

Discovering
offsite

*build*offsite

Promoting construction offsite

Richard Ogden - Chairman Buildoffsite

*build*offsite

www.buildoffsite.com



Terrapin / DE

How big is offsite?

- £2-6 billion
- up to 6% of total UK construction market
- small but important
- growing at 25% a year
- insitu construction is king!
 - 94% market share!



BAA/ ARUP/SIEMENS

Offsite isn't new

- Antiquity – Roman military engineering
- Timber frame housing
- Industrial Revolution – railway terminals, Crystal Palace
- Courtesy Mr Otis – high rise steel frame construction driven by land values
- War-time engineering – Bailey bridges, Mulberry harbour driven by military necessity
- Post war reconstruction – System housing driven by acute housing shortages.



Terrapin / DE

Empire State Building (1930)

- 381 metres 102 storeys high
- Took 1 year and 45 days to complete
- One storey per day completed – a rate of completion that has never been repeated since anywhere
- Modular assembly type construction – sections of the steel frame were prefabricated offsite, transported into the city and lifted into position





Britspace

How to recognise the offsite industry

- Mostly small companies - limited resources
- Modest barriers to entry
- Fragmented
- No effective industry coordination
- An assumption that offsite solutions....
 - have failed in the past
 - are mostly housing
 - are inevitably more expensive than traditional
- Few exemplars
- Limited experience of offsite
 - among industry professional
 - no exposure at universities.



Anglian Water

What repeat clients already know about offsite

- Excellent UK manufacturers producing superb products using state of the art facilities
- Making excellent profits
- Offering unmatched benefits:
 - Predictability
 - Short construction times
 - Right first time quality
 - Less waste
 - Improved health and safety
 - Noise reduction
 - Sustainable
 - Relocatable assets
- Appropriate to both new build and refurb.



Yorkon McDonalds

My personal experience as a client

- A clear business driver
 - Investment to support expansion
 - Step change in performance and value
- Traditional construction could not meet needs
 - Price certainty
 - Quality (snag free)
 - 90% complete offsite
 - Reliable completion times.



McDonald's Restaurants
Britspace

My personal experience as a client *cont*

- World-wide review of what was possible
 - Benchmarking
 - Knowledge transfer
- Unequivocal commitment to partner
 - No contract
 - Hand shake
- Continuous improvement by working together
 - Year on year cost decline
- My experience shared by most repeat clients.



Terrapin / Barratt

What is *buildoffsite*?

- Unique organisation for change
- Focus on offsite solutions
- Bringing the whole industry together
- Raising standards
- Independent and authoritative source of information
- Growing the offsite market share
- Delivering client value
- Collaborative working – public and private sector
- Working for a better built environment

