CERTAINTY FOR HIRE

Instrumentation and monitoring

mabey.com
In the complex and competitive world of construction, you need equipment, information and experience you can trust. As a leading engineering and construction services provider, Mabey gives you the confidence to deliver projects quickly, safely and efficiently.

Operating from 17 different locations in the UK, we provide engineered modular and proprietary temporary works equipment including excavation support, temporary bridging, and heavy propping and jacking to construction sites across the country. What’s more, we also offer an industry-leading range of monitoring solutions designed to provide you with vital, real-time information about structural change and environmental impact.

Our expert team brings together a wealth of engineering experience with cutting edge technology to give you highly accurate measurement through real-time information about stress, load, noise and more. All of your data is instantly visible through our unique LIVEsite web platform. Configured to meet your specific requirements, LIVEsite enables you to take full control of your site’s safety, compliance and productivity.
ENVIRONMENTAL AND VIBRATION MONITORING

The need for environmental and vibration monitoring is often driven by governance. Clients increasingly expect their supply chains to show that they have considered the potential impact on existing structures and the environment on and around work sites, meaning responsible contractors are favoured by clients as an extension of their own environmental commitment.

It’s important to make sure your monitoring equipment works for you. Precision is key, and convenience counts; so we’ve developed a range of environmental solutions that can be tailored to each application. Whether it’s water levels or wind speed – with instantly accessible data on our unique LIVEsite platform, you’ll have all the information you need to stay on the right side of the regulations throughout your project.

THE COMPLETE ENVIRONMENTAL SOLUTION

EnviroGuard is a complete modular and scalable environmental monitoring system that provides real-time measurement of site conditions, in full compliance with Section 61 planning restrictions. We provide advanced sensors for every important environmental measure, and we work with you to configure the ideal system for your project. Your EnviroGuard data is also streamed wirelessly to LIVEsite so the moment anything changes, you’ll know about it.

SENSORS

We offer a full range of environmental sensors with outstanding accuracy, including:

- Dust and airborne particulates (light scatter, cyclonic or non-cyclonic, PM10 or PM2.5)
- Noise levels (class 1)
- Wind speed and direction
- Barometric pressure
- Rainfall (tipping bucket)
- Temperature (internal, external, structural, concrete curing)
- pH levels
- Flow rate
- Water pressure
- Water level
- VOCs (Volatile Organic Compounds)
- Gases

PORTABLE VIBRATION MONITORING

Managing vibration requires extreme sensitivity, but it doesn’t need to be complicated. Ideal for short term or moving operations, such as piling, our portable system offers straightforward vibration and air overpressure monitoring. Housed in a virtually unbreakable, waterproof portable case, external two-stage visible and audible trigger alerts ensure that you are minimising risk and on track with compliance. Data can be downloaded easily – either straight to your laptop or through a USB stick, for analysis or recording purposes.

STATIC VIBRATION MONITORING

Our static systems provide fixed monitoring in situations where the effect of construction activity needs to be measured over a longer period. Real-time reporting to LIVEsite means that engineers are immediately alerted should trigger and alert levels be breached, allowing appropriate action to be taken quickly.

FLEXIBLE MONITORING SOLUTIONS

Our range of handheld devices are ideal for areas where spot monitoring is required. They accurately record dust and airborne particulates, noise levels, vibration, gas and VOCs. Instant readings appear on-screen or you can download your measurements and voice note annotations to a laptop later.
STRUCTURAL MONITORING

Even tiny structural changes can have serious implications, so it’s important to react fast. Our range of temporary and ongoing monitoring and control solutions can be used on both construction sites where structures are affected by the works, or in the pre-construction phase to provide engineers with vital, accurate data allowing the repair or extension to be designed more quickly, safely and efficiently.

With our long history of structural engineering excellence, the Mabey team provide expertise on all types of monitoring solutions. Our industry experience, along with our commitment to innovation, creates structural monitoring capabilities that are unrivalled in the market.

