BMSI
BUILDING MANAGEMENT SOLUTIONS INTEGRATORS

Making Buildings Smarter

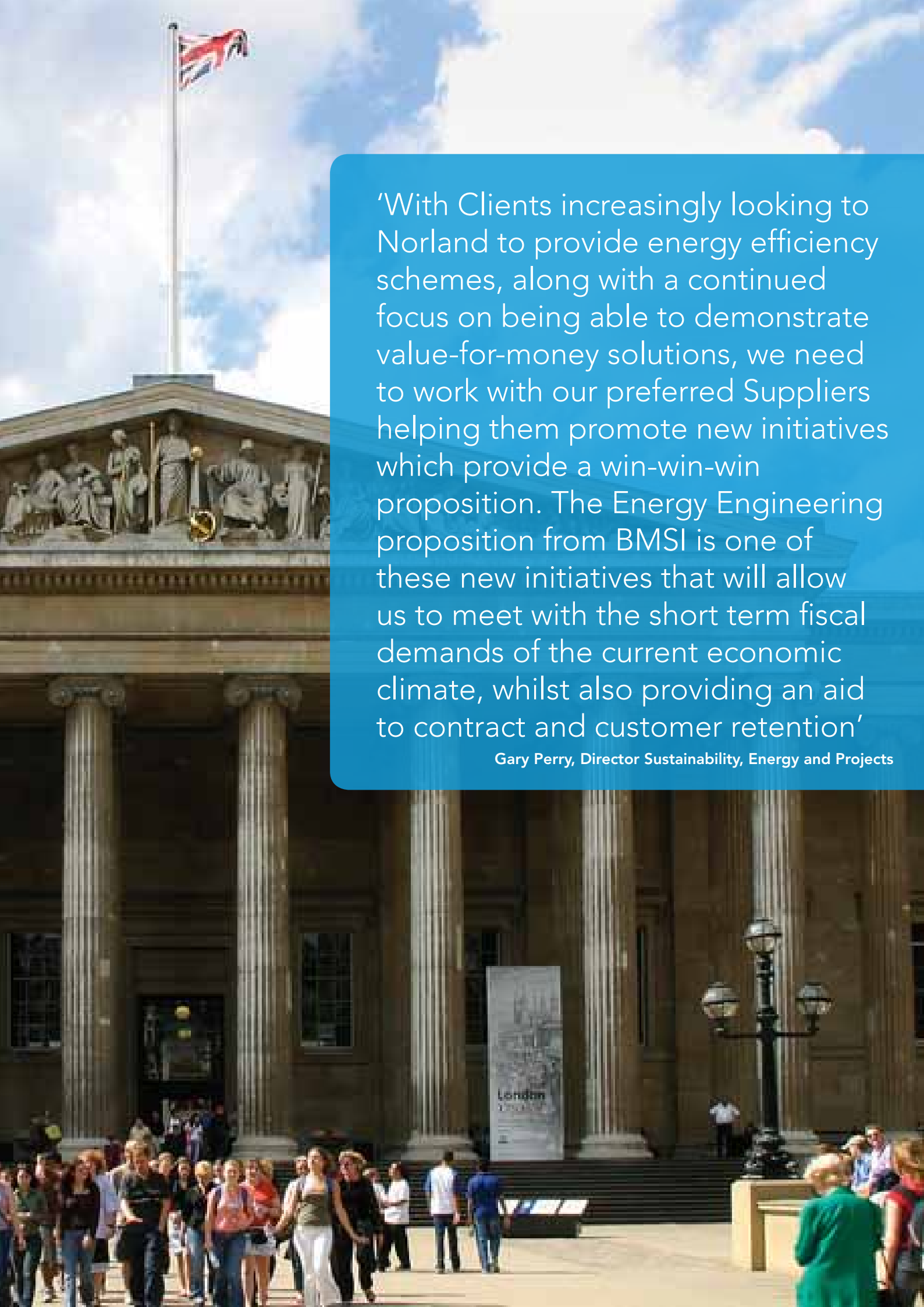
Part of British Gas

BMSI offer a cost-neutral Energy Engineering solution to the British Museum

In April 2012 Norland Managed Services were reviewing what further benefits they could add to their portfolio of services being provided to the British Museum. Energy Management and BMS Operation & Maintenance were high on their agenda as the on-site team considered how they could continue to provide a value Managed Services proposition to the Client and embed a methodology that would allow the client to realise real savings on his Energy Spend; savings that could be re-invested by the Client into further enhanced services bringing additional future business for Norland.

The Museum opened in 1759, receives 27,000 visitors a day for 362 days of the year and proudly displays many priceless artefacts, which brings an added complexity. Any new way of working would need to be non-intrusive whilst also providing the satisfaction of mind that overall services performance would not suffer in any way.

The BMSI team were able to offer a cost-neutral Energy Engineering agreement to replace the traditional asset-based PPM regime, where focus was applied to using the installed BeMS System to drive Energy Efficiency schemes as opposed to acting as a Control and Alarm system only. The new agreement contains a commitment that we will deliver an £Energy Saving that at least matches the cost of the agreement which, at a minimum, will save the annual cost of the traditional PPM service.



‘With Clients increasingly looking to Norland to provide energy efficiency schemes, along with a continued focus on being able to demonstrate value-for-money solutions, we need to work with our preferred Suppliers helping them promote new initiatives which provide a win-win-win proposition. The Energy Engineering proposition from BMSI is one of these new initiatives that will allow us to meet with the short term fiscal demands of the current economic climate, whilst also providing an aid to contract and customer retention’

Gary Perry, Director Sustainability, Energy and Projects

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Our Approach and Methodology

With Norland entering the final year of the current M & E maintenance support contract with the British Museum and facing an increasing demand from the Client for an evergreen innovative approach, it was time for some bold decisions by the on-site management team. The British Museum has a highly proactive approach to energy management and corporate social responsibility and had already made various commitments towards reducing CO_2 emissions from energy consumption.

