

expectations that the 'system' will care for the 'individual'. In that context a rugged, uncomfortable and hazardous occupation is not attractive or necessary. It may be that the recognition needed to drive health and safety improvements is the same 'respect for people' [needed] to secure the industry's economic prosperity.

2001 also saw the formation of the Strategic Forum for Construction (SFfC) which continued under the chairmanship of Sir John Egan to develop Rethinking Construction¹⁷ actions. His second report 'Accelerating change' published as an SFfC document in September **2002**²² set out more specific measures to be implemented to secure the improvements sought. In his opening statement now familiar points were re-emphasised linking improvements for health and safety with business benefits.

I also passionately believe in the importance of tackling the industry's health and safety problems. Pre-planned, well designed projects, where inherently safe processes have been chosen, which are carried out by companies known to be competent, with trained work forces, will be safe: they will also be good, predictable projects. If we are to succeed in creating a modern, world class industry, the culture of the industry must change. It must value and respect its people, learn to work in integrated teams and deliver value for clients' money.

Accelerating change also brought sustainability onto the agenda including in the SFfC recommendations:

- *The industry must take responsibility for the sustainability of its products (from components to the completed structure) as well as its processes.*

At that stage the SFfC was reconstituted as an industry rather than ministerial led group.

Progress on health and safety still remained high with annual reports from HSE to Government covering progress since the 2001 Summit. Releasing the second report in January **2003**, HSE's Chief Inspector of Construction was quoted²³:

The work of the Strategic Forum for Construction has also placed decent working conditions centre stage and confirms the business case that good health and safety is not a burden or additional cost. A properly procured and managed project delivers best value to the client, industry profitability and a safe and healthy workforce.

The role of Chief Inspector of Construction was by this time a full-time post and, following the 2001 Summit, HSE had established a separate Construction Division with dedicated resources and construction specific inspectors. The intervention approach was also changing, mirroring the focus of the CDM regulations and industry recognition of the underlying influences on construction practices. While addressing activities on site which were unsafe or damaging to health remained a priority, early strategic interventions with clients, designers and contractors became an increasing focus to help secure improvements before options were limited by the constraints on site. Engagement with major projects early in their gestation, and involvement with groups with the power to effect change over swathes of the industry, became the norm. This is reflected in the HSE's intervention strategy for London 2012¹⁰, in its ongoing work plans²⁴, papers for HSE Board sanction²⁵, and in specific support material such as the toolkit²⁶, developed with the construction industry's Leadership and Worker Engagement Forum, to help contractors and managers reduce harm by learning from the best in the construction industry.

In order to recognise the industry's early successes in improving health and safety performance since the 2001 Summit and maintain the momentum across the more challenging areas like client leadership, a follow up Summit was arranged by Ministers and HSE in February **2005** with the theme of 'Ownership, Leadership, Partnership'. The opportunity was taken to launch the SF/C's 'Respect for People Code of good working health and safety practices' setting out universal good practice principles which could stand alone or alongside the RfP toolkit²⁷. Jointly badged with HSE's Ownership, Leadership, Partnership Summit strap-line, this made a powerful demonstration of the alignment of the industry modernisation and health and safety agendas.

February **2005** was also the time when the International Olympic Evaluation Committee visited London to inspect the bid plans which had been under development since the bid team was formed in 2003 and it was on July 6 2005 the announcement was made that "*the Games of the XXXth Olympiad in 2012 are awarded to the city of...London*".

This then was the background to the status of construction management practices and developments particularly in relation to respect of people and related issues and the regulatory framework for health and safety. Certainly at the mature end of the industry most of the issues emerging from this research and linked to the success of the London 2012 build were well recognised with demonstration projects confirming their value. Nevertheless effective implementation was not universal nor did it consistently cover all aspects. This serves to demonstrate the significant achievement in implementing so many elements of the modernising construction agenda in the London 2012 build.

However, the context changed further even as Government and the industry came together to design and build the London 2012 Games facilities from **2006** onward.