COMPLETE SOLUTIONS

By combining monitoring techniques, our solutions create a full picture of the factors affecting each structure – providing the information you need for effective and timely intervention. Our systems monitor the performance of structures for changes in load, temperature, rotation, displacement, inclination, strain, fatigue, vibration, deflection and crack movement. Used alone or in combination, our optical monitoring systems detect physical movement through 3D scans, automated deformation monitoring, absolute displacement and 3D displacement – and, with a dynamic monitoring station, you don’t even need access to a structure directly to measure it. This complete structural understanding is wirelessly streamed to LIVEsite, where it can be visualised in real-time through our LIVEBIM 3D modelling software.

WIRELESS LOAD MONITORING

In a large-scale excavation environment, safety is the number one priority. Our bespoke wireless load monitoring solution, LIVEpin, has been designed to work exclusively with Mabey excavation support systems. LIVEpin works by measuring the axial load on your propping equipment, keeping you up to speed with the performance of the system. LIVEpin fits within the prop, providing constant, accurate measurement of load and temperature, feeding data back to LIVEsite with email alerts when a pre-set threshold is breached.

EFFICIENCY FOR HIRE

By combining monitoring techniques, our solutions create a full picture of the factors affecting each structure – providing the information you need for effective and timely intervention. Our systems monitor the performance of structures for changes in load, temperature, rotation, displacement, inclination, strain, fatigue, vibration, deflection and crack movement. Used alone or in combination, our optical monitoring systems detect physical movement through 3D scans, automated deformation monitoring, absolute displacement and 3D displacement – and, with a dynamic monitoring station, you don’t even need access to a structure directly to measure it. This complete structural understanding is wirelessly streamed to LIVEsite, where it can be visualised in real-time through our LIVEBIM 3D modelling software.

COMPUTER-CONTROLLED HYDRAULIC JACKING SYSTEMS

With extensive experience in the movement and control of structures using hydraulic jacking systems, we work with our clients to produce reliable, economic and innovative solutions. Combined with our monitoring capabilities, we ensure optimum safety at all times – responding to real-time information on structural condition with highly accurate computer-controlled hydraulic movement systems.
LIVESITE

LIVEsite is Mabey’s unique web platform; it’s the online hub for our instrumentation and monitoring solutions with advanced reporting and graphing tools enabling easy conditioning and use of data. LIVEsite has been designed with the user in mind – giving instant, remote access to the information you need, meaning you can take action as soon as things start to change.

Developed in-house by our engineers, we configure your LIVEsite portal as part of the system set-up process; all you need to do is specify how you’d like the data presented and what parameters need to be set. You can receive email alerts when a specific value has been breached, and our Mabey engineers also monitor any data issues that arise, so they can advise appropriate solutions quickly.

– Desktop, tablet and mobile
– All sensors in one place
– Advanced alert and event logs
– Graph millions of readings instantly
– Custom screens, schematics and maps
– Advanced reporting tools

LIVEBIM

LIVEBIM is our groundbreaking new platform that allows you to visualise structural behaviour in real-time, in an easily understandable format. As part of LIVEsite, LIVEBIM incorporates your structural monitoring data into a fully interactive 3D BIM model, so you can see in detail what’s happening outside the natural behaviour of your structure. The 3D model changes colour as problems arise to give a fuller, more comprehensive picture of the life cycle of the project; ensuring effective solutions can be created with confidence.

– View 3D models with sensor data
– Visualise structure behaviour
– Share information with stakeholders
– Make better, faster decisions

INSTANT, REMOTE ACCESS TO THE INFORMATION YOU NEED – MEANING YOU CAN TAKE ACTION AS SOON AS THINGS START TO CHANGE
With our range of monitoring equipment, you can take control of structural changes and environmental impact, achieve peace of mind that you’re always in line with compliance, and be confident that you have the most cost-effective systems in place.

Our solutions include:
- EnviroGuard
- Micromate
- Handheld portables
- Structural monitoring systems
- Computer-controlled hydraulic jacking systems
- LIVEpin
- LIVEsite

IF YOU’D LIKE TO FIND OUT MORE ABOUT BRINGING GREATER CERTAINTY AND CONTROL TO YOUR SITE –

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