



An Introductory Guide to Best Practice in Construction



**CONSTRUCTING
EXCELLENCE**
IN THE SOUTH EAST

A Guide to Best Practice in Construction

This guide has been produced to assist you and your organisation to benefit by embracing the enormous changes that are taking place in the industry.

Companies implementing best practice consistently report significantly higher profits, increased customer and employee satisfaction, improved safety and productivity and reduced environmental impact.

We look at 10 key business practices that deliver real added value and are shaping the direction of the industry. We signpost local support networks and give tips on successful implementation.

10 Key Business Practices

- Procurement
- Partnering
- Risk Management
- Value Management
- Sustainable Construction
- Benchmarking
- Supply Chain Management
- Whole Life Costing
- Health and Safety
- Lean Construction



SWISS RE Building, London.
A Constructing Excellence demonstration project.

This Guide has been produced through a partnership of:



South East
Local Enterprise
Partnership



Construction Industry Council
South East



Business
Link



Working for England's World Class Region

SOUTH EAST
ENGLAND
DEVELOPMENT
AGENCY

Front cover image:

Netheme-on-the-Hill, Coulsdon, Surrey.

A Constructing Excellence demonstration project.

What is Best Practice Knowledge?

This knowledge underpins examples of excellence that have been implemented in the construction industry.

Over the last 10 years there has been a dramatic change in the way construction activity is being undertaken. This is not only in the form of new technology, but also in the way that construction projects are procured and managed.

This new thinking has been very successfully applied in other industries throughout the world. The work of organisations like Constructing Excellence is to identify this Best Practice knowledge, widely demonstrate the business case for action and then support its application.

What's in it for me?

We are all more demanding and more discerning than ever before – wanting everything better, faster, cheaper, safer and easier. Increasingly informed clients are looking for companies that are demonstrably better – more knowledgeable, experienced and progressive – to consistently meet their business needs.

Understanding and using recognised best practice in construction provides organisations with the opportunity to fully meet those business needs and make increasing profits to reinvest in its people, products and processes, or distribute to shareholders.

The latest national Key Performance Indicators (June '04) make the business case for action – companies embracing best practice achieve better client satisfaction, happier employees, safer sites, reduced environmental impact and consistently make 10% more profit than those that don't.



Construction News
24/06/04

Contract Journal
23/06/04



Gosport Borough Council – Partnership in action.
A Constructing Excellence demonstration project.

Procurement

Procurement is the process of establishing the most appropriate method of managing the construction project and selecting the best team to design, deliver and sometimes operate the required facility. Lowest price tendering and lump sum contracts are giving way to better forms of selection and contract arrangements.

Modern procurement methods emphasise the need to select those companies that can work effectively in a collaborative relationship and who understand and practice the principles of “Partnering”. New forms of contractual arrangements seek to get all key parties to work together as early as possible to ensure the effective delivery of a project.

Procurement follows the project lifecycle. Whilst the diagram shows the process for an Integrated Project Team (IPT), the same principles apply for all projects. First the client must identify and clarify business needs. Next the client will need to develop and prioritise a set of value criteria against which an Advisory Team can help assess possible options – of which a construction project may be just one.

The business need and value criteria together with the favoured option can then be used to establish a strategic brief. It is at this stage that the decision has to be taken as to which procurement route is most suitable for the project.

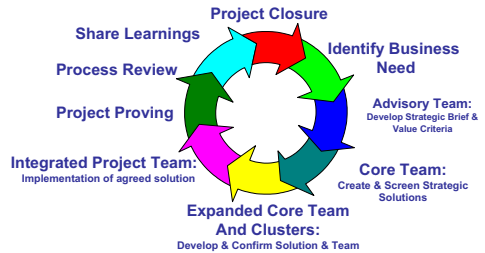
Guidance from the Audit Commission and the Office of Government Commerce is very strongly in favour of the newer forms of procurement such as Design & Build, Private Finance Initiative and Framework Agreements for all but the most simple of construction projects. It is also recommended that an Integrated Project Team partnering approach is also adopted within these contract forms.

Further information:

www.ClientSuccess.org.uk – Good clients guides

www.strategicforum.org.uk – Integration Toolkit

The IPT Process





Mill House, Surrey Place, Guildford.
A Constructing Excellence demonstration project.