As a result, those charged with managing the British Museums building control systems faced the daunting challenge of increasing building performance, while reducing costs, consumption, and emissions. Norland initially approached BMSI to provide an innovative maintenance solution, a number of small energy projects were quickly identified and agreed as part of the support package. We also realised there was further opportunity to help Norland improve energy management by providing Remote Energy Bureau services and supporting the site with BMSI's MEDiC2 BEMS performance solution.

…so we drew on our service strength as well as our technical expertise…

This is where BMSI's service focus emerged as a key strength. Our service and Energy Project teams endeavour to understand every client building inside-out so clients get what they need to ensure optimal energy management. At the British Museum, we had previously worked with the Energy Managers, Engineering Managers and Contract Managers to understand their main areas of concern and then take agreed actions to improve overall systems performance.

Our communication skills and diligence in monitoring built up goodwill with the various stakeholders which provided the platform to offer our Energy Engineering solution.

Energy Engineering

Energy Engineering is a term now being commonly used within the Building Services industry. To the BMSI team it is our proven techniques employed in existing buildings to reduce energy consumption utilising our skilled labour and making better use of the installed BeMS system.

Energy Engineering to us is an amalgamation of Energy Consultancy, Energy Management and Building Services experts, which takes an existing building and reviews its operational requirements against its building services and its current BEMS settings. The key is in the delivery as it is a one stop operation, from identification, through to implementation. This proven practice has saved BMSI clients millions of pounds and thousands of tonnes of carbon and includes:

- A Holistic view of a buildings Energy Performance
- Complete review of control strategy with focus on Energy reduction, without compromising the building environment
- Review of temperature and humidity set-points and dead-bands, reporting on any deviation of achieved temperatures from customer requirements.
- Monitoring & Targeting: Benchmarking of similar properties, Heating/Cooling Degree Days regression analysis to determine effectiveness of control regimes.
- Electricity, gas, oil and water meter data collection, storage and analysis.