The first important step was linked to the build itself. Reflecting the driver identified at the start of this appendix, that the London 2012 Olympic Games and Paralympic Games offered a unique opportunity to showcase the very best of Britain, the SF/C recognised that the construction industry expected to make an outstanding contribution delivering sustainable, exemplary projects with long-term benefits for the local community and the nation. A Task Group was set up in 2005, announced by Ministers, as a focal point for liaison between the industry, the Government and London 2012 Olympic authorities (the ODA and LOCOG) to help ensure the successful delivery of the London Olympic facilities and infrastructure²⁸. This put best practice firmly on the agenda and the terms of reference included explicit reference to "*effective leadership, supply chain management, industry improvement, respect for people, innovation*". Their Task Group conducted wide consultation, involving Government bodies and the industry at large, to ensure all subject areas were covered and a strong consensus achieved. A set of Construction Commitments²⁹ was launched in July 2006 with six to eight points for action to address each of the six key areas deemed vital to delivering the Games' vision in time, safely and to budget:

- Procurement & Integration
- Commitment to people
- Client leadership
- Sustainability
- Design quality
- Health and Safety

In launching the commitments and inviting companies to sign up (as of 2012 more than 400 have done so) the SFfC said:

They represent the principles by which we will endeavour to achieve a better industry and exceed current best practice. The Commitments will be developed by the client and the industry in a practical and realistic way to suit the needs of the Olympic delivery programme and projects and to provide for relevant targets.

Another significant step, following a long period of consultation (including formal consultation through 2005), was the revision of the CDM regulations in April **2007**³⁰ (CDM 2007). The principles implement a European Directive so remained the same but the objectives^{†††} in changing the details were to focus on:

- Simplification - making it easier for the dutyholders to know what is expected of them;
- Flexibility - the regs need to work across the vast range of contractual arrangements;
- Planning and Management- emphasise active management and effective risk control rather than endless paper chases and unread plans;
- Better integration - particularly between designers and contractors - sharing problems and finding solutions before they materialise on site;
- Improve Competence - both of companies and individuals to raise standards and reduce bureaucracy.

Key points for clients emphasised in HSE's presentations³¹ around the launch included:

- The focus should be on establishing a competent project team early on which fosters a culture of co-operation and integration
- By choosing the right people for the job and appointing them early, your team can make sure that your project is safe to build, safe to use, safe to maintain and deliver you good value
- Invest in your team, not in paper. Give them enough time and resource and you will get the building you want, when you want it and on budget.

With CDM 2007, HSE presentations emphasised the importance of integration, particularly on large complex projects, and involving contractors when reviewing buildability and the client (or future building operators) when reviewing usability and maintainability. HSE also placed emphasis for Principal Contractors on worker engagement and communication linking this to positive safety culture with fewer accidents and better health, improved innovation and productivity.

In parallel work on industry's RfP agenda continued with 'Respect for people: The business benefits'³² being published by Constructing Excellence in August **2007** presenting case studies and results of a survey exploring the impact of implementing the RfP tools. The headline

^{†††} Parallel research (Frontline Consultants Ltd. '*The Construction (Design and Management) Regulations 2007: duty holder roles and impact*', <http://learninglegacy.london2012.com/publications/the-construction-design-and-management-regulations-2007-.php>, 2011) researched the extent to which CDM2007 helped or hindered the construction of the London 2012 Olympic and Paralympic Games by reviewing how those with duties under CDM put them into practice.

finding from the survey was that all sectors of the industry from suppliers, contractors, professionals to clients were agreeing or strongly agreeing that Respect for People contributed a positive business benefit. The business case for action³² centres on '3 Rs': respect for people enabling recruitment and retention of the best talent of individuals and business partners. It argues that to improve performance, it is important to involve, engage and empower everyone in the process otherwise profitability will not improve and new contracts will not be secured. Success is illustrated by the graphic in Figure 3.



Figure 3 The business benefits flowing from a respect for people³²

An over-arching recommendation of RfP is now also that construction firms of all kinds and sizes should commit to achieving the standard of Investors in People³³, something adopted by the ODA client and CLM delivery partner and into the supply chain for the London 2012 build.

