



Changing the emphasis from safety to health

Trolex eBook

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INTRODUCTION

When it comes to worker wellbeing, the historical focus has been around making workplaces safer. Whether this is avoiding injury due to falling equipment, preventing explosions from gas, reducing injuries or even fatalities sustained from trips or falls, keeping employees safe at work has been – and will continue to be – a major part of industrial workplace health and safety.

However, we are now seeing a shift from general safety to concentrating more on employee health, especially the potential impacts on long-term health associated with working in hazardous environments. This is due in part to increased awareness across society regarding the long term health hazards associated with dust, gas and contaminated water, backed up by increasingly stringent regulation.

In addition, there is growing evidence of the value of employee wellbeing to business performance - a [CIPD survey found that 47% of employers](#) now think that employee wellbeing is directly linked to business performance, and this is particularly true in the mining and manufacturing sectors which remain physically demanding jobs.

In this eBook we discuss the way in which the arrival of affordable, real-time monitoring technologies is set to enable fundamental change and truly enable organisations to ensure employees are both safe and healthy.



NEW WORKPLACE PRIORITIES

Changing attitudes globally by both businesses and regulators are exemplified by [the Health and Safety Executive's 2016/17 review](#), which indicated the changing emphasis towards health, highlighting that the agency had completed 20,000 inspections of workplaces to reduce risk “particularly to health” in selected high risk industries.

HSE's priorities for the next 12 months were identified as establishing:

- A three year health and work programme to reduce levels of a number of long term health issues, including:
 - o work-related stress
 - o musculoskeletal disorders and
 - o occupational lung diseases
- Key deliverables are also aimed at reducing longer term health risks, including 880 inspections in the construction industry to tackle exposure to respirable crystalline silica (RCS) and promoting better enclosing processes, dust suppression/extraction, provision of effective RPE (Respiratory protective equipment).

Improving employee awareness and training is also an essential component of any wellbeing strategy.



WHY WELLBEING IS ESSENTIAL

It is becoming increasingly clear that companies focusing on employee wellbeing can gain significant long term benefits in productivity.

[A study compiled by the University of Birmingham and Health Exchange](#) highlighted that improving employee health factors – which obviously have better long term health implications – can also actually decrease the chances of workplace injuries due to increased employee awareness and performance.

In a [paper compiled by advisory, conciliation and arbitration service, Acas](#), reviewing the future of workplace relations and employee wellbeing it is stated that “whilst physical health and safety in the workplace remains a paramount concern, more recently there has been a growing recognition of the importance of psychological and social elements of work.”

Emphasis is changing from protecting against trips and falls, towards long term health of employees.



UNDERSTANDING LONG TERM RISKS

While the danger of long term exposure to chemicals such as Asbestos has been well known for many years, it has become increasingly clear that many working environments create hazards that have a long term impact on employees, an impact that is not always immediately visible.

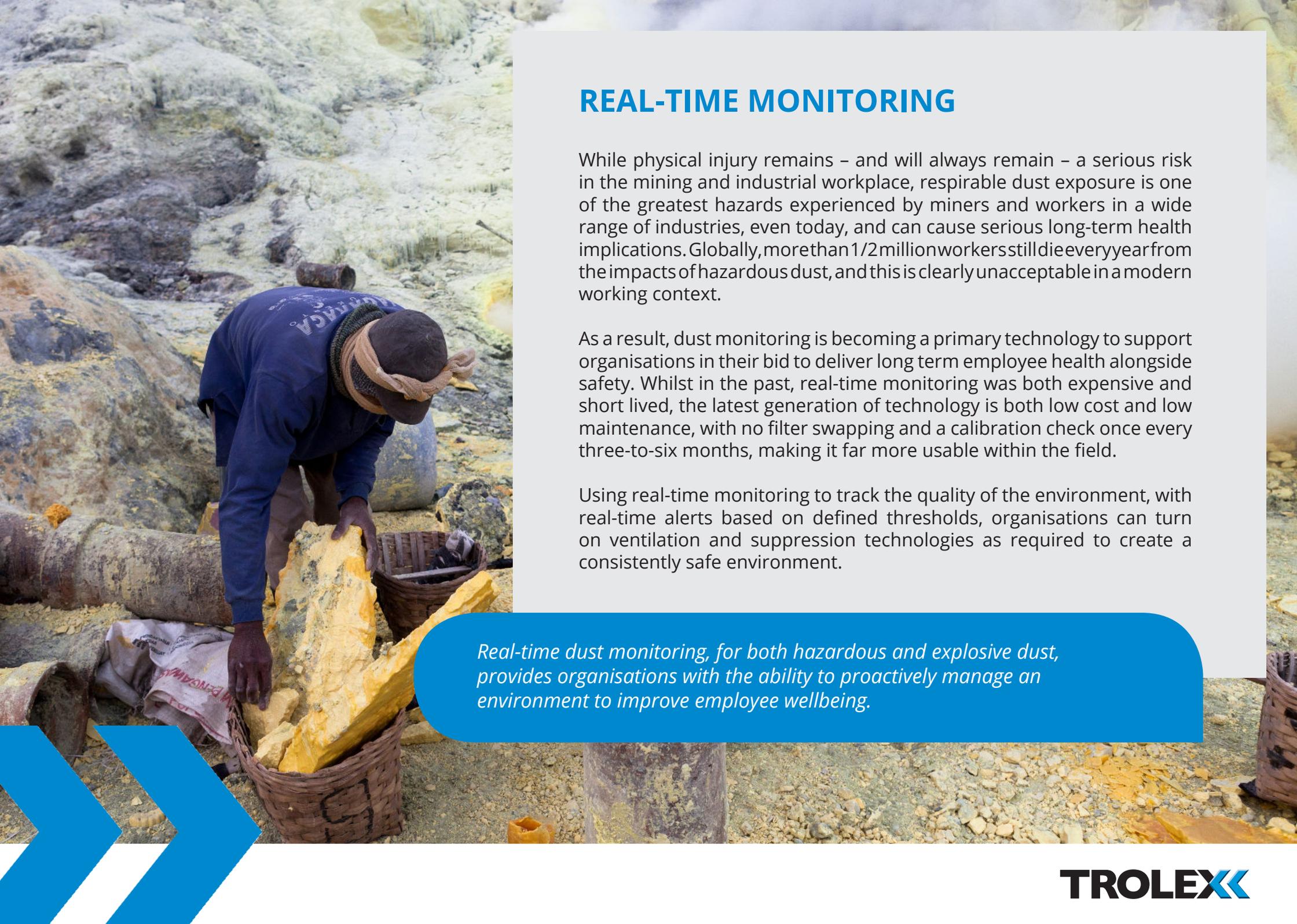
For example, individuals operating heavy machinery may experience little if any immediate issues but could end up with spinal problems, as well as hearing loss as a result of working in consistently loud environments.

