or for neighbouring properties. Our solutions include our Portable Vibration Monitoring unit or our fixed Enviroguard unit for longer term vibration monitoring.

Email monitoring@mabeyhire.co.uk for more information



	Basement Excavations		Building Movement		Demolition	
	Excavations	Structural Movement	Facade Retention	3rd Party Wall Agreement	Environmental Impact	Structural Movement
1 Automated Total Stations	✓	✓	✓			✓
2 3D Scanning & Targetless Monitoring	✓	✓				
3 Manual Surveying	✓			✓		✓
4 LIVEpin - Load & Temperature	✓				✓	
5 Wireless Tilt Sensors			✓			✓
6 Foil / Vibrating Wire Strain Gauges			✓	✓		✓
7 Thermal Expansion - Temperature			✓			✓
8 Displacement Sensors			✓	✓		
9 Ground inclinometers	✓	✓				✓
10 Enviroguard - Noise, Dust And Vibration				✓	✓	
11 Dust Suppression					✓	
12 Portable Vibration		✓		✓	✓	

Did you know...

Our structural monitoring ensured that any movement of a multi-storey building with a full glass facade, never exceeded set parameters when tunnelling work was underway in the London Underground below.

For more information, view our Bank Station case study at mabeyhire.co.uk

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Monitoring for Utilities

Working with our customers, our monitoring solutions have been used extensively across the utility industry. From our gas, electricity and water supply network, to our nuclear infrastructure, our monitoring solutions ensure that projects run safely and on time.

We often monitor for ground movement, vibration and VOC's to support pipe laying or land remediation work and we also have the equipment to support activity on reservoirs and dams ensuring that water levels and water quality are monitored and flood prevention schemes are in place.

Applications

- Pipelines
- Sub Stations
- Reservoirs and Dams
- Water Quality
- Environmental



Monitoring for Utilities

Assets within the utilities market are particularly varied. Reservoirs, inlets, chambers, high pressure mains, treatment works and pumping stations are just some examples. Management of these assets is key and the data provided through monitoring is vital to aid decision making when it comes to upgrading or repairing.

1 Pipelines

Our monitoring solutions provide critical insight to ensure that the maintenance of our pipelines can progress safely and efficiently.

From providing data and alerts on gas levels, to highlighting any movement of manholes or old Victorian sewers during any maintenance work. Our solutions can ensure that pipeline maintenance is completed without any major disruption or delays.

Within deeper projects in urban areas, our data can provide assurance that nearby structures are not affected by vibration due to any major pipeline works close to their foundations.

2 Sub Stations

Electrical sub stations in particular, are highly sensitive to vibration due to the electrical components housed within. It is therefore key, that these structures are protected from any vibration or ground movement that may occur as a result of adjacent excavations or piling works.

Our vibration monitoring solutions can provide 24/7 real-time data to highlight any cause for concern and will immediately alert project managers should any parameters be met. This enables works to pause whilst any vibration or movement is assessed for impact.

3 Reservoirs/Dams

Monitoring can be used as a preventative measure in a number of situations that may occur within reservoirs or dams. Our Enviroguard, environmental monitoring solution can be implemented to monitor water levels as part of a flood prevention scheme. It will generate early warnings to make sure that action plans can be put in place before the event of a flood. These same units can also be used to monitor water quality.

Our structural monitoring solutions such as 3D scanning and manual surveying can also be put in place to monitor the integrity of any reservoir or dam walls to provide assurance that they remain in good structural condition.

Our Enviroguard units are the ideal solution for the monitoring of VOC's and other gases when conducting land remediation work on any contaminated land surrounding old gas chambers.

Email monitoring@mabeyhire.co.uk for more information



	Pipelines		Sub Stations	Reservoirs/Dams	
	Structural Deformation	Damage / Leakage	Asset Protection	Structural Movement	Long Term Structural Health
1 Automated Total Stations	✓			✓	✓
2 Manual Surveying	✓			✓	
3 Vibration	✓	✓	✓		✓
4 Wireless Tilt Sensors			✓	✓	✓
5 Foil / Vibrating Wire Strain Gauges	✓	✓			
6 Thermal Expansion - Temperature	✓	✓		✓	✓
7 Water Level					✓
8 Enviroguard - VOC - Gas Monitoring		✓			
9 Ground inclinometers		✓			✓

Did you know...