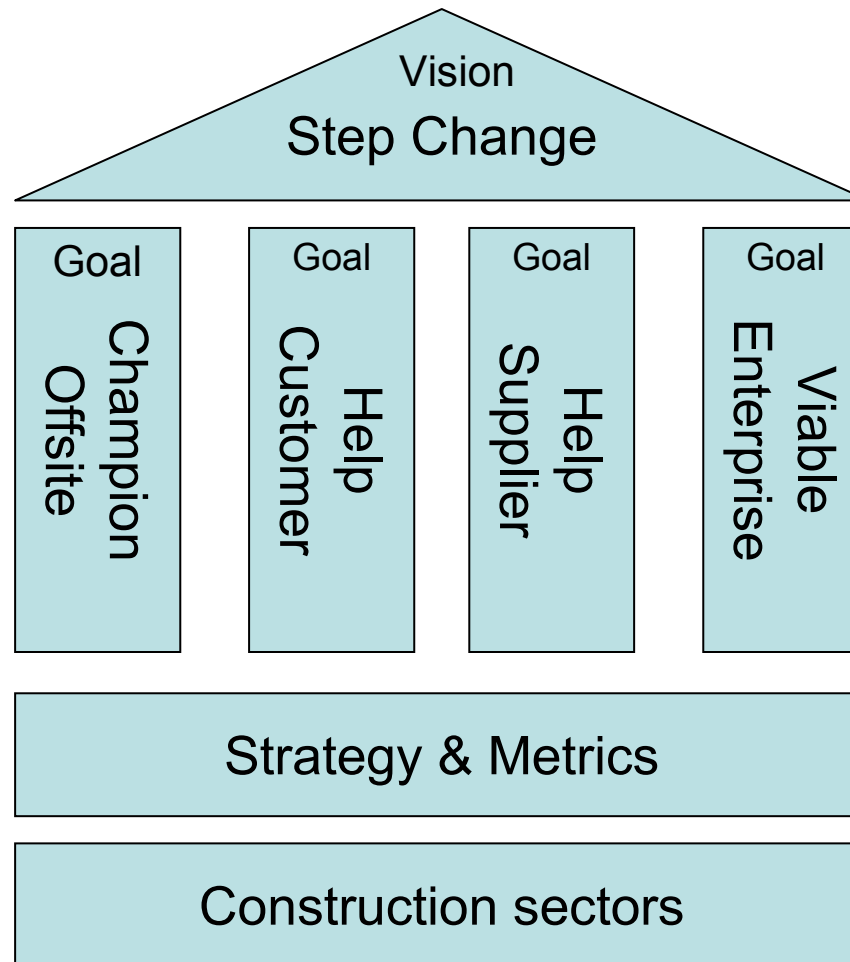


Kier Partnership Homes



Cartwright Pickard

What is *buildoffsite*?





NG Bailey / Taylor Woodrow

Focus areas *buildoffsite*...

Public and private sectors

- Housing & Residential
- Commercial & Retail
- Civil & infrastructure
- Schools, hospitals & MOD
- Sustainability in practice
- Building services in all sectors



BAA T5

The *build*offsite vision:

- A step change in offsite
- 100% by 2010
- 10x by 2020.

10x

*build*offsite



BAA – Heathrow Control Tower

Well known names in *buildoffsite*



Who are *buildoffsite*?



Terrapin Barratt

Members

- AcerMetric
- acumen 7
- Amec
- Anglian Water
- Apollo Adhesives
- Armstrong
- Arup
- B&Q
- BAA
- Badekabiner
- BBA
- Black Architecture
- Bovis Lend Lease
- Bourne Steel
- Britspace
- Bryden Wood
- Caledonian
- Cartwright Pickard
- CIRIA
- Constructing Excellence
- Corus
- Costain
- Crown House
- Dawkins & Co
- DTI
- Framing Solutions
- GlaxoSmithKline
- Kier Partnership Homes
- Laing O'Rourke

- Lloyd's Register EMEA
- Loughborough University
- Mike Jackson Associates
- MTech
- NG Bailey
- Ormandy
- Roger Bullivant
- Sandwood
- Siemens
- Slough Estates
- Somerfield
- Southern Housing Group
- Tarmac
- Terrapin
- Tesco
- The Concrete Centre
- Van Elle
- Wilson James
- Yorkon
- 3DM Construction Technologies

Associate Members so far.....

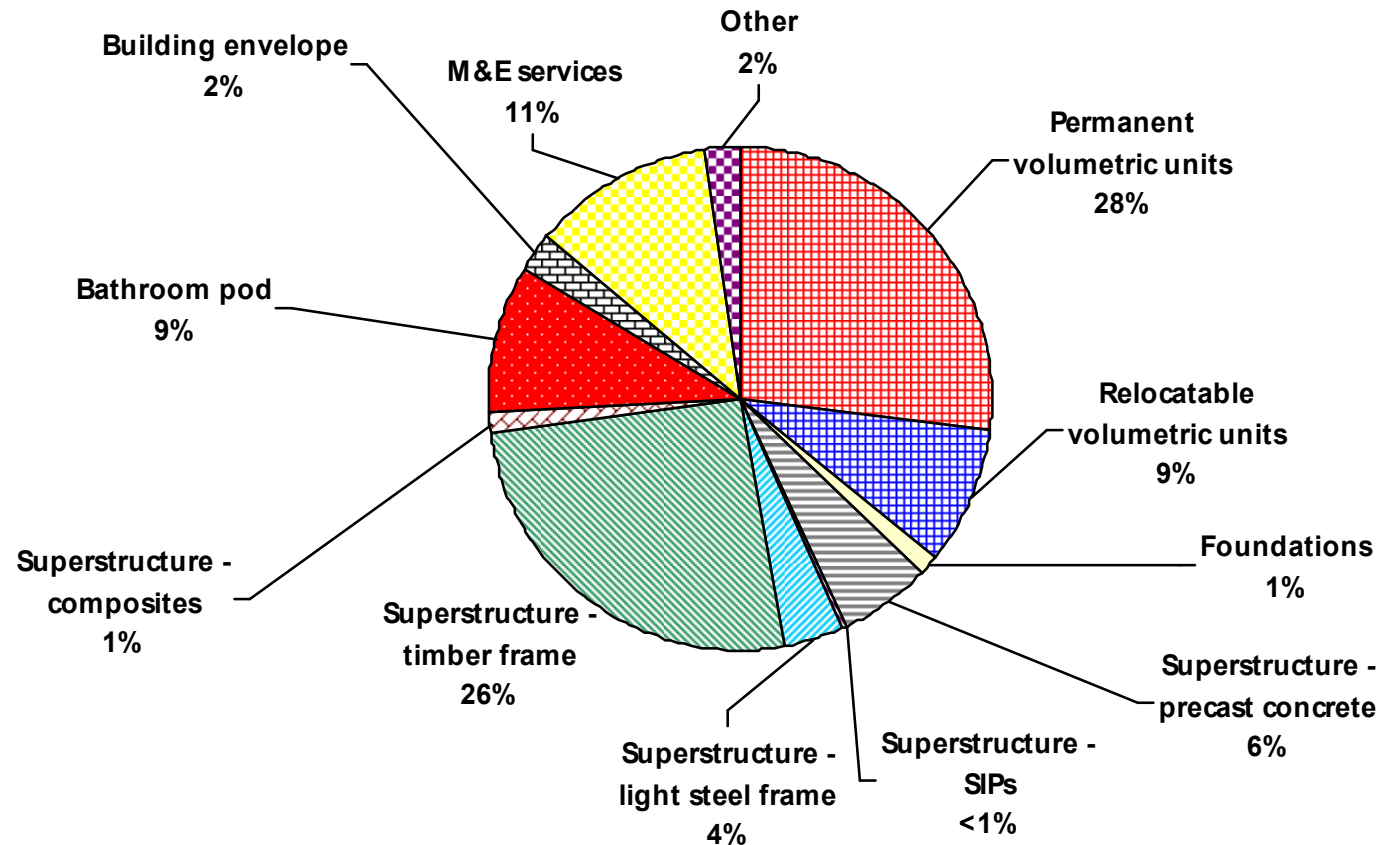
- BRE
- British Precast
- BSRIA
- Concrete Society
- Construction Products Association
- HSE
- TRADA
- SCI



