



Offsite

# Understanding Offsite: Quantity Surveyors and Cost Consultants

A Guide for trainers



# Introduction to this Course

## Introduction to the Offsite Skills Project

The Improving Skills in Offsite Construction Project was developed by the Supply Chain Sustainability School, in partnership with the Manufacturing Technology Centre (MTC) and National Open Colleges Network (NOCN) and with funding from the Construction Industry Training Board (CITB). The project is divided into six courses: Design; Procurement; Quantity Surveyors and Cost Consultants; Logistics; Project Management and Site Management. All the courses provide the fundamental content required to help professionals better understand what they need to do differently when adopting offsite construction techniques.

## Course Aims

Purpose: To educate participants on the requirements needed for successful quantity surveying and cost consultancy within offsite construction.

On completion of this course, participants will have a greater understanding of:

- The requirements needed to inform the cost strategy:
  - Benchmarking different systems
  - Funding offsite solutions
  - Holistic view of preliminaries
  - Enabling works
  - Communication
  - Optimised procurement strategies
  - New tiers of supply chain
  - Post-construction
- The requirements needed to inform the client's strategy:
  - Benefits and limitations of offsite
  - Collaboration
  - BIM and data digitalisation
  - Contractual implications of offsite
  - Wider finance and business case implications



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The participants need to come away feeling more knowledgeable about quantity surveying and cost consultancy for offsite construction and importantly what skills and knowledge they can implement on a project.



### Course Learning Outcomes

The course is split into nine sections, each with their own learning outcomes.

#### 1. Great examples of offsite design

By the end of this module the participants should be able to:

- Have an appreciation of offsite residential designs;
- Have an appreciation of offsite non-residential designs;
- Have an appreciation of offsite infrastructure designs.

#### 2. RIBA Plan of Work Stage 0 Requirements

By the end of this module the participants should be able to:

- Understand the industry context;
- Understand the Construction 2025 targets;
- Know the importance of collaboration;
- Understand the benefits and business case of offsite construction;
- Understand the importance of using the Modern Methods of Construction (MMC) Definition Framework to speak a 'common language';
- Know the MMC Spectrum and that the framework consists of categories 1-7;
- Have an appreciation of how different MMC systems are categorised.

#### 3. RIBA Plan of Work Stage 1 Requirements

By the end of this module the participants should be able to:

- Understand risk profiles;
- Understand the costs of different systems;
- Understand the pre-tender options.

#### 4. RIBA Plan of Work Stage 2 Requirements

By the end of this module the participants should be able to:

- Understand that construction industrialisation is the underlying process behind Design for Manufacturing and Assembly (DfMA) and MMC;
- Understand the five core activities of construction industrialisation, from design through to 'in use'.
- Understand the value of standardisation;



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- Understand that standardisation does not necessarily constrain designs;
- Understand how optioneering can be successfully used to suit the offsite client and project drivers;
- Understand client and project drivers.

### 5. RIBA Plan of Work Stage 3 Requirements

By the end of this module the participants should be able to:

- Understand the use of BIM and digitalisation;
- Understand the funding considerations;
- Understand how to assess the offsite supply chain.

### 6. RIBA Plan of Work Stage 4 Requirements

By the end of this module the participants should be able to:

- Understand the forms of contract available;
- Understand balanced scorecards.

### 7. RIBA Plan of Work Stage 5 Requirements

By the end of this module the participants should be able to:

- Understand that manufacturing can start whilst the site is being established.

### 8. RIBA Plan of Work Stage 6 Requirements

By the end of this module the participants should be able to:

- Understand how to capture good practice and business efficiencies that will improve future operational efficiency, reduce risk and improve margins.

### 9. RIBA Plan of Work Stage 7 Requirements

By the end of this module the participants should be able to:

- Understand how to identify latent defects;
- Understand how to ensure any defects or legacy issues are dealt with promptly and to the satisfaction of the client.