We provided hydraulic support and load monitoring for the outflow of what was the worlds largest hydroelectric dam in Venezuela.

For further information on any of our monitoring solutions, please refer to our website at mabeyhire.co.uk
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Monitoring & Control

As a leading provider of structural propping and jacking, combined with our monitoring expertise, we are able to offer a complete range of monitoring and control systems for applications across the construction and civil engineering sectors.

Managing risk on any project is key. By integrating our expertise in structural support and hydraulic control, we ensure that projects can go ahead safely and efficiently.

When further assurance is required, we have unrivalled experience in integrating our real-time structural monitoring. The data that this delivers, is used to automatically control the hydraulic jacking system. This ensures we mitigate any risk of potential damage and structural failure.

Our wide range of jacks, purpose designed synchronised pumps and computer controlled jacking techniques means we can create a bespoke solution for your project.

- Managing long term settlement
- Tunneling settlement
- Building movement
- Load and displacement monitoring
- Asset protection due to 3rd party works



200m
bridge in need of
essential repair

80,000
vehicles use the motorway
bridge every day

88
hydraulic jacks used
on the project to lift the
bridge by just 5mm

Essential repair
work required
on the concrete
piers of a 45 year
old bridge.

Used by over 80,000 vehicles every day, closing the bridge, even in one direction, was not an option.

We designed, fabricated and installed a bespoke solution to lift the bridge just 5mm using

- Superprop
- 88 hydraulic Hymat jacks

We also implemented a structural monitoring solution to monitor for any movement during the works, ensuring use of the bridge could continue safely.

Our unique combined expertise in propping, jacking and monitoring meant that we could successfully manage this project, and others like it, from start to finish.

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Environmental Monitoring

Environmental Monitoring in construction, is the measurement and analysis of environmental conditions both on and around work sites. This includes Noise, Dust, Vibration, VOC, Wind Speed and Direction and more.

Environmental Monitoring enables construction and infrastructure projects to stay within permitted noise, dust, and vibration limits, ensuring compliance to Section 61 of the Control of Pollution Act 1974 and helps to reduce their environmental impact.

The monitoring and management of environmental conditions also helps to protect against potential claims. It provides the data you need to mitigate risk and avoid potential costly programme delays due to local enforcement actions.

Section 61 applications

A completed and approved Section 61 application can have great benefits to a project. It gives legal protection to the contractor whilst also building trust with local residents, reducing the risk of complaints.

Our expertise in environmental monitoring, means we can work with you to ensure your application is approved, enabling you to reach the full potential of the rate of works whilst remaining within acceptable limits of noise, dust and vibration.

The key to an approved Section 61 agreement is early involvement in your project. This ensures that we can create a detailed, tailor made plan to mitigate noise and vibration levels. This plan will consider local constraints, availability of plant and any project implications.

Once approved, our monitoring systems will make sure that your site adheres to your Section 61 agreement and will provide evidence of compliance should it be required.

Enviroguard

Mabey Hire Enviroguard is a real-time monitoring solution able to measure any number of factors that might impact the environment.