Partnering

Partnering is a management system that is based on a collaborative approach to working. It is therefore a very different style of working compared to the traditional adversarial approach that has been common in the construction industry for many years.

It has been demonstrated on numerous partnering projects that by working collaboratively it is possible to achieve far greater value for money for the client, higher profits for the companies involved, improved quality and more predictability of project completion.

A partnering project has the following characteristics:

- an agreed set of mutual objectives
- work undertaken in a spirit of trust and cooperation
- an agreed problem resolution procedure
- open book pricing
- a commitment to continuous improvement.

It is normal for partnering projects to have a partnering charter that sets out the objectives of the team, which is signed by all parties as a statement of intent.

Partnering is now widely used in all aspects of the construction industry. A number of forms of contract have been specifically written, setting out a framework in which the parties to a partnering project are to work.

In addition, a number of private sector and the larger public sector clients have set up Framework Agreements with contractors. These Framework Agreements clearly define the partnering arrangements and support the development of long-term relationships by providing continuity of work in return for continuous performance improvement

Further information:

www.ConstructingExcellence.org.uk – *Constructing Excellence fact sheet*

www.strategicforum.org.uk – *Integration Toolkit*

www.CIC.org.uk – *Partnering the team; selecting the team; and partnering workshops*

www.ClientSuccess.org – *Good client guides*

www.ITconstructionforum.org.uk – *Integrated Project Teams*

Risk Management

A risk register is a key planning tool. The register should be started at the inception of a project and actively used through to project completion. It can then be used to assess the way that risk on the project was managed so that lessons can be applied to other projects.

As well as identifying and assessing risks, the register is also used to assign appropriate actions for project team members against each risk item. The risks and associated actions should be reviewed on a regular basis throughout the pre-contract and construction phase.

It is important that financial allowance is made for all residual risk items. This ensures that it does not get ignored. Instead a decision can be taken as to the best approach in reducing the cost of this item. This could involve paying for more detailed investigation work to be undertaken and so providing better information on which the respective elements of work can be costed.

Further information:

www.ogc.gov.uk/sdtoolkit/workbooks/risk/index.html

Value Management

This is a method to identify the best way of meeting a client's business needs taking into account time, cost, quality and risk constraints. The value management process involves collaboration with the team responsible for design and delivering the project, and ideally includes end-users and other stakeholders.

The first step is to clearly identify value for the client in terms of need, business benefits and priorities. Next will be the identification and evaluation of options – this forms part of the value engineering process. Selected options will then be assessed in terms of their cost, risk and extent to which they contribute to satisfying the client's business needs.

All processes and components suggested for the project would be critically appraised to determine whether better value alternatives or solutions are available.

This process represents a systematic approach to generating and evaluating options to satisfy client requirements. It is carried out throughout the life of the project and is undertaken in parallel with the risk management process. It often features a value management workshop close to the beginning of the process once the principal parties for the project have been identified.

On completion of the project the value management process should be appraised to review how successful it was in ensuring value for the client and the other stakeholders.

Further information:

www.ivm.org.uk – *Institute of Value Management*

www.dti.gov.uk – *Value management a quick guide*

Sustainable Construction

Sustainable construction cohesively addresses the triple bottom line – the social, economic and environmental performance of the industry. Areas for action include:

- being more profitable and competitive. It is recognised that businesses need higher profits to intelligently invest in its people, products and processes to improve their competitiveness.
- delivering buildings and structures that provide greater satisfaction, well-being and added value to customers and users.
- respecting and fairly treating employees and the wider community. This includes improving health and safety, enhancing site and welfare conditions, and avoiding noise and dirt which would inconvenience local residents.
- enhancing and protecting the natural environment, including protecting habitats, trees, waterways and other natural features.
- minimising consumption of natural resources and energy during the construction phase and throughout the life of the facility. The buildings should be energy efficient and utilise energy from renewable resources by specifying recycled materials and renewable energy sources and considering the buildings' future use.
- reducing waste and avoiding pollution during the construction process. 70% of landfill is reportedly generated through construction activity.

