

The National Platform


The built environment industry in the UK faces an exciting yet challenging future. High profile programmes such as the 2012 Olympics promise great opportunities but will subject the industry to intense public scrutiny. Equally, society and governments alike are presented with the need to act according to the principles of sustainability and to reduce the world's demand for resources: the built environment has a significant contribution to make to this challenge. Increasing global competition is exerting pressure on the UK's built environment industry as with other sectors: we must improve our performance to compete effectively in this global market.

In order to address such issues, we have launched the National Platform for the Built Environment. The National Platform promotes strategic, collaborative research because we believe this is a vital catalyst for long-term, industry improvement.


Crucially the National Platform has to be owned and led by industry while engaging the wider research community. Not only will this ensure that research programmes reflect the real needs of industry and clients but will also create a single powerful voice for the built environment industry. Today, the built environment industry has to compete for recognition with technology-driven sectors such as aerospace and pharmaceuticals. To be effective in securing research funding and influencing our regulatory environment, we have to be more focused and work collaboratively.

It is significant that the National Platform is concerned with the built environment industry rather than purely construction. We believe that by focusing on the broader definition of the industry, as described in this leaflet, we can deliver the potential of research to improve the built environment for all its stakeholders.

This document represents the start of a process by outlining a strategic research agenda for the UK built environment industry. Only with your ongoing participation and support can we effectively translate this agenda into projects that meet the long-term needs of industry and its clients.



Keith Clarke,
Chairman, NP High Level Group;
Chief Executive, Atkins





Bob White,
Chairman, NP Support Group;
Chief Executive, Constructing Excellence



Participating in the National Platform

The National Platform welcomes support from industry and other groups, including:

- Participation in collaborative research projects;
- Short term secondments to the National Platform;
- Technical assistance;
- Sponsorship of workshops or publications;
- Dissemination of outputs; and,
- Financial contributions.

By endorsing the National Platform, your organisation will gain a range of benefits including:

- Opportunities to shape and lead research projects that meet your organisation's needs;
- Support in gaining access to considerable European and National research funding;
- Introductions to other industry and client organisations interested in pursuing similar research projects; and,
- The opportunity for your people to gain expertise and experience in strategic research.

If you would like to participate or have further information, please contact Keith Clarke on 01372 72555 Keith.clarke@atkinsglobal.com or Bob White on 020 7592 1100 WhiteB@constructingexcellence.org.uk

Background

The United Kingdom's National Platform for the Built Environment was launched in summer 2005. Its mission is to significantly increase the level of business-led research applicable to the built environment and to create a powerful voice to enable the industry to establish a strategic research agenda and influence the regulatory environment.

The National Platform has close links with the European Construction Technology Platform. It seeks to influence the EC's forthcoming research funding calls in order to ensure that the UK built environment industry successfully accesses the funding being made available for European research. The National Platform will also influence and access national research funding.

The National Platform has evolved from CRISP and nCRISP and will build upon the principles and work of these groups. It is an industry-led initiative that aims to engage a wider group of key stakeholders including academia and the research community at large.

A number of publications provide further information on research and development in the Built Environment, including:

- Commission for Architecture and the Built Environment (2005). *The Real Budget for Research: an analysis of current levels of public funding for built environment research.* CABE / nCRISP.
- European Construction Technology Platform (2005). *Strategic Research Agenda for the European Construction Sector: Achieving a Sustainable and Competitive Construction Sector by 2030.* European Construction Technology Platform.
- Fairclough, J (2002). *Rethinking Construction Innovation and Research: a review of Government R&D Policies and Practices.* DTLR.
- Meikle, J (Ed) (2006). *Sustainable Development: Understanding the Social and Economic Value of Construction.* Building Research and Information.
- Pearce, D (2003). *The Social and Economic Value of Construction.* nCRISP.
- Saxon, R (2005). *Be Valuable. A Guide to Creating Value in the Built Environment.* Constructing Excellence.

Contact details

Constructing Excellence provides management support for the National Platform. If you would like to become involved in the future activities of the National Platform, please contact Deborah Hynes on 020 7592 1100 deborah.hynes@constructingexcellence.org.uk

We are particularly keen to hear from industry and client organizations interested in participating in strategic, collaborative research projects.

Organisation and Management

Since its launch, the National Platform has established two groups of influential industry individuals to steer its activities: the High Level Group and the Support Group. Chaired by Keith Clarke, Chief Executive of Atkins, the High Level Group meets bi-annually. Its role is to give strategic, business-focused guidance to the National Platform. Membership of the High Level Group includes:

Peter Barrett, University of Salford
John Brumwell, DTI
Keith Clarke, Atkins (Chair)
Terry Hill, Arup
Steve Hindley, Midas Group
Julia King, Imperial College
Paul Lormor, Corus
Andrew McNaughton, Balfour Beatty
Tim Peach, Taylor Woodrow
Richard Petrie
Ian Ritchie, Ian Ritchie Architects
Bob White, Mace