BAA/ ARUP/SIEMENS

What has *buildoffsite* done?

Market Survey Report



Innovative offsite construction

buildoffsite



Britspace

What has *buildoffsite* done?

Virtual supply chain

The process:

- Unique members partnership
- One to one collaboration with clients
- Understanding client requirements
- Creating innovative offsite solutions
- Step-change in client value
- Delivering shorter programme times
- Cost effective solutions

Happening now with key clients:

B&Q, GSK, Kier Partnership Homes etc..



Anglian Water

What has *build*offsite done?

Discovering offsite

- One visit per month
- Unique service to the industry
- “Kicking the tyres”
- Raising awareness
- Technical issues
- Problem solving
- Cross industry innovation
- Raising profile of offsite
- Offsite is not a “skunk works”
- Share best practice
- To grow market share



Ascot Racecourse
Siemens/Laing
O'Rourke/Crown
House

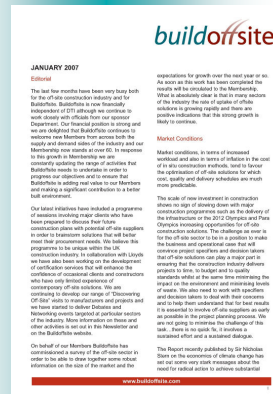
What has *build*offsite done?

Industry Events

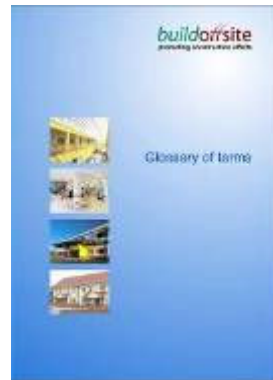
- Futurebuild at Earls Court
- Think at Excel
- Offsite 2007 at BRE
- 100% Detail at Earls Court
- Interbuild at the NEC
- BEX at Valencia

What has *buildoffsite* done?

Selection of Buildoffsite publications



Newsletters



Glossary



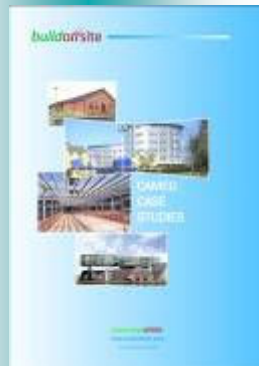
Market Survey



E-Zine



IMMPREST



Cameo case studies



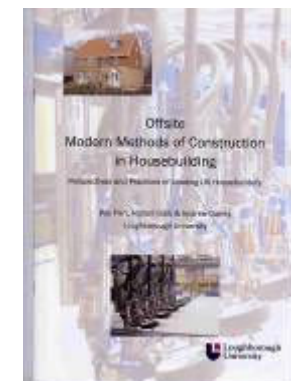
Lloyds
Registration
scheme



Business
Case studies



R+D Tax
credits



MMC in
Housebuilding





Anglian Water

What has *buildoffsite* done?