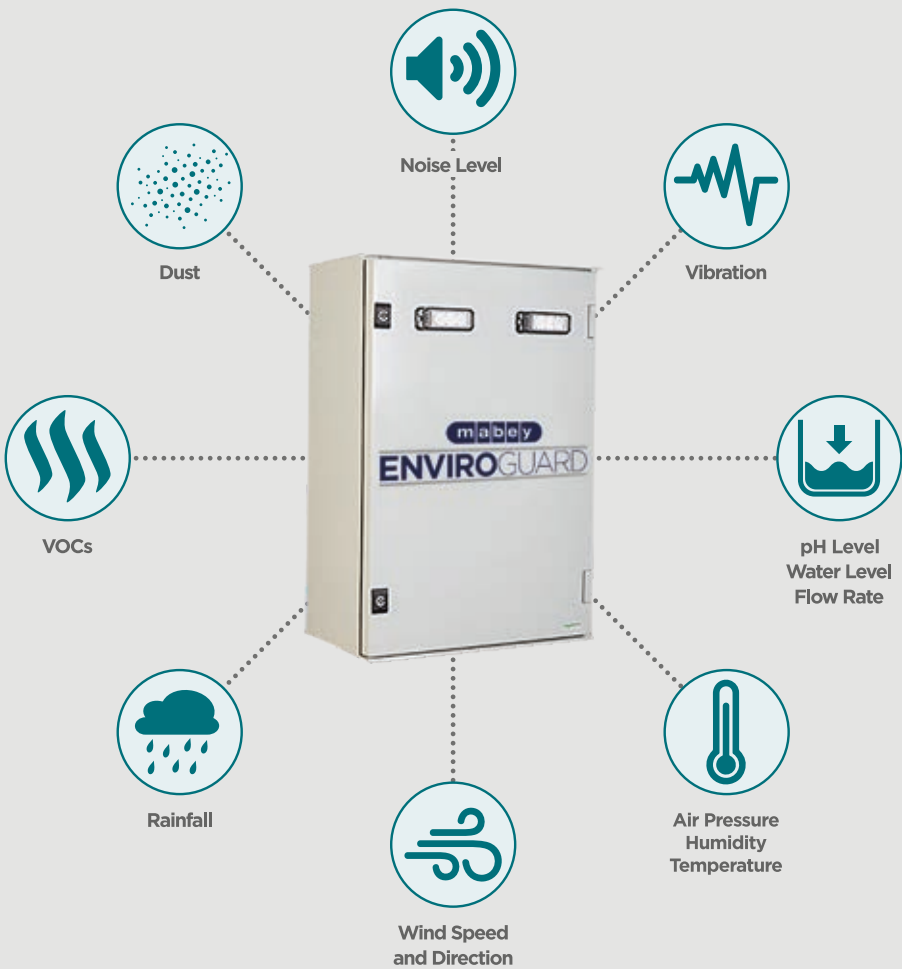
Ideal for use in and around a construction or demolition site, by continuously monitoring on-site conditions it ensures compliance to Section 61 of the Control of Pollution Act 1974 whilst also helping to minimise:

- The environmental footprint of the site
- Delays due to work stoppages
- Disruption to the local neighbourhood

Features & Benefits:

- **Real-time monitoring solution** - Provides 24/7 real time data for complete assurance
- **Modular and scalable** - Tailored to your exact requirement
- **Measures Air Quality, Noise Dust & Vibration, Weather and more** - everything you need in one unit
- **Live data via web portal** - Instantly manage your data remotely
- **Tailored trigger level alarms** - Immediate notification of any changes that require action to be taken
- **Installed and configured by our experienced engineers** - giving you the complete solution
- **Can be integrated with dust suppression units** - for the complete dust solution

An all in one solution, each Enviroguard unit is tailored to the exact requirements of each project with the ability to monitor many different factors including:



Enviroguard units are fully installed and commissioned by our expert engineers.



The Enviroguard unit, takes constant, highly accurate measurements.



The unit then transmits all data seamlessly to Mabey Hire Insite, to be accessed on PC or mobile.

Portable Vibration Monitoring



The perfect solution for shorter term or multiple ad-hoc measurements, this portable vibration monitoring solution has been specifically designed to be robust and easy to use – ideal for construction and demolition environments.

Housed in a virtually unbreakable, IP67 rated case, the Portable Vibration Monitor can be moved around site as a project progresses and features audible and visual alert beacons to warn of any breaches.

Our Portable Vibration Monitor is fully compliant to BS7385, BS5228 and DIN4150-2 and is ideal for use in a wide range of applications for example:

- Construction and demolition activities
- Piling projects and Groundworks
- Party wall agreements
- Rail embankment monitoring
- Buried services monitoring
- Traffic surveys

Features & Benefits:

- **Simple, intuitive touchscreen operation** - easy to use
- **Lightweight, portable unit** - can easily be moved around site
- **Battery operated with mains charger** - ensures continual, uninterrupted use
- **Data is stored to the unit memory, for USB download** - for analysis at a later stage
- **If required, data may be streamed to our online portal (Insite)** - for instant real-time review



For further information on any of our monitoring solutions, please refer to our website at mabeyhire.co.uk
call us on **0845 741 3040** or email monitoring@mabeyhire.co.uk

Engineering the future

Here at Mabey Hire, we are committed to driving our industry forward. Whether through using the latest technologies or through learning and development, we are constantly looking for ways to improve safety and efficiency for our customers.

