

AIMC4

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Cross Sector Collaboration

AIMC4 is a unique partnership of companies that has been created to pioneer, design and develop low carbon homes for the future.

Consortium members include Stewart Milne Group, Barratt Developments PLC, Crest Nicholson PLC, H+H UK Ltd and the Building Research Establishment (BRE). Several small pilot projects have been developed over recent years to test innovative construction systems.

"AIMC4 is about integrating new technologies into well designed homes to ensure a cost effective product with real benefits for the customer."

Technical and Innovation Director, Barratt Developments PLC

In the late 2000s, five organisations in the house building sector came together with an overarching goal – to drive a step-change in the delivery of affordable and attractive low-carbon homes.

The AIMC4¹ partnership shows how competitor companies can benefit from shared expertise in order to maximise design and innovation potential. A total of 17 new low carbon homes were built in different parts of the country, acting as a testbed for design and innovation.

Customer-centred collaboration

AIMC4 placed 'customer experience' at the centre of the design process which ensured the best possible low carbon solutions. Three key measures defined by the consortium included: air quality; thermal comfort; and ease of operation by the homeowner. Stemming out from these measures were a range of design interdependencies including building fabric; thermal bridging; air permeability; ventilation; fenestration; heating; controls; lighting and buildability.

Into the sandpits

"It was a bit like Dragons' Den... a process of supplier elimination and to identify companies with potential who might need support in certain areas of product design or development."

Applications and Research Manager, H+H UK Ltd

Innovative approaches to engaging potential supply chain companies helped to improve the supplier selection process.

As part of AIMC4 in 2010, two workshops known as the 'sandpits' involved over 145 potential suppliers. The consortium assessed their products, processes, cultural values, and propensity for working collaboratively in a real-world environment. Following the sandpits, 33 companies were invited to tender for work against specifications developed by the AIMC4 technical team.

¹AIMC4 stands for the Application of Innovative Materials, Products and Processes to meet the Code for Sustainable Homes Level 4 Energy Performance.



Design-led customer focus groups

"We needed to deploy more than 50 technologies across the project, so attention to detail in the design and integration of these products was key."

Director Product Development,
Stewart Milne

Focus groups were convened early in the design process, with carefully targeted customers providing a valuable means of testing out design ideas and feeding back to the supply chain. The focus groups involved a varied demographic of customers already living in homes that are above and beyond the requirements of the building regulations with a range of energy efficiency technologies already installed.

"Designs such as window openings and ventilation system controls were tested to check they were intuitive and "to make sure all the hard work going into the building fabric would not be undone by customers not understanding how to operate the controls for optimum comfort and efficiency."

Group Sustainability Director,
Crest Nicholson

Legacy

From the 17 test-bed homes, AIMC4 was successful in identifying cost-efficient, volume-deliverable fabric solutions.

"Everyone loves the homes and appreciates the lower running cost. Some people are saving up to £1,200 a year."

Director Product Development,
Stewart Milne

AIMC4 has forged a lasting partnership between consortium members, with H+H UK's Applications and Research Manager stating "it's strengthened existing relationships; identified potential customers; helped us form some good supplier links for the future; and generated a lot of marketing and advertising which has been good for our reputation".

Stewart Milne's Director Product Development agreed:

"we have kept collaboration agreement going and we want to look next at how Building Information Modelling and smart technologies such as offsite prefabrication can be taken wholesale to transform housing development"