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How well has it worked so far...

Within weeks, one small Energy project had significantly improved The British Museum's Energy performance. Predictions had promised they could expect cost savings of at least the full cost of the Energy Engineering contract within the first year. In reality, the figures were achieved within three months of commencing the contract. Impressively, the saving's had been achieved at a relatively low cost, requiring no additional major financial investment.

The Norland's operations team for The British Museum sees this initiative as a highly positive feature of their relationship with BMSI. BMSI's BEMS Engineer, Alastair Richardson, along with Norland Managed Services on-site BEMS specialist Andy Horrigan have been contributing significantly to the Energy reduction, and have added their own ideas into the pot for the British Museum initiative. This initiative is another way of making sure Norland get real value for money from their involvement with BMSI. That's good news for Norland and The British Museum – and even better for their staff and visitors.

Energy Engineering – key component parts

BMSI BEMS Bureau Service

The BMSI's Bureau service is a fundamental part of the energy engineering proposition, which can serve to support the client in a number of different ways:

- Building Management System control and measurement
- Alarm response
- Energy monitoring, analysis and reporting
- Performance issue resolution and improvement

Robust management of call handling and follow up processes ensures that all support requests are handled in line with agreed guidelines. Additionally, accurate records are maintained for client reporting. Positive client feedback, backed up by retention and satisfaction ratings, is testimony to the rigor of the team.

The supplementary support provided by our BEMS Bureau, offers cost saving opportunities back to the field team for further consideration. This is achieved by our team of energy experts identifying and rectifying problems remotely, without the cost implication of on-site attendance where possible and feeding back to the client where opportunities exist.

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MEDiC2

Making best use of new Software Tools and Applications is a further key part of our Energy Engineering solution. BMSI have included for our own product independent remote BEMS performance software solution – MEDiC2.

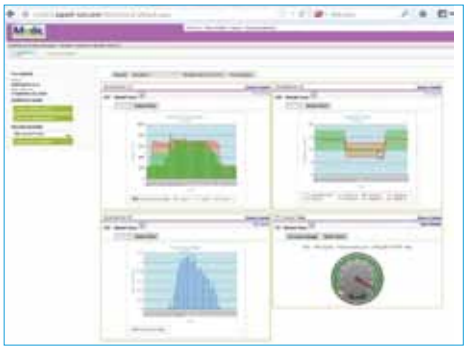
MEDiC2 is a single web-based platform to display:

- BMS Alarms
- BMS Control Loop profiling
- Energy Profile Data
- Energy Exception Alarms
- League Table Analysis

Other key elements

- Monitoring of pre-configured critical/operational alarms and limits
- Time schedules for operational plant and building services regularly reviewed
- Heating, ventilation and air-conditioning control schemes investigated and modified
- Point to point communications checks at pre-determined intervals
- Recorded data allows areas of high energy usage to be identified and therefore investigated
- Technical expertise is offered via various communication media to on-site personnel
- Remote integration to site allows problems to be identified so that the correct action can be taken in the most timely manner
- Call-logging and follow up to ensure efficient call handling and allow historical analysis
- Continued Bureau intervention in further years to ensure savings are maintained

In our experience, maintaining focus on the energy performance of the estate is critical in maintaining



savings. This is not a proposal to install engineering changes that one can "modify and forget" and see comparative savings.

The proposal provides an enabling structure (remote Bureau monitoring & MEDiC2) and energy expertise, to deliver material savings out of the existing kit that more than pays for the Energy Engineering contract itself. BMSI are confident that the very minimum level of Energy consumption savings will be equal to that of the full cost of this contract. Whilst these savings are being delivered, the contract also actively manages overall energy consumption leading to further energy saving projects.