With a dedicated digital engineering team embedded in our business, we use the latest technology to help our customers design winning bids, reduce the costs of construction, speed up delivery, improve safety and reduce the full-life cost of infrastructure.

We are extremely passionate about raising standards in the temporary works industry. In fact, the ICE has approved our structured training agreement and many of our engineering team are either Fellows of the ICE, Chartered Engineers or are working towards professional qualifications.

Looking to the future, our STEM Education Programme, which encourages school children to consider a career in engineering, enables a new generation of engineers to take our industry forward.

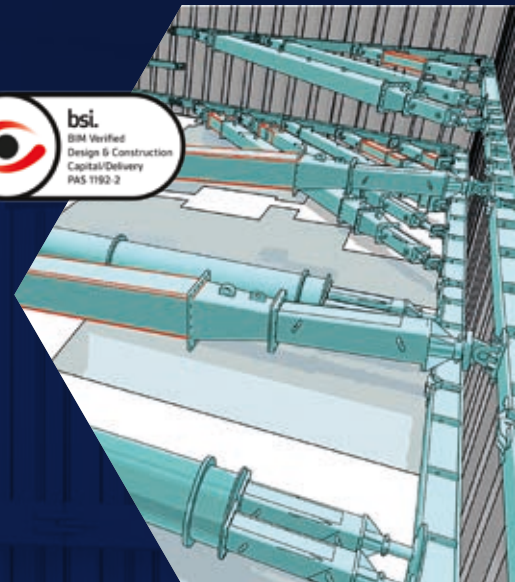


IMMERSIVE TECHNOLOGY

Our highly skilled digital experts develop tools using the latest technologies to take clients on an immersive journey of their project. We use virtual design and the latest software to reduce the risk of any unforeseen issues before the project even begins.

BIM (BUILDING INFORMATION MODELLING)

Our early adoption of Revit 3D software in our scheme designs, enabled us to further help our clients to win and deliver projects. We were the first in the temporary works industry to achieve BIM Level 2 certification for Design and Construction.



STEM (SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS)

We take our responsibility for encouraging the next generation of engineers seriously. That's why we have built the STEM Education programme, using LEGO® to inspire children to consider a career in engineering, delivered by our own STEM Ambassadors.



LEARNING & DEVELOPMENT

With our in-house ICE accredited training programme we are committed to supporting the development of our engineers to raise standards within the temporary works industry.



Working with Mabey Hire

Any delay impacts a construction project significantly, so our customers demand a right first time service. We have built our business to ensure we meet that need.

As an award-winning temporary works specialist - we have the knowledge, experience and the support network to ensure we deliver an unrivalled service. This ensures we can deliver a quick and efficient solution, from design through to delivery and installation, throughout the UK.

This service is backed by our commitment to quality, safety and the environment.

4.8/5



CUSTOMER
SATISFACTION
RATING

£2M



ANNUAL
INVESTMENT
IN EQUIPMENT

98.75%



ON TIME IN
FULL INVOICE
CORRECT

£1M



ANNUAL INVESTMENT
IN VEHICLES

Site Services

Successful completion of any contract requires co-operation and a desire to succeed from all parties. Our mission is to bring the benefit of our market-leading products together with our experienced engineers and our installation capability to offer safe, economic and least intrusive temporary works solutions, delivered on time and on budget. Our site management and installation teams work closely with the engineers and our clients to advise, plan and execute works on site in a safe, timely manner with due regard to the needs of others working around us.

Customer Service Excellence

We pride ourselves on our commitment to customer service excellence and regularly conduct external research to refine and improve our service offering, striving for complete customer satisfaction.

Commitment to Quality, Safety and the Environment

Our health and safety programme has been recognised by numerous professional bodies across the construction and manufacturing industry.

