ARCHITECTURE DESIGN

Sustainability Summit

The below answer sheet is for your own self-assessment. Please keep your completed questionnaires and answers on file for your record. Sustainability Summit will send you a Refuel certificate once your questionnaire has been submitted.

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How can AI help with sustainability in the built environment?

1. Discuss how artificial intelligence can assist in reducing the environmental impact of the construction industry. Your response should include at least two AI applications and explain their role in reducing waste, improving energy efficiency, or supporting climate-responsive design.

2. You are part of a design team tasked with developing a climate-responsive commercial building. Propose two ways AI can be integrated during the design or operational phase to support whole-life carbon reduction. Explain how these AI applications might influence material selection, system integration, or consultant engagement.

3. Which of the following is a valid application of AI in promoting sustainability within the built environment?

A. Generating architectural aesthetics based solely on trends

B. Replacing all engineering consultants with automated design software

C. Optimising building performance by analysing energy use patterns and predicting maintenance needs

D. Automating construction with no regard to environmental metrics

At the end of this panel, attendees will be able to:

• Outline the various environmental impacts associated with the construction industry

• Identify the challenges associated with reducing these impacts

• Outline the current capabilities of AI, and explain the ways it can be applied to the architectural and construction sectors

• Explain the potential of AI to reduce waste, improve energy efficiency, and support climate-responsive design

Competency Codes: PC 10, PC 28 PC 31, PC 35

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