The [specific long term health conditions](#) related to mining include:

- Noise induced hearing loss
- Respiratory conditions such as chronic obstructive pulmonary disease
- Head arm vibration related conditions such as vibration white finger
- Asbestos related conditions like mesothelioma

The traditional safety first focus within many environments has also left employees unaware and under educated regarding the potential risks. As research has improved the general understanding of the links between working environments and long term health – both physical and mental – it has become increasingly important to both safeguard employees and explain why such strategies are being embraced.

It is becoming essential to improve worker understanding regarding long term health and mitigate the risks present within hazardous working environments.



REAL-TIME MONITORING

While physical injury remains – and will always remain – a serious risk in the mining and industrial workplace, respirable dust exposure is one of the greatest hazards experienced by miners and workers in a wide range of industries, even today, and can cause serious long-term health implications. Globally, more than 1/2 million workers still die every year from the impacts of hazardous dust, and this is clearly unacceptable in a modern working context.

As a result, dust monitoring is becoming a primary technology to support organisations in their bid to deliver long term employee health alongside safety. Whilst in the past, real-time monitoring was both expensive and short lived, the latest generation of technology is both low cost and low maintenance, with no filter swapping and a calibration check once every three-to-six months, making it far more usable within the field.

Using real-time monitoring to track the quality of the environment, with real-time alerts based on defined thresholds, organisations can turn on ventilation and suppression technologies as required to create a consistently safe environment.

Real-time dust monitoring, for both hazardous and explosive dust, provides organisations with the ability to proactively manage an environment to improve employee wellbeing.

A photograph of a mine tunnel. The tunnel walls are dark and rocky. A metal ladder is suspended from the ceiling, and a bright light fixture is attached to it, illuminating the scene. The floor is dirt and rock.

MONITORING TO IMPROVE CONFIDENCE

While some mines and other companies operating in hazardous industries have used monitoring technology in the past, a lack of real-time information has undermined employee confidence in the accuracy and relevance of data. If air quality is checked only once every 24 hours, or strata movement assessed manually twice a day, employees will understandably ask just what is occurring the rest of the time. Is the air safe? What is the chance of a rock fall? Even if the environment remains 100% fine, a lack of knowledge and awareness can add to employees' stress, undermining morale and affecting long term health.

With real-time monitoring, organisations can demonstrate the quality of the environment to employees at all times. With real-time strata monitoring able to predict any risk of rock fall, employees can be completely confident in the safety of their environment, reducing stress as well as risk of serious injury.

Better information should also enable a far more tailored working environment – for example employees will not need to don masks or protective equipment simply as a matter of course, equipment that can be both restrictive and uncomfortable. Instead, with real-time monitoring, employees can be required to use the equipment only when the dust exposure reaches a certain threshold.

A flexible environment is far better for employees' long term wellbeing, job satisfaction and morale.