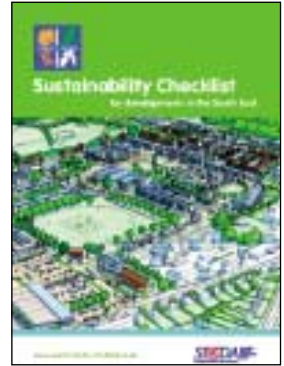
Further information:

www.BRE.co.uk/sustainable

www.KPIzone.com

www.dti.gov.uk/construction

www.sustainability-checklist.co.uk



Sustainability Checklist for Developments in the South East



Canary Wharf.
A Constructing Excellence demonstration project.

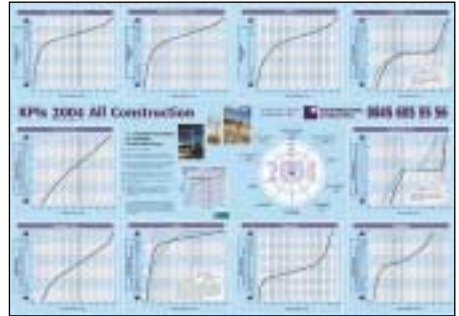
Benchmarking

Benchmarking is a method of improving performance in a systematic and logical way, by measuring and comparing your performance against others, and then using lessons learned from the best to make targeted improvements. It means knowing the answers to the following questions “Who performs better?”, “Why are they better?”, “What actions do we need to take in order to improve our performance?”.

Benchmarking focuses a company’s improvement efforts on its ‘success-critical’ issues. It ensures that improvement targets are based on what has actually been achieved by others. For organisations in the public sector, benchmarking provides quantifiable assurance that ‘Best Value’ is being achieved.

The national framework of Key Performance Indicators provide the basis for easy comparison:

- All Construction – client satisfaction, Time, Cost, Quality, Safety, Productivity, Profitability
- Respect for People
- Environment
- Construction Consultants
- M & E Contractors
- Construction Products Industry



All Construction KPI

KPI wallcharts - £10 (shown here) and Toolkits - £95 are available from: constructingexcellence@SECBE.org.uk or Tel: 0118 967 5542.

Supply Chain Management

Supply chain management is a relatively new term in the construction industry. It involves integrating the operations of all organisations involved with the delivery of a particular product or service. This extends from the primary producer all the way to the end-user.

In construction this will include the primary material suppliers, component suppliers, manufacturers, distributors and intermediaries, installers, trade contractors, lead contractors, designers and the client organisation.



*Portsmouth City Council
– Gas Central Heating Partnership*

Supply chain management has become a central issue for many clients and companies. This is because it offers the prospect of making significant cost savings and improving value by enabling companies to work more effectively together across the entire supply chain.

Effective operational and management practices are necessary to make supply chains work. Operational issues look at how materials are ordered and delivered to site, how trade contractors are selected, how they are involved with designing and planning the works, and how invoicing and other 'transaction' costs can be reduced.

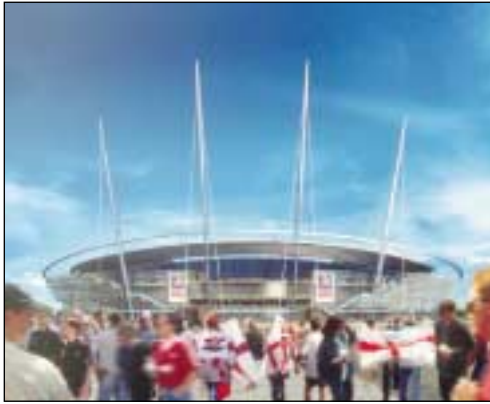
Management practices have to support more collaborative ways of working. This includes designing systems to ensure accountability and also providing support and incentives to supply chain partners.

Due to the vast range of products and services within the construction industry it would be impossible for any organisation to know, let alone manage, all of its suppliers. Therefore leading companies are organising elements of specific supply chains that are most critical to their success.

Manufacturers are developing integrated supply chains involving key component suppliers and installers. This pre-assembled supply chain then competes with other supply chains to work with lead contractors or clients. The lead contractor and client organisation in turn are assembling their own supply chains to deliver key products or services.