The High Level Group is supported by a group of key individuals drawn from the research community, including representatives from private industry, industry bodies, academia and government. Chaired by Bob White of Constructing Excellence, the current membership of the Support Group includes:

Stuart Alexander, WSP Group
Peter Bonfield, BRE
Rennie Chadwick, Taylor Woodrow
Andrew Cripps, Buro Happold
Andrew Eastwell, BSRIA
John Findlay, Stent Foundations
Steve Hindley, Midas Group
Matthew Locke, Bovis Lend Lease
Beth Morgan, Constructing Excellence
Peter Morris, University College London
Graham Owens, Steel Construction Institute
John Rackshaw, Pearce Group
Richard Saxon, CIC
Lynne Sullivan, Broadway Malyan
Bob White, Mace, Constructing Excellence (Chair)
Peter Whittington, DTI
Chris Woods, Wates
Nigel Woolcock, Prudential



Research Priorities for the UK Built Environment

Integrating research and innovation with standard business processes

“Only with your ongoing participation and support can we effectively translate this agenda into projects that meet the long-term needs of industry and its clients”

Strategic Research Agendas

For Europe

The UK is one of a number of European countries participating in the European Construction Technology Platform (ECTP). The purpose of the ECTP is to address the research needs of Europe in the field of Construction over the next 25 years.

Following consultation, the ECTP completed a European Strategic Research Agenda entitled “Challenging and Changing Europe’s Built Environment” in late 2005. This document sets out the likely directions of technological and organisational changes that will then need to be converted into specific research programmes over the coming years. Further information on the ECTP and the European Strategic Research Agenda can be found on its website www.ectp.org.

The UK National Platform for the Built Environment has taken the European Strategic Research Agenda as one starting point for defining national research priorities. By doing so, we seek to influence and participate in the research agenda followed and funded by Europe.

For the United Kingdom

This Strategic Research Agenda marks the beginning of a process that aims to significantly increase the level of strategic, collaborative research being undertaken in the built environment sector.

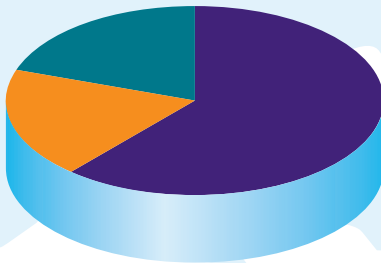
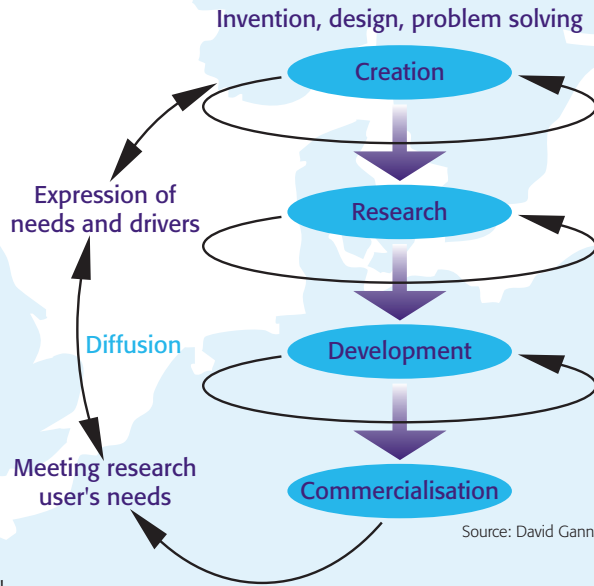
In early 2006, the National Platform undertook a poll of members and colleagues and identified their rankings of broad topic areas from the European Strategic Research Agenda (SRA). This poll identified three key areas as high priority for the UK, namely:

- Reduced resource consumption;
- A client driven, knowledge based construction process; and
- ICT and automation.

Accordingly these three topics became the basis of the most recent UK SRA Questionnaire with each topic being broken down into sub-topics, largely based on those identified in the European Strategic Research Agenda. Some 116 individuals – from industry, client bodies and research groups – responded to this questionnaire. The responses can be broken down as follows:

Industry – **72** Clients – **22** Research bodies – **22**

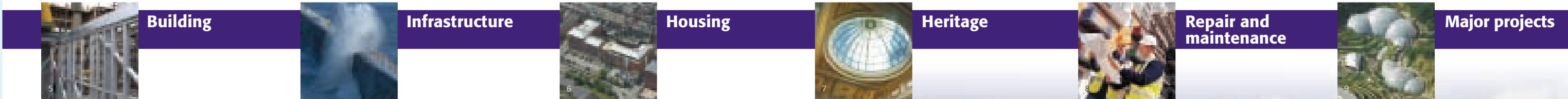
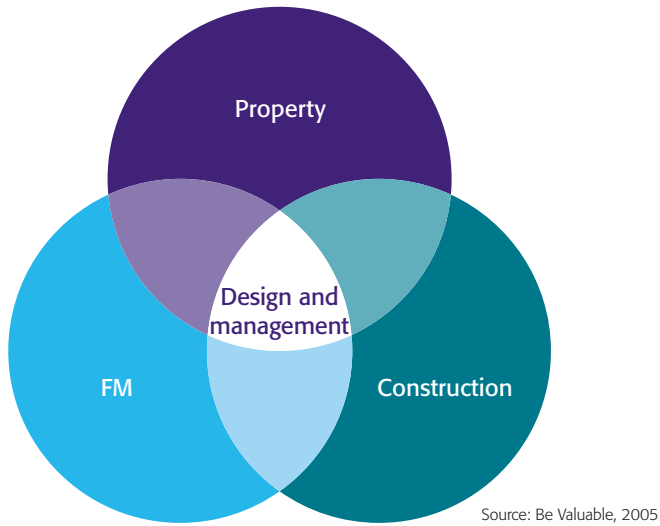
Respondees were asked to comment on two different dimensions: on the priority rating for the long-term (ie 10-15 years) success of their business of the sub-topics and on their views of the nature of the research described. The former was scored on a 1-5 scale, the latter on three options: public, joint industry and joint public and industry. Initial results from the survey are set out opposite. Detailed results will be fed back to respondents and will form the basis of discussions with industry, clients and the research community.



The Built Environment

The Built Environment is fundamental to the social and economic health of the nation. Encompassing property, construction and facilities management, the built environment industry represents some 20% of the UK’s GDP, equating to around £230bn in 2004 and is therefore a major national economic driver.

The products of the built environment provide the infrastructure within which the rest of the economy operates, influence all aspects of our quality of life and enable the economy and society to function. Our stock of buildings and works represents two thirds of UK manufactured capital and around 20% of total national wealth.



Sectors and sub-sectors

Because it is so large and multi faceted, the National Platform is approaching research in the built environment in distinct, though overlapping, sub-sectors including new general building, housing, infrastructure, repair and maintenance, heritage and major projects. Some of the initial research issues have relevance to all sub-sectors; others are more specific in their application. The National Platform will address the emerging research agenda – and its implementation – paying close attention to all activities and types of development and the linkages among them.

Reduced resource consumption

Energy consumption has a major impact on the environment and UK and European economies. As a major industrial sector, the built environment industry must reduce the consumption of natural resources – energy, water, material and land – in existing and new buildings and through embodied energy and running energy costs. For example, 80% of energy consumed during the whole life cycle of a building occurs during its service life. Equally, household and services are the third largest source of CO₂ emissions in the EU-15. Greater efficiency must be sought in the amount of raw material used and waste produced; in the energy content of construction materials; and in a sustainable approach to land use. The sector must respond to the imminent and growing threat of irreversible climate change.

Detailed research topics will include:

- Efficient and renewable energy concepts, technologies and tools for new and existing buildings.
- Zero energy consuming and CO₂ emitting buildings.
- Environmentally friendly manufacturing technologies for construction materials and components.
- Training, dissemination and legislation to support reduced energy consumption.

A new client-driven, knowledge-based construction process

Construction clients with the ability to cooperate with owners, customers and society and with the sector as a whole are a strong driving force for the transformation of the built environment industry. The industry must actively engage with clients' requirements. Customer satisfaction must actually be realised through consultation and the design process. A range of concepts need to be developed and assessed relating to: whole life thinking, lean production, industrialisation, integrated delivery, performance and improvement of the working environment. Furthermore, the attractiveness of workplaces will strongly be enhanced by vigilant organisation, new manufacturing methods, new architectural typology and new components, connections and interfaces, and new on-site assembly methods.

Detailed research topics will include:

- Tools, knowledge bases and metrics to better understand both customer requirements and construction processes and products.
- Better products and processes based on knowledge of their application and ability to deliver to both industry and its customers.
- Databases and tools for whole life cost and value assessments.

ICT and automation

Fully interoperable and integrated ICT systems must be developed to encourage the free flow of knowledge throughout all elements of the industry. Advances in information and communications technology (ICT) can produce ‘intelligent products’ capable of communicating location, orientation and condition. The continued reduction in the cost of communications and data processing enable construction processes to be fully monitored, incorporating all actors on the construction site into in the same chain of information. ICT can provide the means to enable the new era of a knowledge-based built environment sector.

Detailed research topics will include:

- Development of industry standards and effective de-facto standards for data exchange, object definitions, and integrated model servers.
- ICT tools for the efficient connection of all those involved in mobile sites to corporate information networks, incorporating readily available health and safety knowledge throughout.
- Development of new visualization, virtual reality and communication tools, based on advanced ICT systems and using shared integrated data models to enable a value assessment of the built environment.
- The development of new off-site manufacturing systems, automation and mechanisation.

Next steps

The next step for the National Platform is to translate the Strategic Research Agenda into a number of industry-led research programmes and projects. To this end, later this year the National Platform will hold an industry away day that will bring together a range of stakeholders – including those organisations who have participated in this questionnaire – to initiate this process.

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