### The Trainer's Role

- The facilitator needs to enable a course environment for hands-on discussion and learning, such that the delegates leave understanding how they can use offsite construction in their day-to-day work.
- During the full-day session, the facilitator will remind the learners of the key components of offsite construction and will guide them through the process of applying procurement successfully to offsite construction.
- The facilitator needs to ensure that by the end of the course the participants have a solid understanding of the key learning outcomes:
  1. There is an offsite and MMC hierarchy;
  2. Differences in clients, project types and site constraints will drive different offsite solutions;
  3. Different offsite solutions will influence different cost strategies and will have implications on funding, preliminaries, enabling works and post-construction;
  4. Quantity surveying and cost consultancy professionals must know the contractual implications of offsite and the wider finance and business case implications.

### Preparation for a successful workshop

Before the workshop, the **facilitator** should:

- Using the course presentation, familiarise themselves with each slide and any speaker notes attached to it.
- Complete the **Offsite: Quantity Surveyors and Cost Consultants e-learning module**.
- Familiarise themselves with the **offsite topic on the Supply Chain Sustainability School's website**, as well as **offsite related resources**.
- As the participants are recommended to complete an **offsite self-assessment**, the facilitator should also complete an offsite self-assessment so that they understand what the participants have been asked to complete.
- Edit the slide deck to include their own name and contact details.
- Edit the relevant slide to show the venue's wi-fi log-in details.
- Familiarise themselves with the location of the venue's facilities and the emergency procedures in the event of a fire; these should be communicated to the participants near the start of the session.
- Ensure that they have a copy of the **'Intro Loop'** PowerPoint file, which can be left running before the session starts and during any breaks.

Before the workshop, the **participant** should:

- Familiarise themselves with the **offsite topic on the Supply Chain Sustainability School's website**, as well as **offsite related resources**.
- Complete an **offsite self-assessment** to understand where their current gaps in knowledge are regarding offsite and to receive a tailored action plan of learning resources.

### Who should attend?

This course is aimed at those involved in quantity surveying and cost consultancy, with little to no experience of offsite construction. We recommend that workshops of 15-20 people will enable good interactions, discussions and ideas on how offsite techniques can be used and integrated into day-to-day work.



## Materials needed to run the Course

As the workshop requires a lot of hands-on discussion, the facilitator should prepare the following should they wish to take notes and thoughts from delegates throughout the day:

- White board space or flip chart paper
- Post-it notes

The trainer will also need enough hard copies of the following documents for each participant:

- Attendance sheet
- Feedback form
- Exercise 5 - Strategy- Client Drivers
- Exercise 5 - Strategy- Project Drivers
- Exercise 5 -Strategy – Project Scenarios
- Handout – Example Balanced Scorecard





## Course Programme: 6 hours

The following programme describes the activities the facilitator should lead the group of delegates on.

Encourage the delegates to share their experience of offsite quantity surveying and cost consultancy and what skills and knowledge they can take forward into their future work – this will lead to more fruitful discussion and a sense of collaboration.

Section	Activity	Guidance notes for the trainer
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Note: Timings are suggestions only

1	<b>Welcome and Introductions</b>	<p><i>10 minutes</i></p> <p>Get the delegates to introduce themselves to each other, stating their role, experience and knowledge of offsite construction.</p> <p>Explain the aim and purpose of the day's course, including the learning objectives.</p> <p>Ensure each delegate signs the attendance sheet and is provided with a feedback sheet.</p>
2	<b>Great examples of offsite design</b>	<p><i>10 minutes</i></p> <p>The sector case studies are to provide an overview of the types of buildings that can be constructed using offsite methods. Encourage the delegates to discuss their experience of offsite construction.</p>
3	<b>RIBA Plan of Work Stage 0 Requirements</b>	<p><i>60 minutes</i></p> <p>This is an important section that gives participants the fundamental knowledge of the industry context, the importance of collaboration and the key considerations of offsite. The section provides detail on the MMC spectrum and information on each of the categories 1-7.</p> <p><b>Exercise 1: What are the benefits of an offsite approach?</b> This short 15-minute exercise requires the group to split into smaller groups, discuss the benefits and their experience. Consider using post-it notes so that each group can list the benefits, and then report back their findings to the overall</p>



group. The following slide then provides some suggested and common answers.