Further information:

www.strategicforum.org.uk – *Strategic Forum Implementation Toolkit on Integrated Supply Chains Accelerating Change Report(2002)*



New Wembley.
A Constructing Excellence demonstration project.

Whole Life Costing

This is a method used to measure the costs of ownership of a building. It takes into account the initial capital cost of creating the building plus the cost of maintaining and servicing the building over its whole life.

The reason why Whole Life Costing has become such an important issue is the recognition that the cost of maintaining the building often far outweighs the initial capital cost. Studies have shown that for every £100 of capital cost there is £500 operational expenditure over the life of the building.

This issue has become highly relevant with the increasing use of the Private Finance Initiative where the service provider is responsible for both the construction and operation of the facility.

Whole life costing takes into account this operational expenditure when deciding on the initial design and specification of the building. In this way it can be seen as a form of investment analysis.

An anticipated cost profile of the building over its planned life is generated with a Discounted Cash Flow method used to calculate a single cost figure. This enables the project team to analyse the impact of the capital cost decisions. A higher initial capital expenditure can often be justified by taking into account the impact this will have in terms of maintenance, servicing and other forms of operational costs associated with managing the building.

Further information:

www.constructingexcellence.org.uk/sectors/housingforum

– *BSi Document on whole life cost CE factsheet*

www.ogc.gov.uk/sdtoolkit/reference/achieving

– *Achieving Excellence Guide 7*



Dartford Bridge.
A Constructing Excellence demonstration project.

Health and Safety

There are two key issues with regard to health and safety in the construction industry. The first is respecting people's rights to be protected against risks that affect their safety and long-term health. The second is that construction sites that are effectively planned and managed are more productive and profitable as well as being safe.

The starting point for health and safety is effective planning of construction works. This starts at the design stage, where the 1994 Construction (Design & Management) Regulations provide the appropriate framework. The design process should involve a detailed assessment of the construction process to make sure that no problematic health and safety issues are inherent within the design.

Next is the detailed planning and scheduling. This should include clearly identifying processes for the execution of each element of the works. See Health & Safety Checklist for key items.

Finally, the organising and controlling of works on site. In preparation for this it is necessary to ensure that the people who are working on the site are:

- trained and properly competent to do the work safely
- properly supervised and given clear instructions
- provided with the right tools, equipment and protective clothing
- knowledgeable about health and safety issues

Performance against each of these issues needs to be regularly checked and any shortcomings remedied.

Further information:

Respect for people and CE factsheet

www.constructingexcellence.org.uk

Health & Safety Checklist

- Access on site
- Welfare facilities
- Scaffolding
- Ladders
- Roofwork
- Excavations
- Manual handling
- Asbestos
- Traffic vehicles
- Plant
- Tools and machinery
- Hoists
- Emergencies
- Fire
- Hazardous substances
- Noise
- Hand and arm vibration
- Protecting the public
- Electricity & other services

Further information:

HSE InfoLink – 08701 545500

RIDDOR – 0845 3009923

www.ogc.gov.uk/sdtoolkit/reference/achieving

– *Achieving Excellence Guide 10*

Lean Construction

“Lean” is an approach to managing production activity. It first focuses on understanding what value means for the client and then seeks to systematically reduce or remove any processes that add cost but do not add value.

The five principles of Lean

- specify value from the customer’s perspective
- identify and integrate the processes that deliver value
- make value flow by eliminating bottlenecks and disruption
- produce only what is wanted when it is wanted
- pursue perfection through continuous improvement

This approach has been widely adopted in a range of industry sectors and is now being increasingly applied in construction. One of the key principles behind lean construction is the integration of processes. The aim is to get construction activity to flow through the elimination of factors causing delay or disruption. It has been estimated that 30-40% of construction activity does not add value for the client.

Examples include waiting for information and materials, reworking due to defects, double handling of materials, unnecessary movements around site due to poor site layout and access arrangements, and compulsory competitive tendering

Lean construction includes elements of value management by asking if the design fully satisfies the client’s requirements. It then focuses on ‘design for construction’. That is, does the design allow for efficient construction processes? Can the design be developed to overcome buildability issues without compromising on the building’s functionality?