Other Activities

- Membership survey
- Buildoffsite / Lloyds accreditation
- Cameo and business case studies
- Measurement, cost and value study
- Architects award programme
- BAA (Modular Building: Specifications for the future)
- Meetings with the Construction Minister
- Connecting with other Government departments
- R+D tax credits

What are the Members doing?



Bathroom pod, Britspace / Badekabiner

- £2k-£22k
- All shapes and sizes
- Off the shelf
- 20-40 years old
- Lord King said.....



Tallis Lock House, Bryden Wood

- Private client
- Volumetric
- 6 units in 3 days
- One off (mass customisation)
- Traditional solution. £320k-£450k
- Budget 250m² = £250,000
- Cost neutral



Gatwick Pier 6, BAA / ARUP / Laing O'Rourke

- Offsite overnight
- 2,700 tonnes
- 200m long
- 65% of BAA work offsite

What are the Members doing?



Murray Grove, Yorkon / Cartwright Pickard

- Peabody Trust 1999
- 30 apartments
- 5 floors
- Volumetric light gauged galvinised seal
- Architectural awards
- 28 weeks earlier
- No brick no scaffolding
- 80% solution



AHL Houses, Barratt / Terrapin

- Hybrid (concrete, steel, timber)
- 2/3 storey factory made
- 400 units a year
- First year's utility bills free!



Mount Vernon Cancer Treatment, NHS / RAD

- First in Europe
- Second in world
- £21 million
- 17 months off 3 year programme
- 42 units
- 2 storeys
- Fully fitted
- mm tolerances
- 5 new treatment rooms
- Fitted in 2 weeks
- Made in Canada
- Relocatable (sustainable)
- Depreciated as equipment

What are the Members doing?



Hardman Boulevard, Manchester **RBS / NGB / Loughborough University**

- 60,000 sq m office
- M+E taken offsite
- - 8.6% cost reduction
- Buildoffsite case study



150,000 ft lab facilities, GSK / Bryden Wood

- 30 new facilities world wide
- 4 in the UK
- 36 months to 3 months
- NEWWAY / IKEA
- 9 basic components



Flagship store, B&Q / Black Architecture

- 200,000 sq ft
- 2 floors of retail
- Car parking on ground floor
- 3 storeys
- Solar
- Geo thermal
- £25 million scheme
- Section 106 housing
- Centre town location



What are the Members doing?

T5 Heathrow Control Tower, BAA / ARUP / Siemens / AMEC

- Busiest international airport in the world
- £4.2 billion project
- Positioned overnight
- £50m
- Radio controlled
- 50 tonnes
- 87m high
- Foster design



17 storey high rise, Caledonian / Berkeley Paragon Project, Brentford, London

- Hot rolled steel frame
- Concrete centre core
- Tallest modular structure in Europe
- 1,060 units for 1000 students and key workers
- 5 buildings
- 20 months on site
- 1 year saved
- Champion
- £200 million turnover
- Steel / timber



Nuclear

- 12 units
- Supply 22% of UK energy
- 10 decommissioned
- 2 closed down 2012
- 25 years to 10 years
- 10 replacements required
- Can offsite deliver
- Faster, safer
- Toshiba
- AP800 / AP1000

What are the Members doing?



Ingenium classroom

DFES, Diespeker GRP, Future Systems, Bailey

- London Borough of Richmond
- Design led
- No boxes
- £350,000
- Mass customised
- 1 of 12 classrooms
- BSF for DFES



Honda Formula 1

- 11,000 components
- Rebuild every 2 weeks
- Micro mm
- 75% changed
- £260 million budget per annum
- Project integrator



Space station

- Local builders merchant

Offsite industry quotes

Yorkon 2001 – 2006

96% on time
63% on time

94% on budget
49% on budget

Kingspan £60 million unity
project in Liverpool
5000sq m of façade panels
saved £238,000 (stick build)
£993,000 (block work)



NG Bailey

*build*offsite the future

- Offsite will deliver industry improvements
- Compact and agile
- Safer working solutions with HSE
- *build*offsite is a unique cross industry partnership
- Your support – Your initiatives
- *build*offsite is the new industry vehicle
- Offsite construction innovation
- Raising offsite awareness
- Delivering cost effective solutions

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Why not.....

“Discover offsite?”

THANK YOU

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