#### **Exercise 2: Where is your practice/company on the scale of DfMA & MMC adoption?**

This short 5 – minute exercise aims to get the participants to think about where their organisation is now and where they could be after attending this course. It is important to note that not all projects are appropriate to offsite and MMC, and the facilitator should explain that this is not a ‘more offsite is better’ question. Encourage the delegates to discuss their reasonings, drawing on experience.

#### **Exercise 3: What do you think might be the obstacles to your client choosing an offsite solution?**

This short 10-minute exercise aims to get the participants thinking and discussing what the obstacles, inhibitors and limitations are for clients when choosing an offsite solution. Divide the room into small groups, discuss for 10 minutes, then feedback to the overall group. Consider using post-it notes so that each group can list the obstacles. The following slide then provides some suggested and common answers.

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4	<b>Break</b>	<i>20 minutes</i>
5	<b>RIBA Plan of Work Stage 1 Requirements</b>	<i>45 minutes</i> <p>This section aims to help participants to understand the basics of offsite quantity surveying and cost consultancy, including risk, the costs of different systems and pre-tender options.</p> <p><b>Exercise 4: Discuss what factors you think affect the cost of an offsite project.</b></p> <p>This short 10-minute exercise aims to get the participants thinking and discussing what factors may affect the cost of an offsite project. Split the group into smaller groups and get them to firstly list as many items as they can think of. Then get them to choose their top 3 from the list they created, then rank them in order of importance. Finally, get each group to discuss back to the overall group their final 3 chosen factors.</p>
6	<b>RIBA Plan of Work Stage 2 Requirements</b>	<i>65 minutes</i> <p>The aim of this section is to familiarise delegates with the process and requirements of construction industrialisation,</p>

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along with the value of standardisation. Real-life case studies of successful standardisation projects are included.

#### **Exercise 5: Offsite client and project drivers - Optioneering**

The aim of this 30-minute exercise is for participants understand the factors that influence the cost strategy, as well as exploring the difference in full volumetric, component and traditional build approaches.

You must provide the worksheets: *Exercise 5 - Strategy- Client Drivers; Exercise 5 - Strategy – Project Drivers* and *Exercise 5 - Strategy – Project Scenarios*.

Groups split into small groups, with some focusing on **client drivers** and some focusing on **project drivers**, with each using a **different project scenario**, from the project scenario exercise sheet. They should work in groups for 15 minutes, identifying on the radar diagram where on a scale of 1-10 the client/project drivers sit. They should then create a ring, linking the lines and forming a complete radar diagram (see slide 130 for an example of a completed radar diagram). Groups should do this first to show how a traditional construction might fulfil these drivers, then a second ring on the same worksheet to show how an offsite/MMC build would compare.

For the next 15 minutes, groups should report back their findings and discuss their reasoning.

Throughout this section, encourage the participants to share their own stories of cost approaches, optioneering, collaboration and standardisation.