The next step is to look at the various processes involved with delivery of the project. This will include detailed design development, material logistics, on-site materials management and sequencing of the works.

A series of tools can be used to understand the way processes are currently undertaken in order to find better ways of working. These include:

- Value Stream Analysis – a system to identify which parts of the process add value.
- Five Whys – a method of finding the root-cause of problems so that they can be systematically removed.
- Last Planner – a planning tool for improving workflow on site.

Further information:

Construction Lean Implementation Programme Tel 0845 605 55 56.

Lean Thinking (ISBN 0743249275) by James Womack and Dan Jones

www.Leanconstruction.org – Lean Construction Institute

Constructing Excellence Business Clubs

There is a substantial network of support for businesses wishing to find out more about any of the business practices discussed in this guide.

Once you have decided to get involved, encourage all your managers to join their local Constructing Excellence Club. These Clubs provide an opportunity to exchange ideas with a wide range of other construction professionals locally.

Constructing Excellence Clubs

Berkshire

Micheline Peter – 01372 745 600
mpeter@opening-doors.co.uk

Brighton

Andrew Symonds – 01273 692 611
andrew.symonds@macconvilles.com

Hampshire

Gillian Wright – 01256 766 839
gillianwright@traico.co.uk

Kent

Mick Lynn – 01580 201 308
mlynn@quarry-house.co.uk

Milton Keynes

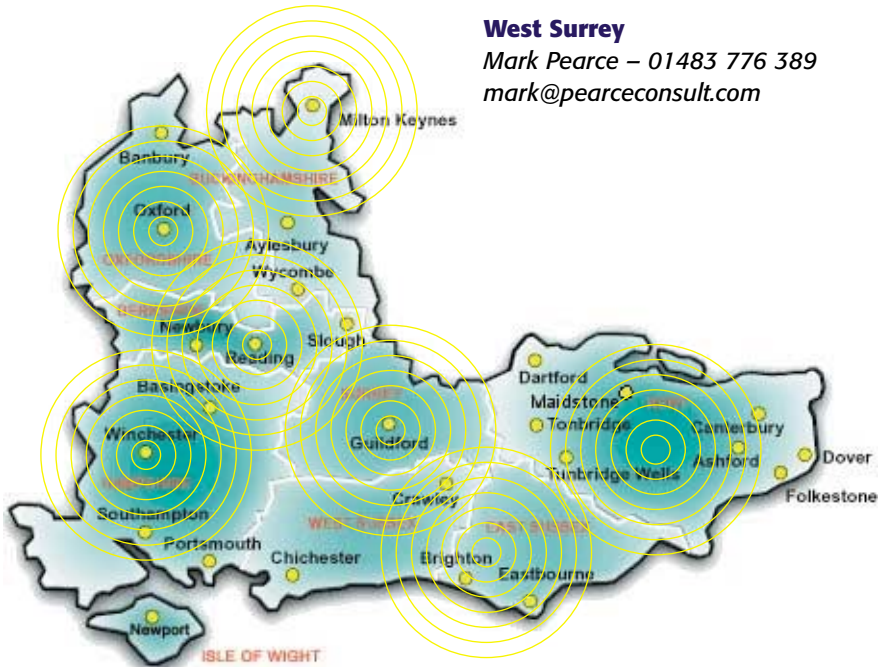
Mark Johnson – 01908 304 700
mark.johnson@davislangdon-uk.com

Oxford

Graham Blackburn – 01865 799 782
gblackburn@ridge.co.uk

West Surrey

Mark Pearce – 01483 776 389
mark@pearceconsult.com



Constructing Excellence Business Advisors

For more immediate assistance there are Constructing Excellence Advisors who are able to assist companies with a range of improvement programmes.

The Advisors all have construction industry experience and specialist knowledge. They work in an independent consultancy capacity and have agreed with Constructing Excellence to deliver their services to a code of practice.