ISO accreditation:



Third party accreditation:



Safety Schemes in Procurement (SSIPs):

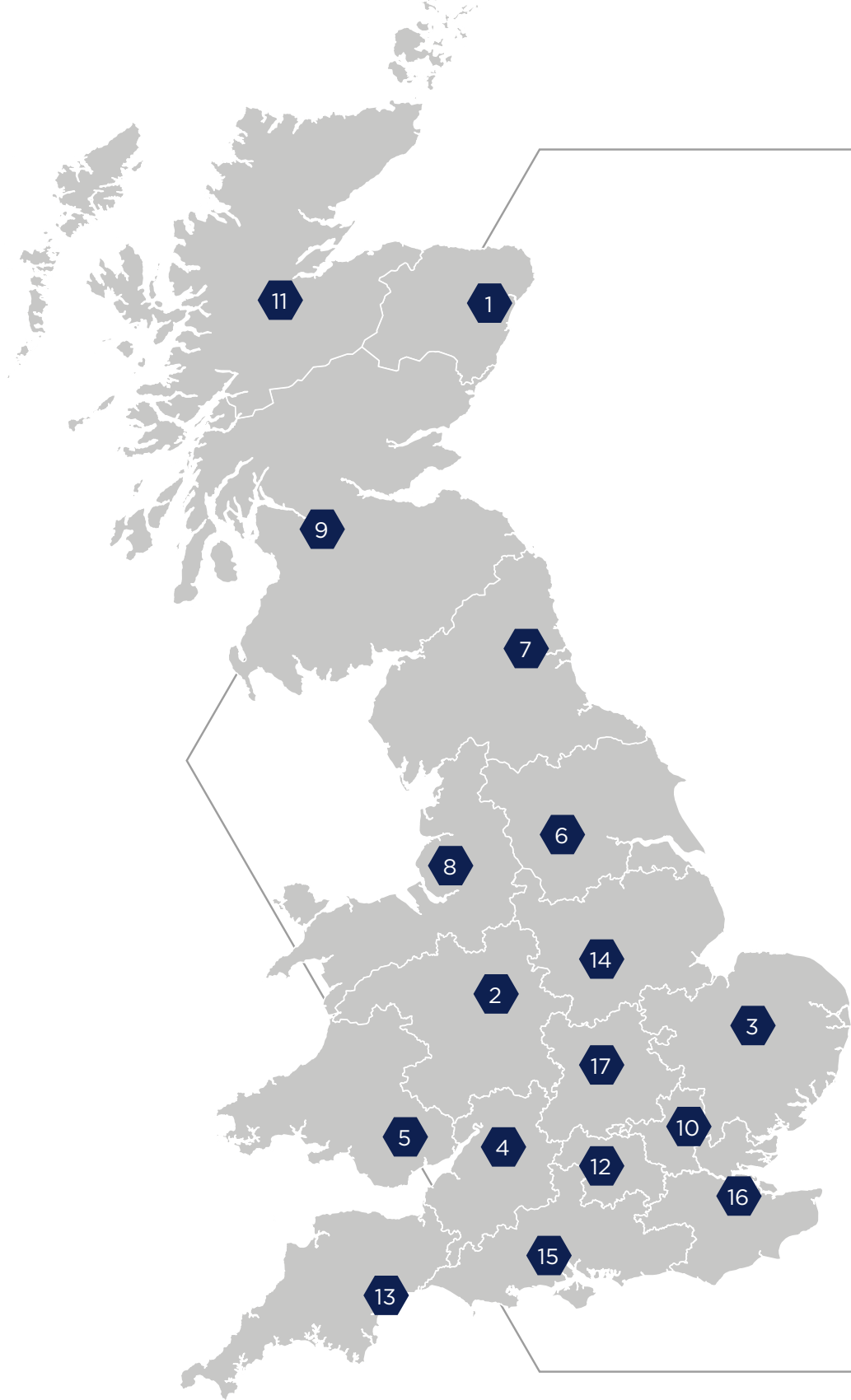


Safety Awards:



Mabey Near You

Working from 17 depot locations across the UK, we're never far away from your next project.



Aberdeen 01358 723650	1
Bilston 01902 404512	2
Bury St. Edmunds 01284 767600	3
Calne 01249 821193	4
Cardiff 02920 396621	5
Dewsbury 01924 464695	6
Durham 01915 175600	7
Garswood 01942 725341	8
Glasgow 01417 793535	9
Hatfield 01707 267171	10
Inverness 01463 239222	11
Iver 01895 262070	12
Newton Abbot 01626 833391	13
Nottingham 01159 301154	14
Romsey 01794 515666	15
Stroud 01634 722465	16
Wellingborough 01933 441155	17



PROPPING
& JACKING



MONITORING



TEMPORARY
ACCESS



FORMWORK &
FALSEWORK



GROUND
WORKS



TEMPORARY
BRIDGING



0845 741 3040
monitoring@mabeyhire.co.uk