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7	<b>Lunch</b>	<i>40 minutes</i>
8	<b>RIBA Plan of Work Stage 3 Requirements</b>	<i>40 minutes</i> <p>This section helps participants to understand how BIM and digitalisation can assist with successful offsite cost strategies, whilst explaining funding options and offsite supply chain management.</p> <p><b>Exercise 6: What are clients concerned about when funding an offsite project?</b></p> <p>This short 10 minute discussion exercise aims to get participants thinking about what clients are typically concerned with when</p>

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		<p>funding an offsite project. Consider breaking into small groups, discussing in small groups then feeding back discussion ideas to the overall group. Encourage the group to provide ways that they could overcome the client's concerns, based on the information that has been learnt throughout the course so far.</p>
8	<b>RIBA Plan of Work Stage 4 Requirements</b>	<p><i>35 minutes</i></p> <p>This section encourages delegates to understand the different forms of contract available, as well as the importance of using a balanced scorecard. Use the <i>Handout – Example Balanced Scorecard</i> whilst discussing with delegates how to successfully complete a balanced scorecard.</p> <p><b><i>Exercise 7: What forms of contract do you currently use?</i></b> This short 10 minute discussion exercise encourages the delegates to draw on their own experience and thoughts. Encourage the delegates to think about the different forms of contract they may use for offsite, based on the learning they have undertaken so far throughout the course.</p>
9	<b>RIBA Plan of Work Stage 5 Requirements</b>	<p><i>10 minutes</i></p> <p>This short section aims to get the delegates thinking about what the requirements are during RIBA stage 5. Discuss with the delegates: 'Do you think the cost of enabling works change very much?'</p>
10	<b>RIBA Plan of Work Stage 6 Requirements</b>	<p><i>10 minutes</i></p> <p>This short section encourages the delegates to think about the methods that can be used to capture good practice and business efficiencies that will improve future operational efficiency, reduce risk and improve margins.</p>
11	<b>RIBA Plan of Work Stage 7 Requirements</b>	<p><i>10 minutes</i></p> <p>This short section encourages the delegates to think about the methods that can be used to identify latent defects and legacy issues, and how to deal with them promptly and effectively.</p>
12	<b>Summary and close</b>	<p><i>15 minutes</i></p> <p>Summarise and answer any questions. Remember to point the participants in the direction of further learning. Ensure the participants fill in a feedback form and have signed the attendance sheet.</p>

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## Related Workshops

The other courses in this Offsite Skills Project include:

- Understanding Offsite: [Project Management](#)
- Understanding Offsite: [Procurement](#)
- Understanding Offsite: [Design](#)
- Understanding Offsite: [Logistics](#)
- Understanding Offsite: [Site Management](#)



## Appendix: Navigating the Slide Deck

This slide deck has been developed in such a way that the trainer can navigate in a non-linear fashion. The trainer will display an agenda slide, from where individual topics can be explored by clicking on a 'Zoom Link'. Each zoom link is a thumbnail view of the slide at the start of the section. By clicking on the thumbnail, the presentation 'jumps' to the start of the section and, at the end of the section 'jumps back' automatically to the agenda slide you were originally on, from where the next topic can be accessed from another zoom link.

### Part one – Great examples of offsite design



Figure 1 Great examples of offsite design summary zoom slide - Slide 10

This slide allows you to zoom into three different sections: residential; non-residential and infrastructure designs. Upon going through all of the slides in that section, you are then brought back to this summary slide (figure 1).

### Part one – RIBA Plan of Work Stages



Figure 2 RIBA Plan of Work summary zoom slide - Slide 22



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Figure 2 shows the next summary zoom slide. You should follow the stages through from 0-7. Each time you complete a section you will be brought back to this summary zoom. You may choose when to click on the 'tea/coffee break' and 'lunch break' slides. Upon completing RIBA Plan of Work Stage 7, you should progress to the summary slide.



Figure 3 Example additional zoom links within each RIBA Plan of Work stage

Most RIBA Plan of Work stages have additional zoom links within them, to take you through the learning content (figure 3 shows this as an example for stage 0). Upon completion of all components, when clicking the 'next' button/arrow, you will be taken back to the RIBA Plan of Work zoom summary (figure 2).



Figure 4 Summary zoom slide – slide 181

Finally, figure 4 shows the summary zoom slide, at the end of the presentation. This can be used as links back to any part of the presentation, should the delegates have any questions or wish to go over anything before the end of the course.