Just as the profile of sustainability was raised in Accelerating Change²², so the policy framework was expanded on in a Strategy for Sustainable Construction³⁴ published as a result of work by industry (via the SFfC) and Government in July **2008**. In parallel with the changing shape of health and safety legislation³⁰, the focus expanded beyond the immediate construction phase to include the longer term implications for sustainability in use. These legacy impacts already featured similarly in the London 2012 approach.

At the same time (July **2008**), Government was publishing its wider review 'Construction Matters'³⁵. Again a Government report began noting that despite areas where the UK construction industry was a world beater, there were also significant problems. Factors were highlighted like the complexity and fragmentation, difficulties in ensuring that lessons from experience are shared, the perceived risks of innovation and so on. Recommendations were wide ranging but included, for example, early engagement with the supply chain, integrated team working, measuring performance workforce diversity etc. The timing meant that early work for the London 2012 build came under specific scrutiny. It was said "*the adoption of an integrated team-working approach will be key to the delivery of the Games on time and to budget. Early indications suggest the Olympic Delivery Authority (ODA) is adopting most of the best practice required to foster such integrated working.*" Acknowledging that construction work had only just begun, progress in relation to sustainability, workforce engagement, health and safety, training opportunities, and diversity was praised.

In **2009** a further report was published based on an industry review led by Andrew Wolstenholme, entitled 'Never Waste a Good Crisis: A review of progress since Rethinking Construction and thoughts for our future'³⁶. With the backdrop of the economic down-turn it

considered and confirmed the ongoing relevance of Egan's Rethinking Construction themes¹⁷ with the increasing emphasis on contributing to a low carbon economy and whole life values. Whilst recognising the role of clients, the report points at the significance of supply side solutions to shape the industry's long term future.

We believe that the era of client-led change is over, at least for the moment, and that it is now time for the supply side to demonstrate how it can create additional economic social and environmental value through innovation, collaboration and integrated working – in short, the principles outlined in Rethinking Construction. Clients should focus instead on professionalising their procurement practices to reward suppliers who deliver value-based solutions.

Although the timing limited impact on the London 2012 approach, it underlines the relevance of the supply chain experiences and working practices for application to other projects in the future.

Looking at the wider context it was in 2001 that the philosophy of the Japanese Toyota motor manufacturing company was set down explicitly³⁷ with two main elements - continuous improvement and respect for people - covered by 14 key principles. The principles for continuous improvement include establishing a long-term vision, working on challenges, continual innovation, and going to the source of the issue or problem and those relating to respect for people include ways of building respect and teamwork. The more recent developments in the so-called India Way³⁸ style of management, suggest higher levels of trust and respect are engendered by a corporate focus more on worker and wider societal values than shareholder returns. Although somewhat removed, these references illustrate the extent to which respect for people and other values were gaining acceptance as the design and build phases for London 2012 took shape. In addition the wider motivating principles linked to corporate social responsibility in the India Way have some parallel in the Olympic ideals and particularly the societal contribution from the regeneration and legacy the build was set to bring to East London.

Pre-conditioning for success

Characteristics and factors ensuring a safe build for the Olympic Park

This research has looked to identify factors which have contributed to the London 2012 Olympic Park being delivered on time, on budget and with an exemplary health and safety record. Where other research has captured 'how' things were done, this research has explored 'why' and focused on the underpinning human and organisational interactions.

The research has tapped in to the close-out and lessons learnt activities for six of the venue and infrastructure projects. In addition interviews were conducted with executives from the Olympic Delivery Authority as client, their Delivery Partner and contractors. Emerging findings were triangulated with observations from other health and safety research teams and evidence from diverse aspects of the build programme contained in the London 2012 learning legacy publications.

Findings centre on the underpinning role of human characteristics like respect, trust, clarity, pre-emption, challenge, consistency, collaboration, motivation, empowerment, communication, open-ness, fairness and assurance. Their practical influence on approaches to, and effectiveness of, leadership, worker involvement, cultural change, communication systems, risk management, monitoring and assurance are brought out.

It is concluded that many of the principles offer potential benefits across a wide range of construction projects, with implementation scalable to suit the simplicity or complexity of the work. Corresponding recommendations are presented for different parties in the construction supply chain.

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