PERSONAL HEALTH INFORMATION

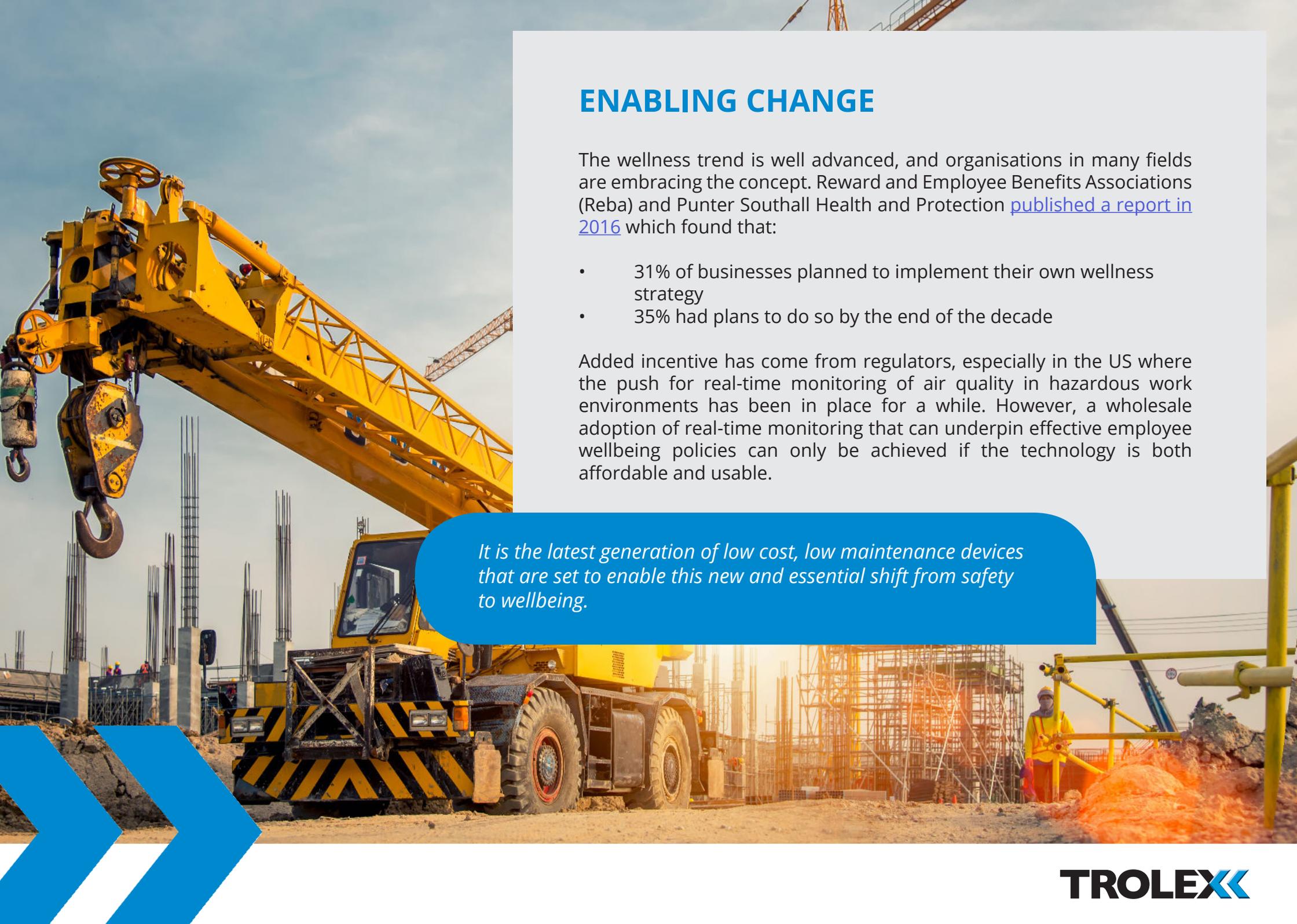
While the latest generation of real-time monitoring technology provides the information to enable organisations to be far more sophisticated about balancing employee comfort with safety, it is just the start.

Chest-mounted wearable sensors that measure heart rate, stress levels, breathing, and skin temperature are helping to monitor working conditions and alert workers to health risks which could have longer term effects than those caused by trips and falls.

This information can be fed back to operational systems in real-time, providing the safety officer or manager with the ability to deploy safety equipment and preventative measures at the point where they are most needed. It means they be incredibly flexible, deploying equipment based on both known hazards and known employee health factors.

If and when the hazards move, or an individual displays an unhealthy reading, the safety or operations manager can respond immediately.

An intelligent approach to dust suppression, ventilation or rock supports not only improves the working environment but can also drive down costs.



ENABLING CHANGE

The wellness trend is well advanced, and organisations in many fields are embracing the concept. Reward and Employee Benefits Associations (Reba) and Punter Southall Health and Protection [published a report in 2016](#) which found that:

- 31% of businesses planned to implement their own wellness strategy
- 35% had plans to do so by the end of the decade

Added incentive has come from regulators, especially in the US where the push for real-time monitoring of air quality in hazardous work environments has been in place for a while. However, a wholesale adoption of real-time monitoring that can underpin effective employee wellbeing policies can only be achieved if the technology is both affordable and usable.

It is the latest generation of low cost, low maintenance devices that are set to enable this new and essential shift from safety to wellbeing.

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