Chris Dean
Tel 01483 222 986
chrisd@cdean.freeserve.co.uk

Mike Collins
Tel 01908 319 572
haslercollins@btinternet.com

Deryck Honey
Tel 0118 377 3097
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Emma Major
Tel 0118 926 0673
emma@majorvalue.co.uk

Richard Bayfield
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rb@adjudication.org

Gillian Wright
Tel 01256 766 839
gillianwright@traico.co.uk

Mick Lynn
Tel 01580 201 308
mlynn@quarry-house.co.uk

Taking the first steps

Briefing Meetings

A series of briefing meetings have been arranged by Constructing Excellence South East in five locations across the region. These briefings will provide an opportunity to hear directly from companies already engaged and benefiting from adopting Constructing Excellence principles. Speakers from various companies within the industry will discuss a range of subjects contained within this guide. You will hear from the South East local support networks, particularly the Constructing Excellence Business Clubs and Business advisors. This is your chance to get involved and find out more about the exciting changes that are taking place within the industry.

To make a booking please contact:

Martin Carnall or Helen Orbidans
at Management Training International.

Booking Hotline 07891 548199

MTI and ETC are working with Constructing Excellence South East by managing the administration of the 'Briefing Meetings'.



For further information on the work of Constructing Excellence South East, contact:

Derek Rees, Director
Tel 0118 967 5542
ConstructingExcellence@SECBE.org.uk

The South East Centre for the Built Environment (SECBE) is formally appointed as the regional centre for Constructing Excellence South East; it also manages SEEDA's Property & Construction sector group.

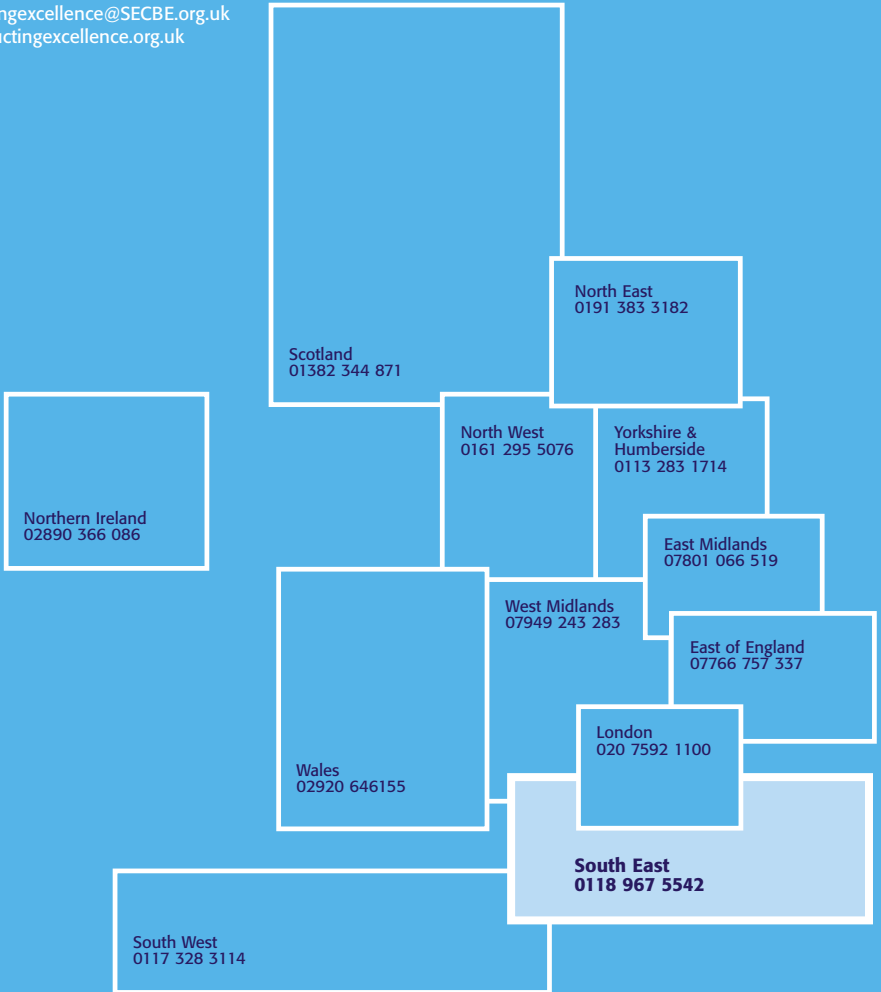


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